

The psychological outcomes for leadership and employees in the education sector

Edited by

Muhammad Waheed Akhtar, Petra Poulouva, Ahsan Akbar, Chunhui Huo and Shumaila Naz

Published in

Frontiers in Psychology
Frontiers in Education



FRONTIERS EBOOK COPYRIGHT STATEMENT

The copyright in the text of individual articles in this ebook is the property of their respective authors or their respective institutions or funders. The copyright in graphics and images within each article may be subject to copyright of other parties. In both cases this is subject to a license granted to Frontiers.

The compilation of articles constituting this ebook is the property of Frontiers.

Each article within this ebook, and the ebook itself, are published under the most recent version of the Creative Commons CC-BY licence. The version current at the date of publication of this ebook is CC-BY 4.0. If the CC-BY licence is updated, the licence granted by Frontiers is automatically updated to the new version.

When exercising any right under the CC-BY licence, Frontiers must be attributed as the original publisher of the article or ebook, as applicable.

Authors have the responsibility of ensuring that any graphics or other materials which are the property of others may be included in the CC-BY licence, but this should be checked before relying on the CC-BY licence to reproduce those materials. Any copyright notices relating to those materials must be complied with.

Copyright and source acknowledgement notices may not be removed and must be displayed in any copy, derivative work or partial copy which includes the elements in question.

All copyright, and all rights therein, are protected by national and international copyright laws. The above represents a summary only. For further information please read Frontiers' Conditions for Website Use and Copyright Statement, and the applicable CC-BY licence.

ISSN 1664-8714
ISBN 978-2-8325-4120-3
DOI 10.3389/978-2-8325-4120-3

About Frontiers

Frontiers is more than just an open access publisher of scholarly articles: it is a pioneering approach to the world of academia, radically improving the way scholarly research is managed. The grand vision of Frontiers is a world where all people have an equal opportunity to seek, share and generate knowledge. Frontiers provides immediate and permanent online open access to all its publications, but this alone is not enough to realize our grand goals.

Frontiers journal series

The Frontiers journal series is a multi-tier and interdisciplinary set of open-access, online journals, promising a paradigm shift from the current review, selection and dissemination processes in academic publishing. All Frontiers journals are driven by researchers for researchers; therefore, they constitute a service to the scholarly community. At the same time, the *Frontiers journal series* operates on a revolutionary invention, the tiered publishing system, initially addressing specific communities of scholars, and gradually climbing up to broader public understanding, thus serving the interests of the lay society, too.

Dedication to quality

Each Frontiers article is a landmark of the highest quality, thanks to genuinely collaborative interactions between authors and review editors, who include some of the world's best academicians. Research must be certified by peers before entering a stream of knowledge that may eventually reach the public - and shape society; therefore, Frontiers only applies the most rigorous and unbiased reviews. Frontiers revolutionizes research publishing by freely delivering the most outstanding research, evaluated with no bias from both the academic and social point of view. By applying the most advanced information technologies, Frontiers is catapulting scholarly publishing into a new generation.

What are Frontiers Research Topics?

Frontiers Research Topics are very popular trademarks of the *Frontiers journals series*: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area.

Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers editorial office: frontiersin.org/about/contact

The psychological outcomes for leadership and employees in the education sector

Topic editors

Muhammad Waheed Akhtar — COMSATS University, Islamabad Campus, Pakistan

Petra Poulouva — University of Hradec Králové, Czechia

Ahsan Akbar — South China University of Technology, China

Chunhui Huo — Liaoning University, China

Shumaila Naz — The University of Lahore, Pakistan

Citation

Akhtar, M. W., Poulouva, P., Akbar, A., Huo, C., Naz, S., eds. (2023). *The psychological outcomes for leadership and employees in the education sector*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-8325-4120-3

Table of contents

- 05 Editorial: The psychological outcomes for leadership and employees in the education sector
Shumaila Naz
- 08 Supervisory styles and graduate student innovation performance: The mediating role of psychological capital and the moderating role of harmonious academic passion
Bingbing Yang, Shumei Bao and Juan Xu
- 20 From entrepreneurial cognition to entrepreneurial intention and behavior: The case of higher educational institutions in China
Su Chen, Wenbin Shen, Xinyu Tan and Rongzhi Liu
- 33 Role of higher education system in promoting law abiding behavior among students
Yan Dong and Sadaf Zeb
- 45 The relation between leadership styles in higher education institutions and academic staff's job satisfaction: A meta-analysis study
Gamze Kasalak, Beysun Güneri, Vesile Ruya Ehtiyar, Çiğdem Apaydin and Gulay Özeltin Türker
- 61 Validation of the Chinese version of the physical education teacher job satisfaction scale
Junfeng Yuan, Liping Zhang, Shaojing Weng, Yujia Yin, Chen Li and Lin Luo
- 70 Empowering leadership and job satisfaction of academic staff in Palestinian universities: Implications of leader-member exchange and trust in leader
Ibrahim Horoub and Pouya Zargar
- 83 Effects of high-performance human resource practices in the education sector: The mediational model
Cunbo Yang and Fakhra Yasmin
- 94 Re-examine the influence of organizational identification on unethical pro-supervisor behavior
Tuwei Sun, Wei Shi and Jing Wang
- 104 "Same same" but different? Exploring the impact of perceived organizational support at the school and teacher levels on teachers' job engagement and organizational citizenship behavior
Chuan-Chung Hsieh, Wei-Cheng Chien, Hung-Chin Yen and Hui-Chieh Li
- 117 Mediating roles of college teaching self-efficacy in job stress and job satisfaction among Chinese university teachers
Yanling Liu, Soohyun Yi and Kamau O. Siwatu

- 131 **Ethical leadership and workplace behavior in the education sector: The implications of employees' ethical work behavior**
Fengrui Guo, Zhongyi Xue, Jiaxu He and Fakhra Yasmin
- 139 **Authentic leadership, perceived organizational support, and psychological capital: Implications for job performance in the education sector**
Uzma Sarwar, Muhammad Aamir, Yu Bichao and Zhongwen Chen
- 150 **The influence of responsible leadership on teachers' green behavior: The mediating role of psychological capital**
Xinyi Wang, Fengtian Kou and Kexuan Zhu
- 158 **Institutional presence: Toward a further developed Community of Inquiry model integrating institutional functions in online and blended learning environment**
Wei Zhang and Chang Zhu
- 168 **Contradictory realities and competing perspectives: how discourses in education shape the teacher-self**
Patrick Allen Rose



OPEN ACCESS

EDITED AND REVIEWED BY
Darren C. Treadway,
Niagara University, United States

*CORRESPONDENCE
Shumaila Naz
✉ shumaila.superior@gmail.com

RECEIVED 20 October 2023
ACCEPTED 30 October 2023
PUBLISHED 29 November 2023

CITATION
Naz S (2023) Editorial: The psychological
outcomes for leadership and employees in the
education sector. *Front. Psychol.* 14:1325130.
doi: 10.3389/fpsyg.2023.1325130

COPYRIGHT
© 2023 Naz. This is an open-access article
distributed under the terms of the [Creative
Commons Attribution License \(CC BY\)](#). The use,
distribution or reproduction in other forums is
permitted, provided the original author(s) and
the copyright owner(s) are credited and that
the original publication in this journal is cited, in
accordance with accepted academic practice.
No use, distribution or reproduction is
permitted which does not comply with these
terms.

Editorial: The psychological outcomes for leadership and employees in the education sector

Shumaila Naz*

Lahore Business School, The University of Lahore, Lahore, Pakistan

KEYWORDS

law, higher education institute (HEIs), teachers' self-efficacy, leadership style & leader-member exchange, turnover

Editorial on the Research Topic

The psychological outcomes for leadership and employees in the education sector

The Research Topic aims to analyze leadership studies and their profound impact on organizational policy, decision-making, and employee behavior. Effective leadership shapes an organization's success by determining its direction, sustainability, and competitive advantages. However, the gap remains in understanding how a leader's actions affect followers. The exploration of these dynamics is crucial for obtaining practical implications, particularly in the field of education. Among the themes explored in this topic are positive and negative leadership effects, organizational behavior, and employee wellbeing in the education sector. Besides quantitative and qualitative studies, the topic encourages research that utilizes multiple sources of data, incorporates multiple levels of analysis, and employs multiple methods.

The studies in this topic have explored the relationship between a leader's actions and their effects on the health and wellbeing of their followers: (1) The role of higher education institutes in endorsing law-abiding behavior in students (Dong and Zeb). (2) How various leadership styles increase or decrease academic staff's job satisfaction (Kasalak et al.). (3) Explore the mediating role of organizational commitment in the relationship between ethical leadership and employees' ethical work behavior (Guo et al.). (4) Study examines the moderating effect of leader-member exchange (LMX) for increasing job satisfaction in post COVID-19 Pandemic in Palestinian Universities (Horoub and Zargar). (5) How to inspire teachers' enthusiasm for educational reform from the perspective of organizational support (Hsieh et al.). (6) A discussion regarding understanding the mediating effect of college teaching self-efficacy (CTSE) on the relationship between faculty job stress and job satisfaction (Liu et al.). (7) If supervisory styles are key predictors of graduate students' innovation capability and performance (Yang et al.).

Another study explores the role of higher educational institutions in the development of pupils' law-abiding behavior (Dong and Zeb). It has shed light on factors such as age, gender, education, occupation, and location that influence law-abiding behavior. Apart from law-abiding factor, HEI plays a significant part in the economic and social advancement of individuals (Popova and Popovs, 2022). The universities play a significant role in fostering positive changes in a student's life, nurturing intellectual and cognitive growth. Nevertheless,

without appropriate guidance, students may adopt deviant behaviors, non-law abidance, and embrace detrimental beliefs. The author has proposed to establish a climate of respect and harmony to prevent the deviant behavior on the part of students, such as violence, drug use, and addictive behavior etc.

With ever-increasing competition, higher education examines new approaches of leadership as universities face several challenges to compete in a globalized world and develop sustainable leadership. Adoption of appropriate leadership style bring positive outcomes such as, the employees' retention, organizational justice and organizational trust, organizational commitment, and academic staff performance (Jameel and Ahmad, 2020). According to the previous research (Kasalak et al.), Spiritual leadership is characterized by love, compassion, honesty, harmony, unity, and peace and is ranked at the top of the leadership styles list that impact employee job satisfaction unswervingly. In addition, Passive leadership has a negative effect on academic staff satisfaction, whereas transactional leadership has a strong but limited effect.

According to a recent survey conducted in the United States in 2018, employees are concerned about the declining integrity and honesty of their leaders. Leaders who are empowered by the quality of ethical leadership treat their employees fairly and respectfully (Huo et al., 2022). A study conducted by Guo et al., highlights the increasing unethical behavior of Chinese employees, resulting in the higher costs to organizations such as, early departures, misuse of official computers, and use of office telephones for unofficial calls. The organization and leaders should maintain an effective environment to boost the employees' workplace ethical behavior.

China has been experiencing challenges such as poor academic results and a lack of innovation predominantly due to two following reasons: First, the increasing number of post graduates and second, procrastination in completion of their degree program. Here, the supervisor's role is of great significance for their academic performance. Harmonious academic passion (HAP) is considered vital individual characteristic which stimulates and persuades graduates to engage themselves in research pursuits. According to Yang et al. the learners with increased level of HAP produce more clear research proposals, hence bring more creativity in their academic endeavors.

Leadership that empowers individuals instead of focusing on traditional power approaches is considered a positive and ethical technique that leads to positive outcomes for employees and the organization. Leaders can strengthen other workers by promoting their societal and cognitive facets (Horoub and Zargar). The author affirms the view that applying Leader-member exchange (LMX) empowered leadership to heighten the job satisfaction of the employee and boost interaction with the teachers in academic settings, which will impact their wellbeing.

The academic field has observed a constant influx of reforms that have increased teachers' workload in educational settings. In such circumstances, maintaining teachers' enthusiasm to accept the

change is crucial from an organizational perspective. The research by Hsieh et al. has explored the relationship between organizational support (OS), job engagement (JE), and organizational citizenship behavior (OCB) in an educational context. Teachers' retention in colleges and universities has become a great challenge for higher education institutions. Although it is a global concern, however, China witnesses a decline of retention level due to research incapacities and teaching load that in turn derive anxiety, cognitive fatigue and burnout (Yin et al., 2020; Liu et al.).

This Research Topic has various contributions particularly the leadership impact on organizational aspects and how it affects employees' psychological, social, and ethical wellbeing. The different studies have extended the existing literature by introducing new dynamics by embedding ethical values, innovative leadership, and maintaining teachers' enthusiasm amidst educational challenges.

Author contributions

SN: Conceptualization, Writing—original draft.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Acknowledgments

The author is thankful to all the contributing authors, editors, and reviewers on our Research Topic. The credit of the success of this project goes to them and special thanks to the Frontiers Publication team for their efficient communication and timely guidance during the process.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Huo, C., Safdar, M. A., Akhtar, M. W., and Ahmed, M. (2022). Linking responsible leadership and green innovation: the role of knowledge sharing and leader-member exchange. *Front. Environ. Sci.* 10, 945817. doi: 10.3389/fenvs.2022.945817
- Jameel, A. S., and Ahmad, A. R. (2020). The mediating role of job satisfaction between leadership style and performance of academic staff. *Int. J. Psychosoc. Rehabil.* 24, 2399–2414. doi: 10.37200/IJPR/V24I4/PR201349
- Popova, Y., and Popovs, S. (2022). Impact of smart economy on smart areas and mediation effect of national economy. *Sustainability* 14, 1–19. doi: 10.3390/su14052789
- Yin, H., Han, J., and Perron, B. E. (2020). Why are Chinese university teachers (not) confident in their competence to teach? The relationships between faculty-perceived stress and self-efficacy. *Int. J. Educ. Res.* 100, 101529. doi: 10.1016/j.ijer.2019.101529



OPEN ACCESS

EDITED BY

Chunhui Huo,
Liaoning University,
China

REVIEWED BY

Jeeta Sarkar,
XIM University,
India
Muhammad Arslan Safdar,
Liaoning University,
China

*CORRESPONDENCE

Bingbing Yang
D202081366@hust.edu.cn

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 01 September 2022

ACCEPTED 11 October 2022

PUBLISHED 03 November 2022

CITATION

Yang B, Bao S and Xu J (2022) Supervisory
styles and graduate student innovation
performance: The mediating role of
psychological capital and the moderating
role of harmonious academic passion.
Front. Psychol. 13:1034216.
doi: 10.3389/fpsyg.2022.1034216

COPYRIGHT

© 2022 Yang, Bao and Xu. This is an open-
access article distributed under the terms
of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that
the original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

Supervisory styles and graduate student innovation performance: The mediating role of psychological capital and the moderating role of harmonious academic passion

Bingbing Yang^{1*}, Shuimei Bao² and Juan Xu³

¹School of Education, Huazhong University of Science and Technology, Wuhan, China, ²Institute of Higher Education, Lanzhou University, Lanzhou, China, ³School of Education Science, Ludong University, Yantai, China

Supervisory styles Are Key predictors of graduate students' innovation performance (GSIP), but the mediating and moderating mechanisms underlying this relationship require further exploration. Based on the job demands-resources model and conservation of resources theory, this study analyzed the influence of supervisory styles on GSIP, including the mediating role of psychological capital (PsyCap) and the moderating role of harmonious academic passion (HAP). Questionnaires were completed by 400 graduate students from a Chinese university. The results indicated that (1) both supportive and directive supervisory styles (SSS and DSS) were positively related To GSIP, (2) PsyCap fully mediated the relationship between SSS and GSIP, and (3) HAP significantly moderated the effect of DSS but exhibited no moderating influence on the effect of SSS. These findings contribute to a deeper understanding of why, how and when supervisory styles influence GSIP. Implications for both theory and practice as well as the limitations of this research are discussed.

KEYWORDS

supervisory styles, graduate student, innovation performance, psychological capital, harmonious academic passion

Introduction

Over the past decade, China has implemented a number of measures to improve the quality of postgraduate education and to develop innovative capacity (Liu et al., 2020). However, several large-scale surveys on the quality of postgraduate training in China since 2000 have consistently revealed that the overall situation of postgraduate innovation in China is not encouraging. Furthermore, on the one hand, due to the popularization of higher education in China, the number of graduate students is increasing rapidly. On the

other hand, the delayed graduation rate of doctoral students in China is increasing, and a lack of academic output has emerged as the most significant barrier to graduation. Therefore, improving graduate students' innovation capability and performance has become an important subject in Chinese graduate education research.

In China, the supervisor responsibility system is the main approach used to graduate education, and the supervisor is the person most responsible for training postgraduates (Wang et al., 2022a). Al-Sawai (2013) defined leadership as "the behavior of an individual directing the activities of a group toward a shared goal." Thus, the behavior associated with and process of supervising postgraduate students also constitute a form of leadership. Postgraduate education in China is currently plagued by issues such as a *"laissez-faire"* approach, "squeezing guidance," and insufficient guidance, thus indicating the urgency of research concerning supervisor leadership (Bao and Yang, 2021). Numerous organizational studies have explored the relationship between leadership and employee creative and innovative performance (Hughes et al., 2018; Lee et al., 2019; Syed et al., 2021). However, leadership research in the education sector has typically focused on executive positions (Al-Husseini and Elbeltagi, 2016; Akhtar et al., 2021; Li et al., 2022) and has given less attention to academic leadership (Zacher and Johnson, 2015; Meng and Zhao, 2018) and its effect on students' creativity (Gu et al., 2017; Meng et al., 2017).

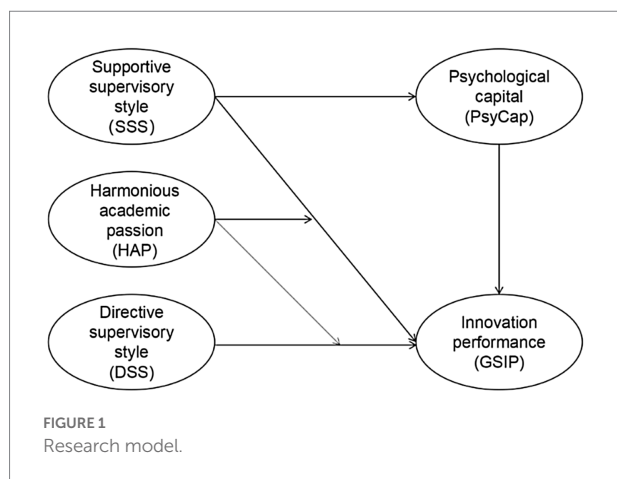
The topics of supervisor leadership and graduate students' creativity and innovation have drawn a great deal of attention in recent years (Liu et al., 2020). Researchers have claimed that supervisors' leadership has both direct and indirect impacts on graduate students' innovation and performance (Gu et al., 2017). For instance, intrinsic motivation mediates the relationship between supervisors' leadership and graduate students' creativity (Zacher and Johnson, 2015; Gu et al., 2017; Meng et al., 2017; Meng and Zhao, 2018; Xia et al., 2021). Additionally, creative self-efficacy (Gu et al., 2017) and professional knowledge (Meng and Zhao, 2018) have been shown to mediate the relationship between leadership style and innovation. However, it is obvious that previous research has overemphasized the mediating effect of intrinsic motivation to the detriment of other variables (Hughes et al., 2018). Researchers have also begun to outline the boundary conditions of the effect of supervisors' leadership on graduate students' innovation. For instance, personal initiative may serve as a moderator in the relationship between supervisors' leadership and graduate students' innovation (Wu et al., 2018). While previous research has provided useful insights into the mediating mechanisms and boundary conditions associated with the effect of supervisor leadership on graduate students' innovation, additional research is required to uncover the dynamics through which supervisor leadership influences graduate students' outcomes (Xia et al., 2021).

NATURE PhD SURVEY 2019 reported that 36% of respondents have sought help for anxiety or depression (Je, 2019), indicating that attention should be given to the psychological

health of graduate students. Psychological capital (PsyCap), which is defined as an individual's positive psychological state of development, can be developed and managed to promote performance enhancement (Luthans et al., 2007a). Numerous empirical studies have confirmed the strong relationship between PsyCap and employee attitudes, behaviors, and performance (Newman et al., 2014). Further, the mediating role played by PsyCap especially in the relationship between organizational environments and employee outcomes has been examined (Newman et al., 2014). Despite the fact that PsyCap has also been studied in educational contexts (Guo et al., 2021), little is known regarding graduate students' PsyCap and its role as a mediator in the relationship between supervisor leadership and graduate student innovation performance (GSIP). The development of innovation among graduate students does not occur in a psychological vacuum (Liu et al., 2020). Accordingly, this study employs PsyCap as a mediating variable in the relationship between supervisor leadership and GSIP in response to calls for further exploration of mediating variables other than intrinsic motivation (Hughes et al., 2018).

Previous research on the boundary conditions associated with the effect of supervisor leadership on graduate students' innovation has been limited, and the potential moderating effects of numerous individual characteristics have not been considered (Zacher and Johnson, 2015; Meng et al., 2017). In situational leadership theories, individual characteristics may impact the effects of leadership (Hersey and Blanchard, 1982). Harmonious academic passion (HAP) is a crucial personal trait that motivates graduate students to conduct research willingly, and studies have shown that passion has a significant impact on performance (Vallerand et al., 2007). Answering the recent calls mentioned above, this study further examines the ways in which supervisory leadership and HAP interact to affect GSIP. Research on supervisor leadership and graduate students' creativity has employed theoretical perspectives drawn from social cognitive theory (Gu et al., 2017) and Amabile's componential theory of creativity (Meng and Zhao, 2018) to explain the mechanism underlying the relationship between these two factors, neglecting other theoretical explanations. The study employs the job demands-resources (JD-R) model and conservation of resources (COR) theory as distinct theoretical perspectives to clarify why, how and when supervisor leadership affects GSIP.

The current study adds to the literature on leadership and innovation performance by investigating academic leadership and its impact on student outcomes in the education sector. First, by integrating PsyCap as a psychological mechanism, the current study expands the literature on the relationship between supervisor leadership and GSIP. Second, by examining HAP's moderating effect, the study contributes to the understanding of boundary conditions for supervisor leadership on GSIP. Finally, by introducing the JD-R model and COR theory, the theoretical framework for the influence of supervisor leadership on the academic development of graduate students is expanded. The research model is shown in Figure 1.



Theory and hypothesis development

The JD-R model and COR theory constitute way-of thinking about the impacts of job demands and job resources (Demerouti et al., 2001; Schaufeli and Bakker, 2004) as well as personal characteristics (Xanthopoulou et al., 2007) on employee psychological states and outcomes. Job demands might lead to resource loss, which can result in stress, health problems or other negative outcomes. Job resources are especially important for resource gain, which is in turn important for well-being or other positive outcomes. Following a method similar to that described above, the current study investigates the effect of job characteristics (supervisor leadership) and personal resources (PsyCap, HAP) on the outcome variable (GSIP) in an academic context.

Supervisory styles and innovation performance

According to the literature (Wang, 2013; Bao and Yang, 2019), supportive and directive supervision constitute the two fundamental supervisory styles used in China. This finding is consistent with the conclusions of previous studies on leadership, which have differentiated leadership into supportive and directive supervisory styles (Gu et al., 2017). A supportive supervisory style (SSS) occurs when a supervisor behaves in ways that favor relationship building with an emphasis on meeting the needs and preferences of students, caring for their well-being, and fostering a friendly and comforting research atmosphere (Gu et al., 2017). Normally, this supervisory relationship includes a combination of three types of support: (1) personal support, such as providing emotional support and boosting confidence when students face obstacles; (2) academic support, including being available to help with academic activities and providing timely feedback on student progress; and (3) autonomy support, e.g., recognizing the student's viewpoint, urging them to express their thoughts openly, and giving them the opportunity to make their own decisions (Overall

et al., 2011). A directive supervisory style (DSS), in contrast, primarily reflects task-oriented behavior by a supervisor that aims to provide team members with a framework for decision-making and action that is in line with the supervisor's vision (Somech, 2016).

In the present study, innovation performance can be divided into "innovation" and "performance." Innovation is commonly defined as the production or adoption of useful ideas and idea implementation (Scott and Bruce, 1994). As a core attribute of graduate students, innovation is particularly important to reach innovative research achievements. Performance represents the output that is made visible and known to others (Zhao et al., 2021b). When examining the process holistically, innovation performance is defined as a construct comprising an innovation process that is similar to innovative research behavior (Janssen, 2000) and an innovation outcome that is similar to academic research output (Guo et al., 2021). Previous research has examined a variety of individual and contextual factors as potential predictors of innovative work behavior and performance (Afsar et al., 2014; Etikariena, 2016). Among these factors, leadership and positive psychological states have proven to be the most influential (Kim and Beehr, 2022). Positive leadership behaviors such as supportive leadership, empowering leadership, and inclusive leadership, are positively related to employees' innovative work behaviors and task-related performance (Gupta and Singh, 2014; Fang et al., 2019; Wang et al., 2022b).

Based on COR theory, supportive leadership can be viewed as a critical resource for employees in the workplace (Demerouti et al., 2001), which is effective in achieving positive results. Accordingly, the present study proposes that SSS could enhance GSIP. First, by providing personal support, supervisors offer graduate students resources to achieve their goals by providing them with reassurance and empathy, which can support them when they are faced with research-based obstacles, personal stressors, and confidence crises (Overall et al., 2011). This display of confidence plays an important role in reinforcing positive self-image and fostering positive work outcomes. Second, students who receive academic support from their supervisors obtain direct task-related assistance, such as help with research-related skills and practical issues. This type of support is a critical resource that allows students to advance in the research process (Amabile et al., 2004; Gupta and Singh, 2014). Finally, autonomy support constitutes a job resource that satisfies students' need for autonomy (Ryan and Deci, 2000); it can improve graduate students' enthusiasm, increase their autonomous motivation (Meng and Zhao, 2018), thus contributing to innovative performance. Overall, in line with COR theory and the JD-R model, SSS provides empathy, autonomy, feedback, advice, and practical assistance, all of which can aid students in engaging in innovative behaviors and yield better performance. Accordingly, the following hypothesis is presented:

H1a: SSS is positively related to GSIP.

DSS involves behavior by a supervisor that is focused on guiding task completion, managing debates, and dominating interactions (Gu et al., 2017). According to the JD-R model, DSS tends to be considered a challenge (Crawford et al., 2010) in Chinese higher education due to the culture of China, which emphasizes collectivism and high power distance (Gu et al., 2017). Subordinates who are accepting of this type of hierarchical power structure are more inclined to believe that leaders have inherent superiority, authority, and status (Peltokorpi, 2018). Because China is a traditional society that features high power distance (Hofstede, 1984), in the context of Chinese higher education, graduate students tend to accept DSS. Indeed, Chinese graduate students are more likely to take DSS for granted and evaluate this type of relationship with their supervisors as less stressful. Furthermore, DSSs that involve strict deadlines, for example, can shift graduate students' attention away from nonlearning processes and toward problem solving. That is, DSS reduces cognitive "bad load" (Gu et al., 2017). Previous studies have demonstrated that directive leaders help their followers resolve tasks, clarify ambiguous roles, provide external monitoring, and reduce process loss, eventually leading their subordinates to perform at a higher level (Lorinkova et al., 2013; Somech, 2016). Thus, the following hypothesis is proposed:

H1b: DSS is positively related to GSIP.

Mediation of PsyCap

PsyCap, which is defined as an individual's positive psychological state of development as manifested through self-efficacy, hope, optimism and resilience (Luthans et al., 2007a), can be developed and managed to promote performance enhancement (Luthans and Youssef, 2004). Self-efficacy is defined as "believing in one's ability to mobilize cognitive resources to obtain specific outcomes"; hope refers to "having the willpower and pathways to attain one's goals"; optimism refers to "the explanatory style that attributes positive events to internal, permanent and pervasive causes"; and resilience is "the capacity to bounce back from adversity, failure or even seeming overwhelming positive changes" (Luthans and Youssef, 2004). Although each of these four positive psychology constructions can improve employee outcomes, the higher-order factor may be better predictors of outcomes than the four individual facets (Luthans et al., 2007a). The organizational environment and, in particular, leadership are the primary antecedents of PsyCap. Previous research has identified various types of positive leadership that are conducive to the development of employee PsyCap, such as inclusive leadership, ethical leadership, transformational leadership, and authentic leadership (Rego et al., 2012; Bouckennooghe et al., 2014; Fang et al., 2019; Lei et al., 2020). There is a broad consensus among researchers that supportive leadership behaviors can boost employees' PsyCap. However, research on supervisor leadership and graduate students' PsyCap remains scarce (Ahmed et al., 2017).

According to COR theory, people strive to maintain and accumulate resources of various kinds, including job resources such as supervisory support. Therefore, SSS can improve the pool of resources from which students can draw, and this resource gain can help students develop a positive psychological state. First, by offering academic support, such as by providing task-related help, supervisors can help students obtain the knowledge and skills that they need to conduct scientific research more quickly and directly, thus making them more competent. Guo et al. (2021) discovered that the more competitive a student is, the greater their PsyCap. Second, supervisors, by providing autonomy, support and developmental feedback create an environment of self-determination, security and trust that enables students to concentrate their efforts on goal-related tasks and on the task of finding alternative pathways to solve problems and benefit from opportunities (Rego et al., 2012). Finally, when supervisors provide personal support to students by comforting them and empathizing with them, students are able to quickly recuperate from setbacks, which increases their resilience. By expressing respect and confidence in the student's competence and talents, supervisors can help students see the positive side of situations and shift their emphasis away from the negative aspects, which can increase students' resilience (Luthans et al., 2007b). As a job resource, SSS fosters the emergence of PsyCap in graduate students.

Several empirical studies have found evidence to support such an inference. Overall et al. (2011) discovered that autonomy support was an indicator of greater research self-efficacy. Gu et al. (2017) found that SSS was positively related to graduate students' creative self-efficacy. Although limited, Ahmed et al. (2017) demonstrated that supervisor support is positively related to postgraduate students' PsyCap. Thus, the following hypothesis is proposed:

H2: SSS is positively related to graduate students' PsyCap.

PsyCap is often defined as a set of personal resources (Ahmed et al., 2017) that can help people achieve work objectives and personal growth in the same manner as job resources (Schaufeli and Taris, 2014). Numerous studies have examined the impact of PsyCap and its various facets on employee attitudes, behaviors and performance (Newman et al., 2014). Building on existing research as well as by reference to COR theory, the present study proposes that graduate students' PsyCap is positively related to their innovation performance. It is well known that the research process is not always smooth; it may be associated with risks and uncertainties, and it consumes students' valuable resources (e.g., time, energy, self-confidence, and optimism), thus causing them to feel stressed and tense. PsyCap offers students a positive psychological resource that allows them to cope with stress (Li et al., 2015). Graduate students with high levels of PsyCap: (1) believe in their abilities to mobilize the motivation, cognitive resources, and courses of action necessary to conduct academic research successfully (self-efficacy), have the willpower and pathways necessary to achieve their research objectives (hope),

make positive attributions of research difficulties and failures (optimism), and can bounce back from experimental failures or even seemingly overwhelming positive changes (resilience) (Luthans and Youssef, 2004). In summary, students with high levels of PsyCap have more resources at their disposal that allow them to engage in academic innovation and exhibit improved performance. Guo et al. (2021) found that postgraduates' PsyCap is positively associated with their academic research performance. Thus, the following hypothesis is proposed:

H3: PsyCap is positively related to GSIP.

According to the relationships discussed above, it is possible that PsyCap mediates the relationship between SSS and GSIP. That is, supervisor support can improve graduate student PsyCap and thus lead to high innovation performance. According to COR theory, employees who work in a resourceful environment tend to develop personal resources that facilitate positive outcomes. The JD-R model also implies that personal resources mediate the relation between job characteristics and well-being (Schaufeli and Bakker, 2004). Empirically, studies have found that PsyCap mediates some types of the effect of leadership on employees' work outcomes (Rego et al., 2012; Bouckennooghe et al., 2014; Gupta and Singh, 2014). Limited evidence has also suggested that research performance and postgraduate competence are partially mediated by PsyCap (Guo et al., 2021). Thus, the following hypothesis is proposed:

H4: PsyCap mediates the positive relationship between SSS and GSIP.

Moderation of HAP

Academic passion can be understood as an individual's strong inclination toward academic research that the individual loves, values highly, and engages in regularly (Vallerand, 2015). Specifically, HAP results from autonomous internalization, which refers to graduate students' free acceptance that academic research as important for them without any contingencies (Liu et al., 2016). HAP is a motivational force that leads graduate students to engage willingly in academic research (Bélanger and Ratelle, 2021). Previous research has demonstrated that HAP is positively related to academic engagement (Zhao et al., 2021a) and academic thriving (Zhou, 2021).

According to the JD-R model, HAP is a personal resource that can exacerbate the positive effect of SSS on GSIP (Schaufeli and Taris, 2014). SSS is aligned with HAP, and this match contributes to graduate students' optimal functioning (van den Broeck et al., 2011). This is because students with high HAP attempt to use available resources (such as supervisory support), which could assist them in achieving their goals. This assumption is also consistent with the contention that a match between personal and job characteristics can result in positive outcomes (Parkes, 1994). Thus, the following hypothesis is proposed:

H5a: HAP strengthens the positive association between SSS and GSIP; that is, this relationship is stronger when the level of HAP is high.

H1b predicts that DSS is positively related to GSIP. However, DSS may be incompatible with the leader behavior expected by harmoniously passionate students. That is, for students with high HAP, the positive effect of DSS on GSIP is lessened. Specifically, students with high HAP exhibit more academic initiative, and they are accustomed to self-directed goals rather than assigned goals. Thus, they may be uncomfortable with or may even reject DSS. Conversely, students who lack HAP have no clear research plan and are more likely to accept tasks assigned by their supervisors. It has been demonstrated that students' initiative negatively moderates the positive relationship between controlling instructions given by a supervisor and students' innovative thinking and behavior (Wu et al., 2018). Thus, the following hypothesis is proposed:

H5b: HAP lessens the positive association between DSS and GSIP; that is, this relationship is stronger when the level of HAP is low.

Materials and methods

Sample and procedures

The present study employed a cross-sectional research design and used the convenience sampling method to collect data. In this study, participants consisted of graduate students from a university in Lanzhou, China. This "double first-class" university was permitted to establish a graduate school in 2004, and graduate students now account for more than 45% of the total enrolment. Hence, this university constituted an excellent location for the survey. First-year master's students were excluded from the study because they had yet to demonstrate clear innovative performance. A senior administration officer from the graduate school was contacted to assist with the survey. He assisted in forwarding the questionnaire's hyperlink to the administration in each college, which then notified the students to respond. Data were collected between 5 November 2019 and 23 November 2019.

In this study, 459 questionnaires were gathered, 400 of which were valid; therefore, the effective rate of return for the questionnaire was 87.15%. Among the final participants, 33% were men, 67% were women, 78.5% were master's students, 21.5% were doctoral students, 64.5% studied in the sciences and technology, and 35.5% were students in the humanities and social sciences.

Measures

All scales used in the research are mature. SSS, DSS, HAP, and GSIP scale items are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). PsyCap scale items are

rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scales used in this study all have good reliability and validity (Table 1).

SSS

A 10-item scale adapted from Overall et al. (2011) was used to measure SSS, which includes three dimensions: autonomy support (3 items), academic support (3 items), and personal support (4 items). This scale has been used to investigate Chinese graduate students in prior research (Gu et al., 2017). A sample item is “My supervisor encourages me to ask questions.”

DSS

DSS was measured using a four-item scale borrowed from Wang (2013). A sample item is “My supervisor sets the goals for my research performance.”

PsyCap

Thirteen items adapted from the PsyCap questionnaire (PCQ) were used to measure graduate students’ PsyCap. Self-efficacy (3 items), hope (3 items), resilience (4 items), and optimism (3 items) were the four components of the scale. A sample item is “When faced with uncertainty in my studies, I usually hope for the best.”

HAP

HAP was measured using the graduate student academic loyalty questionnaire subscale (Cao et al., 2008). It contained three items, such as “I am interested in academic research.”

GSIP

GSIP was operationalized as encompassing two constructs: the innovation process (3 items) and innovation outcomes (4 items). Items for each construct were borrowed from validated and reliable instruments used in previous research (Scott and Bruce, 1994; Chen and Li, 2018). A sample item is “Develops adequate plans and schedules for the implementation of new ideas.”

Data analysis

First, because the data were self-reported, several procedural remedies were used to determine whether the results were

seriously threatened by common method bias (CMB). Second, descriptive statistics and Pearson correlations were performed on the preliminary analyses using SPSS 26. Third, AMOS 21 was used to perform confirmatory factor analysis (CFA) to test the measurement model and provide maximum likelihood estimates for the four suggested components. Fourth, AMOS 21 was used to conduct structural equation modelling (SEM) to assess the mediating effect of PsyCap on the relationship between SSS and GSIP. Specifically, the indirect effect was estimated using a bootstrapping approach with 5,000 resamples (Preacher and Hayes, 2008). Finally, PROCESS Model 1 (Hayes, 2017) was used to examine the moderating effect of HAP on the relationship between supervisory styles and GSIP. Additionally, a simple slope analysis was conducted.

Results

Preliminary analyses

Because the data were self-reported, several procedural remedies were used to minimize common method bias (CMB). First, participation was entirely voluntary, and respondents were guaranteed confidentiality and anonymity. Second, Harman’s single-factor test revealed that the first factor in the exploratory factor analysis accounted for 39.36% of the variance, which was less than the critical standard of 40.0% (Podsakoff et al., 2003). Third, CFA was conducted (Malhotra et al., 2006). An internal consistency approach (Kishton and Widaman, 2016) was used to create parcels for SSS, PsyCap and GSIP. For example, three parcels were constructed for SSS using its different facets as grouping criteria: autonomy support, academic support, and personal support. These parcels were treated as indicators of their respective latent variables in the CFA. The CFA results confirmed that the one-factor model exhibited a poorer data fit ($\chi^2 = 2340.58$, RMSEA = 0.23, SRMR = 0.18, CFI = 0.53, GFI = 0.45) than the five-factor model ($\chi^2 = 185.42$, RMSEA = 0.05, SRMR = 0.03, CFI = 0.98, GFI = 0.94). Therefore, CMB should not be a concern in this research. Finally, researchers have indicated that the likelihood of CMB is lower in studies featuring a moderator because respondents find it difficult to predict the moderating effect (Simons and Peterson, 2000).

TABLE 1 Reliability and validity of the scales used in this study.

Variables	Validity						Reliability
	χ^2/df	GFI	RMSEA	CFI	TLI	SRMR	Cronbach’s α
SSS	3.14	0.95	0.07	0.98	0.98	0.04	0.96
DSS	1.59	0.99	0.04	0.99	0.99	0.02	0.89
HAP							0.92
PsyCap	2.87	0.94	0.07	0.97	0.96	0.03	0.94
GSIP	2.28	0.98	0.06	0.99	0.99	0.02	0.90

Since both the DSS and the HAP scales were unidimensional and the HAP scale has only 3 items, they were used as a two-factor model in this study for CFA.

As indicated in Table 2, SSS, DSS, HAP, PsyCap and GSIP were all positively associated (r ranged from 0.28 to 0.72). All the correlations among the variables were significant at the 0.01 level, providing preliminary evidence for further hypothesis testing.

Measurement model

As shown in Table 3, the proposed four-factor structure performed significantly better than the five alternative models in terms of data fit. The fit indices supported the proposed four-factor model, providing evidence for the construct distinguishing among SSS, DSS, PsyCap and GSIP.

Hypothesis testing

Relationship between supervisory styles and GSIP

To examine the relationship between supervisory styles and GSIP, a set of regression analyses was conducted using SPSS 26. As shown in Table 4, the regression coefficient between SSS and GSIP was 0.10 ($p < 0.01$), which supported H1a. The effect of DSS on GSIP was also significant ($b = 0.26$, $p < 0.01$); therefore, H1b was also supported.

Test for mediation

According to Figure 2, SSS was significantly and positively associated with PsyCap ($b = 0.63$, $p < 0.001$). Thus, H2 was accepted. Moreover, PsyCap was significantly and positively correlated with GSIP ($b = 0.49$, $p < 0.001$), supporting H3.

To explore the mediating effect of PsyCap on the link between SSS and GSIP, a bootstrap analysis with 95% bias-corrected

confidence intervals (CIs) and 5,000 resamples was conducted. Table 5 presents the bootstrap result obtained from AMOS 21. Since the CI ([0.21, 0.43]) did not include zero, the findings show that PsyCap significantly mediated the effect of SSS on GSIP; thus, H4 was accepted. In addition, the total effect of SSS on GSIP was statistically significant (CI [0.04, 0.45]), and the direct effect was nonsignificant (CI [-0.25, 0.12]), suggesting that PsyCap fully mediated the effect of SSS on GSIP.

Test for moderation

To analyse the effects of supervisory styles and HAP on GSIP, two simple moderation analyses classified by supervisory styles were conducted using PROCESS Model 1 (Hayes, 2017). GSIP was entered as the dependent variable; SSS and DSS were entered as independent variables; and HAP was entered as the moderator, with gender, grade and discipline as covariates. All study variables were mean-centered before data analysis. As presented in Table 6, the interaction between DSS and HAP (model 2) was significantly related to GSIP ($b = 0.20$, $p < 0.001$). The interaction variable (SSS \times HAP, model 1) had a nonsignificant effect ($b = 0.01$, $p > 0.05$), showing that the impact of SSS on GSIP was not conditional on the level of HAP.

Figure 3 displays the simple regression lines of DSS on GSIP at low ($M - SD$) and high ($M + SD$) levels of HAP. The results revealed a stronger positive relationship between DSS and GSIP when students had lower (slope = 0.36, $t = 4.86$, $p < 0.001$) rather than higher (slope = 0.04, $t = 0.51$, $p > 0.05$) levels of HAP.

Discussion

Conclusion

Based on the JD-R model and COR theory, this study explored the influence mechanism and boundary conditions of supervisory styles on GSIP using PsyCap as a mediator and HAP as a moderator. Most of the links proposed in this study were supported by the current investigation. Here, the key conclusions are discussed.

First, supervisory style was positively related to GSIP. Specifically, SSS had a considerable impact on GSIP, which is consistent with the conclusions of previous research (Kim and Karau, 2009; Gu et al., 2017; Fan et al., 2019). DSS was positively

TABLE 2 Means, standard deviations, and correlations ($n = 400$).

Variables	Means	SD	1	2	3	4
1. SSS	4.23	0.79				
2. DSS	3.89	0.88	0.72**			
3. HAP	3.58	0.87	0.34**	0.30**		
4. PsyCap	5.15	0.94	0.36**	0.28**	0.65**	
5. GSIP	3.30	0.70	0.32**	0.32**	0.55**	0.66**

** $p < 0.01$ (two tailed).

TABLE 3 Comparison of measurement models.

Model	χ^2	df	$\Delta\chi^2$	RMSEA	SRMR	CFI	GFI
SSS, DSS, PsyCap, GSIP	119.25	59	–	0.05	0.03	0.98	0.96
SSS + DSS, PsyCap, GSIP	379.37	62	260.12	0.11	0.05	0.91	0.84
SSS + PsyCap, GSIP, DSS	1079.63	62	960.38	0.20	0.17	0.71	0.62
SSS, DSS + PsyCap, GSIP	1174.02	62	1054.77	0.21	0.19	0.67	0.60
SSS + DSS + PsyCap, GSIP	1373.93	64	1254.68	0.23	0.19	0.63	0.57
SSS + DSS + PsyCap + GSIP	1476.81	65	1357.56	0.23	0.19	0.60	0.53

TABLE 4 The results of the regression analyses of the effects of supervisory styles on GSIP.

Variables	GSIP	
	Model 1	Model 2
Grade	−0.91	−0.90
Discipline	−0.57	−0.49
Gender	1.27*	1.21*
SSS		0.10**
DSS		0.26**
R^2	0.03	0.15
F	3.91**	13.37***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two tailed).

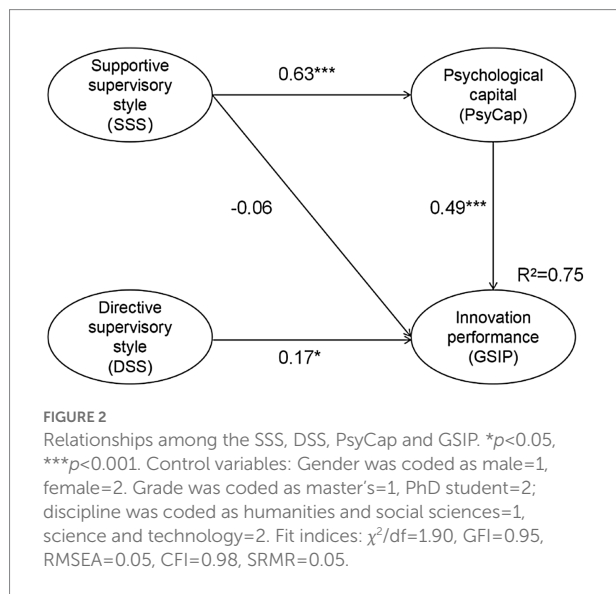


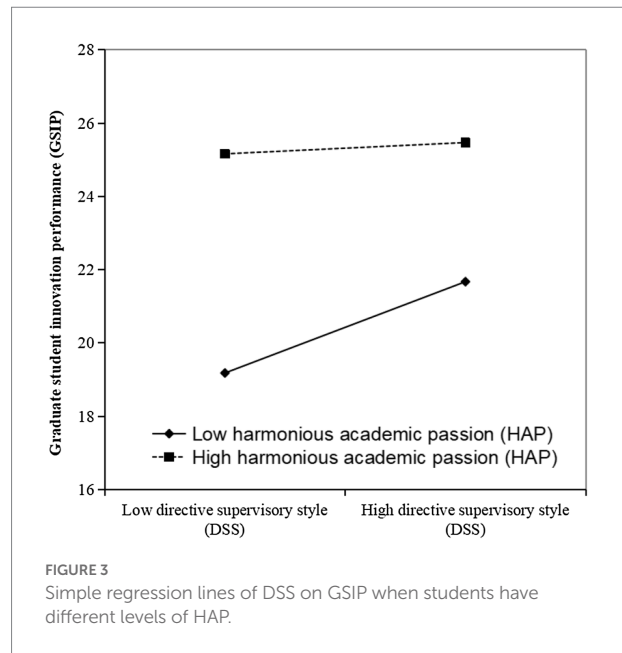
TABLE 5 Indirect effect of SSS on GSIP.

Regression paths	Indirect effects	Boot SE	Bias-corrected 95% CI	
			Lower	Upper
SSS → PsyCap → GSIP	0.31***	0.06	0.21	0.43

*** $p < 0.001$ (two tailed).

TABLE 6 Moderating role of HAP on the associations between supervisory styles and GSIP in the two models.

Variables	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P</i>	95%	
					Lower	Upper
Model 1						
SSS	0.08	0.03	3.21	0.00	0.03	0.13
HAP	0.94	0.09	10.91	0.00	0.77	1.11
SSS×HAP	−0.02	0.01	−1.89	0.06	−0.03	0.00
Model 1						
DSS	0.20	0.06	3.32	0.00	0.08	0.32
HAP	0.94	0.08	11.14	0.00	0.77	1.10
DSS×HAP	−0.06	0.02	−3.28	0.00	−0.10	−0.02



related to GSIP in the Chinese educational context. By setting deadlines and providing external monitoring, graduate students can decrease laziness, thus boosting their productivity. This finding is in line with the conclusions of previous research, which has also demonstrated that DSS enhances graduate student creativity (Gu et al., 2017). Both results imply that supportive and directive supervisory styles are critical resources that graduate students can employ to engage in innovative behaviors and produce better performance.

Second, SSS significantly enhances graduate students' PsyCap, which in turn promotes their GSIP. Specific to the initial step of the mediated relationship (between SSS and PsyCap), SSS is positively associated with PsyCap, a finding which is in line with the conclusions of previous research, indicating that supportive climate could provide the fertile soil required for PsyCap to thrive (Ahmed et al., 2017; Um-e-Rubbab et al., 2021). By engaging in various supportive behaviors, such as participative goal setting, the provision of positive feedback, encouragement, empowering students and providing reassurance, supervisors can encourage students to develop greater confidence in their abilities to pursue academic goals, enhance their willingness and ability to design hope pathways, and motivate them to be more optimistic and resilient, thus contributing to their PsyCap (Gupta and Singh, 2014). Furthermore, this study also demonstrated that PsyCap has the potential to predict GSIP, a finding which is consistent with the conclusions of previous studies (Guo et al., 2021). Students with higher PsyCap have more available resources to compensate for the loss of resources in academic research, thus leading to higher performance (Gupta and Singh, 2014; Liu et al., 2020).

Overall, in line with previous research indicating that job resources can increase individuals' PsyCap, which, as an important psychological resource, can lead to better outcomes (Newman et al., 2014), the findings of this study showed that SSS promotes

PsyCap, which in turn contributes to GSIP. This result is also in line with the JD-R model and COR theory, thus suggesting that employees who work in a resourceful environment are likely to develop personal resources that, in turn, facilitate positive outcomes (Schaufeli and Taris, 2014). It should be noted that PsyCap fully mediates the relationship between SSS and GSIP based on the results of this study, which is consistent with previous studies (Luthans et al., 2008; Gu et al., 2017). According to the common saying, “Your teacher can open the door but you must enter by yourself.” If a graduate student lacks the motivation or individual capacity to perform academic research, even the best support would not guarantee a consistent level of success (Luthans et al., 2008). SSS is merely a critical external factor, and its impact on GSIP is affected by students’ internal factors, especially their “will” and “can” (Gu et al., 2017).

Finally, HAP has a significant conditional effect on DSS. Specifically, DSS is more positively related to GSIP when students have lower levels of HAP. This finding is consistent with previous research showing that controlling instruction has a relatively strong impact on the innovative thinking and innovative behavior of graduate students with low individual initiative (Wu et al., 2018). Compared to students with a high level of HAP, students with a low level of HAP have no clear research plan and are more likely to accept tasks assigned by their supervisors, thereby increasing their innovation performance. Contrary to expectations, the moderating role of HAP between SSS and GSIP was not confirmed. This suggests that the positive effect of SSS on GSIP was beyond the specific studied condition.

Theoretical implications and research contributions

First, the present study enriches the understanding of the influence of supervisory styles on GSIP by introducing PsyCap as the mediator. Supervisory leadership influences graduate students’ innovation *via* complex closer-proximity mediating mechanisms (Fischer et al., 2016; Hughes et al., 2018). However, previous studies on the influence of supervisory styles on innovation and creativity have been limited to an examination of intrinsic motivation (Hughes et al., 2018). It is not possible for graduate students to develop innovation in a psychological vacuum (Liu et al., 2020); instead, PsyCap may have a significant impact on innovation and creativity (Rego et al., 2012; Yan et al., 2020). Based on the JD-R model and COR theory, this study finds that graduate students’ PsyCap, as an important personal resource, fully mediates the relationship between SSS and GSIP, thus highlighting the psychological mechanism in the supervisor leadership process.

Second, this study incorporates HAP as a moderator into the research model, explaining how supervisory styles influence GSIP in a comprehensive way and addressing the request for additional study regarding the significance of individual traits in GSIP (Zacher and Johnson, 2015; Meng et al., 2017).

Finally, the present study employed the JD-R model and COR theory as theoretical foundations to examine the influence of supervisory styles on GSIP in the Chinese academic context. This approach contributes to the SSS literature, as previous researchers have employed the social cognitive theory and Amabile’s componential theory of creativity to explain the relationship between SSS and graduate students’ creativity. The present research expands the application of the JD-R model and COR theory to the field of graduate education. Although they were initially developed to study employees in the workplace, it is reasonable that the two theories can also be utilized as theoretical foundations to predict connections in academic contexts because the relationships between supervisors and graduate students are comparable to workplace relationships (Ahmed et al., 2017; Xia et al., 2021). By employing the JD-R model and COR theory, SSS was found to act as a critical job resource that can enhance graduate students’ PsyCap, which, as a core personal resource, boosts GSIP.

Practical implications for supervisors

First, to ensure effective supervisor leadership, supervisors should adapt supportive and directive supervisory styles to enrich graduate students’ job resources and personal resources for academic innovation in light of the positive effect of supervisory styles on GSIP. More specifically, supervisors should use the following strategies to help students enhance their PsyCap and innovation skills (Overall et al., 2011): (a) provide task-related assistance, be accessible, and reply to students promptly; (b) encourage students and show empathy toward them as they face research-based challenges, personal difficulties, or confidence crises; and (c) consider students’ viewpoints and allow them to make their own decisions. Furthermore, the findings suggest that students with low HAP might benefit from DSS. Supervisors could use directive strategies, such as providing students with detailed goals and directions and using specific guidance, to help students who have low HAP improve their innovation performance.

Second, PsyCap is state-like in nature and is open to development through training and intentional practice (Luthans et al., 2006; Dello Russo and Stoykova, 2015). Considering the positive effect of PsyCap on GSIP, educational interventions are encouraged that promote graduate students’ PsyCap. On the one hand, nurturing or supporting the social environment, such as through SSS, is likely to generate PsyCap. Thus, supervisors should recognize the significance of their support strategies in strengthening graduate students’ PsyCap. On the other hand, some empirical studies have verified the effectiveness of PsyCap interventions such as daily online self-learning (Da et al., 2020) and academic courses (Gomes da Costa et al., 2021) with respect to enhancing the PsyCap of employees or students. Professional psychological counselling, academic advising programs, or other interventions can help to promote graduate students’ PsyCap.

Limitations and recommendations

Despite its contributions, the study has several limitations. First, this was a cross-sectional study, which by definition cannot model temporal order; thus, no causal links can be concluded. However, future research can confirm the causal relationships found in this study using longitudinal or time-lagged designs. Second, future studies could use a longitudinal design to examine the reverse causal effects. According to COR theory, initial resource gains lead to future resource gains in a process that is known as gain spirals (Halbesleben et al., 2014), thus implying that reciprocal relationships exist in this context. According to the literature, job characteristics and well-being appear to interact (Simbula et al., 2011). Hence, it is rational to assume that PsyCap and SSS have a reciprocal link with GSIP. Third, because the data used in the study were self-reported, CMB could have skewed the results. Future research could use multistage, multisource designs so that the CMB problem is solved from the onset. Finally, all respondents came from one university in China, limiting the observed variability and external validity. Conducting future research in a range of organizational situations could help to broaden the applicability of the findings.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Lanzhou University ethics committee. The patients/participants provided their written informed consent to participate in this study.

References

- Afsar, B., Badir, Y. F., and Bin Saeed, B. (2014). Transformational leadership and innovative work behavior. *Ind. Manag. Data Syst.* 114, 1270–1300. doi: 10.1108/imds-05-2014-0152
- Ahmed, U., Umrani, W. A., Pahi, M. H., and Shah, S. M. M. (2017). Engaging Ph.D. students: investigating the role of supervisor support and psychological Capital in a Mediated Model. *Iranian. J. Manag. Stud.* 10, 283–306. doi: 10.22059/ijms.2017.220219.672364
- Akhtar, W., Aslam, M., Huo, C., Akbar, M., Afzall, U., and Rafiq, H. (2021). Interplay of authentic leadership and social capital on team leader performance in public and private-sector universities. *Kybernetes*. doi: 10.1108/K-06-2021-0446
- Al-Husseini, S., and Elbeltagi, I. (2016). Transformational leadership and innovation: a comparison study between Iraq's public and private higher education. *Stud. High. Educ.* 41, 159–181. doi: 10.1080/03075079.2014.927848
- Al-Sawai, A. (2013). Leadership of healthcare professionals: where do we stand? *Oman. Med. J.* 28, 285–287. doi: 10.5001/omj.2013.79
- Amabile, T. M., Schatzel, E. A., Moneta, G. B., and Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: perceived leader support. *Leadersh. Q.* 15, 5–32. doi: 10.1016/j.leaqua.2003.12.003
- Bao, S., and Yang, B. (2019). The conceptual model of Supervisors' mentoring style based on content analysis. *Acad. Degrees Grad. Educ.* 2019, 12–18. doi: 10.16750/j.adge.2019.02.003
- Bao, S., and Yang, B. (2021). What Guidance Abilities Should Graduate Mentors Possess? Research in Higher Education of Engineering (01), 108–114+121.
- Bélanger, C., and Ratelle, C. F. (2021). Passion in university: the role of the dualistic model of passion in explaining students' academic functioning. *J. Happiness Stud.* 22, 2031–2050. doi: 10.1007/s10902-020-00304-x
- Bouckennooghe, D., Zafar, A., and Raja, U. (2014). How ethical leadership shapes employees' job performance: the mediating roles of goal congruence and psychological capital. *J. Bus. Ethics* 129, 251–264. doi: 10.1007/s10551-014-2162-3
- Cao, J., Wang, J., and Chen, L. (2008). Development of the "graduate student academic loyalty scale" and analysis of its influencing factors. *Acad. Degrees Grad. Educ.* 10, 47–52. doi: 10.16750/j.adge.2008.10.011
- Chen, W., and Li, Y. (2018). Influence of improper supervision on scientific research innovation performance of postgraduates --- from the perspective of supervisor - postgraduate relationship. *J. Grad. Educ.* 5, 29–36.
- Crawford, E. R., Lepine, J. A., and Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *J. Appl. Psychol.* 95, 834–848. doi: 10.1037/a0019364

Author contributions

BY: designed the research, conducted data analyses and wrote up the manuscript. SB: was PI on the grant that funded data collection, she also revised, and edited the manuscript. JX: reviewed the literature and revised the manuscript. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the National Social Science Fund of China under Grant number BIA200213.

Acknowledgments

The authors would like to thank all the graduate students who participated in the study.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Da, S., He, Y., and Zhang, X. (2020). Effectiveness of psychological capital intervention and its influence on work-related attitudes: daily online self-learning method and randomized controlled trial design. *Int. J. Environ. Res. Public Health* 17:8754. doi: 10.3390/ijerph17238754
- Dello Russo, S., and Stoykova, P. (2015). Psychological capital intervention (PCI): a replication and extension. *Hum. Resour. Dev. Q.* 26, 329–347. doi: 10.1002/hrdq.21212
- Demerouti, E., Bakker, A. B., Nachreiner, F., and Schaufeli, W. B. (2001). The job demands-resources model of burnout. *J. Appl. Psychol.* 86, 499–512. doi: 10.1037/0021-9010.86.3.499
- Etikariena, A. (2016). Correlation between innovative self-efficacy and innovative work behavior. *Int. J. Psychol.* 51:751.
- Fan, L., Mahmood, M., and Uddin, M. A. (2019). Supportive Chinese supervisor, innovative international students: a social exchange theory perspective. *Asia Pac. Educ. Rev.* 20, 101–115. doi: 10.1007/s12564-018-9572-3
- Fang, Y.-C., Chen, J.-Y., Wang, M.-J., and Chen, C.-Y. (2019). The impact of inclusive leadership on employees' innovative behaviors: the mediation of psychological capital. *Front. Psychol.* 10:1803. doi: 10.3389/fpsyg.2019.01803
- Fischer, T., Dietz, J., and Antonakis, J. (2016). Leadership process models: a review and synthesis. *J. Manag.* 43, 1726–1753. doi: 10.1177/0149206316682830
- Gomes da Costa, M., Pinto, L. H., Martins, H., and Vieira, D. A. (2021). Developing psychological capital and emotional intelligence in higher education: a field experiment with economics and management students. *The International J. Manag. Educ.* 19:100516. doi: 10.1016/j.ijme.2021.100516
- Gu, J. B., He, C. Q., and Liu, H. F. (2017). Supervisory styles and graduate student creativity: the mediating roles of creative self-efficacy and intrinsic motivation. *Stud. High. Educ.* 42, 1–22. doi: 10.1080/03075079.2015.1072149
- Guo, J., Chen, Z., and Zheng, B. (2021). Postgraduate competence and academic research performance: the mediating role of psychological capital. *Sustainability* 13:6469. doi: 10.3390/su13116469
- Gupta, V., and Singh, S. (2014). Psychological capital as a mediator of the relationship between leadership and creative performance behaviors: empirical evidence from the Indian R&D sector. *Int. J. Hum. Resour. Manag.* 25, 1373–1394. doi: 10.1080/09585192.2013.870311
- Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., and Westman, M. (2014). Getting to the "COR": understanding the role of resources in conservation of resources theory. *J. Manag.* 40, 1334–1364. doi: 10.1177/0149206314527130
- Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: Guilford Publications.
- Hersey, P., and Blanchard, K. H. (1982). *Management of Organizational Behavior: Utilizing Human Resources*. Englewood Cliffs, NJ: Prentice-Hall.
- Hofstede, G. (1984). *Culture's Consequences: International Differences in Work-Related Values*. London: Sage Publications.
- Hughes, D. J., Lee, A., Tian, A. W., Newman, A., and Legood, A. (2018). Leadership, creativity, and innovation: a critical review and practical recommendations. *Leadersh. Q.* 29, 549–569. doi: 10.1016/j.leaqua.2018.03.001
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *J. Occup. Organ. Psychol.* 73, 287–302. doi: 10.1348/096317900167038
- Je, O. (2019). PhD poll reveals fear and joy, contentment and anguish. *Nature* 575, 403–406.
- Kim, M., and Beehr, T. (2022). Empowering leadership improves employees' positive psychological states to result in more favorable behaviors. *Int. J. Hum. Resour. Manag.*, 1–37. doi: 10.1080/09585192.2022.2054281
- Kim, K., and Karau, S. J. (2009). Working environment and the research productivity of doctoral students in management. *J. Educ. Bus.* 85, 101–106. doi: 10.1080/08832320903258535
- Kishton, J. M., and Widaman, K. F. (2016). Unidimensional versus domain representative parceling of questionnaire items: an empirical example. *Educ. Psychol. Meas.* 54, 757–765. doi: 10.1177/0013164494054003022
- Lee, A., Legood, A., Hughes, D., Tian, A., Newman, A., and Knight, C. (2019). Leadership, creativity and innovation: a meta-analytic review. *Eur. J. Work Organ. Psy.* 29, 1–35. doi: 10.1080/1359432X.2019.1661837
- Lei, H., Leungkhama, L., and Ba Phong, L. (2020). How transformational leadership facilitates innovation capability: the mediating role of employees' psychological capital. *Leadersh. Organ. Dev. J.* 41, 481–499. doi: 10.1108/LODJ-06-2019-0245
- Li, X., Kan, D., Liu, L., Shi, M., Wang, Y., Yang, X., et al. (2015). The mediating role of psychological capital on the association between occupational stress and job burnout among bank employees in China. *Int. J. Environ. Res. Public Health* 12, 2984–3001. doi: 10.3390/ijerph120302984
- Li, M., Yang, F., and Akhtar, M. W. (2022). Responsible leadership effect on career success: the role of work engagement and self-enhancement motives in the education sector. *Front. Psychol.* 13:386. doi: 10.3389/fpsyg.2022.888386
- Liu, W., Wang, J., and Ryan, R. (2016). *Building Autonomous Learners: Perspectives from Research and Practice Using Self-Determination Theory*. New York: Springer.
- Liu, X., Zou, Y., Ma, Y., and Gao, W. (2020). What affects PhD student creativity in China? A case study from the joint training pilot project. *High. Educ.* 80, 37–56. doi: 10.1007/s10734-019-00463-8
- Lorinkova, N. M., Pearsall, M. J., and Sims, H. P. (2013). Examining the differential longitudinal performance of directive versus empowering leadership in teams. *Acad. Manag. J.* 56, 573–596. doi: 10.5465/amj.2011.0132
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., and Combs, G. M. (2006). Psychological capital development: toward a micro-intervention. *J. Organ. Behav.* 27, 387–393. doi: 10.1002/job.373
- Luthans, F., Avolio, B. J., Avey, J. B., and Norman, S. M. (2007a). Positive psychological capital: measurement and relationship with performance and satisfaction. *Pers. Psychol.* 60, 541–572. doi: 10.1111/j.1744-6570.2007.00083.x
- Luthans, F., Norman, S. M., Avolio, B. J., and Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate - employee performance relationship. *J. Organ. Behav.* 29, 219–238. doi: 10.1002/job.507
- Luthans, F., and Youssef, C. M. (2004). Human, social and now positive psychological capital management: investing in people for competitive advantage. *Organ. Dyn.* 33, 143–160. doi: 10.1016/j.orgdyn.2004.01.003
- Luthans, F., Youssef-Morgan, C., and Avolio, B. (2007b). *Psychological Capital: Developing the Human Competitive Edge*. Oxford: Oxford University Press.
- Malhotra, N. K., Kim, S. S., and Patil, A. (2006). Common method variance in IS research: a comparison of alternative approaches and a reanalysis of past research. *Manag. Sci.* 52, 1865–1883. doi: 10.1287/mnsc.1060.0597
- Meng, Y., Tan, J., and Li, J. (2017). Abusive supervision by academic supervisors and postgraduate research students' creativity: the mediating role of leader-member exchange and intrinsic motivation. *Int. J. Leadersh. Educ.* 20, 605–617. doi: 10.1080/13603124.2017.1304576
- Meng, Y., and Zhao, C. J. (2018). Academic supervisor leadership and its influencing mechanism on postgraduate creativity in China. *Think. Skills Creat.* 29, 32–44. doi: 10.1016/j.tsc.2018.05.006
- Newman, A., Ucbasaran, D., Zhu, F., and Hirst, G. (2014). Psychological capital: a review and synthesis. *J. Organ. Behav.* 35, S120–S138. doi: 10.1002/job.1916
- Overall, N. C., Deane, K. L., and Peterson, E. R. (2011). Promoting doctoral students' research self-efficacy: combining academic guidance with autonomy support. *High. Educ. Res. Dev.* 30, 791–805. doi: 10.1080/07294360.2010.535508
- Parkes, K. R. (1994). Personality and coping as moderators of work stress processes: models, methods and measures. *Work Stress* 8, 110–129. doi: 10.1080/02678379408259984
- Peltokorpi, V. (2018). Abusive supervision and emotional exhaustion: the moderating role of power distance orientation and the mediating role of interaction avoidance. *Asia Pac. J. Hum. Resour.* 57, 251–275. doi: 10.1111/1744-7941.12188
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879
- Preacher, K. J., and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* 40, 879–891. doi: 10.3758/brm.40.3.879
- Rego, A., Sousa, F., Marques, C., and Cunha, M. P. (2012). Authentic leadership promoting employees' psychological capital and creativity. *J. Bus. Res.* 65, 429–437. doi: 10.1016/j.jbusres.2011.10.003
- Ryan, R. M., and Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am. Psychol.* 55, 68–78. doi: 10.1037/0003-066x.55.1.68
- Schaufeli, W. B., and Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *J. Organ. Behav.* 25, 293–315. doi: 10.1002/job.248
- Schaufeli, W. B., and Taris, T. W. (2014). A critical review of the job demands-resources model: implications for improving work and health. *A Transdisciplinary Approach*. eds. G. F. Bauer and O. Hämmig (Dordrecht: Springer Netherlands), 43–68.
- Scott, S. G., and Bruce, R. A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Acad. Manag. J.* 37, 580–607.
- Simbula, S., Guglielmi, D., and Schaufeli, W. B. (2011). A three-wave study of job resources, self-efficacy, and work engagement among Italian schoolteachers. *Eur. J. Work Organ. Psy.* 20, 285–304. doi: 10.1080/13594320903513916
- Simons, T., and Peterson, R. (2000). Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust. *J. Appl. Psychol.* 85, 102–111. doi: 10.1037/0021-9010.85.1.102
- Somech, A. (2016). Directive versus participative leadership: two complementary approaches to managing school effectiveness. *Educ. Adm. Q.* 41, 777–800. doi: 10.1177/0013161x05279448

- Syed, F., Naseer, S., Akhtar, M. W., Husnain, M., and Kashif, M. (2021). Frogs in boiling water: a moderated-mediation model of exploitative leadership, fear of negative evaluation and knowledge hiding behaviors. *J. Knowl. Manag.* 25, 2067–2087. doi: 10.1108/JKM-11-2019-0611
- Um-e-Rubbab, F. T., Iqbal, S., Saeed, I., Irfan, S., and Akhtar, T. (2021). Impact of supportive leadership during Covid-19 on Nurses' well-being: the mediating role of psychological capital. *Front. Psychol.* 12:5091. doi: 10.3389/fpsyg.2021.695091
- Vallerand, R. J. (2015). *The Psychology of Passion: A Dualistic Model. Series in Positive Psychology*. New York: Oxford University Press.
- Vallerand, R. J., Salvy, S.-J., Mageau, G. A., Elliot, A. J., Denis, P. L., Grouzet, F. M. E., et al. (2007). On the role of passion in performance. *J. Pers.* 75, 505–534. doi: 10.1111/j.1467-6494.2007.00447.x
- van den Broeck, A., van Ruysseveldt, J., Smulders, P. G. W., and De Witte, H. (2011). Does an intrinsic work value orientation strengthen the impact of job resources? A perspective from the job demands-resources model. *Eur. J. Work Organ. Psy.* 20, 581–609. doi: 10.1080/13594321003669053
- Wang, X. (2013). *The Research on the Influence of Mentor Leadership on the Graduate Student Creativity*. [dissertation/ doctoral thesis]. [Hefei]: University of Science and Technology of China.
- Wang, Y., Chin, T., Caputo, F., and Liu, H. (2022b). How supportive leadership promotes employee innovation under uncertainty: evidence from Chinese E-commerce industry. *Sustainability* 14:7491. doi: 10.3390/su14127491
- Wang, H., Wang, L. Y., and Zhu, J. (2022a). Moderated mediation model of the impact of autonomous motivation on postgraduate Students' creativity. *Think. Skills Creat.* 43:100997. doi: 10.1016/j.tsc.2021.100997
- Wu, Y., Wei, Y., Shi, Y., and Li, M. (2018). The influence of tutor's guidance style on the innovative ability of graduate students with different levels of initiative: an investigation of nine universities. *Fudan Educ. Forum* 16, 74–79. doi: 10.13397/j.cnki.fef.2018.03.012
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., and Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *Int. J. Stress. Manag.* 14, 121–141. doi: 10.1037/1072-5245.14.2.121
- Xia, Z. C., Yang, F., and Xu, Q. Y. (2021). Authoritarian-benevolent leadership and its effect on graduate student creativity: the mediating role of intrinsic motivation. *J. Creat. Behav.* 55, 25–38. doi: 10.1002/jocb.431
- Yan, D., Wen, F., Li, X., and Zhang, Y. (2020). The relationship between psychological capital and innovation behaviour in Chinese nurses. *J. Nurs. Manag.* 28, 471–479. doi: 10.1111/jonm.12926
- Zacher, H., and Johnson, E. (2015). Leadership and creativity in higher education. *Stud. High. Educ.* 40, 1210–1225. doi: 10.1080/03075079.2014.881340
- Zhao, H., Liu, X., and Qi, C. (2021a). "Want to learn" and "can learn": influence of academic passion on college Students' academic engagement. *Front. Psychol.* 12:7822. doi: 10.3389/fpsyg.2021.697822
- Zhao, X., Yin, H., Fang, C., and Liu, X. (2021b). For the sustainable development of universities: exploring the external factors impacting returned early career Academic's research performance in China. *Sustainability* 13:1333. doi: 10.3390/su13031333
- Zhou, J. (2021). How does dualistic passion fuel academic thriving? A joint moderated-mediating model. *Front. Psychol.* 12:666830. doi: 10.3389/fpsyg.2021.666830



OPEN ACCESS

EDITED BY

Muhammad Waheed Akhtar,
COMSATS University Islamabad,
Pakistan

REVIEWED BY

Muhammad Arslan Safdar,
Liaoning University, China
Minhas Akbar,
COMSATS University Islamabad,
Pakistan

*CORRESPONDENCE

Su Chen
chensu@wtu.edu.cn

SPECIALTY SECTION

This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 15 September 2022

ACCEPTED 20 October 2022

PUBLISHED 09 November 2022

CITATION

Chen S, Shen W, Tan X and Liu R
(2022) From entrepreneurial
cognition to entrepreneurial intention
and behavior: The case of higher
educational institutions in China.
Front. Psychol. 13:1045050.
doi: 10.3389/fpsyg.2022.1045050

COPYRIGHT

© 2022 Chen, Shen, Tan and Liu. This
is an open-access article distributed
under the terms of the [Creative
Commons Attribution License \(CC BY\)](#).
The use, distribution or reproduction in
other forums is permitted, provided
the original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which
does not comply with these terms.

From entrepreneurial cognition to entrepreneurial intention and behavior: The case of higher educational institutions in China

Su Chen^{1*}, Wenbin Shen¹, Xinyu Tan¹ and Rongzhi Liu²

¹School of Accounting, Wuhan Textile University, Wuhan, China, ²School of Management, Zhongnan University of Economics and Law, Wuhan, China

Entrepreneurship has been called “high quality employment” in China. Therefore, universities have paid more attention to entrepreneurship education, which is a crucial element for entrepreneurial success. Based on the theory of “informed intentions” planned behavior and dual cognitive processing theory, this manuscript studies the relationship among entrepreneurial cognition, entrepreneurial intention, recognition perception of university entrepreneurship education, and entrepreneurial behavior from the perspective of mass innovation and mass entrepreneurship in China. The hypotheses are tested using a hierarchical linear regression model based on data from 786 valid questionnaires from more than 400 universities across China. This study finds that student’s entrepreneurial cognition positively affects their entrepreneurial behavior, and entrepreneurial intention plays a mediating role by positively strengthening the relationship between these two, and that the recognition perception of university entrepreneurship education strengthens the positive relationship between entrepreneurial intention and entrepreneurial behavior. These findings provide a new perspective and framework for studying the entrepreneurial cognitive education of university students, and they have certain practical implications for the reform of entrepreneurship education in China.

KEYWORDS

entrepreneurship, higher educational institutions, cognition, intention, behavior

Introduction

In recent 20 years, with the rapid development of Internet economy across the worldwide, more and more people from all walks of life have joined the entrepreneurial army. According to relevant statistics, China’s entrepreneurial activity is now foremost in the world, but the quality of entrepreneurship is not high, the success rate is relatively low, there are fewer highly educated entrepreneurs, and they are still concentrated in low-tech industries ([China Entrepreneurship Research Center, 2013](#)). A large-sample

survey focused on entrepreneurship showed that 64.9% of Chinese college students have entrepreneurial ideas, but the proportion of successfully achieving the business goal is less than 20%. Also, their income is relatively low, nearly 70% of them have an average monthly income of less than 3,000 yuan, and 17.3% of the entrepreneurial projects run at a loss (Maxis Institute, 2014). Therefore, it is impossible to achieve entrepreneurial success with just entrepreneurial enthusiasm but no entrepreneurial ability (i.e., accurate understanding of entrepreneurial theory, direction, objectives, risks, implementation process, and sustainability evaluation). For successful entrepreneurship and social value growth, it is crucial to cultivate and improve individual entrepreneurial ability (Audretsch, 2007), which is why major countries have prioritized the cultivation and development entrepreneurial capabilities (Chen et al., 2014).

At present, under the guidance of a policy of the Chinese government- “Basic Requirements for Entrepreneurship Education and Teaching in Ordinary Undergraduate Universities,” most colleges and universities in China have consciously established theoretical and practical courses such as “Entrepreneurship Management” and “Entrepreneurship and Employment Guidance” to guide the entrepreneurial cognition and practice for college students. Taking the city of Wuhan in the province of Hubei as an example, 96% of colleges and universities there have established a course on entrepreneurship management, and government departments at all levels have implemented a series of preferential policies of Wuhan City Government- “Millions of College Students to Stay in Wuhan for Starting a Business” under the guidance of “Mass Entrepreneurship and Innovation.” However, according to data from the Entrepreneurship Guidance Center of the Human Resources and Social Security Bureau, nearly 12% of Chinese students have the intention to start a business, while only 2% actually practice, which is in sharp contrast to the stable proportion of 20–30% in Western developed countries (Rongzhi and Hu, 2011). In recent years, many young students have been involved in entrepreneurship because of (i) the increasingly severe employment situation, (ii) the examples and influences of successful entrepreneurs, and (iii) the implementation of a series of preferential policies for innovation and entrepreneurship by university students. Therefore, the following questions arise. What are the common characteristics of university students will choose to start a business? What factors will affect and promote college students’ entrepreneurial intention (EI)? How do university students perceive our entrepreneurship education? How to accurately understand the role of EI in the process of individual entrepreneurial behavior (EB)? How entrepreneurship education in universities should be reformed and innovatively to promote the benign promotion and sustainable development of students’ entrepreneurial intentions and behaviors, so as to help students’ innovation and entrepreneurship could further successfully going out of

universities, stepping into society, participating in the business, and realizing entrepreneurship in a real sense has been still a hot issue concerned by the academic circle and relevant departments.

Research objectives

Entrepreneurial cognition and entrepreneurial behavior

At the beginning of the 21st century, scholars beyond China pointed out the influence of entrepreneurial cognition (EC) on EB. Mitchell et al. (2002a) defined EC as “the knowledge structure used by entrepreneurs for evaluation, judgment and decision-making in the process of opportunity evaluation and entrepreneurial growth,” and while studying entrepreneurship, Li et al. (2013) found that EC has a significant impact on entrepreneurial decision-making. Therefore, many colleges and universities in China now have an entrepreneurship management course for EE: this provides college-student entrepreneurs with theoretical knowledge about and practical experience of entrepreneurship through diversified education modes such as innovation and entrepreneurship competitions, social practice, enterprise practice, and project simulation, which are very important for improving their EC (Li et al., 2013). Therefore, the first purpose of the present study is to explore the specific impact of EC on EB.

Entrepreneurial cognition and entrepreneurial intention

Most empirical studies in China and elsewhere have shown that EI plays an important and prerequisite role in the entire process of individual EB (Xiu’e and Kun, 2016), and as a classic concept in psychology, that of “informed intentions” is often used in the moral education of college students. Entrepreneurship is a typical planned behavior. As an exogenous factor, entrepreneurial education (EE) in colleges and universities has been concerned with whether it is possible to enrich the self-awareness of entrepreneurship among college students by teaching entrepreneurial knowledge, thereby stimulating EI and encouraging EB (Bird, 1988). Also, researches have noted that entrepreneurship—like other disciplines—can be recognized and understood through learning (Bird, 1988). Many previous studies have also shown that EE has a certain positive impact on improving people’s EI or entrepreneurial ability. Based on empirical research, the positive influence of entrepreneurship education on college students’ entrepreneurial attitude and entrepreneurial self-efficacy has been discussed (Peter and Kennedy, 2003; Fayolle et al., 2006; Souitaris et al., 2007). Also, EE has a positive and significant

effect on the formation of students' EI and entrepreneurial motivation has been reasoned (Li and Huiming, 2010). And via a questionnaire survey, it pointed out that EE has not only a direct effect on EI but also a significant impact on it with a generalized entrepreneurial attitude as an intermediate mechanism (Li and Huiming, 2010; Xiang and Lei, 2014). From the discussion above, it could be concluded that EE in colleges and universities actually involves cognitive education about entrepreneurship-related knowledge to stimulate the EI of college students through systematic cognitive education and then stimulate their EB. Therefore, another purpose of the present study is to explore whether EC also follows the psychological law of "cognition–emotion–intention–behavior," i.e., whether EC and EI are correlated positively.

Recognition of college entrepreneurship education and entrepreneurial intention and behavior

EI plays an important role in the whole process of the individual entrepreneurship of college students. However, from the perspective of the pre-factors affecting EI, it is not only determined by the EC acquired from EE in colleges and universities but also may be influenced by individual subjective attitudes, subjective norms, and perceived behavioral control (Heuer and Kolvereid, 2014). In recent years, some studies have found that (i) EE has little effect on the entrepreneurial ability of college students and (ii) EE has no or even negative impact on EI (Oosterbeek et al., 2010; Rongzhi and Hu, 2011). (iii) no significant difference in the impact of whether students had received EE in the three aspects of innovation ability, risk-taking ability, and desire for success (Li and Huiming, 2010). Further, some also explored the moderating role of entrepreneurial competencies between use of e-commerce and SME performance (Hussain et al., 2022). In general, there has been much academic research over the years into the relationship among EI, EC, entrepreneurial ability, EE, and EB, but claims about specific positive or negative relationships have been controversial. As a new part of higher education, the present study reasons that the mode adopted by EE and the corresponding education quality satisfaction can have a positive or negative impact on college students' EC, and colleges and universities can continuously improve the learning mode of EE and enhance recognition of college EE, so as to improve the EC level of college students with EI and help them to effectively carry out EB and further to achieve entrepreneurial success, which means that EI is the internal factor of college students' EB, EE is the external factor of their EB, and the EC obtained from EE is an important driving factor to stimulate EI and practice EB. Therefore, the third purpose of this manuscript is to introduce recognition of college EE as a regulating variable to explore whether it plays a role in the impact of college students' EC

on their EI and EB under the current national entrepreneurial upsurge.

Research design

Hypotheses development

Entrepreneurial cognition and entrepreneurial behavior

The *Psychology Volume of Cihai* (a well-known Chinese lexicon and character dictionary) defines "cognition" as the psychological process of individual cognition and understanding of things, i.e., the activities of human beings to recognize objective things and acquire knowledge: it is embodied in the process of processing and applying the acquired information, mainly including sensing, perception, attention, imagery, learning, memory, verbal problem solving, and decision-making, etc. The term "cognition" is used in many fields: in educational psychology, researchers often use it to express the information-processing view of individual mental activities of students, including processes such as perception, memory, learning, speech, thinking, and problem-solving; in behavioral psychology, researchers often use it to explain people's attitudes, behaviors, attributions, and group dynamics, etc. Meanwhile, in the *Psychology Volume of Cihai*, "behavior" refers to the sum total of all reflections of the organism to the situation, including all internal and external, physiological and psychological reflections. Different branches of psychology study behavior from different angles: physiological psychology studies the physiological mechanism of organism behavior mainly from the perspective of hormones and nerves, while cognitive psychology studies it mainly from the perspective of information processing (Ning, 2017). In summary, combined with ternary interactive determinism, there is arguably a natural connection between cognition and behavior, i.e., some specific behavior of an individual is determined by the interaction of three factors, such as the external environment, individual cognition, and individual behavior. This ternary interaction makes the three factors not only act directly on individual behavior but also interact with each other and then further influence individual behavior.

In the theoretical and practical perspectives of pedagogy, the importance of cognition has never been overlooked. For example, in the ancient Chinese educational classic *Xue Ji*, the so-called "separation from the scriptures to distinguish one's aspirations" and "knowing the rest of a kind by analogy" contains the original spirit of "cognition." For Western intellectuals, the pursuit of rational spirit nurtured by the ancient Greek philosophers laid the foundation for the overall development of Western philosophy, culture, and education and thus naturally laid out the prototype of cognitive learning and teaching. And, the Learning and Teaching for Understanding

(LTFU) project launched by the Harvard Graduate School of Education in the 1990s promoted cognitive-oriented learning from teaching theory to the forefront of the world's educational research. Furthermore, according to dual cognitive processing theory, individual behavior is determined by the interaction between automated processing and controlled processing which will influence personal cognition, intention and behavior (Miles, 2021).

EC originates from the development of traditional social cognition concepts by entrepreneurial scholars, which refers to the knowledge structure that individuals use to estimate, evaluate, and make decisions in the evaluation of opportunities and the creation and growth of enterprises (Mitchell et al., 2002a,b). Therefore, EC is a knowledge structure and thinking process, as well as a reflection of entrepreneurial ability, and the cognitive processing includes single and dual cognitive perspective. Many researchers have been pay more attention single procession of EC. Scholars both in and beyond China are yet to achieve consensus on the definition of EB, which is divided mainly into two different views: first, from a broad perspective, it is considered that the whole process of the establishment, survival, growth, and development of new enterprises belongs to EB; second, from a narrow perspective, EB refers only to the process from entrepreneurs' perception of entrepreneurial opportunities to the integration of entrepreneurial resources to the final establishment of the enterprise (Liu, 2018). In summary, based on the main objects of the present study, it can conclude that college students' EB refers to the dynamic behavior process in which they as individuals or groups make continuous efforts in team building, opportunity search, market evaluation, fund preparation, business decision-making, and other links to create new enterprises to provide innovative products or services based on their EC. This manuscript reason that EC can positively affect college students' EB in the following ways.

First, EC is an important part of college students' EE. It is the knowledge structure used by college-student entrepreneurs to evaluate, judge, and make decisions in the process of opportunity evaluation and the growth of new start-ups (Mitchell et al., 2002a,b). Compared with individuals who lack entrepreneurial awareness, individuals with entrepreneurial awareness can give full play to their advantages after having relevant knowledge, and they will control the entrepreneurial situation from a long-term perspective, constantly surmounting obstacles and solving difficulties until they reach the goal, thus providing a motivation basis for actively implementing EB and actively dealing with uncertain factors in the entrepreneurial process (Ning, 2017).

Second, entrepreneurship is an innovative pioneering behavior, and it is a complex and challenging task to turn innovative ideas into entrepreneurial achievements. It requires entrepreneurs to have systematic, comprehensive, and in-depth knowledge reserves. Based on social cognition

theory, Bandura (1986) reasoned that EC directly affects the occurrence of individual thinking, motivation, and EB. Higher EC means more entrepreneurial knowledge and information reserves. When individuals have more and more reserves and channels to obtain knowledge and information, they can deepen their understanding of entrepreneurship itself and self-cognition; meanwhile, active EC can win more learning and practice opportunities for entrepreneurs, enrich the diversified knowledge of EC, make more entrepreneurial choices and decisions, and lay a knowledge and ability reserve for improving the success rate of entrepreneurship, so as to stimulate individual EB (Bird, 1988). Therefore, we propose the following hypothesis.

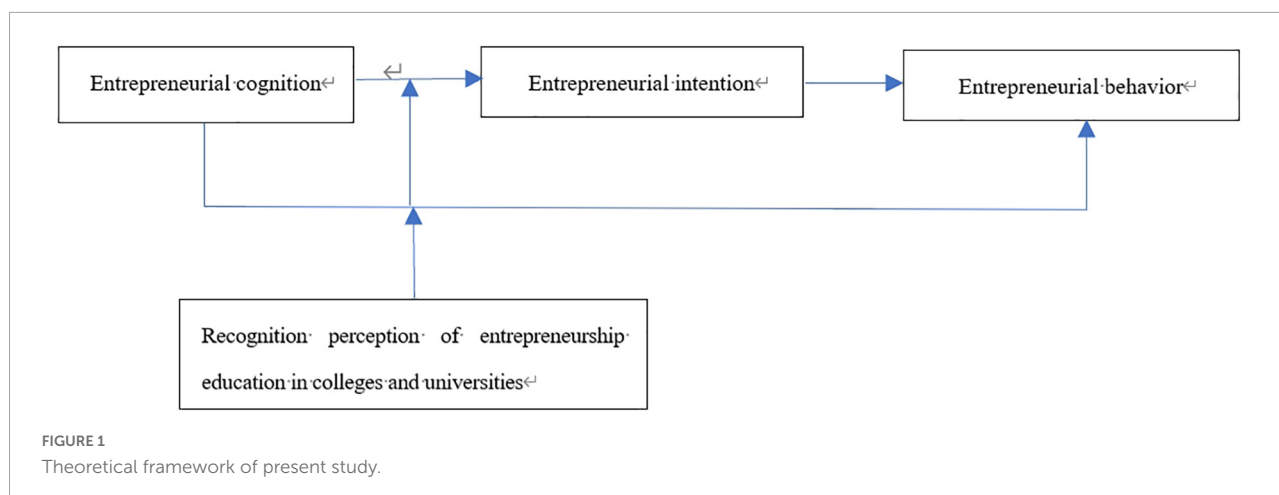
H1: EC is positively associated with EB.

Intermediary role of entrepreneurial intention

According to the theory of planned behavior, the level of entrepreneurial consciousness and attitude of entrepreneurs determine their preparation before starting a business and whether they have EI. EC is the knowledge structure refers to the entrepreneur to fully understand and affirm the entrepreneurial idea and then put it into action. A high level of EI directs the attention and behavior of entrepreneurs to a specific goal and reinforces the idea. On the contrary, a low level of EC will cause potential entrepreneurs to feel confusion, anxiety, self-denial, and even fear in the face of the many uncertainties and unknown risks that can occur in entrepreneurship, and they may deny and give up entrepreneurship from an emotional perspective, thereby preventing or even terminating the formation of EI. Entrepreneurs who pursue a high level of EC often show individual characteristics of high sense of responsibility and strong affinity, as well as positive and extroverted and hard-working emotional tendencies. These characteristics and tendencies can better stimulate EI and enthusiasm (Chengxu, 2019). Therefore, we propose the following hypothesis.

H2: EC is positively associated with EI.

According to the planned-behavior theory of "cognition-emotion-intention-behavior," from the perspective of psychology, EI is actually a subjective emotional attitude adopted by entrepreneurs in entrepreneurial activities. The emotional attitude of an entrepreneur is the premise for them to perform entrepreneurial activities. When an entrepreneur believes that the entrepreneurial opportunity and environment are mature, they will put the EB into action based on psychological factors such as cognition and emotion (Shi, 2016). For entrepreneurs, EI is the inner driving force for EB.



EI can give strong spiritual support to new ventures and help entrepreneurs put their self-confidence into entrepreneurial activities and wish to realize its own value through actual entrepreneurial activities. When an entrepreneur chooses to start a business, their own conditions, resources, cognition of entrepreneurship, and risk identification ability all have an impact on the entrepreneur. When an entrepreneur starts their entrepreneurial activities, their own EI can provide them with rational entrepreneurial goals, so that they can choose and rationally use and expand their own resources in the entire process of entrepreneurial activities. The continuous changes in self-cognition and entrepreneurial environment will influence or guide EI, which will further be helpful for the achievement of entrepreneurial goals (Chengxu, 2019). Therefore, we propose the following hypothesis.

H3: EI is positively associated with EB.

Achievement goal theory provides a new theoretical perspective for exploring the relationship among EC, EB, and EI. On one hand, in the face of highly complex and uncertain entrepreneurial challenges, entrepreneurs with high-level EC can conduct serial processing via their existing knowledge and cognition level and combine certain logical reasoning to make a quick judgment on entrepreneurial opportunities and clarify the effective generation of EI, so as to form favorable entrepreneurial resources and conditions. Meanwhile, they can grasp effective information from limited or mostly useless information in the process of analyzing entrepreneurial opportunities, resources and challenges with their acquired entrepreneurial cognition. Therefore, they could get a much clearer new understanding of the entrepreneurial process, and then innovated points would be refined on the basis of “re-cognition” which would again constantly improve their own EI. And then the enhanced EI would also tends to promote EB (Wu and Ma, 2020). On the other hand, after learning the effective integration and rational

use of entrepreneurial resources, an entrepreneur is more likely to gain a sense of achievement and satisfaction, thereby further increasing their EI. This increased EI also promotes their advanced EB again (Fei-Fei, 2018).

Combining the discussions of H1 and H2, we suggest that EI plays a mediating role between EC and EB, and we propose the following hypothesis.

H4: EI mediates the relationship between EC and EB.

Mediating effect of recognition of university entrepreneurship education

The earliest appearance of EE can be traced back to the first course offered by Professor Myles Mace of Harvard Business School in 1947, and EE developed rapidly thereafter. And the concept of EE was first formally proposed by UNESCO at the International Symposium on Education for the 21st Century held in Beijing in November 1989: “Entrepreneurship education, broadly defined as the development of pioneering individuals, is equally important to those who earn a salary, because employers or individuals are placing increasing emphasis on employer initiative, risk-taking, entrepreneurial and independent work ability, and technical, social, and managerial skills.” In Ning (2017) further elaborated the complete concept of EE, i.e., it includes two aspects: job search and creation of new jobs. Since then, educational circles and experts both in and beyond China have paid great attention to and thought about EE, and it has also begun to be exploratively popularized and developed in colleges and universities both in and beyond China (Ning, 2017).

Based on previous research, the core contents of EE can be defined as follows: (i) individual college student or teams of college students as the may object of education; (ii) colleges

and universities as the main entity, government, society, industry, enterprise, family as the complemented entities (iii) including basic education, higher education and continuing education system (iii) deeply develop the educates has a series of knowledge, ability and character related to their employment and entrepreneurship; (iv) educating purpose is to help educates to plan their career freely, and further to help them to start their own business when certain preparation has been already done, which will not only provide new opportunities for themselves and others, but also make their own contributions to national economic growth and development (Ning, 2017). EE among college students has strong practical significance and theoretical guiding significance. It cannot only reposition the educational function but also deepen the nature and laws of education. EE is an effective way to train educated people to innovate in social economy, culture, and other fields and to meet the real needs of society and open up new development space. In recent years, driving employment through entrepreneurship has been the direct goal of promoting EE in China.

Many studies based on planned-behavior theory have shown that EE and EI are closely related, i.e., EE can promote the improvement of individual EI. On one hand, EE can improve the entrepreneurial awareness of individual college students by imparting basic entrepreneurial knowledge, thereby deepening EC and stimulating EI; on the other hand, through practical education (e.g., writing entrepreneurship plan, participating in entrepreneurship competitions, joining in social practice, etc.), EE can improve the entrepreneurial practical skills and personal sense of achievement of college students or groups and further promote their re-cognition of starting a business process, and then once again clarify and strengthen their own EI (Xiu'e and Kun, 2016). Based on the teach ability theory of EE, scholars both in and beyond China have affirmed the teach ability of entrepreneurship and pointed out that EE can improve individual EB. According to (Tan et al., 2015), the quality of and satisfaction with EE in colleges and universities will impact college students' EC, so as to encourage or to block them to effectively carry out EB and achieve entrepreneurial success. Therefore, we reason that recognition of college EE will moderate the relationship between EC and EI, and therefore we propose the following hypotheses.

H5a: The recognition perception of college EE will strengthen the positive relationship between EC and EI.

H5b: The recognition perception of college EE will strengthen the positive relationship between EC and EB.

The theoretical model of the present study is shown schematically in **Figure 1**.

Study design

Sample

In this study, a questionnaire was completed by university undergraduate students. In total, 1200 copies of the questionnaire were sent to nearly 400 colleges and universities across China, and 1,088 were returned, giving a return rate of 90.67%. Of the returned questionnaires, 302 with inconsistent and/or incomplete responses were discarded, and the remaining 786 valid questionnaires were retained.

Of the respondents for those 786 questionnaires, men accounted for 36.01% and women 63.99%, with an average age of 20. The proportions of freshmen, sophomores, juniors, and seniors were 30.66, 35.62, 21.25, and 12.47%, respectively. Regarding the regions containing the colleges and universities, the proportions were as follows: South China (14.76%), Southwest China (8.78%), North China (9.54%), Northeast China (3.44%), East China (11.32%), central China (48.47%), and Northwest China (29%). From most-studied to least-studied, the respondents majored in management, economics, engineering, science, others, literature, education, art, law, philosophy, and history. At the time of responding, non-entrepreneurs accounted for 95.93% and entrepreneurs accounted for 4.07%. The proportion of respondents with family members who had (resp. did not have) entrepreneurial experience was 32.06% (resp. 67.94%). The proportion of those without entrepreneurial experience was 67.94%, those who had not participated in entrepreneurship competition account for 67.18, 25.7% had participated in a start-up competition, and the proportion of those who had participated in entrepreneurship competition several times is 7.12%.

Variables measurement

The scales used in this study were all mature ones from the literature and were measured on a five-point Likert scale (5 = strongly agree, 4 = agree, 3 = not sure, 2 = disagree, 1 = strongly disagree).

The scale developed by Mitchell et al. (2002a,b) was used to measure EC. It involved 10 topics, such as "I have entrepreneurial-related interpersonal and wealth networks" and "I have special products or services," and the value of Cronbach's α for the scale was 0.873.

A scale adapted from that developed by Yu and Zeng (2010) and Ning (2017) was used to measure EB. It involved five topics, including "I am willing to spend time and energy to prepare for entrepreneurship," "I have built the interpersonal network required for entrepreneurship," and other topics reflect directly the entrepreneurial effect, and the value of Cronbach's α for the scale was 0.877.

The scale developed by Linan and Chen (2009) was used to measure EI. It involved five topics, such as "My career goal is to become an entrepreneur" and "I am determined to establish

a company in the future,” and the value of Cronbach's α for the scale was 0.939.

The scale developed by Jingwei (2013) was used to measure the recognition perception of EE in colleges and universities. It involved nine topics divided into personal factors and school factors, such as “I take the initiative to take courses on EE and attend entrepreneurship lectures” and “The degree to which university leaders attach importance to EE,” and the value of Cronbach's α for the scale was 0.837.

Moreover, gender, grade, study major, and school area are listed as control variables.

Data analysis and results

Homologous variance test

In this study, Harman's single-factor test method was used to test statistically whether there was any common-method variance, and exploratory factor analysis was conducted on all variables involved in the questionnaire. The first principal component obtained without rotation accounted for 38.341% of the load, and this being less than 40% indicated that a single factor could not explain most of the variation. Therefore, the impact of common-method variance in this study is within an acceptable range.

Confirmatory factor analysis

The software AMOS 21.0 was used to conduct confirmatory factor analysis to test the discriminant validity of EC, EI, EB, and recognition of college EE as variables, and the results are given in Table 1. Comparing the model fitting indexes of the four models shows that the four-factor model fits the best: the root mean square error of approximation (RMSEA) is 0.11, χ^2/df is 10.99, the Tucker–Lewis index (TLI) is 0.88, and the comparative fit index (CFI) is 0.91. The results of the confirmatory factor analysis show that the discriminant validity of the variables in this study was good.

Reliability test

SPSS 24.0 was used to analyze the collected data statistically, and the analysis values are given in Table 2. The measurement reliability is evaluated by the reliability coefficient, and the two are in direct proportion. A reliability coefficient between 0.70 and 0.80 is acceptable, and a scale or questionnaire with a reliability coefficient greater than 0.80 is relatively good. In Table 2, the reliability coefficient of each of the four variables is greater than 0.8, meaning that the reliability is good. Therefore, correlation analysis can be carried out as the next step.

TABLE 1 Results of confirmatory factor analysis for discriminant validity.

Model	TLI	CFI	RMSEA	χ^2	df	p	χ^2/df	Model comparison test χ^2 difference df difference
Four-factor model 0 (benchmark model)	0.88	0.91	0.11	747.07	68	0	10.99	
Three-factor model 1-xm	0.85	0.88	0.13	972.98	71	0	13.70	225.90** 3
Three-factor model 2-my	0.81	0.85	0.14	1207.96	71	0	17.01	460.88*** 3
Two-factor model 1-xy-mw	0.84	0.87	0.13	1103.35	73	0	15.20	356.28** 5
Two-factor model 2-xw-my	0.81	0.85	0.14	1238.75	73	0	17.00	491.68** 5
Single-factor model 6	0.7924	0.8312	0.1503	1386.5882	74	0	18.7377	639.5137** 6

x, m, y, w refer to the independent variable, mediator variable, and moderator variable, respectively; xw refers to the synthesis of the independent variable and moderator variable into one factor; xw, my refer to combining x and w, m and y into two factors. ** $p < 0.001$ (two-tailed test).

The p -values in the above table are all significant, indicating that the validity of the questionnaire is in a significant and acceptable range. Four-factor model: EC, EI, EB; recognition and perception of EE in colleges and universities. Three factor model: EC + EI, EB; recognition perception of EE in colleges and universities. Single factor model: EC + EI + EB; recognition perception of EE in colleges and universities.

TABLE 2 Reliability results.

Variable	Question nos.	Cronbach's α	No. of questions
Entrepreneurial cognition	1–10	0.873	10
Entrepreneurial intention	11–15	0.939	5
Recognition perception of entrepreneurship education in colleges and universities	21–31	0.837	11
Entrepreneurial behavior	16–20	0.877	5

Correlation analysis of variables

SPSS 23.0 was used to analyze the correlation between variables, and the analysis results are given in **Tables 3** and **4**. The correlation coefficient between EC and EB is 0.651 at a significance level of 0.01, H1 is supported, i.e., EC and EB are correlated positively and significantly. The correlation coefficient between EC and EI is 0.585 at a significance level of 0.01, so H2 is supported, i.e., EC and EI are correlated positively and significantly. The correlation coefficient between EI and EB is 0.737 at a significance level of 0.01, so H3 is supported, i.e., EI and EB are correlated positively and significantly.

Hypotheses testing

Hierarchical linear regression model was used to test the direct effect, mediating effect and moderating effect proposed by the hypotheses, and the test results are given in **Table 5**.

First, the direct effect of EC on EB was tested. The control variables were put into the regression model, followed by EC, and the analysis results show that EC has a significant positive impact on EB ($M1, \beta = 0.635, p < 0.01$), and so H1 is supported.

Second, the mediating effect of EI was examined. The regression results in **Table 5** show that EC and EI are correlated positively and significantly ($M5, \beta = 0.635, p < 0.01$), as are EI and EB ($M2, \beta = 0.543, p < 0.001$), so H2 and H3 are supported. Then EC and EI were put into the regression model at the same time, and EI and EB were still correlated positively and significantly ($M3, \beta = 0.543, p < 0.001$), and the effect of EB was reduced from 0.635 to 0.333 ($M2, \beta = 0.333, p < 0.01$). It can be seen that EI plays a partial intermediary role between EC and EB, so H4 is supported.

Finally, the mediating effect of recognition of college EE on the relationship among EC, EI, and EB was tested. Before the regression analysis of mediating effect, the independent variables and mediating variables were centralized. Model 1 in **Table 5** was adopted, which places the control variables in the first layer, places EC in the second layer, and takes EB as the result variable. The results of model 1 show that EB can be affected by EC positively and significantly, and so H1 is further supported. Then, to put model 5 into the first layer as the control variable, to put EC in the second layer, and to put EC,

recognition perception of EE in colleges and universities, and mediating effect items to the third layer, the results show that the interaction between EC and EE recognition perception is not significant ($M5, \beta = 0.067, p < 0.05$), which indicating that the recognition of college EE does not play a regulating role in the relationship between EC and EI; therefore, H5a is not supported. This result is inconsistent with our theoretical expectation, i.e., the recognition perception of EE may not necessarily strengthen the positive relationship between EC and EI. The empirical study based on the theory of planned behavior shows that EE can indeed improve EC and enhance EI by teaching basic entrepreneurial knowledge and carrying out practical education. However, students' EI is determined by not only EE. Regardless of a person's recognition and perception of EE, their inherent attitude, subjective norms, beliefs, and behavior control before receiving EE can affect their EI most significantly. Also, empirical research based on the entrepreneurial event model shows that because of the relatively weak predictive ability of the antecedent variables related to EI—such as subjective norms, desirability, and feasibility perception—and the difficulty of making accurate measurements in practice, even though EE courses have a positive effect on a person's perception of feasibility, the effect on their perception of desirability is not significant, i.e., EE may have a significant effect on individual entrepreneurial self-efficacy, but its relationship with EI is still weak (Xiu'e and Kun, 2016). Therefore, in a complex reality, individuals' recognition perception of EE does not always reach an appropriate level and will be affected by the perception of feasibility and desirability. The specific differences of EE on EC and EI also need to be explored further.

According to the above methods, the mediating effect of the recognition of college EE on the relationship between EC and EB was tested. Model 1 in **Table 5** was adopted, which places the control variables in the first layer, places EC in the second layer, and takes EB as the result variable. The results of model 1 show that EB can be positively predicted by EC, and so H1 is further supported. Finally, model 2 puts the control variables in the first layer, EC in the second layer, and EC, recognition of college EE, and mediating effect items in the third layer. The results show that the interaction between them also has a significant impact on EB ($M4, \beta = 0.312, p < 0.05$). Therefore, it can be concluded that the recognition of university EE plays a positive mediating role in the relationship between EC and

TABLE 3 Descriptive statistics.

	Mean	Standard deviation	Number of cases
Gender	1.64	0.480	786
Grade	2.16	0.997	786
School area	4.48	1.983	786
Major category	6.93	3.015	786
Entrepreneurial cognition	2.8271	0.63416	786
Entrepreneurial intention	2.8855	0.94927	786
Recognition perception of entrepreneurship education in colleges and universities	3.0173	0.69238	786
Entrepreneurial behavior	2.5585	0.78881	786

EB. Therefore, H5b is supported, i.e., the higher the degree of college students' perception of the recognition of EE in colleges and universities, the stronger the positive relationship between their EC and EB.

Conclusions and recommendations

Conclusion

This study explored the impact mechanism of college students' EC on their EB, and the results showed the following. (1) EC can significantly and positively influence the EB of college students. (2) EC can significantly and positively influence the EI of college students. (3) There is a significant positive correlation between the EI of college students and their EB. (4) The EI of college students partially mediates the positive correlation between their EC and EB, i.e., college students' EC affects their EB by affecting their EI. (5) The relationship between the recognition of college EE and EC and EI did not exert a significant positive moderating effect, but it played a significant positive moderating effect on the relationship between EI and EB, i.e., high-quality EE can stimulate further EB of college students. Therefore, the focus of college EE reform should be on how to reform and innovate entrepreneurship cognitive education to stimulate its positive impact on the EI and EB of the existing college students.

Theoretical contributions

First, the present study breaks through the limitations of previous EE research focusing on the common EB of college students and single cognitive perspective, which pays more attention to the impact of entrepreneurial cognitive education on the change of college students' individual personality and traits on their perceived behavior control. Based on the

behavioral logic of individual "cognition–emotion–intention–behavior," this study focuses on the relationship between EC and EB and responds to the previous research conclusions of scholars such as Fayolle, Peterman, Kennedy, and Zhang: EE may have little effect on the entrepreneurial enthusiasm of college students, and in individual cases it may have no effect or even a negative impact on EI and its antecedent variables.

Second, in combination with the new trend of mass entrepreneurship and innovation in China in recent years, this manuscript conducted research from the perspective of the specific content and mode of EE reform in colleges and universities, integrated the recognition of college EE into the research framework of college students' EC and EB, and supplemented and integrated the previous theories based on planned-behavior theory, dual cognitive processing theory, self-efficacy theory, or the entrepreneurial event model, i.e., by revealing the boundary conditions of the role of EC, it expands the research perspective of college students' EB. Previous theoretical and empirical studies have shown that if a college or university provides EC and practical support, then the possibility of college students choosing entrepreneurship will increase greatly. However, these studies ignore the audience of EE: college students' own individual characteristics, their perception of entrepreneurial feasibility, their perception of acceptability, and their perception of recognition of the existing EE. Our research results show that in the current era of mass entrepreneurship and innovation, college students' EB is affected comprehensively by self-EC, individual EI, and recognition perception of EE in colleges and universities. It is shown that the recognition perception of EE in colleges and universities is an important boundary condition for college students' EC to have a positive effect on their EB.

Third, as a pre-factor of individual behavior, EI mediates the relationship between college students' EC and their EB. On one hand, EC can significantly promote college students' EI and stimulate self-efficacy, and the strengthening of EI further promotes college students' EB. On the other hand, note that the EI of college students is not entirely determined by the EE in colleges and universities. The individual's inherent

TABLE 4 Correlation coefficients.

		Gender	Grade	School area	Major category	Entrepreneurial cognition	Entrepreneurial intention	Recognition perception of entrepreneurship education in colleges and universities	Entrepreneurial behavior
Gender	Pearson correlation	1	−0.117**	0.144**	−0.116**	−0.182**	−0.248**	−0.173**	−0.203**
	Significance (two tailed)		0.001	0.000	0.001	0.000	0.000	0.000	0.000
	Number of cases	786	786	786	786	786	786	786	786
Grade	Pearson correlation	−0.117**	1	−0.170**	−0.048	−0.015	−0.027	0.020	0.019
	Significance (two tailed)	0.001		0.000	0.178	0.680	0.442	0.577	0.597
	Number of cases	786	786	786	786	786	786	786	786
School area	Pearson correlation	0.144**	−0.170**	1	0.022	−0.047	−0.063	−0.133**	−0.064
	Significance (two tailed)	0.000	0.000		0.534	0.185	0.075	0.000	0.073
	Number of cases	786	786	786	786	786	786	786	786
Major category	Pearson correlation	−0.116**	−0.048	0.022	1	0.041	0.083*	0.012	0.037
	Significance (two tailed)	0.001	0.178	0.534		0.255	0.019	0.747	0.298
	Number of cases	786	786	786	786	786	786	786	786
Entrepreneurial cognition	Pearson correlation	−0.182**	−0.015	−0.047	0.041	1	0.585**	0.566**	0.651**
	Significance (two tailed)	0.000	0.680	0.185	0.255		0.000	0.000	0.000
	Number of cases	786	786	786	786	786	786	786	786
Entrepreneurial intention	Pearson correlation	−0.248**	−0.027	−0.063	0.083*	0.585**	1	0.533**	0.737**
	Significance (two tailed)	0.000	0.442	0.075	0.019	0.000		0.000	0.000
	Number of cases	786	786	786	786	786	786	786	786
Recognition perception of entrepreneurship education in colleges and universities	Pearson correlation	−0.173**	0.020	−0.133**	0.012	0.566**	0.533**	1	0.617**
	Significance (two tailed)	0.000	0.577	0.000	0.747	0.000		0.000	0.000
	Number of cases	786	786	786	786	786	786	786	786
Entrepreneurial behavior	Pearson correlation	−0.203**	0.019	−0.064	0.037	0.651**	0.737**	0.617**	1
	Significance (two tailed)	0.000	0.597	0.073	0.298	0.000	0.000	0.000	
	Number of cases	786	786	786	786	786	786	786	786

**Correlation is significant at 0.01 level (two-tailed).

*Correlation is significant at 0.05 level (two-tailed).

TABLE 5 Hypotheses testing results.

Variable category		EB M1	EB M2	EB M3	EB M4	EI M5	EI M6
Control variable	Gender	−0.083***	−0.005	−0.283***	−0.057**	−0.083***	−0.005
	Grade	0.015	0.036	0.015	0.016	0.015	0.036
	School area	−0.019	−0.006	−0.019	0.011	−0.019	−0.006
	Major category	0.003	−0.020	0.003	0.009	0.003	−0.020
Independent variable	Entrepreneurial cognition	0.635***	0.333***	0.635***	0.263***	0.635***	0.333***
Mediating variable	Entrepreneurial intention		0.543***	0.543***			
Moderator variable	Recognition perception of entrepreneurship education				0.189**		
Interactive phase	Entrepreneurial cognition*Recognition perception of entrepreneurship education				0.312**	0.067	
Parameters	Observations	786	786	786	786	786	786
	R-squared	0.432	0.618	0.432	0.522	0.366	0.421
	Adj_r ²	0.428	0.616	0.428	0.517	0.362	0.416
	Value F	118.455	381.592	118.455	73.337	90.089	37.089

t-statistic in parentheses. ****p* < 0.01, ***p* < 0.05, **p* < 0.1.

attitude toward entrepreneurship, subjective norms, previous experience, and perceived behavior will also affect their EI, i.e., the recognition of college EE does not necessarily have a completely significant positive effect on the EI of individual college students, and the EI of individual college and university students who have received EE in colleges and universities may also be reduced.

Research implications

In EE in colleges and universities, there is a natural connection among EC, EI, and EB, and the continuous accumulation of entrepreneurial knowledge and experience can gradually be transformed into entrepreneurial practice ability. However, EI is endogenous and exogenous, including the impact of cognition of independence, challenges, achievements, rights, wealth, interests, habits, efficacy, family, education, and social recognition on the individual differentiation. At the same time, the factors that affect EC are also complex. EE in colleges and universities is only one factor that affects EC, and there may be other factors, so the recognition perception of EE in colleges and universities may not strengthen the positive relationship between EC and EI. However, the highly recognized EE perception in colleges and universities can significantly promote college students' EB. Therefore, EE in colleges and universities can directly affect the EB of college students by constructing a scientific and operable EE model. Therefore, the focus of

subsequent research will be on how to reform and innovate the existing college EE model to stimulate the positive impact of college students' EC on their EI and EB. Furthermore, the main body of entrepreneurship education is not only universities and colleges, families, entrepreneurial enterprises, government, entrepreneur and other entrepreneurial stakeholders should be involved in, and then to play, respectively, effect to help students processing EC positively.

Research limitations

In the present research, college and university students' individual self-assessment was used to measure their EC and recognition of college EE. However, although person always thinks that he or she knows himself or herself best, there may still have been social-approval bias and common-method bias, which may have affected the objectivity of the research results. In future work, a combination of self-assessment and other assessment could be chosen for measurement.

The research on EC itself involves many variables and their dimension choices. This study only verified its impact on EI and EB from the two dimensions of entrepreneurial-readiness cognition and entrepreneurial-ability cognition, which is not comprehensive enough. As a pre-variable of entrepreneurial intention, the positive effect of strengthening entrepreneurial cognition on EI and EB of entrepreneurship education in colleges and universities may need to be further explored. Also,

there is still a lack of cultivation and tracking research on the EC of potential entrepreneurs.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

XT conceptualized the contribution. SC and WS wrote and reviewed the manuscript. RL made critical revisions. All authors approved the submission of the manuscript.

Funding

This work was supported by the Education Research Project of the 13th Five-Year Plan of the National Social

Science Foundation of China in 2019 (General Program): Research on the Construction and Application of Cognitive-Oriented Entrepreneurship Education Model for College Students (Grant No. BIA190207).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Audretsch, D. B. (2007). *The Entrepreneurial Society*. Oxford: Oxford University Press, 16–26.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Hoboken, NJ: Prentice-Hall, 169–171.
- Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Acad. Manage. Rev.* 13, 442–453. doi: 10.2307/258091
- Chen, J. A., Chen, R., and Tao, Y. (2014). An exploration of the frontiers of entrepreneurial success definition and measurement and future prospects. *Foreign Econ. Manage.* 30, 3–12.
- Chengxu, H. (2019). *Research on the influencing factors of college students' willingness to start a business in the context of "Internet+"*. Harbin: Harbin Normal University, 12–15.
- China Entrepreneurship Research Center (2013). *Global entrepreneurship monitor report in China (2002-2012)*. Beijing: Tsinghua University.
- Fayolle, A., Gailly, B., and Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: A new methodology. *J. Eur. Ind. Train.* 30, 701–720. doi: 10.1108/03090590610715022
- Fei-Fei, M. (2018). *A study on the relationship between entrepreneurial perception, time distance and strategic entrepreneurial ability*. Dalian: Northeast University of Finance and Economics, 8–11.
- Heuer, A., and Kolvereid, L. (2014). Education in entrepreneurship and the theory of planned behavior. *Eur. J. Train. Dev.* 38, 506–523. doi: 10.1108/EJTD-02-2013-0019
- Hussain, A., Akbar, M., Shahzad, A., Poulouva, P., Akbar, A., and Hassan, R. E. (2022). Commerce and SME performance: The moderating influence of entrepreneurial competencies. *Adm. Sci.* 12:13. doi: 10.3390/admsci12010013
- Jingwei, L. (2013). *Research on the mechanism of the role of entrepreneurship education on college students' entrepreneurial intention*. Tianjin: Nankai University, 46–50.
- Li, P., and Huiming, F. (2010). The psychological impact of entrepreneurship education on the cultivation of entrepreneurial talents in universities. *High. Educ. Dev. Eval.* 9, 100–124.
- Li, W. M., Chunyan, L., and Hua, D. (2013). Ten years of entrepreneurship education in China's universities: Evolution, problems and system construction. *Educ. Res.* 6, 42–51.
- Linan, F., and Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrep. Theory Pract.* 33, 593–617. doi: 10.1111/j.1540-6520.2009.00318.x
- Liu, M. (2018). A study on the relationship between graduate students' entrepreneurial motivation. *Entrep. Learn. Entrep. Behav.* 30–36.
- Maxis Institute (2014). *Employment blue book: 2017 China college student employment report*. Beijing: Social Science Literature Press.
- Miles, A. (2021). *Management and organization theory*. Beijing: Peking University Press, 171–177.
- Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., and Smith, J. B. (2002a). Toward a theory of entrepreneurial cognition: Rethinking the people side of entrepreneurship research. *Entrep. Theory Pract.* 27, 93–104. doi: 10.1111/1540-8520.00001
- Mitchell, R. K., Smith, J. B., Morse, E. A., Seawright, K. W., Peredo, A. M., and McKenzie, B. (2002b). Are entrepreneurial cognitions universal? Assessing entrepreneurial cognitions across cultures. *Entrep. Theory Pract.* 4, 9–19. doi: 10.1177/104225870202600402
- Ning, D. (2017). *Research on the mechanism of the influence of entrepreneurship education on entrepreneurial behavior*. Jilin: Jilin University, 31–41.
- Oosterbeek, H., Van Praag, M., and Ijsselestein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *Eur. Econ. Rev.* 54, 442–454. doi: 10.1016/j.euroecorev.2009.08.002
- Peter, N. E., and Kennedy, J. (2003). Enterprise education: Influencing students' perception of entrepreneurship. *Entrep. Theory Pract.* 28, 129–144. doi: 10.1046/j.1540-6520.2003.00035.x
- Rongzhi, L., and Hu, B. (2011). Research about the university students incubator service quality based on the TQM approach. *Adv. Inform. Sci. Serv. Sci.* 3, 123–131.
- Shi, F. (2016). Analysis of the mechanism of science and technology entrepreneurship policy and its composition based on the entrepreneurial process. *Learn. Pract.* 3, 36–46.

- Souitaris, V., Zerbinati, S., and Ai-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? *J. Bus. Ventur.* 22, 566–591. doi: 10.1016/j.jbusvent.2006.05.002
- Tan, L. W., Cao, W. X., and Song, S. X. (2015). Research on the relationship between entrepreneurship education and college students' willingness to start a business in higher education. *Technol. Econ. Manage. Res.* 11, 34–39.
- Wu, H., and Ma, W. (2020). An empirical study on the factors influencing college students' willingness to start a business—Based on social cognitive theory. *Educ. Inq.* 326, 44–49.
- Xiang, H., and Lei, J. C. (2014). *A study on the influence of college students' entrepreneurship education on their entrepreneurial intention*. Beijing: Tsinghua University Education Research, 120–124.
- Xiu'e, Z., and Kun, Z. (2016). Review and prospect of research on the mechanism of the role of entrepreneurship education on entrepreneurial intention. *Foreign Econ. Manage.* 38, 104–113.
- Yu, F., and Zeng, M. (2010). An empirical study of college students' entrepreneurial behavior and its influencing factors. *J. Hangzhou Univ. Electron. Sci. Technol.* 3, 66–70.



OPEN ACCESS

EDITED BY

Ahsan Akbar,
South China University of
Technology, China

REVIEWED BY

Fakhra Yasmin,
South China Normal University, China
Mudassir Husnain,
University of Education
Lahore, Pakistan

*CORRESPONDENCE

Yan Dong
yan.dong@tju.edu.cn

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 05 September 2022

ACCEPTED 01 November 2022

PUBLISHED 17 November 2022

CITATION

Dong Y and Zeb S (2022) Role of
higher education system in promoting
law abiding behavior among students.
Front. Psychol. 13:1036991.
doi: 10.3389/fpsyg.2022.1036991

COPYRIGHT

© 2022 Dong and Zeb. This is an
open-access article distributed under
the terms of the [Creative Commons
Attribution License \(CC BY\)](#). The use,
distribution or reproduction in other
forums is permitted, provided the
original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which
does not comply with these terms.

Role of higher education system in promoting law abiding behavior among students

Yan Dong^{1*} and Sadaf Zeb²

¹Law School, Tianjin University, Tianjin, China, ²Psychology Department, Capital University of Science and Technology, Islamabad, Pakistan

University phase is a major turning point in youth's life and this is a time of profound mental and cognitive development of students. Without proper direction and guidance, it is common for students to develop deviant behaviors, non-law abidance and unhealthy beliefs. In this regard, an integral part of the educational process is the imparting of moral values and law-abiding behaviors in students. The objective of this study was to explore the role of higher education system in fostering law-abiding behavior among Chinese students, as well as the issues it causes for society. For this purpose, the principles of law-abiding behavior were studied and key psychological factors used in the system were identified. The suggestions of the bibliometric research are designed to improve and expand the method for preventing student misbehavior in educational institutions, hence enhancing the efficacy of preventative work with students. They may serve as the basis for the creation and enhancement of programs and strategies aimed at teaching lawful behavior among students. More than 3,785 articles were published related law-abiding behavior from 2000 to the end of July 2022 years were examined in this research using the Scopus database and the original sample was narrowed down to include only articles, book chapter and conference papers that contributed to law-abiding behavior and higher education literature. The VOS viewer software was used to execute the descriptive statistics and scientific mapping approaches using co-citation analysis. In the descriptive analysis, we analyzed publishing patterns over time, the geographical localization of the contributing institutions, journals, the most prolific authors. The findings of the present study may also provide the foundation for a planned educational initiative whose ultimate aim is to produce a fully realized, harmonious, self-reliant, mature, and law-abiding person. The study has provided supporting evidence for how youngsters legal sensibilities are shaped in universities have been implemented. Two distinct but interdependent educational spheres, the normative legal sphere and the space for the creation and development of students' personalities must work together to raise and educate youngsters.

KEYWORDS

legal socialization, legal education, moral education, law abiding behavior, psychological factors, higher education

Introduction

Law-abiding behavior is stated as a person's consistent adherence to the most important societal rules, his efforts to maintain public order and equilibrium, and his preservation of individuality. Higher education institutes play a vital role in promoting law abiding behavior in students and refers to level of education that is offered by high schools and other educational institutions (Niu, 2022). It also plays a significant part in the economic and social advancement of individuals (Popova and Popovs, 2022). The primary purpose of higher education is to generate and disseminate knowledge for the benefit of individuals and communities (Ramaswamy et al., 2021; Haniya and Said, 2022). Besides that, education serves to elevate individuals from ignorant conditions. Through education, everyone should be made aware of their rights and responsibilities in order to enlighten the populace and improve the insufficient social conditions. Because of the growing number of young criminals in today's society, it's important that legal literacy permeate all levels of society. Therefore, law-related common knowledge and responsibility should be communicated to students as early as feasible, especially those at the grassroots level, to reduce the likelihood of students making irrational decisions (Jiyan, 2020).

Since universities play a pivotal role in the development of future leaders, teaching students about the rule of law is a crucial component of rule of law education at the national level. The rule of law is a social institution that establishes norms for the behavior of all members of society within a given state. Despite the importance of laws in maintaining peace and order in society, some people, especially today's youth, choose to ignore them (Ulfah et al., 2021). The formation of a rule-of-law society, the advancement of modernization, and the growth of rule of law education for university students are all dependent on the growth of rule of law education for university students (Li et al., 2022). For instance, previous research has shown that increasing one's level of education has a constructive effect on the maturation of one's moral reasoning. In addition, the progress in education especially higher education, is a shared responsibility among all components, including students. Because students' time at university marks a significant turning point in their lives (Ran et al., 2022) and are not just expected to be academically successful while also displaying the kind of character qualities that can steer the country in a more positive path. Likewise, character education is the best course of action for the next generation to find their way and avoid destructive habits (Dewantara et al., 2021).

The significance of education, morality, human responsibility, the capacity to collaborate and compete, and the capacity to make independent decisions regarding the selection of diverse behavioral tactics are all highly valued by society. A person's social and legal activities, as well as his willingness to

contribute to establishing the rule of law and order, depend on his legal and civil competence, which is an essential component of his general culture (Maltseva et al., 2020). The obedience to the law is obedience that originates with public knowledge of an existing law. Besides that, legal consciousness is a belief in the legal values inherent in humans. Moreover, institutional law such as that found in university, is just as important as the laws enacted by society and the government (Haitao, 2022). Due to the lack of effective rules, new types of rights violations always appear as technology advances. The purpose of legal education is to instill in individuals an appreciation for the value and significance of the law, as well as an adherence to it. However, some people might intentionally break the law due to ignorance of legal norms, while others could violate the law despite being aware of it, leading to major disruption in society (Jiyan, 2020). The lack of legal literacy and the low legal standard among Chinese university students make it impossible for the country to build a rule-of-law society or implement the market-based economic reforms that are necessary for sustained economic growth. Students are influenced by the hostile social environment and as a result (Han et al., 2022), they do not follow the rules and do not regret their illegal behavior. They are willing to take chances and try the law on their own to settle disputes and conflicts (Li et al., 2022). Institutions of higher education play an important role in the process of legal socialization, which is how young people "grow their relationship with the law by learning law-related values, attitudes, and reasoning skills" (Naftali, 2022).

Law-abiding behavior "works" because people have control over themselves. The "law-abiding behavior" encompasses a harmony between adopting and adhering to social norms and between one's own sense of duty and responsibility and one's actual action (Maltseva et al., 2020). Since the 18th Communist Party of China (CPC), the General Secretary of CPC has put a lot of effort into promoting and educating people about the rule of law (Liu, 2020), making people more aware of the need to follow the law, and boosting the cultural development of socialist rule of law. He has made a number of remarks, including "insisting on the popularization of the law and compliance with the law for all people as a long-term core job of the rule of law" and "keeping up with the times in the popularization of the law and making intensified efforts on the relevance and efficacy," which have clarified the fundamental stance, key tasks, and essential practices in the publicity and education of law (Guan et al., 2022). As an example, China's government adopted market reforms and an Open-Door policy in 1978, following nearly 30 years of a command economy and revolutionary struggle. Over the past 40 years or more, the government of the People's Republic of China has worked to reconstruct the country's legal system. Along with changes to the legal system, the government started large-scale information and education campaigns to teach officials and

citizens about the new laws and the concept of fazhi, which can be translated as “legal rule” or, more controversially, “rule of law” (Naftali, 2022). Additionally, there are two components of legal consciousness: legal ideology and legal psychology. In this context, “legal ideology” refers to a body of thought that offers a unifying theoretical framework for analyzing a wide variety of legal phenomena. While emotional comprehension of legal issues is what legal psychology is all about. For instance, if young individuals are aware of the law and can envision it, but are unresponsive to legal directives, it is evident that their legal consciousness is not completely developed (Yakubov, 2022).

The significance of current study is to explore the role of higher education system in promoting law abiding behavior in Chinese students. Due to rapid development of reform in our nation, the market economy has grown increasingly active, and the application of norms in social life has become increasingly prevalent. The rule of law is crucial because students are the future of the country and a key to its revival (Xu, 2022). In this regard, the formation of law-abiding behavior, the identification and eradication of causes and situations that lead to the development of deviant behavior is one of the main areas of action for all subjects of the preventative system, including bodies exercising control in the field of education and institutions engaged in educational activities (Salakhova et al., 2020). Therefore, the purpose of this study was to investigate the influence of higher education institutions in fostering law-abiding behavior among Chinese students. The study also focused on how different psychological factors, such as age, gender, education, etc., impact Chinese students’ lawfulness. This study contributes to the significance of law-abiding behavior of students in higher education institution and also encompasses the cultivation of students’ ethical, moral, legal, and psychological wellbeing. Moreover, in order for students to develop a healthy sense of self, it is their responsibility to learn ethical management skills and to be taught the right values and worldview. Thus, students need to have national self-esteem, self-confidence, and pride; establish an accurate viewpoint on life, values, and the world; have a sound personality in the long term for success. In the past, few studies have been conducted in this field.

Research questions

1. What is law-abiding behavior?
2. What factors affect the higher education student’s awareness of law-abiding in China?
3. Which factors have more significant impact on law abiding of higher education students?
4. Is there any relationship between law abiding behavior and psychological factors in higher education students?

Research objectives

1. To define the law-abiding behavior.
2. To examine the factors that impact law abiding behavior.
3. To find out the significant differences on gender, age education, occupation and location with law abiding among higher education students.
4. To examine the relationship between law abiding behavior and psychological factors in higher education students.

Literature review

Psychological factors and law-abiding behavior

Young people’s legal education is the organization of educational activities by higher education institutions to assess the knowledge of aspiring legal professionals (Ramaswamy et al., 2021), awareness, and culture of the law in order to better inform them of their own rights and obligations as individuals, the nature of law as it pertains to society and humanity, and the importance of entrepreneurship in the legal field. Aside from that, the educational part is the basis for how a young person’s personality develops and changes, as well as how standards and guidelines for behavior are set (Haider et al., 2022). The rule of law depends on people obeying the rules set forth and enforced by the government. Contemporary debates about lawfulness revolve around the notion that people will be less likely to disobey the law if they are aware they will be caught and punished. As people in a law-abiding society do not act out of fear, but because they want to act in a socially acceptable and moral way. A society like this is self-regulatory because its people take it upon themselves to follow the law. So, people in a morally driven society voluntarily obey the law and the people in charge of it because they believe: that the things that are against the law are also wrong and that the people in charge of the law have the right to be obeyed (Tyler and Darley, 1999). However, there is a dearth of research that investigates the role of higher education in shaping students’ moral identities (Kozorez et al., 2022).

In China, the government does not try to hide the fact that they use surveillance tools, face recognition systems, biological identifiers, and social networks to find out accurate information about each citizen. They call this an important step toward e-government because it makes more people obey the law (Alguliyev and Alakbarova, 2021). According to the prior literature, over 30% of cyclists do not use helmet because it’s too hot, and nearly 20% don’t wear helmet because they are hard to store. In spite of the importance of e-bike helmet rules and regulations, there has been a dearth of research on the topic, especially in China (Zhou et al., 2022).

According to the Law “On Education in the Chinese Federation”, students should engage in character-building

activities that promote their own growth and the formation of an environment where they can exercise autonomy and socialize with others. Education is a way for people to build their character and create their own culture. During the learning process, students develop perspectives, a scientific worldview, an understanding of the laws of nature, society, and thinking, moral and aesthetic ideas, as well as the ability to conform to social norms and obey its laws (Kozorez et al., 2022). In the same way, it would be important to look at how law-abiding helps the students' wellbeing, since non-normative political involvement, like not obeying the law, is bad for one's wellbeing. Since academic dishonesty like plagiarism is on the rise in the university sector, students' compliance with the law is especially important (Shek et al., 2022). In addition, institutions of higher education play a crucial role in establishing the rule of law. In this way, education systems that support and teach respect for the rule of law in line with international human rights and basic freedoms build trust between students and public institutions. Teaching based on the rule of law can help students become more independent thinkers who have a firm grasp on the concepts of responsibility, fairness, and equality (Li and Sun, 2022). According to earlier research, teaching anti-corruption to students is crucial to the success of character education, as it helps them recognize the ways in which corrupt behavior can have negative consequences for the individual, the state, and the nation (Dewantara et al., 2021). Similarly, prior research has discovered a negative correlation between academic dishonesty and factors including intrinsic motivation, self-efficacy, utilitarian value, and internal locus of control in both the classroom and the wider world (Malesky et al., 2022). There is a growing body of research linking certain student attitudes, behaviors, or character attributes to dishonesty in the classroom. Researchers, for instance, have discovered that a student's mindset is a major contributor to academic dishonesty (Yu et al., 2021). Moreover, previous research has also shown that teaching law helps individuals develop a respect for the rule of law and an appreciation for personal accountability (Jiyan, 2020). The aim of the present study was to explore the influence of various psychological factors on law abiding behavior.

Law abiding behavior and gender

A person's law-abiding conduct is consistent when he or she abides by the most important social rules, works to keep the peace and harmony in society, and yet maintains their own unique identity. People's ability to establish self-control is what makes lawful action successful. Thus, "law-abiding behavior" encompasses not only the acceptance and observance of societal standards, but also the preservation of an internal harmony between a sense of duty and responsibility and one's actual behavior. It is important to remember that all actions are based on patterns from the past. The process of establishing a learned behavior typically involves imitation. The educational system is the primary institution for the

socialization of young people, where one's personality, values, attitudes, rules of conduct, and legal competence are formed in accordance with generally accepted moral standards and the current conditions of social development. Consequently, educational institutions support the transition of youngsters from the period of imitating acceptable conduct to the stage of becoming a law-abiding person through the provision of a range of curricular activities. Education, morality, personal responsibility, cooperation, competitiveness, and the capacity to think critically and make autonomous judgments about one's actions are all attributes that are held to very high standards in today's society. A person's social and legal activity, as well as his or her desire to contribute to establishing the rule of law and order, rely on his or her legal and civil competence, which is an important component of his or her general culture. For instance, a number of studies have found that women tend to be more ethically sensitive than men (Dkadek, 2022). This shows that women were more sensitive to law abiding behavior as compared to men. A meta-analysis of research into gender differences in cheating found that women were more likely to view cheating negatively than men. In particular, women are viewed as more ethically sensitive, rule-abiding, and concerned about the consequences of their actions because of the emphasis they place on relationships and care for others in their moral reasoning. Men are more likely to be individualistic, competitive, and risk-taking, and their moral reasoning is based on a sense of justice and a desire for personal success (Zhang et al., 2018).

Law abiding behavior and age

University students' propensity for lawful activity may be influenced by a number of psychological factors, including their age. One of the strongest correlates of criminal activity is age. The total number of offences rises until late adolescence, then drops dramatically thereafter. This pattern is very consistent across different time periods, cultures, groups at risk, and types of crimes (Tomczyk et al., 2020). According to previous literature, it was found that as with age and when one get more professional experience, they become more sensitive to ethical issues. Because of this, today's youth often lack the moral convictions of their elders. Along these lines, numerous studies have found that elderly persons generally have more developed moral principles than their younger counterparts (Dkadek, 2022). Similarly, in a prior study, for instance, the helmet-wearing rate was considerably higher among those aged 40 and older compared to those aged 25–40 and 16–24 (Sharif et al., 2022).

Law abiding behavior and educational background

Education has also played an important role in molding the attitudes, values, and beliefs of individuals. In particular, education makes people see the world more clearly. Besides

that, the significance of legal education, which is the process of influencing an individual with an organized, methodical, clear objective, which produces legal consciousness, legal instructions, law-abiding behavioral abilities and habits. For instance, previous research has indicated that those with more education tend to have more egalitarian attitudes on gender roles than people with less education, showing that education may alter people's perspectives (Du et al., 2021). Likewise, studies have shown that people with a college degree or higher have a much deeper understanding of the rules regarding helmet use. Moreover, previous research has shown that people with higher levels of education are more likely to wear helmets while cycling (Sharif et al., 2022). People with higher levels of education are more likely to respect authority figures and take accountability for their own actions (Wu et al., 2022). The rates of youth violence, criminality, child abuse, domestic violence, and absentee parenting have all been steadily declining over the last several years. However, the relevance of the operations of social institutions to avoid negative social phenomena is not diminished by the specifics of the offences themselves, the lowering of age limitations of offenders, or the rising share of youth violence. Because universities have such a significant impact on shaping the character of children and young adults, they are a good place to start when designing a strategy to reduce youth criminality. To address this issue, we need to design and execute strategies for universities to use with youngsters to help them grow into law-abiding citizens. Programs and approaches of this kind should be all-encompassing and systemic, guaranteeing the use of psychological and classroom practices techniques aimed at helping youngsters grow into healthy adults with strong character traits like the ability to reflect on their own actions and learn from their mistakes, an understanding of the law, and the foundational skills necessary for achieving personal fulfilment. Furthermore, the substance of the processes of the normal mental development at each age stage must be considered in the system of shaping law-abiding conduct in educational institutions for youngsters. Psychological and classroom practices work with youngsters in groups that provide educational activities might benefit from including the age-psychological approach with the system-activity approach as its methodological foundation.

Law abiding behavior and occupation

An individual's behavior consists of the thoughts, feelings, and deeds that are intrinsic to that individual. If a person is taught right from wrong at a young age, they will be much more likely to continue to exhibit those values as adults. Especially when it comes to excellent conduct in business or decisions that affect one's professional ethics. Where in business is very important (good) behavior for the long-term success of a business and for relationships between people? Behaviors need to be taught. People who are used to acting badly in business

will always cheat in business. Honesty and responsibility are two virtues that should be inculcated. Where being honest is one of the most important business skills. Effective working relationships between employees, colleagues, and customers. Business activities are affected by responsible conduct, such as preventing plagiarism (Haitao, 2022). Prior research revealed that self-employed cyclists had the highest percentage of helmet use, followed by students and the unemployed (Sharif et al., 2022). According to prior research, legal professionals are more inclined than others to obey the law.

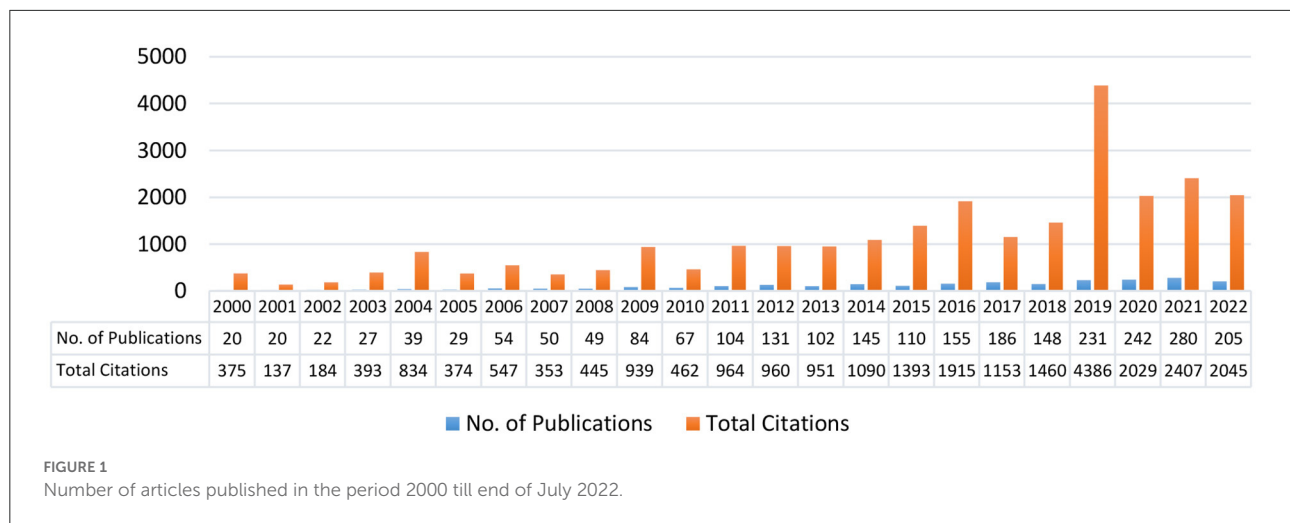
Law abiding behavior and location

There is a significant association between law abiding behavior and location. Previous research has shown that city centers had a higher helmet use rate than macro-centers and peripheral places. A similar finding was made in another study conducted in China, which found that helmet use was significantly higher on city roads than on provincial roads, country roads, or national highways. Further, in a cross-sectional study, the number of drivers who did not wear a helmet was higher on highways and roads outside of town than on the main roads (Sharif et al., 2022).

Research methodology

Bibliometrics is a research strategy that use statistical reviews of previously published scientific articles, books, conference articles in order to evaluate the significance of publications and offer an overview of the existing body of knowledge in a certain area of study (Grosbeck et al., 2019). Bibliometric research is useful because its micro-level analysis may be used to identify patterns and trends within a limited subject area (Mani et al., 2022). However, it is important to remember that bibliometric analysis is not appropriate for comparing individual researchers or research teams. In addition, bibliometric research may take many forms, such as journal rankings, evaluations of research quality, surveys of published works, and analyses of patterns and trends (Hammarfelt and De Rijcke, 2015). This study follows the framework of a previous article that examines trends and patterns in the higher education sector in an effort to map out a roadmap for future orientations within the context of Law-abiding behavior. In this work, the methodology incorporates three major steps: (1) data gathering, (2) data cleaning, and (3) bibliometric analysis. Figure 1 illustrates an overview of the procedure.

Using the Scopus database, this research compiled a list of articles on the use of Law-abiding behavior in the higher education sector (Ghani et al., 2022). Scopus database is one of the most widely used citation databases, making it a great resource for researchers interested in bibliometric study of higher education sector. Due to the lack of literature on the



topic of Law-abiding behavior in the higher education sector, all works published in English were included in this investigation. This included peer-reviewed academic journal articles, book chapters, and conference proceedings. The data was gathered in July 2022. In order to find relevant results, we mixed Boolean operators with specified phrases (i.e. AND, OR). Starting with broad keywords (Law abiding behavior AND Higher Education OR China OR Gender OR Age OR Education Background OR Occupation OR Location), the search was then narrowed by the category of law-abiding behavior and higher education sector using only the paper's title, keywords, and abstract. Based on a literature assessment of law-abiding behavior and/or the higher education sector, five more keywords were added to increase search relevancy and prevent missing relevant articles (Gender, Age, Education Background, Occupation, and Location).

Research findings

The VOS viewer software is used to map the graphical representation of bibliographic data (Van Eck and Waltman, 2010). The VOSviewer converted the bibliographic data into graphs using the specified input data. A number of bibliometric methodologies were used to analyze the data, including BC, co-citation, and co-occurrence of the author's keyword. The citation BC is used when two authors "A" and "B" cite the third author's document "C." Co-citation occurs when two publications are cited by a third document, such as when studies A and B are discussed in study C. Furthermore, keyword co-occurrence is computed by counting the number of times a phrase occurs in the same article (Van Eck and Waltman, 2017). In order to more precisely discover target publications, we performed a title search, which yielded a total of 3,785 articles due to the fact that the quantity of original material was too large and the results included numerous irrelevant

literatures. Then, we manually eliminated the literature that did not focus the relationship between law-abiding behavior and higher education. After screening 2,500 articles were selected, covering a period from 2000 to end of July 2022 (see Figure 1).

The number of articles published between 2000 and the end of July 2022 is shown in Figure 1. According to the Figure 1, study on law-abiding behavior goes back to the year 2000, although it was not generally acknowledged until 2011. Since then, there has been a continuous increase in study into what law-abiding behavior is and how it enhance human civilization. Although, the law and morality are the foundations of human civilization (Steiner et al., 2008), and they are inextricably linked to the specific historical circumstances of a society's evolution and its existing social and class structure. Responsible law-abiding behavior is determined by a person's legal culture (Tyler and Darley, 1999) which is defined by a deliberate submission to the requirements of the law, compliance with social and moral standards, and adherence to rules of behavior. In a society where a legal culture has developed, people follow legal norms out of their own free will and in response to their own unique legal awareness (Khamidullaevna, 2022). Doing what the law requires is adhering to its intended purposes, guiding principles, and stipulations. This is, by definition, legal norm behavior, which takes many forms throughout society (activity, individual actions, legitimate inaction, verbal activity, which has legal significance). If a legal identity is developed that contains a set of values, norms, and rules that are executed voluntarily and on the basis of which an actually existent rule of law is constructed, then the normative social and legal action of the person will predominate. The development of children and youngsters' legal competence and legal awareness necessitates the cultivation of a favorable disposition toward the law on their part. The sudden drop in the number of articles published in 2020 may have been caused all higher education's institutes closed due to COVID-19 Pandemic. Moreover, in 2021 virtual classes were started,

however, has not slowed down since 2021, and is therefore still a hot issue today.

Table 1 shows the top 20 journals, the maximum number of articles were published in Behavioral And Brain Sciences with 87 documents, 1850 citation and 88 Total link strength (TLS). Encyclopedia of Criminology and Criminal Justice is 2nd journal with 52 documents, 105 citation and 59 TLS. The three top cited journals are Behavioral and Brain Sciences, Journal of Business Ethics and Frontiers in Psychology. Top 20 journals are presented in the Table 1.

Figure 2 shows the time span of published literatures in different countries. The literature was written by authors of multiple countries. If the maximum number of authors' nationality had two or more, we accepted all results for we thought the literature was created by different countries. It's shown that China led the analysis of law-abiding behavior in terms of number of articles (583 published and citations 5,412). Although, United States was leading in terms of citations (432 published and citations 8,637). However, only China has become the leader from Asian countries in law-abiding behavior study since 2000, which means research with background in China has become the hotspot. The remaining all in top 5 were developed countries United States (432 published and citations 8,637), United Kingdom (154 published and citations 3,293), Australia (104 published and citations 1,996), Canada (69 published and citations 890) (see Figure 3).

There are 5,123 authors that have published 2,500 articles on law-abiding behavior. On the basis of number of articles published, citations received, number of publications, H-index, and institutional affiliation, the 15 most prolific authors are shown in Table 2. The maximum number of articles published by Jiang, Shanhe and Keung, Hing also these authors get maximum citations 100 and 79, respectively.

The bibliographic coupling by organization the City University of Hong Kong is 1st organization with 25 documents, 292 citation and 1,913 Total link strength (TLS). Chinese University of Hong Kong is 2nd organization with 23 documents, 230 citation and 1297 TLS. The three top cited Organizations are University of Oxford, University of California, Los Angeles and Harvard University. Top 20 organization are list is blow in the Table 3.

Discussion

The current research presents bibliometric indicators of lawful behavior in the context of scientific research from the year 2000 to the end of July 2022. Using the Scopus database, this study analyzed more than 3,785 articles published on the topic of lawful behavior between 2000 and the end of July 2022. The original sample was then reduced to include only articles, book chapters, and conference papers that made significant contributions to the field of lawful behavior in the

context of higher education. Our findings of reviewed articles concluded that more articles were published in the year of 2019 as compared to before and after year 2019. The current study emphasized that law and morality are the most important parts of human culture. They are always connected and depend on the specific historical circumstances of a society's development its social and class structure. Thus it is essential that students be knowledgeable about legal issues, orientated in terms of law-abiding behavior, aware of the nature of offences, and willing to bear the responsibility that is assigned to them (Maltseva et al., 2020). Furthermore, a law-abiding society, in which most people follow the law and obey legal authorities because they agree with the law and want to work with legal authorities, is better than one in which legal authorities have to threaten or use force to get people to obey. The foundation of every rule-abiding society is a political system in which its constituents have social values that compel individuals to take personal responsibility for avoiding rule violations, regardless of the risk of being discovered and penalized for their transgressions (Tyler and Darley, 1999).

Awareness of the law and following the rules are two factors that contribute to law-abiding conduct. The emergence of legal consciousness stems from people's abstract concepts of the equilibrium between desired order and peace. There is a strong association between legal awareness and other values, including those of a social, political, economic, and legal nature. In essence, law-abiding behavior can be noble principles that can affect all current systems, from the government's implementation of laws to the government's adoption of regulations to the government's administration of those rules (Asmah and Salam, 2022). For instance, previous studies have linked people not wearing safety equipment like seatbelts and helmets to an increased risk of car crashes (Zhou et al., 2022). In addition, as the popularization of Chinese law continues to develop, more and more Chinese citizens are becoming familiar with their legal rights and are able to evaluate whether or not those rights have been violated. However, some people, due to their preconceived notions about lawyers and the legal system, are unwilling to learn about the law, perceive legal procedures as difficult to operate, and avoid seeking legal assistance when their rights and interests are violated (Guan et al., 2022). Our study supports the conclusions of previously reviewed literature. The study investigates the significance of higher education in fostering law-abiding behavior among Chinese students and also highlights the impact of different factors on law obeying behavior. These elements include age, gender, education, occupation, and location. It has been shown in the literature that women are more attuned to lawful conduct than men. Likewise, previous study revealed that females may be more responsive to punishments for academic dishonesty than males, who are typically viewed as more competitive and risk-taking (Zhang et al., 2018). In a similar vein, there are other factors that have a significant link with lawful conduct. However, there has only been a little amount of research done on law

TABLE 1 No. of Publications based on Journals.

No.	Journal name	Total link strength	Documents	Citations
1.	Behavioral and brain sciences	88	87	1850
2.	Encyclopedia of criminology and criminal justice	59	52	105
3.	Encyclopedia of immigrant health	2	44	31
4.	Journal of business ethics	445	25	1382
5.	International journal of environmental research and public health	217	20	126
6.	Frontiers in psychology	248	19	417
7.	Plos one	142	16	246
8.	Accident analysis and prevention	184	15	305
9.	Frontiers of law in china	1	15	7
10.	Social learning theory and the explanation of crime	8	14	91
11.	International journal of offender therapy and comparative criminology	419	13	149
12.	Sustainability	178	12	148
13.	Asian journal of criminology	348	11	74
14.	International journal of urban and regional research	24	9	58
15.	Advances in intelligent systems and computing	2	7	3
16.	BMC public health	48	7	24
17.	China journal of social work	22	7	13
18.	Environmental science and pollution research	58	7	38
19.	Frontiers of education in china	13	7	15
20.	Journal of environmental management	16	7	194

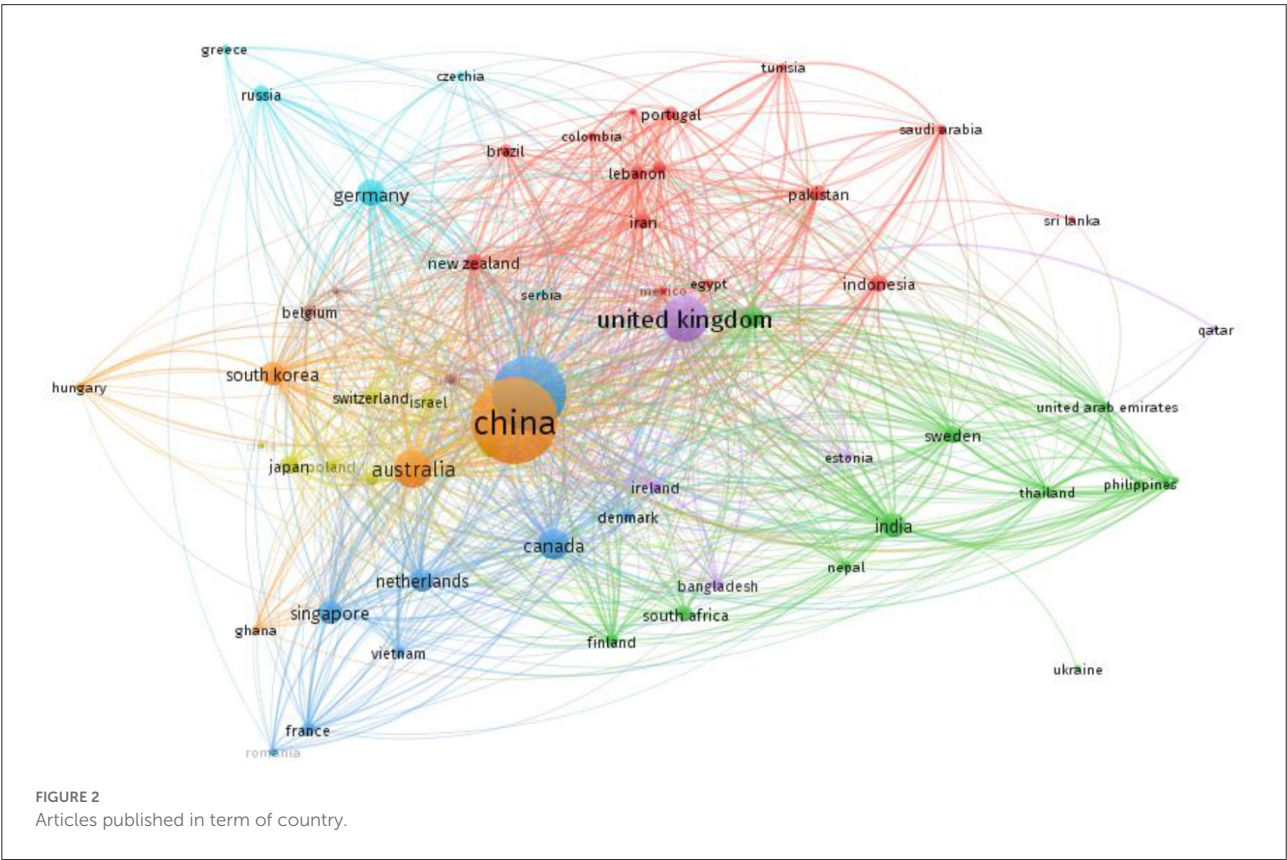


FIGURE 2
Articles published in term of country.

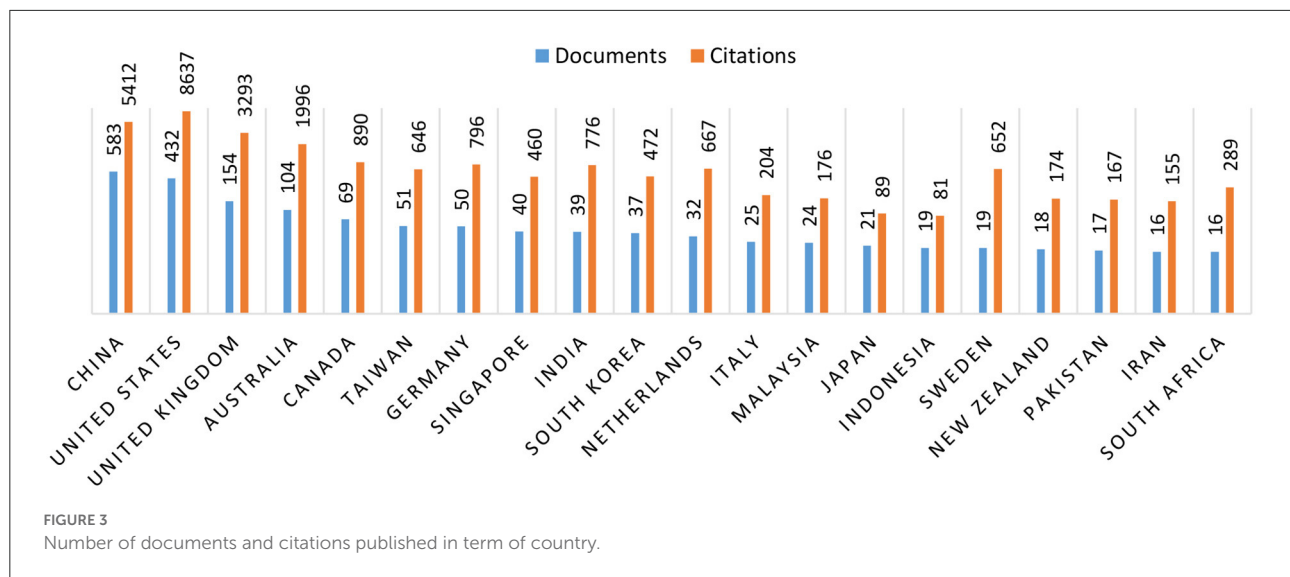


TABLE 2 No. of publications and citations based on authors.

No.	Author name	Total link strength	Documents	Citations
1.	Jiang, Shanhe	707	8	100
2.	Keung, Hing	101	6	79
3.	Lambert, Eric G.	613	6	81
4.	Liu, Jianhong	827	6	45
5.	Boateng, Francis D.	776	5	22
6.	Cheng, Kevin Kwok-Yin	406	5	45
7.	Cheung, Chau-Kiu	297	5	28
8.	Chui, Wing Hong	350	5	32
9.	Li, Hui	65	5	39
10.	Shek, Daniel T. L.	701	5	13
11.	Wang, Wei	111	5	76
12.	Wu, Yuning	801	5	35
13.	Heberer, Thomas	4	4	39
14.	Ma, Hing Keung	241	4	71
15.	Rowley, Chris	52	4	29

abiding behavior up until now. So, it's suggested that scholars in the future look into lawful behavior in various population and across different countries.

Future recommendations and implications

Following are some of suggestions. First, future researchers should gather longitudinal data to learn how students' knowledge and other factors affect their compliance with laws over time. Secondly, it would be helpful to do focus groups and interviews with the students, as the qualitative remarks are brief. Third, additional researches need to be conducted on the topic of

law abiding behavior as previously limited studies were present. Fourth, future research should consider the influence of other factors on law-abiding behavior. Fifth, future research should conduct cross-cultural studies to compare the significance of law abiding behavior across different countries.

The study findings revealed that the rise of academic dishonesty like plagiarism in higher education highlights the importance of law abiding behavior among students (Shek et al., 2022). This area of research may aid universities in combating academic dishonesty through effective teaching and learning strategies that encourage a growth attitude rather than a fixed mindset regarding learning. So, for future studies, it is important to learn about law-abiding behavior and how it can help students who don't follow the law in the long run. The results also showed that those with greater education are more likely to

TABLE 3 Bibliographic coupling by organization.

NO.	Organization	Total link strength	Documents	Citations
1.	City University of Hong Kong	1,913	25	292
2.	Chinese University of Hong Kong	1,297	23	230
3.	National University of Singapore	1,006	20	189
4.	Harvard University	2,461	18	1,439
5.	Tsinghua University	722	18	103
6.	Renmin University of China	806	17	112
7.	Hong Kong Baptist University	1,008	16	200
8.	Hong Kong Polytechnic University	1,065	16	136
9.	Nanyang Technological University	516	16	133
10.	Zhejiang University	1,267	16	307
11.	Australian National University	379	14	246
12.	Beijing Normal University	365	14	54
13.	Wayne State University	1,684	14	121
14.	University of California, Los Angeles	1,953	13	1,486
15.	University of Washington	990	13	524
16.	Sun Yat-sen University	923	12	63
17.	The University of Sydney	696	12	208
18.	University of Oxford	346	12	1,497
19.	University of Toronto	1,629	12	78
20.	East China Normal University	653	11	22

respect authoritative figures and accept responsibility for their conduct (Wu et al., 2022). In this way, future researchers should stress how important education is for students because it gives them not only knowledge and skills, but also spiritual and moral values that shape who they are and bring people together. In the future, researchers should use effective methods to figure out the complicated internal and external factors that lead to cheating and other bad behavior in higher education. This would lead to better results. As a result, effective institutional and programmatic interventions may concentrate on modifying students' mindsets in order to combat the disruptive conduct and improve educational outcomes.

Our study findings would be beneficial for the academic researchers and policy makers in following ways. First in educational institutions precautionary measures, such as providing incoming students with detailed information on policy requirements and learning resources about academic integrity in advance of formal registration, may help them to comprehend and adjust to the academic dishonesty. One way to put this into practice is for teachers to adjust their methods of instruction to make cheating less appealing. For example, if you make sure the course content is based on what the students ask and the assignments are frequent, short, and realistic, the students will gain confidence and won't need to cheat. Second, students in higher education institutions need to learn about obedience and the law in order to maintain a caring attitude towards the nation and state, which is essential for the development of a humane character. Third, one strategy of

preventing criminal behavior is teaching lawful values to college and university students. Fourth, participating in religious events can reawaken students to maintain behavior consistent with their religious norms. Fifth, honesty also discourages students from acting dishonestly in class, which can prevent them from being manipulative. Lastly, every student needs to adopt the mindset that discipline is valuable in order to encourage compliance, maturity, and responsibility in the context of academic norms.

Conclusion

In this study a total of 3,785 articles were searched from 2000 to the end of July 2022 years on VOS viewer software. This study focuses to answer following four questions: What is law abiding behavior? What factors affect the higher education student's awareness of law-abiding in China? Which factors have more significant impact on law abiding of higher education students? Is there any relationship between law abiding behavior and psychological factors in higher education students? Based on the reviewed articles, it was found that in the year 2019, more articles were published on law abiding behavior as compared to before and after year 2019.

Present study focuses on the impact of different factors such as age, gender, education, occupation, and location on law-abiding behavior. The conclusion of various literature supports that there is a significant impact of these factors on law

abiding behavior. Our findings not only shed light on the aspects that are most important in shaping law-abiding behavior, but they also imply that the educational system as a whole should implement initiatives to encourage law-abiding behavior among its students. To achieve this objective, it is vital to establish a climate of respect in the university that precludes any disorganization or deviant behavior on the part of students, such as violence, drug use, and addictive behavior etc. Moreover, assessment of social credit will lead to more law-abiding people in the community and, as a result, improve the quality of society as a whole. For a country to prosper economically and socially, it must have trustworthy and law-abiding individuals.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

References

- Alguliyev, R. M., and Alakbarova, I. Y. (2021). *Social Credit System as a New Tool in the Management of Citizens' Behavior: Problems and Prospects*. Hong Kong: Modern Education and Computer Science Press.
- Asmah, A., and Salam, S. N. (2022). A law-abiding behaviour of the indigenous peoples in realizing environmental law enforcement in South Sulawesi, Indonesia. *Casp. J. Environ. Sci.* 20, 431–435. doi: 10.22124/CJES.2022.5592
- Dewantara, J. A., Hermawan, Y., Yunus, D., Prasetyo, W. H., Efriani, E., Arifiyanti, F., et al. (2021). Anti-corruption education as an effort to form students with character humanist and law-compliant. *J. Civics Media Kajian Kewarganegaraan* 18, 70–81. doi: 10.21831/jc.v18i1.38432
- Dkadek, R. (2022). Ethical behaviour of future managers: students from the Province of Kenitra as a case study. *Rev. Manage. Financ. Org.* 16, 6.
- Du, H., Xiao, Y., and Zhao, L. (2021). Education and gender role attitudes. *J. Pop. Econ.* 34, 475–513. doi: 10.1007/s00148-020-00793-3
- Ghani, N. A., Teo, P. C., Ho, T. C., Choo, L. S., Kelana, B. W. Y., Adam, S., et al. (2022). Bibliometric analysis of global research trends on higher education internationalization using scopus database: towards sustainability of higher education institutions. *Sustainability* 14, 8810. doi: 10.3390/su14148810
- Grosbeck, G., Iru, L. G., and Bran, R. A. (2019). Education for sustainable development: evolution and perspectives: A bibliometric review of research, 1992–2018. *Sustainability* 11, 6136. doi: 10.3390/su11216136
- Guan, P., Pan, Y., Li, Y., Zhang, Y., Jiang, D., Wang, Z., et al. (2022). Research on the current situation and optimization strategies of youth volunteers engaging in law-popularization activities under the construction of the rule of law in China. *J. Educ. Human. Soc. Sci.* 1, 77–81. doi: 10.54097/ehss.v1i.641
- Haider, S. A., Akbar, A., Tehseen, S., Poulova, P., and Jaleel, F. (2022). The impact of responsible leadership on knowledge sharing behavior through the mediating role of person–organization fit and moderating role of higher educational institute culture. *J. Innov. Knowledge* 7, 100265. doi: 10.1016/j.jik.2022.100265
- Haitao, N. (2022). Determination of behavior, principles and law abiding on business ethics. *J. Law Polit. Human.* 2, 76–84. doi: 10.38035/jlph.v2i2.87
- Hammarfelt, B., and De Rijcke, S. (2015). Accountability in context: Effects of research evaluation systems on publication practices, disciplinary norms, and individual working routines in the faculty of Arts at Uppsala University. *Res. Eval.* 24, 63–77. doi: 10.1093/reseval/rvu029
- Han, S., Li, Y., and Haider, S. A. (2022). Impact of foreign language classroom anxiety on higher education students academic success: mediating role of emotional intelligence and moderating influence of classroom environment. *Front. Psychol.* 13, 945062. doi: 10.3389/fpsyg.2022.945062
- Haniya, O. K., and Said, H. (2022). Influential factors contributing to the understanding of international students' choice of Malaysian higher education institutions: qualitative study with a focus on expected benefits. *Tuning J. Higher Educ.* 9, 63–97. doi: 10.18543/tjhe.1966
- Jiyan, W. A. N. G. (2020). A study on the effect of law education on attitude toward rule of law based on the perspective of legal knowledge. *Rev. Cercetare Int. Soc.* 69, 357–370. doi: 10.33788/rcis.69.24
- Khamidullaevna, I. D. (2022). Legal culture is a factor of development. *Galaxy Int. Inter. Res. J.* 10, 698–701. Available online at: <https://giirj.com/index.php/giirj/article/view/2297>
- Kozorez, D., Dolgova, E., Korneenkova, A., Rumakina, A., and Shi, C. (2022). Student character building activities as a component of higher education primary educational program. *SHS Web Conf.* 137, 01010. doi: 10.1051/shsconf/202213701010
- Li, L., and Sun, Y. (2022). The rule of law in education and its relationship to thinking skills. *Think. Skills Creativity* 44, 101034. doi: 10.1016/j.tsc.2022.101034
- Li, Y., Bao, C., and Liu, M. (2022). The integration of legal education and mental health education of college students in the contemporary network environment facing the cultivation of civic awareness. *J. Environ. Public Health.* 2022, 4858156. doi: 10.1155/2022/4858156
- Liu, X. (2020). "Research on the dilemma in the rule-of-law education on Chinese college students in the new era and the countermeasures." in *4th International*

Funding

This work was supported by Major Project of China Social Science Foundation: Carry Forward the Spirit of Socialist Rule of Law (22ZDA072).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2020). Beijing: Atlantis Press, 808–812.

Malesky, A., Grist, C., Poovey, K., and Dennis, N. (2022). The effects of peer influence, honor codes, and personality traits on cheating behavior in a university setting. *Ethic. Behav.* 32, 12–21. doi: 10.1080/10508422.2020.1869006

Maltseva, O. V., Shulga, T. I., Kazakova, S. N., Kosolapova, N. V., Mironenkova, O. L., Belyakova, N. V., et al. (2020). Features of forming minors' law-abiding behavior: a socio-psychological aspect. *Int. J. App. Exerc. Physiol.* 9, 132–138. Available online at: <http://ezproxy.sunway.edu.my/login?url=https://www.proquest.com/scholarly-journals/features-forming-minors-law-abiding-behavior/docview/2426550754/se-2>

Mani, N. S., Cawley, M. A., Dodd, A., and Hayes, B. E. (2022). "Applying bibliometrics to examine research output and highlight collaboration," in *Handbook of Research on Academic Libraries as Partners in Data Science Ecosystems*, eds N. Mani and M. Cawley (IGI Global), 75–101. doi: 10.4018/978-1-7998-9702-6.ch005

Naftali, O. (2022). Law does not come down from heaven: youth legal socialization approaches in chinese textbooks of the xi jingping era. *J. Curr. Chin. Affairs* 8, 18681026221085719. doi: 10.1177/18681026221085719

Niu, P. (2022). An artificial intelligence method for comprehensive evaluation of preschool education quality. *Front. Psychol.* 13, 955870. doi: 10.3389/fpsyg.2022.955870

Popova, Y., and Popovs, S. (2022). Impact of smart economy on smart areas and mediation effect of national economy. *Sustainability* 14, 2789. doi: 10.3390/su14052789

Ramaswamy, M., Marciniuk, D. D., Csonka, V., Colò, L., and Saso, L. (2021). Reimagining internationalization in higher education through the United Nations sustainable development goals for the betterment of society. *J. Stud. Int. Educ.* 25, 388–406. doi: 10.1177/10283153211031046

Ran, Z. O. U., Zeb, S., Nisar, F., Yasmin, F., Poulova, P., Haider, S. A., et al. (2022). The impact of emotional intelligence on career decision-making difficulties and generalized self-efficacy among university students in China. *Psychol. Res. Behav. Manage.* 15, 865. doi: 10.2147/PRBM.S358742

Salakhova, V. B., Belyakova, N. V., Knyazeva, G. L., Shneyder, L. B., Schetinina, S. Y., Albakova, Z. A., et al. (2020). The problem of law-abiding behavior among minors in educational institutions: domestic and foreign experience. *Prop. Rep.* 8, 747. doi: 10.20511/pyr2020.v8nSPE3.747

Sharif, P. M., Pazooki, S. N., Ghodsi, Z., Nouri, A., Ghoroghchi, H. A., Tabrizi, R., et al. (2022). Effective factors of improved helmet use in motorcyclists: A systematic review. *Res. Squ. [Preprint]*. doi: 10.21203/rs.3.rs-1830051/v1

Shek, D. T., Zhu, X., Li, X., and Dou, D. (2022). Satisfaction with HyFlex teaching and law-abiding leadership education in Hong Kong university

students under COVID-19. *App. Res. Q. Life* 21, 1–26. doi: 10.1007/s11482-022-10040-4

Steiner, H. J., Alston, P., and Goodman, R. (2008). *International Human Rights in Context: Law, Politics, Morals: Text and Materials*. Oxford: Oxford University Press.

Tomczyk, S., Rahn, M., and Schmidt, S. (2020). Social distancing and stigma: association between compliance with behavioral recommendations, risk perception, and stigmatizing attitudes during the COVID-19 outbreak. *Front. Psychol.* 11, 1821. doi: 10.3389/fpsyg.2020.01821

Tyler, T. R., and Darley, J. M. (1999). Building a law-abiding society: taking public views about morality and the legitimacy of legal authorities into account when formulating substantive law. *Hofstra L. Rev.* 28, 707.

Ulfah, N., Safudin, E., and Hidayah, Y. (2021). Construction of legal education in college education through pancasila education. *Lambung Mangkurat Law J.* 6, 12–25. doi: 10.32801/lamlaj.v6i1.199

Van Eck, N., and Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics* 84, 523–538. doi: 10.1007/s11192-009-0146-3

Van Eck, N. J., and Waltman, L. (2017). Citation-based clustering of publications using CitNetExplorer and VOSviewer. *Scientometrics* 111, 1053–1070. doi: 10.1007/s11192-017-2300-7

Wu, F., Ji, Y., Maqbool, A., and Andlib, Z. (2022). Analyze the factors of clean energy consumption in China: do environmental stringency policies, environmental law, and human capital matter. *Res. Squ. [Preprint]*. doi: 10.21203/rs.3.rs-1310067/v1

Xu, L. (2022). Legal education in colleges and universities. *Front. Educ. Res.* 5, 1–6. doi: 10.25236/FER.2022.050101

Yakubov, A. (2022). The action strategy for the development of uzbekistan as the legal basis of the new uzbekistan. *Am. J. Soc. Humanit. Res.* 3, 324–329. Available online at: <https://www.grnjournals.us/index.php/ajshr/article/view/1129>

Yu, H., Glazer, P. L., and Johnson, B. R. (2021). Examining the relationship between student attitude and academic cheating. *Ethics Behav.* 31, 475–487. doi: 10.1080/10508422.2020.1817746

Zhang, Y., Yin, H., and Zheng, L. (2018). Investigating academic dishonesty among Chinese undergraduate students: does gender matter? *Assessment Eval. Higher Educ.* 43, 812–826. doi: 10.1080/02602938.2017.1411467

Zhou, J., Zheng, T., Dong, S., Mao, X., and Ma, C. (2022). Impact of helmet-wearing policy on e-bike safety riding behavior: a bivariate ordered probit analysis in Ningbo, China. *Int. J. Environ. Res. Pub. Health* 19, 2830. doi: 10.3390/ijerph19052830



OPEN ACCESS

EDITED BY

Chunhui Huo,
Liaoning University,
China

REVIEWED BY

Concha Antón,
University of Salamanca,
Spain
Muhammad Arslan Safdar,
Liaoning University,
China

*CORRESPONDENCE

Beysun Güneri
beysungueri@akdeniz.edu.tr

SPECIALTY SECTION

This article was submitted to Educational Psychology, a section of the journal Frontiers in Psychology

RECEIVED 07 September 2022

ACCEPTED 17 October 2022

PUBLISHED 17 November 2022

CITATION

Kasalak G, Güneri B, Ehtiyar VR, Apaydin Ç and Türker GÖ (2022) The relation between leadership styles in higher education institutions and academic staff's job satisfaction: A meta-analysis study. *Front. Psychol.* 13:1038824. doi: 10.3389/fpsyg.2022.1038824

COPYRIGHT

© 2022 Kasalak, Güneri, Ehtiyar, Apaydin and Türker. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](#). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

The relation between leadership styles in higher education institutions and academic staff's job satisfaction: A meta-analysis study

Gamze Kasalak¹, Beysun Güneri^{1*}, Vesile Ruya Ehtiyar¹, Çiğdem Apaydin¹ and Gulay Özaltın Türker²

¹Department of Educational Sciences, Akdeniz University, Antalya, Türkiye, ²Department of Social Sciences, Muğla University, Muğla, Türkiye

In this study, it is aimed to examine the relationship between leadership in higher education institutions [HEIs] and academic staff's job satisfaction, which is formed by combining different leadership styles in higher education institutions, using the meta-analysis method based on correlational research. For this purpose, it was investigated whether there was a significant difference between the effect sizes of the studies investigating the relationship between leadership in HEIs and academic staff's job satisfaction between the years 2010–2022, according to the moderator variables (leadership styles, continent, culture, and Human Development Index [HDI]). A total of 57 research data, including sample size and Pearson correlation coefficient data, were evaluated within the scope of the research. Correlational studies were calculated according to the random effect model in terms of effect direction and overall effect size; The estimated effect size value was found to be 0.374. This value shows that the overall effect size of the relationship between leadership in HEIs and academic staff's job satisfaction is positive and moderate. However, there is no significant difference between the effect sizes of the research examining the relationship between leadership styles in HEIs and academic staff's job satisfaction, according to continent, culture and HDI moderator variables.

KEYWORDS

leadership styles , job satisfaction, academic staff's job satisfaction , meta-analysis, higher education institutions

Introduction

Problem statement

New approaches to leadership in higher education are explored as universities face the challenges of competing in a globally competitive world while designing opportunities to build and develop sustainable leadership. While similar challenges exist in all industries, higher education is uniquely positioned given its role in developing new knowledge and

disseminating existing knowledge (Jones et al., 2012). Universities provide qualified human capital by leading research activities to draw the attention of many institutions to the unresolved problems or weak areas of society, and also help the development of almost every sector effecting the economy. Therefore, universities need educational leaders who can fulfil their duties with the highest efficiency, integrity and the highest ethical standards in order to achieve their goals. Education leaders have many responsibilities including research, supervisory, administrative roles, job placement, supervision, event management and oversight of extra-curricular activities (Akhtar et al., 2021). However, Javed et al. (2020) state that responsibility is largely dependent on the leader and is subjective. According to the authors, to whom and what the leader is responsible for is subjective matter.

The changing demand for higher education challenges traditional assumptions not only about the nature, purpose, and place of higher education in society, but also about the most appropriate management and leadership systems that should operate in educational institutions. For example, Bolden et al. (2012) compares the traditional university model as a community of academics with a highly democratic and decentralized decision-making process that represents leadership as a shared responsibility with the increasingly common institutional or entrepreneurial approaches to leadership and management in universities. In recent studies, it has been examined how various leadership styles in higher education affect quality effectiveness, commitment, perception of organizational support, citizenship, and satisfaction in organizations (Alonderiene and Majauskaite, 2016; Sharma et al., 2016; Syakur et al., 2020; Öztürk and Kılıçoğlu, 2021).

To investigate current trends in higher education research, Tight (2012) analysed various higher education articles published between 2000 and 2010, he found an increase not only in quantity but also in quality of publications. Gumus et al. (2018) examined the leadership trends in educational organizations between the years 1980–2014 in their bibliometric study, and they found that the overall rate of the study group at the level of about 10 percent. It is observed that in the humanistic leadership theories period, leadership studies in higher education institutions are subjected to various leadership areas such as collaborative and distributed leadership (Youngs, 2017); transactional leadership (Sims et al., 2021); responsible leadership (Akhtar et al., 2020), instructional leadership (Shaked, 2021); transformational leadership (Sathiyaseelan, 2021); ethical leadership (Gok et al., 2017) and servant leadership (Dahleez and Aboramadan, 2022). The issue of leadership in higher education institutions, especially whether different leadership styles exist in higher education institutions, whether they are necessary, and whether the same theory and application framework is valid for the higher education sector as in other institutions (Siddique et al., 2011; Amzat and Idris, 2012) brought it to the fore. Because, as a large institution, a university is managed by various structures and administrative bodies, from the Rector, Vice-Rectors and Deans to academic councils, department managers, and administrative boards. Therefore,

leadership styles in higher education institutions refer to different management roles and titles, from strategic management to managerial roles, transformational and visionary roles (Settles et al., 2019). It can be concluded that the roles of leaders in higher education can be complex and varied. Li et al. (2022) support this by emphasizing the complexity of the roles of education leaders in higher education, stating that they are responsible for fulfilling a variety of tasks from educational visionary to legal oversight. Apart from this, job satisfaction of lecturers is another important variable in order to increase the quality of education and training and to create university performance at universities. As suggested in limited research, appropriate leadership styles in higher education can increase the job satisfaction of academic staff (Alonderiene and Majauskaite, 2016). When leaders in HEI exhibit leadership characteristics and actions consistent by encouraging the job satisfaction, they positively affect many factors such as employee retention (Harris et al., 2016), organizational justice and organizational trust (Dahleez and Aboramadan, 2022), organizational commitment (Mwesigwa et al., 2020), academic staff performance (Jameel and Ahmad, 2020). Nguyen et al. (2021), found a high correlation between leadership and job satisfaction, and state that the leader style is important. Shaari et al. (2022) found a relationship between transformational and transactional leadership and job satisfaction in their research on academic staff. Therefore, this research focuses on the effect of leadership styles in HEIs on academic staff's job satisfaction.

There are various meta-analysis studies investigating the effects of leadership style on job satisfaction in educational organizations in recent studies (Cakmak et al., 2015; Coğaltay et al., 2016). However, as a result of the literature review, no meta-analysis study was found that examines the effect of leadership style in higher education institutions on the job satisfaction of academic staff. It can also be stated that leadership studies in HEIs are less studied compared to leadership styles in primary, secondary and high school education institutions. It can be stated that the importance given to leadership in HEIs has increased significantly in recent years (Belias and Koustelios, 2014). Therefore, this research, focuses on the effect of leadership in HEIs on job satisfaction of academic staff, is expected to contribute to the literature. In addition, it is thought that the research will provide an opportunity to explain how leadership in HEIs affects the job satisfaction of academic staff.

This study makes an important contribution to the literature, as it is the first research to examine leadership styles in HEIs and academic staff's job satisfaction through meta-analysis method. Although there are many empirical studies in the literature (Okan and Akyüz, 2015; Kiplangat et al., 2017), there is no study that clearly reveals the direction and effect of the relationship between leadership styles in HEIs and academic staff's job satisfaction using the meta-analysis method. Although various empirical studies have been conducted to date, this study is summarized for the first time by combining the studies done so far with the psychometric meta-analysis method. In this context, the results of

the relations obtained in the literature have been clearly revealed and a contributed the literature. Because, by bringing together the studies that deal with the relationships between these variables, it will be possible to determine the direction and strength of the relationships, and it will be possible to contribute to the literature. In addition, it will contribute to the clearer understanding of the relationship between leadership styles in HEIs and academic staff's job satisfaction by researchers in the field. In summary, the study, and its results both contribute to the knowledge of literature and draw attention to the importance of increasing leadership styles studies in higher education institutions.

Literature review

Universities have its own challenges (Anthony and Antony, 2017) because of having complex structure and uncertain decision-making processes (Hendrickson et al., 2013) which reveals the need for different leadership styles (Gigliotti and Ruben, 2017). In this context, it can be mentioned that the concept of leadership styles exists because there is a need for leadership in the management of higher education institutions.

According to Anthony and Antony (2017), leaders in HEIs encourage academic staff towards their academic work and can create social networks among academic staff. In addition, leaders in HEIs follow the mission of the university with a visionary approach; as entrepreneurs, risk-taking and flexible individuals, they can create structures to support change and affect the culture and values of HEIs (Anthony and Antony, 2017). It is also stated that leaders in higher education institutions are charismatic individuals who can foresee difficulties or opportunities, adapt to change, and do not hesitate to work to become stronger individually and professionally (Asaari et al., 2016; Thompson and Franz, 2016). In addition, as a reflection of leadership in HEIs, strategy, ethics, professionalism, goal orientation, experience, passion, recognition, and self-confidence are also emerging (Iordache-Platis, 2016). Since leaders in HEIs is associated with positions such as rector, dean, director, and head of department, academic leaders organize training programs, make planning in academic units, recruit academic staff, and evaluate and coordinate the institution (Hacifazlioglu, 2010). Mamiseishvili et al. (2016), on the other hand, state that especially department heads encourage productive behaviours through strong leadership roles in HEIs and are seen as a source that provides development opportunities as a model for other academic staff. Leaders in HEIs play a fundamental role in ensuring effective communication and thus building trust and transparency (Gigliotti and Ruben, 2017). In summary, leaders in HEIs are used in this research to refer to individuals who work as permanent academic staff in higher education institutions and who assume leadership and management roles within the university system (Morris and Laipple, 2015; Iordache-Platis, 2016) and it is related to the tasks or behaviours performed by the academic staff in the managerial position (Pani, 2017).

Leaders in HEIs directly or indirectly influence the academic world by using their unique experiences, teaching, and research skills (Thompson and Franz, 2016). One of the important variables affecting the academic world is job satisfaction. Job satisfaction is defined as the emotional reactions of employees towards their jobs and how they feel towards their jobs and organizations (Spector, 1997) and is associated with increasing employee behavior, motivation, and productivity (Bhuian and Islam, 1996). Leaders, with their knowledge and abilities, have an impact on the job satisfaction of the employees due to their features such as gathering people around certain goals and activating them to realize these goals (Eren, 2001) and being able to transfer their feelings and thoughts to the employees strongly (Goleman, 2002).

Research hypothesis

Leaders are the role models of their subordinates within an organization. Various negative behaviours exhibited by leaders (for example, hiding information from subordinates; presenteeism) may also negatively affect their behaviour (Dietz et al., 2020; Akhtar et al., 2021). Therefore, it is extremely important for leaders who are role models to exhibit positive behaviour. Thus, employees will create an environment of creativity where they can improve their services, generate new ideas and encourage new ways of working (Karatepe et al., 2020). Similarly, given that academic staff take their leaders as role models, academics can pay attention to whether their own values are in line with the values displayed by the leaders in their institutions (Lee et al., 2017). It is expected that the job satisfaction of academicians who exhibit leadership styles appropriate to their own values will be positive. In a limited number of studies, it is stated that there are positive and significant relationships between leadership styles in higher education and job satisfaction of academic staff (Schulze, 2006; Lan et al., 2019). Based on this, the following hypotheses were developed in the research:

H1: There is a positive relationship between leadership in HEIs and academic staff's job satisfaction.

The relevant literature shows that different styles of leadership in HEIs have an impact on the job satisfaction of academic staff, either directly or through intermediary factors (Alonderiene and Majauskaite, 2016; Dalati et al., 2017; Barnett, 2018; Rahman, 2018; Suong et al., 2019; Mwesigwa et al., 2020; Djaelani et al., 2021).

One of the important leadership styles that affect the job satisfaction of academic staff from research variables is transformational leadership. Transformational leadership is a process that changes the values, beliefs, and attitudes of its followers (Riggio, 2014) and aims to increase the self-confidence of individuals by revealing their talents and skills (Eren, 2015). In this context, transformational leadership draws a framework for the transformation of knowledge in HEI (Basham, 2012;

Cetin and Kinik, 2015). A transformational higher education leader can increase job satisfaction by gaining the respect of the academic staff, considering the moral and ethical consequences of decisions, and giving individual incentives to increase the motivation of academic staff (Bass et al., 2003). Therefore, it is thought that transformational leadership in higher education may have a positive effect on academic staff's job satisfaction. According to the research conducted by Mwesigwa et al. (2020) shows that transformational leadership styles positively affect the job satisfaction of academic staff. It is also stated in the same study that job satisfaction tends to increase when they provide better and more suitable working conditions by giving academic staff the freedom to take decisions, provide them opportunities to develop themselves with additional training programs, support their career development by counselling, reward them with incentive programs, provide fringe benefits, empower them and encourage their participation in some studies and some projects (Mwesigwa et al., 2020). In related studies, it has seen that there are positive and significant relationships between job satisfaction and transformational leadership styles (Robyn and Preez, 2013; Ali et al., 2014; Suong et al., 2019; Jameel and Ahmad, 2020).

Another style of leadership that positively affects academic job satisfaction is transactional leadership (Suong et al., 2019; Jameel and Ahmad, 2020). In transactional leadership, where the authority of the leader is dominant, the successful completion of tasks and follower harmony are emphasized through contingent rewards (Northouse, 2018). In this context, it can be mentioned that transactional leadership in HEIs uses reward or punishment to direct and maintain the extrinsic motivation of academic staff (Zheng et al., 2019). As a result, a transactional leader who clearly expresses the expectations in higher education institutions and promises awards and status to the academic staff if these expectations are met can positively affect the job satisfaction of the academic staff (Bateh and Heyliger, 2014).

In passive leadership, it is said that the leader avoids taking responsibility, refrains from making decisions, does not give feedback, and makes little effort to help his followers to meet their needs (Northouse, 2018). In passive leadership, it can be emphasized that leaders in higher education institutions are passive, ineffective, and unwilling or incapable of making decisions on their own when they lack knowledge, experience, and expertise. As a result, this leadership may negatively affect the job satisfaction of academic staff, as it causes lack of motivation and role ambiguity in academic staff (Belias and Koustelios, 2014).

It is important for academic staff to be aware of the existence of a servant leader who consider their views into account, loves, and respects them, understands, supports and exalts them (Yukl, 2018). However, increasing love, trust, and appreciation among teaching staff can be supported by spiritual leadership. In this way, spiritual leaders are a source of inspiration for the high performance of the academic staff, increase cooperation and encourage learning together (Yukl, 2018). Therefore, according to relevant literature examining the relationship between servant leadership (Alonderiene and Majauskaite, 2016), spiritual

leadership (Wong et al., 2015; Djaelani et al., 2021) and job satisfaction, it can be concluded that both servant leadership and spiritual leadership have a positive effect on job satisfaction.

In this research, within the scope of "others" leadership styles, coach leadership, hr. specialist leadership, autocrat leadership, contingent, leadership, top management leadership, institutional leadership, empowering leadership, fair leadership, and democratic leadership styles were examined. It has been emphasized that these leadership styles are discussed in studies specific to higher education institutions, and that the relationship between academic staff's job satisfaction and job satisfaction is positive in related studies (Haras, 2010; Muhonen, 2016; Alonderiene and Majauskaite, 2016; Lee et al., 2017; Rahman, 2018; Hee et al., 2020).

Based on this, the following hypothesis were developed in the research:

H2: Leadership style is a moderating variable for the positive relationship between leadership in HEI and academic staff's job satisfaction.

H2a: There is a positive relationship between transformation leadership style in HEIs and academic staff's job satisfaction.

H2b: There is a positive relationship between transactional leadership style in HEIs and academic staff's job satisfaction.

H2c: There is a negative relationship between passive leadership style in HEIs and academic staff's job satisfaction.

H2d: There is a positive relationship between servant leadership style in HEIs and academic staff's job satisfaction.

H2e: There is a positive relationship between spiritual leadership style in HEIs and academic staff's job satisfaction.

H2f: There is a positive relationship between other leadership styles in HEIs and academic staff's job satisfaction.

Depending on many factors such as the level of economic development, management styles (Vliert and Einarsen, 2008), cultural values (Wu et al., 2018), individualistic-collectivist structure of employees (Hou, 2017), there are studies that show that leadership approaches differ on a country basis. Therefore, it is seen that different styles of leadership come to the fore in different geographical regions (Aycan et al., 2000; Vliert et al., 2010). For example, Mittal and Dorfman (2012) found that the dimensions of egalitarianism and empowerment are more important in European cultures than Asian cultures in their study examining the levels of servant leadership in different geographical regions. They stated that the dimensions of empathy and humility were more suitable for Asian cultures rather than European cultures. In addition, there are also studies that comparatively examine academic staff's job satisfaction in different countries (Lacy and Sheehan, 1997; Bentley et al., 2013). For example, Lacy and Sheehan (1997) found in their study that academics in the United States (60%) were more satisfied with their jobs than academics in Hong Kong (50%). Bentley et al. (2013) determined the job satisfaction rate of academics in South Africa, located on the African continent, as 51%, the job satisfaction rate of

academics in the USA as 61%, and the job satisfaction rate of academics in Finland, located in the European continent, as 67%. Based on all this literature, it is predicted that the continent of the country in which the academic staff work will be the moderator variable in their perceived leadership styles and job satisfaction and the following hypothesis were developed:

H3: The continent in which the countries are located is a moderating variable for the positive relationship between leadership in HEI and academic staff's job satisfaction.

It has been stated in studies on a wide variety of organizational and national issues that there may be differences in different leadership preferences (Hofstede, 2001) and job satisfaction levels in societies that differ in terms of cultural values (Taras et al., 2010). In studies on leadership, it has been emphasized that collectivist and individualistic cultural values are important among social cultural values (Aycan et al., 2013). Triandis (1995) argues that leadership tends to be paternalistic and supportive in collectivist cultures, and achievement-oriented and participatory in individualistic cultures. According to House and Aditya (1997), "benevolent autocrat" leadership is the most admired leadership style in collectivist cultures. In a study, it was determined that employees with high collectivistic values perceived less mobbing when they perceived their managers as paternalistic leaders (Durmaz et al., 2020). Personal relationships are more important than duty in collectivist societies and personal relationships must be established first (Hofstede, 2001). Trust in institutions is established with the leader within personal relationships. An employee who trusts his leader is expected to have a positive job satisfaction (Shi et al., 2020; Zhou et al., 2022). Karadağ (2020), also mentions that because there is a stronger acceptance and respect for authority in collective cultures, leaders create more influence on these collective cultures than those in individual cultures. In line with all these research findings, it can be said that leadership is important in ensuring the job satisfaction of academic staff in collectivist cultures. The fact that institutions are seen as a family in collectivist cultures contributes to the employee's developing a sense of loyalty to the institution and management (Saylık, 2017). As a result, it can be mentioned that the relationship between perceived leadership in higher education and job satisfaction in countries with collectivist cultures is higher than in countries with individualistic cultures (Aycan, 2006; Saylık, 2017; Durmaz et al., 2020). In line with the results of the relevant research, the following hypothesis has been developed:

H4: The positive relationship existing between leadership in HEIs, and academic staff's is stronger in countries with collectivist cultures compared to countries with individualistcultures.

In a country, a high level of education affects development with a positive trend in terms of economic and social results, as it will create a qualified workforce. In this context, the evaluation of the education index in the HDI subcategory is important in terms

of revealing the level of education, enabling comparison with different countries, and determining the measures and improving policies to be taken in countries with low education levels (Firat et al., 2015). For example, in the context of job satisfaction, Blanchflower and Oswald (2005) stated that Australia, which ranked third in the HDI in 2004, ranks lower levels in the international job satisfaction rankings. In another study, cooperation in scientific publications, order of authorship, superiority and leadership in research activities were investigated between countries with different HDI. According to the results of this research, it is stated that the leadership characteristics of the authors participating from the countries with high HDI are more developed and they are especially responsible for the studies. It has been revealed that the authors of countries with medium and low levels of human development have a low level of leadership roles and show little participation as a corresponding author (González-Alcaide et al., 2017). In this context, it was predicted in the research that leadership styles in HEIs and job satisfaction in universities will also differ according to HDI variables.

H5: The positive relationship existing between leadership in HEI and academic staff's is stronger in countries with very high/high human development indices (HDI) compared to countries with medium/low HDI.

Materials and methods

Research design

In this study, the meta-analysis method was used to determine the relation between leadership in HEIs and academic staff's job satisfaction. Meta-analysis is a statistical method that aims to systematically bring together the quantitative findings of similar and independent studies on a specific subject in a consistent and coherent way according to selection criteria (Borenstein et al., 2009) and to reveal important moderator variables (Cohen et al., 2007; Dinçer, 2014).

Study sample and selection criteria

Since publication bias is stated as an important negative factor in meta-analysis studies, it was preferred to use scientific articles and unpublished postgraduate theses in this study. The data used in the study are limited to January 2010–August 2022. The reason for the determination of this range can be shown as the increase of research on leadership in HEIs since 2010. It is also stated that the foundations of humanist leadership theories were laid (Karadağ, 2020). The reason why the research sample includes academic staff in higher education institutions can be cited as the frequent interactions between leaders and employees and the opportunity to examine the relationships between various variables as a result of these interactions (Syed et al., 2021). In

addition, this sample was preferred to better understand the positive results of leadership styles to be exhibited in the academic environment (Li et al., 2022). The search process was carried out in English language by keywords and article texts or abstracts in all publications worldwide, between January 2010 and August 2022. Studies contain statistical information necessary for correlational meta-analysis (Pearson correlation values, sample size). Studies measure the relationships between leadership in HEIs and academic staff's job satisfaction.

Clearly specifying the studies to be included in the meta-analysis in line with certain criteria and being consistent with the purpose of the research are important criteria to prevent publication bias (Berman and Parker, 2002). Therefore, first, a literature search was conducted in the Scopus, Web of Science, Proquest, and Ebsco databases to identify studies to be included in the meta-analysis. At this phase, the "leadership" term was taken as a base, and the terms "job satisfaction," "faculty's job satisfaction," "faculty," "academic staff's job satisfaction," "academic staff" OR "higher education" OR "university" OR "college" were used in the title, keywords, and abstract fields and searched in English. In line with this search model, 241 publications from ProQuest Dissertations and Theses database, 25 publications from Ebsco database, 152 publications from Web of Science database and 328 publications from Scopus database were reached. Thus, a total of 746 publications were reviewed for this study; A total of 215 publications describing the relationship between leadership and job satisfaction were included in the research. However, 44 of them were conducted in a qualitative study design. In 41 studies, Pearson correlation values were not specified; In 16 studies, the variable related to job satisfaction was not defined. In addition, it was determined that the sample of 54 studies consisted of both administrative and academic staff. Therefore, 155 studies were excluded from the analysis. In the second phase, the remaining 60 studies were analysed in detail 32 of these studies were excluded from the analysis because they were the same study which were in different databases; and 28 studies found appropriate to use in this study.

As a result of the examinations, a research sample including studies suitable for meta-analysis was obtained. Accordingly, there are 57 independent data sets obtained from 28 different studies in the study sample (Table 1).

When the descriptive statistics of the research included in the meta-analysis were examined, it was seen that 28 studies examining the relationships between leadership styles in HEI and academic staff's job satisfaction were conducted in 9 studies between 2010 and 2015, 10 between 2016 and 2018, and 8 between 2019 and 2020. There is no study in 2021 and 2022. A total of 7,283 academic staff included in the sample.

Unpublished studies (i.e., dissertations) were also included in the study, since only the criticisms of including published articles in meta-analyses were considered. Of the 28 studies included in the research, 15 are articles and 13 are dissertations. Three studies in Africa (Nigeria, Uganda, South Africa), eleven studies in the Americas (United States), eleven studies in Asia (Pakistan = 2,

Saudi Arabia = 2, Azerbaijan, Oman, Malaysia, Palestine, Iran, Indonesia), and three studies in Europe were conducted (Lithuania, Sweden and Türkiye).

Coding procedure

Coding is a data extraction process in which clear data and data suitable for research are extracted from the information compiled in the studies (Karadağ, 2020). A coding form was created by the researchers to code the studies included in the meta-analysis process. In the coding form, (i) descriptive statistics and (ii) statistics of research variables were coded in Excel. Within the scope of descriptive statistics, the references of the research, the year it was published, the information about the sampling (sample size, the country in which the research was conducted, the cultural classification of the countries and the classification of the HDI of the countries), the names of the data collection tools were coded. Methodological analysis information and quantitative values (Pearson correlational values between leadership in HEI and academic staff's job satisfaction) used within the scope of statistics of research variables are also defined. Coding was done in an appropriate way in the coding form. Thus, it is aimed to develop a special coding system specific to meta-analysis research that will examine the characteristics of both descriptive and research variables in detail.

Moderator variables, analysis, and operational definitions

Moderator analysis is an analysis method used to test the direction of the differences between subgroups and the average effect sizes of the variables (Karadağ, 2020). The statistical significance of the difference between the moderator variables was tested using the Q statistical method developed by Hedges and Olkin (1985). In this method, the Q_b value was calculated to test the homogeneity between the groups (Kulinskaya et al., 2008; Borenstein et al., 2009). In the study, leadership styles, the continent, national culture and HDI variables were determined as moderator variables since they were thought to play a role in the average effect size.

The first moderator variable is leadership styles. In this research, moderators of leadership styles include: (i) transformational leadership, (ii) transactional leadership, (iii) passive leadership, (iv) servant leadership, (v) spiritual leadership and (vi) other. Other leadership styles discussed in the research are the studies gathered under the title of "other" and include the styles of leadership in which research based on a single frequency are found.

The second moderator variable, the continent where the research took place, was evaluated in terms of whether they were moderators in the relationship between leadership styles in HEI and academic staff's job satisfaction. In this study, there are 6 studies from the African continent (3 countries), 22 studies from

TABLE 1 Frequency of the studies included in meta-analysis of the leadership in HEIs and academic staff's job satisfaction.

Variables											Total
The year of studies	2010	2013	2014	2015	2016	2017	2018	2019	2020		
<i>n</i>	2	1	2	4	5	2	3	2	6		28
Types of research	Article		Dissertations								
<i>n</i>	15		13								
The National Culture	Collectivist		Individualistic		UK						
<i>n</i>	13		14		1						
The Continent	Africa		America		Asia		Europe				
<i>n</i>	3		11		11		3				28
The Human Development Index (HDI)	Low		Medium		High		Very high				
<i>n</i>	2		2		5		19				28

the Americas (11 countries), 20 studies from the Asian continent (11 countries), and 9 studies from the European continent (3 countries).

The third moderator variable is the national cultures of the countries (individualistic and collectivist cultures) named by Triandis and Gelfand (1998) and classified in Hofstede Insights (2020). People living in societies with an individualistic culture use their preferences within the social framework in the society; individuals in collectivist cultures meet the needs of their families and social frameworks before their own needs (Triandis, 1996) and shape their national cultures by preserving the integrity and order of the society Biddle (2012). In individualistic societies, individuals shape the society according to their own decisions and preferences and accept life as their own Biddle (2012). In collectivist societies, the services of individuals to society are taken as basis for social order and the life of individuals is seen as belonging to the society; they are a part of (Biddle, 2012). In line with all these views, the relationship between leadership in HEI and academic staff's job satisfaction in countries with individualistic and collectivist cultures has been reviewed. In this study, of the 57 studies included in the national culture moderator analysis, 26 ($n=13$) belong to a collectivist culture and 31 ($n=14$) belong to an individualistic culture. The majority of research on individualistic culture has been carried out in the United States and European countries.

The fourth and final moderator variable is the current HDI, which expresses the economic, social, political and cultural processes (United Nations Development Programme (UNDP), 2019) that expand individuals' choices. In this meta-analysis study, the United Nations Development Programme (UNDP) (2019) is based on the HDI classification United Nations Development Programme (UNDP) (2019). Human development reports provide information and comments to eliminate general disadvantages in all countries in the world (Koçal, 2018). In the report, countries are classified as very high human development, high human development, medium human development, and low human development United Nations Development Programme (UNDP) (2019). Human development indices range from zero to

one. The closeness of the index value to one is an indicator of very high human development. Considering the distribution of the research according to the HDI, it is seen that 42 studies have a very high index (19 countries), 6 studies a high index (5 countries), 4 studies a medium index (2 countries), and 5 studies a low index (2 countries).

Effect size analyses

Effect size is a standard measure value used to determine the strength and direction of the relationship in the meta-analysis study (Borenstein et al., 2009). In this relational meta-analysis study, the effect size was calculated with the Pearson correlation coefficient (r).

There are two main models in the meta-analysis: the fixed effects model and the random effects model. In order to determine which model to use, it was taken into account whether the prerequisites of the model were met with the characteristics of the studies included in the meta-analysis (Kulinskaya et al., 2008; Borenstein et al., 2009). The fixed effects model includes the assumption that the study is functionally the same, and the goal is to estimate the effect size for a single defined population. If the study is believed to be unequal in functionality and generalizations are to be made over the estimated effect size for larger populations, the model to be used is the random effects model. In this study, a random effects model was applied in the meta-analysis processes when all conditions were taken into account. Comprehensive Meta-Analysis (CMA V 2) software was used in the meta-analysis processes.

The common method bias

Various applications have been made in line with the recommendations in the literature to reduce the common method bias (Javed et al., 2020; Akhtar et al., 2021). First, Aslam et al. (2021) recommends stating the purpose of the research before applying the data collection tools and paying attention to the

confidentiality and anonymity of the answers obtained from the data collection tools. When all the studies included in this meta-analysis study are examined, it can be said that confidentiality and anonymity are taken into account within the scope of the ethical dimension of the research and the purpose of the research is stated. Common method bias is also the case when a researcher creates estimates of validity and reliability that may lead a researcher to believe that a scale does not accurately reflect an implicit measure but does so accurately. Such an error may cause common method bias in future meta-analysis studies (Wall, 2014). As a result, the studies included in the meta-analysis were examined and it was seen that the data collection tools used were suitable for the purpose of the studies, and the validity and reliability information was presented. Thus, the existence of common method bias cannot be mentioned in this study.

Statistical methods/analysis (reliability and validity of the study)

The reliability and validity of the results is considered one of the most important criteria in a meta-analysis. In this context, the steps for reliability and validity are as follows:

- In this study, while determining the inclusion and exclusion criteria, all the characteristics related to the field of study (leadership and job satisfaction) were evaluated together. The target set for job satisfaction is to evaluate the satisfaction of the academic staff with their jobs; It is not about assessing their life satisfaction.
- Since the studies included in the meta-analysis were not functionally equivalent, the random effects model was used.
- In this study, attention was paid to research sensitivity by including both published and unpublished studies to avoid publication bias. Also, no evidence of publication bias was observed with a funnel plot or tests. It was also determined that the effect size was not affected by publication bias.
- Coding reliability was performed to determine whether the studies in the coding form were coded correctly. For this purpose, two field experts experienced in meta-analysis studies were asked to recode approximately 17 studies, which were randomly selected and correspond to 30% of the studies included in the coding list, by adhering to the coding list created by the researchers. Cohen's Kappa consistency coefficients, which were used in meta-analysis studies to determine the reliability of the coding form and to measure the reliability between raters (Leary, 2012), were calculated and the value was found to be 0.92 ($p < 0.001$). According to Landis and Koch (1977), this value indicates an "almost perfect" agreement between the coders.
- The basic condition for sampling in meta-analysis studies is that the sample best represents the population. The

sampling is not expected to be the same as the population, as there are inclusion or exclusion criteria for sampling, and it consists of total errors that occur by chance. However, it is expected that an infinite number of studies will take place for meta-analysis in order for the sampling error to be zero (Karadağ, 2020). Therefore, considering that the sample of the studies included in the meta-analysis is not infinite; Random effects model was used in this study. In meta-analysis studies, correlation values are converted to "Fisher Z" values and analyses are performed on these values. While the analysis findings are being evaluated, they are interpreted by converting them into correlation coefficients. In correlation data, the correlation coefficient is used as the effect size in relation to the direction of the relationship (positive or negative). Correlation coefficient effect sizes are interpreted if it is between ± 0.00 and ± 0.10 , it is very weak; If it is between ± 0.10 and 0.30 , it is weak; between ± 0.30 and 0.50 is moderate; ± 0.50 to 0.80 strong; ± 0.80 and above as a very strong effect (Cohen et al., 2007).

Results

Descriptive analysis

As can be seen in the forest plot examination (Supplementary Figure S1), all the random effect sizes for the correlation between leadership in HEIs and academic staff's job satisfaction were significant ($p < 0.05$), and the confidence interval for each effect size did not cross zero.

Meta-analysis results between leadership in HEIs and academic staff's job satisfaction are presented in Table 2. The findings support the H1 hypothesis, which states that there is a positive relationship between leadership in HEIs and academic staff's job satisfaction. While the average effect size was determined to be $r = 0.374$, the lower bound value was calculated as $r = 0.247$ and the upper bound value as $r = 0.504$.

In the other hypothesis sentences of the research; leadership styles, the continent in which the countries were located, the national culture and the HDI might be moderators for the relationship between leadership in HEIs and academic staff's job satisfaction.

It is seen that the H2 hypothesis, which states that leadership styles have a moderator effect on the relationship between leadership in HEIs and academic staff's job satisfaction, is supported ($Q_b = 51.786$ $p < 0.05$). From the leadership styles obtained from the studies included in the meta-analysis, spiritual leadership is very strong on the job satisfaction of the academic staff ($r = 0.894$); servant ($r = 0.658$), other ($r = 0.632$) and transformation ($r = 0.569$) leadership styles are strong on job satisfaction of academic staff; passive leadership ($r = -0.412$) has a medium effect on the job satisfaction of the academic staff, and transactional

TABLE 2 Meta-analysis results related to relationship between leadership in HEIs and academic staff's job satisfaction.

Variables	K	N	r	95% CI (Confidence Interval)		Q	Q _b
				Lower Limit	Upper Limit		
Leadership and job satisfaction	57	7,283	0.374	0.247	0.502	2866.371*	
Moderator [Leadership style]							51.786*
Transformation	19		0.569*	0.392	0.746		
Transactional	13		0.265*	0.052	0.478		
Passive	9		−0.412*	−0.669	−0.156		
Servant	5		0.658*	0.313	1.003		
Spiritual	2		0.894*	0.354	1.435		
Other	9		0.632*	0.375	0.890		
Moderator [The continent]							6.219
America	22		0.273*	0.063	0.484		
Asia	20		0.316*	0.096	0.536		
Africa	6		0.373	−0.028	0.773		
Europe	9		0.754*	0.424	1.084		
Moderator [The national culture]							710
Collectivist	26		0.348*	0.157	0.538		
Individualistic	31		0.397*	0.221	0.573		
Moderator [Human development index]							0.682
Low	5		0.332	−0.110	0.774		
Medium	4		0.319	−0.175	0.812		
High	6		0.612*	0.207	1.016		
Very high	42		0.350*	0.197	0.504		

* $p < 0.01$.

leadership ($r = 0.265$) has a weak effect on the job satisfaction of the academic staff.

H3, which asserted that the continent in which the countries are located was the moderating variable regarding the positive relationship between leadership in HEIs and academic staff's job satisfaction, was not supported. In the moderator analysis performed, the positive relationship between leadership in HEIs and academic staff's job satisfaction was not statistically significant ($Q_b = 6.219$, $p > 0.05$). Although the relationship difference was not statistically significant, teacher self-efficacy appears to have a positive relationship with academic staff's job satisfaction in the continents of America ($r = 0.273$), Asia ($r = 0.316$), Africa ($r = 0.373$) and Europe ($r = 0.754$).

The findings did not support H4, which asserted that the national culture was a mediating variable for the positive relationship between leadership in HEIs and academic staff's job satisfaction. In the moderator analysis performed, there was no significant difference between national culture [collectivist culture ($r = 0.348$) and individualistic culture ($r = 0.397$) ($Q_b = 0.139$; $p > 0.05$)].

H5, which expresses the role of The HDI as a moderator variable for the positive positive relationship between leadership in HEIs and academic staff's job satisfaction was not supported. In the analysis of the moderator, the average effect size difference

was found to be statistically insignificant ($Q_b = 1.501$, $p > 0.05$). Although the effect difference was not statistically significant, the relationship between leadership in HEIs and academic staff's job satisfaction was in countries with low HDI ($r = 0.332$), medium HDI ($r = 0.319$), with high HDI ($r = 0.612$) and with very high HDI ($r = 0.350$).

Publishing bias

Since publications that produce meaningful results are included in the research process and negatively affect the analysis process, it is recommended to detect publication bias before starting the meta-analysis (Kalkan, 2017). The most commonly used method for publication bias is the funnel plot. The results of the funnel scatterplot showing the probability of publication bias of the studies included in the meta-analysis in this study are shown in Figure 1.

In case of any publication bias, the funnel plot is expected to be significantly asymmetrical. In particular, most of the studies included in the study are expected to be at the top of the figure and very close to the combined effect size. In line with all these indicators, it can be mentioned that no evidence of publication bias was observed in any of the 57 studies subjected to

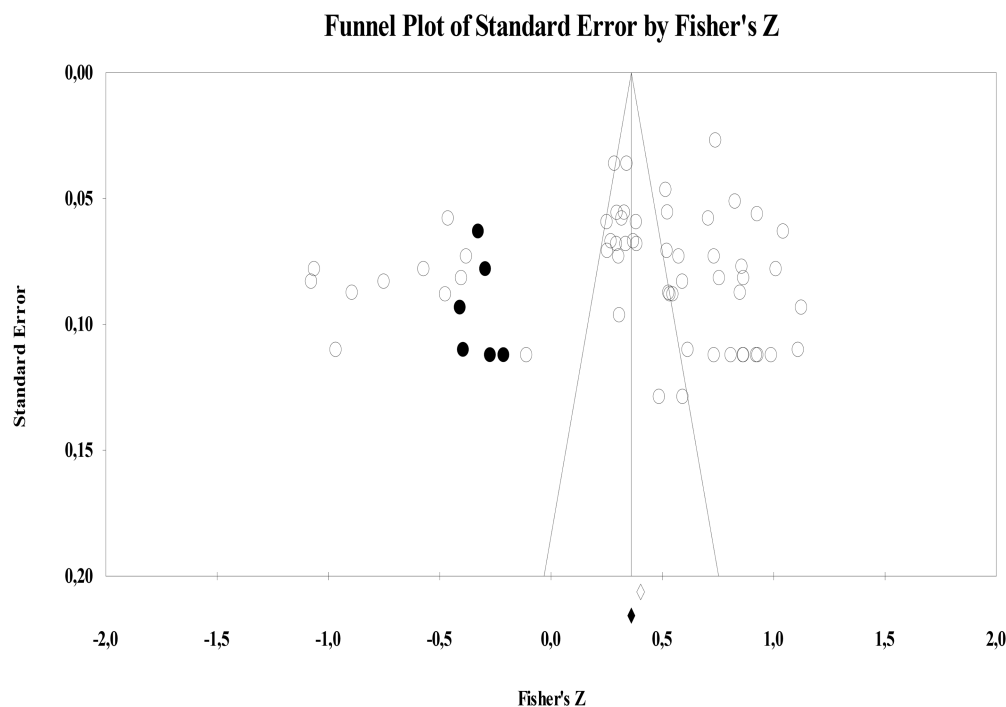


FIGURE 1

Funnel scatter plot illustrating relationship between leadership in HEIs and academic staff's job satisfaction.

meta-analysis. However, since not all the individual effect sizes of the studies are symmetrical in the funnel, it is necessary to look at the publication bias statistics. Confidence tests showing the bias of the studies included in the meta-analysis and their results are given in Table 3.

As seen in Table 3, the results of Rosenthal's Fail-Safe N Test reveal that the meta-analysis result is statistically significant ($p = 0.000$). In other words, to eliminate the significance of meta-analysis results, 3,087 studies with zero effect size value are needed (Z value = 39.493; $p < 0.00$; α value = 0.05). The fact that Kendall's Tau coefficient obtained from Begg and Mazumdar Rank Correlations is not statistically significant (Tau = 0.043; z value for Tau = 0.474; p value (1-tailed) = 0.317; p value (2-tailed) = 0.634) is an indication that there is no publication bias. From the result of Egger's Linear Regression method ($p = 0.325 > 0.05$), it can be stated with 95% confidence that there is no publication bias. According to the results of Rosenthal's Fail-Safe N Test, Begg and Mazumdar Rank Correlations, and Egger's Linear Regression method, which were used to determine the validity and publication bias of the research, it was concluded that the publication bias was low. In this study, publication bias was tested also using Duval and Tweedie's trim and fill tests in Table 4.

When Duval and Tweedie's trim and fill tests results in Table 4 are examined, it is seen that there is no significant difference between the observed effect and the artificial effect determined to adjust for the effect that may arise from publication bias. The difference between the fixed effect size and the observed effect size

TABLE 3 Confidence tests and results showing the bias of studies included in the meta-analysis.

Confidence tests	Data of confidence tests	
Rosenthal's fail-safe N test	Z-value for the studies reviewed	39.493
	p -value for studies reviewed	0.000
	Alpha	0.050
	Direction	2
	Z-value for Alpha	1.959
	Number of observed studies	57
	Fail- Safe N (FSN)	3,087
Begg ve Mazumdar Rank Correlation	Tau	0.043
	Z-value for tau	0.474
	p -value (with 1 tail)	0.317
	p -value (2-tailed)	0.634
Egger's regression Test	Standard Error	2.703
	%95 lower Limit (1 tailed)	-8.100
	%95 Upper Limit (2 tailed)	2.737
	t -value	0.991
	sd	55
	p -value (with 1 tail)	0.162
	p -value (2-tailed)	0.325

is zero, since there is no missing data on both sides of the centerline and the studies concentrated on both sides show a symmetrical distribution (Coğaltay et al., 2014).

TABLE 4 The results of Duval and Tweedie's trim and fill tests.

	Excluding study	Point estimate	CI (confidence interval)		Q
			Lower limit	Upper limit	
Observed values		0.37	0.24	0.50	2866.37
Adjustment values	0	0.37	0.24	0.50	2866.37

Discussion and conclusion

In the current study, that was conducted to examine the relation leadership in HEIs and academic staff's job satisfaction, using the meta-analysis method, the overall effect size of 57 different studies that were determined in accordance with the selection criteria was calculated. In addition, it was aiming to answer the question if there was a significant relation between the parameters according to the moderator variables (leadership theories, the continent where the research was conducted, national culture and HDI).

The first finding of the study is that there is a moderate and direct relation between leadership in HEIs and academic staff's job satisfaction. As the related studies in the literature are examined, it is stated that leadership in HEIs is related to academic staff's job satisfaction (Alonderiene and Majauskaite, 2016; Harris et al., 2016; Barnett, 2018; Liu et al., 2021). Academic staff should be satisfied with their jobs to fulfil their educational, research-investigation-based, and social responsibilities such as teaching, designing practice hours for the course material, conducting scientific studies, and carrying out projects. There is a direct relation between the academic staff's job satisfaction and the program/education outcomes, the higher the satisfaction level of the academic staff' results with the greater the program/education outcomes. High leadership behaviours exhibited by academic staff' are also considered important on academic staff's job satisfaction. Academic staff' due to their position as scientists are expected to be able to lead, influence, stimulate the society while being open to communication and permissive (Caglar, 2004). This identity can be accepted as an indicator of the job satisfaction of the academic staff in terms of developing the vision of the university and producing a sense of belonging, as well as their leadership styles.

In this research, it has been determined that leadership styles are moderators in the relation between leadership in HEIs and academic staff's job satisfaction. According to this finding, the effect of spiritual leadership on the relationship between the academic staff's job satisfaction and the leadership in HEI is at the highest level; It has been determined that servant, other and transformational leadership styles have positive and strong effects. Moreover, passive leadership has negative and moderate effects while transactional leadership has positive but weak effects on the

relation between leadership in HEIs and academic staff's job satisfaction.

It is an expected result that the effect of leadership styles on the relation between leadership in HEIs and academic staff's job satisfaction is direct and significant. In this study, it was determined that there is a positive and high level of relationship between spiritual leadership and academic staff job satisfaction. Spiritual leadership emphasizes the spiritual side of people, and it is seen that spiritual leaders emphasize issues such as love, compassion, honesty, harmony, unity, and peace (Polat, 2011). Moreover, it is stated that managers who show spiritual leadership characteristics are adored by their employees which is in direct relation with job satisfaction expectations (Pio and Tampi, 2018; Maryati et al., 2019; Djaelani et al., 2021). The fact that leaders in HEIs also have strong spiritual feelings towards the institution can positively affect their job satisfaction.

In this study, it was determined that there is a positive and high level of relationship between servant leadership and academic staff job satisfaction. It is also stated in the literature that servant leaders, who have the characteristics of helping the success and development of the employees in the institution and dedicating themselves to developing the vision of the institution, increase the job satisfaction of the individuals working in the institution (Amah, 2018; Zargar et al., 2019; Adiguzel et al., 2020). It is expected that the presence of a manager who supports their employees within the organization will have an impact on the job satisfaction of the employees'. Likewise, a leader in HEIs who is devoted to the institution and who aims to develop the vision of the institution and whose servant-leader characteristics dominate is expected to have a high levels of job satisfaction.

In the study, it was determined that that there is a positive and high level of relationship between transformational leadership and academic staff job satisfaction. Many studies examining leadership styles and job satisfaction in higher education have concluded that there is a moderate and positive relationship between transformational leadership and academic staff job satisfaction (Duyan, 2019; Gölebakar, 2020). Transformational leaders aim to change the perceptions of the employees in the organization by way of variety of activities by putting their employees in the center of the activities stemming a high levels of job satisfaction within the institution (Cote, 2017). It can be said that leaders in HEIs displaying transformational leadership styles and taking their own interests and needs as the basis while achieving their goals they focus on will increase their job satisfaction.

In this research, it has been determined that passive leadership has negative and moderate levels effect on academic staff job satisfaction and transactional leadership has a positive and low-level effect on academic staff job satisfaction. Passive leadership is a leadership style in which the leader does not interfere with the process and avoids talking to employees or setting the desired standards (Bass et al., 2003). Transactional leadership, on the other hand, is defined as a process based on mutual interests between the leader and the employee, in which employees gain prestige and wages as a result of meeting the

expectations of the leaders (Isa et al., 2011). It is inevitable that both leadership characteristics will have lower effects on job satisfaction than other leadership styles. As a matter of fact, it is stated in the literature that the relation between passive and transactional leadership and job satisfaction is low, and there is even a negative relation (Nguni et al., 2006; Nazim and Mahmood, 2018). In this manner, it can be said that leaders' acting with a certain salary or extrinsic motivation or hiding their leadership characteristics have an insignificant effect on their job satisfaction or that the effect is less than those with other leadership styles.

No statistically significant difference was observed in the relation between leadership in HEIs and academic staff's job satisfaction in any of the four continents within the scope of the research. Owing to globalization in the 21st century, it is an expected result that leadership and job satisfaction are expected to be high among the characteristics of the teaching staff independent of geographical locations. Although the continent variable was determined as the moderator variable for the relationship between leadership in HEIs and job satisfaction, it was determined that continent was not a significant variable in this study. It is possible to state that there are studies with similar findings in the literature however, there are more studies that conclude that continent is a significant variable (Hou, 2017; Wu et al., 2018; Neubert et al., 2022). There might be different reasons for this. First of all, it was aimed to reveal cultural, economic and social differences while determining the continent variable as a moderator variable. Since the sample size that could detect national differences in the research universe could not be reached, it is thought that these dimensions should be compared with a larger sample set in future studies, although universities operate in different geographies, it is thought that this has led to such a result because they are in a similar organizational structure. Since the structure of universities does not change radically on a geographical basis, it is thought that continental difference does not have a significant moderator effect on the relationship between leadership in HEIs and job satisfaction.

In this study, it was determined that the relationship between leadership in HEIs and academic staff's job satisfaction did not differ according to countries with collectivist and individualistic society. Although a society's being in an individualistic or collectivist culture gives information about the individuals, institutions, behaviours and functioning of those institutions (Carıkcı and Koyuncu, 2010); Individualist and collectivist cultures cannot always exhibit a homogeneous structure, both at the social and institutional level. Even within the same country or society, a heterogeneous structure is exhibited in terms of cultural approach (Hofstede et al., 2010; Keçeci, 2017). There are different findings about individualism–collectivism and job satisfaction in the literature. Hui et al. (1995) found that job satisfaction is higher in collectivist societies. Nevertheless, Harrison (1995), Griffeth and Hom (1987), and Lincoln and Kalleberg (1985) reported that employees in individualistic cultures have higher job satisfaction. Although there are studies stating that leadership styles (spiritual, paternalistic, educational) are higher in collectivist cultures than

in individualistic cultures (Novikov, 2017; Saylik, 2017; Karadağ, 2020). In his research, Saylik (2017) concluded that there is no significant relationship between collectivism and leadership styles emphasizing authoritarianism, interventionism, and insufficiency. Similar research findings, which determined that the relationship between leadership styles in academic organizations and academic staff job satisfaction, do not differ according to countries with collectivist and individualistic society structures, also support the findings of this research (Durmaz et al., 2020). As a result, it can be said that both cultural structures can affect the leadership in HEIs and academic staff's job satisfaction direct or reverse from different aspects.

Likewise, it was determined that HDI types were not moderators in the relation between leadership in HEIs and academic staff's job satisfaction. Among the countries included in the research, it can be said that the academic staff working in different countries in terms of HDI find the profession of academics valuable, they are satisfied with their work and their perceptions of leadership in HEIs are high. Although Blanchflower and Oswald (2005) found in their research in Austria that their country has a high HDI index, the job satisfaction of the employees found at low level. However, Hamutoğlu et al. (2020), found that all employees in higher education institutions in Norway with a high HDI index are satisfied with their institutions. Although there are differences in the literature, it can be said that academic staff working in countries with different levels of human development find their profession valuable and are satisfied with their job. As a result, it can be accepted that the relationship between academic staff's perceived leadership styles and job satisfaction does not differ significantly according to the level of human development.

Limitations and suggestions for future research

The current study was conducted using data obtained from primary sources. The major disadvantage of the current research is the possibly relational nature of the studies from which the data were obtained. Considering that qualitative studies are more effective in explaining the nature of leadership in HEIs, claiming that the obtained results can fully explain the causal effects would be biased. In addition, the fact that most of the studies on the academic staff's job satisfaction levels of leadership in HEIs are correlational indicates the existence of a potential method bias.

Despite the strategies developed to access the studies to be included in the current meta-analysis, it was not possible to reach all studies. It can be explained with the fact that the full texts of some studies could not be accessed through the searched databases can be cited. Hence, some studies that are thought to contain data suitable for the current research could not be reached. Although there were no statistical results indicating publication bias, the absence of publication bias could not be guaranteed as unpublished studies were not accessible. Secondly, in this study

studies reporting the correlation coefficient (r) were included in the meta-analysis. Therefore, researchers may be advised to report the findings that led to the meta-analysis, rather than providing a single conclusion. Thirdly, since the publication language of the studies included in the current research was limited to English, studies published in other languages could not be reached. Thus, most of the included studies were conducted in various states of the United States. Further meta-analysis studies should consider studies published in different languages to reveal cultural differences. Another limitation of the study is that the sample of the present study consists of studies published between 2010 and 2022. Accordingly, this limitation should be considered when generalizing the results obtained.

Due to the positive relations between the leadership in HEIs and academic staff's job satisfaction, it may be recommended to give trainings to the faculty to improve their leadership skills within the institution. In addition, it can be suggested that scientific studies that reveal the effects that increase the job satisfaction of the academic staff should be periodically updated and measures should be taken to increase the job satisfaction within the institution. It is recommended that all findings required for inclusion of individual studies in such meta-analysis studies should be reported by the researchers. For future studies, it is recommended to conduct studies examining similar variables based on the findings of international reports that allow OECD countries to be compared in terms of education.

Theoretical implications

Theoretically, this research confirmed that the relationship between leadership in higher education and job satisfaction is positive. It has contributed to the importance of leadership styles in higher education in ensuring the job satisfaction of academic staff. It has been revealed that when academic staff are recognized, supported and rewarded by university administrators, their job satisfaction levels will tend to increase. Therefore, the leadership style of university administrators will contribute to the job satisfaction of academic staff. This research has mentioned on the importance of leadership styles adopted in higher education institutions in theory in recent years. Thus, future research will contribute to the further growth and integrative potentials of these leadership types.

Practical implications

This research provides policy makers, practitioners, and administrators with relevant information in a variety of ways. According to the findings of the research, firstly, spiritual leadership should be adopted by the academic staff in order to ensure job satisfaction. It is necessary to adopt a leadership approach that will consider the emotional, spiritual and mental needs of academic staff in higher education institutions. Thus,

the learning, research and teaching climate in higher education institutions can be positively affected. Administrators in higher education should develop an academic organizational structure inspired by a new and strong culture that will meet all the needs, desires and aspirations of academic staff. Servant leadership is another leadership that academic staff should adopt to ensure job satisfaction. It may be beneficial to develop leadership training programs that listen to and care for academics' needs and try to assist their career development. In this case, higher education institutions should try to create an open, sincere, and honest workplace in order to ensure the job satisfaction of their academic staff. A friendly academic environment enables teaching staff to make the profession an enjoyable career. Moreover, it can be suggested to raise awareness of administrators and academic staff working in higher education institutions by giving trainings on the importance of servant leadership. The findings showed that it is beneficial for academic staff to develop transformational leadership skills to increase job satisfaction. For the academic staff to be more productive and achieve high performance, the presence of more transformational leaders in the institution can be recommended. In an academic environment where the competencies of academic staff are evaluated and rewarded, academic staff who research and teach, might be highly motivated and less likely to seek new jobs. In summary, university administrators who adopt transformational leadership should create an academic environment where innovative and creative thinking abilities are encouraged and valued.

The changing leadership roles of administrators, who will increase the job satisfaction of academic staff in higher education institutions in the future, will be an indispensable and important subject of future research. This research shows that humanist leadership roles rather than traditional leadership roles are important in increasing academician job satisfaction in today's higher education institutions. In-depth research is needed to understand the basis of these positive reactions to spiritual, servant and transformational leadership roles in higher education institutions.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

GK and BG designed the study, reviewed the literature, organized the database, and performed the meta analysis of manuscript. BG, VE, and ÇA contributed to introduction. GK wrote findings, results, and conclusion of the manuscript. GT reviewed literature and edited the manuscript and references. All authors have read and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1038824/full#supplementary-material>

References

- Adiguzel, Z., Ozcinar, M. F., and Karadal, H. (2020). Does servant leadership moderate the link between strategic human resource management on rule breaking and job satisfaction? *Eur. Res. Manag. Bus. Econ.* 26, 103–110. doi: 10.1016/j.iedeen.2020.04.002
- Akhtar, M. W., Javed, M., Syed, F., Aslam, M. K., and Hussain, K. (2020). Say no to wrongdoing: the serial mediation model of responsible leadership and whistleblowing intentions. *Int. J. Manpow.* 42, 889–903. doi: 10.1108/IJM-02-2020-0070
- Akhtar, M. W., Karatepe, O. M., Syed, F., and Husnain, M. (2021). Leader knowledge hiding, feedback avoidance, and hotel employee outcomes: a moderated mediation model. *Int. J. Contemp. Hosp. Manag.* 34, 578–600. doi: 10.1108/IJCHM-04-2021-0545
- Ali, N., Jan, S., Ali, A., and Tariq, M. (2014). Transformational and transactional leadership as predictors of job satisfaction, commitment, perceived performance and turnover intention (empirical evidence from Malakand division, Pakistan). *Life Sci. J.* 11, 48–53.
- Alonderiene, R., and Majauskaite, M. (2016). Leadership style and job satisfaction in higher education institutions. *Int. J. Educ. Manag.* 30, 140–164. doi: 10.1108/IJEM-08-2014-0106
- Amah, O. E. (2018). Determining the antecedents and outcomes of servant leadership. *J. Gen. Manag.* 43, 126–138. doi: 10.1177/0306307017749634
- Amzat, I. H., and Idris, D. A. R. (2012). Structural equation models of management and decision-making styles with job satisfaction of academic staff in Malaysian research university. *International Journal of Educational Management.* 26, 616–645. doi: 10.1108/09513541211263700
- Anthony, S. G., and Antony, J. (2017). Academic leadership—special or simple. *Int. J. Product. Perform. Manag.* 66, 630–637. doi: 10.1108/IJPPM-08-2016-0162
- Asaari, M. H. A. H., Dwivedi, A., Lawton, A., and Desa, N. M. (2016). Academic leadership and organizational commitment in public universities of Malaysia. *Eur. Sci. J.* 12, 329–344. doi: 10.19044/esj.2016.v12n16p329
- Aslam, M. K., Akhtar, M. S., Akhtar, M. W., Asrar-ul-Haq, M., Iqbal, J., and Usman, M. (2021). Reporting the wrong to the right: The mediated moderation model of whistleblowing education and the whistleblowing intentions. *Kybernetes*. Epub online ahead-of-print. doi: 10.1108/K-02-2021-0123
- Aycan, Z. (2006). "Paternalism" in *Indigenous and Cultural Psychology*. eds. U. Kim, K. S. Yang and K. K. Hwang (Springer, Boston, MA: International and Cultural Psychology)
- Aycan, Z., Kanungo, R. N., Mendonca, M., Yu, K., Deller, J., Stahl, G., et al. (2000). Impact of culture on human resource management practices: a 10-country comparison. *Appl. Psychol. Int. Rev.* 49, 192–221. doi: 10.1111/1464-0597.00010
- Aycan, Z., Schyns, B., Sun, J. M., Felfe, J., and Saher, N. (2013). Convergence and divergence of paternalistic leadership: A cross-cultural investigation of prototypes. *Journal of International Business Studies* 44, 962–969. doi: 10.1057/jibs.2013.48
- Barnett, D. E. (2018). Online adjunct faculty: a quantitative examination of the predictive relationship between leadership and job satisfaction. *Int. J. Res. Educ. Sci.* 4, 226–236. doi: 10.21890/ijres.383159
- Basham, L. M. (2012). Transformational leadership characteristics necessary for today's leaders in higher education. *J. Int. Educ. Res.* 8, 343–348. doi: 10.19030/jier.v8i4.7280
- Bass, B. M., Avolio, B. J., Jung, D. I., and Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *J. Appl. Psychol.* 88, 207–218. doi: 10.1037/0021-9010.88.2.207
- Bateh, J., and Heyliger, W. (2014). Academic administrator leadership styles and the impact on faculty job satisfaction. *J. Leadersh. Educ.* 13, 34–49. doi: 10.12806/V13/I3/R3
- Belias, D., and Koustelios, A. (2014). Leadership and job satisfaction--A review. *European Scientific Journal* 10, 8.24–8.46.
- Bentley, P. J., Coates, H., Dobson, I. R., Goedegebuure, L., and Meek, V. L. (2013). "Academic job satisfaction from an international comparative perspective: Factors associated with satisfaction across 12 countries" in *Job satisfaction around the academic world* (Dordrecht: Springer), 239–262.
- Berman, N. G., and Parker, R. A. (2002). Meta-analysis: neither quick nor easy. *BMC Med. Res. Methodol.* 2, 1–9. doi: 10.1186/1471-2288-2-10
- Bhuiyan, S. N., and Islam, M. S. (1996). Continuance commitment and extrinsic job satisfaction among a novel multicultural expatriate workforce. *Mid-Atlant. J. Bus.* 32, 35–46.
- Biddle, C. (2012). *Rational Egoism: The Morality for Human Flourishing* Glen Allen: Glen Allen Press.
- Blanchflower, D. G., and Oswald, A. J. (2005). Happiness and the human development index: the paradox of Australia. NBER Working Paper No. 11416.
- Bolden, R., Gosling, J., and O'Brien, A., Peters, K., Ryan, M., and Haslam, A. (2012). Academic leadership: Changing conceptions, experiences and identities in higher education in UK universities. Final Report, Research and Development Series. Leadership Foundation for Higher Education, London.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., and Rothstein, H. R. (2009). *Introduction to Meta-Analysis*. Chichester: John Wiley & Son.
- Çağlar, İ. (2004). The comparative analysis of the leadership manner approach of faculty of economics and administrative sciences and faculty of engineering students and Çorum example. *Gazi Üniversitesi Ticaret ve Turizm Eğitim Fakültesi Dergisi* 2, 91–108.
- Cakmak, E., Öztekin, Ö., and Karadağ, E. (2015). "The effect of leadership on job satisfaction" in *Leadership and Organizational Outcomes* (Cham: Springer), 29–56.
- Carıkcı, İ. H., and Koyuncu, O. (2010). A research on to determine the relationship between the individualist-collectivist culture and entrepreneurial trends. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi* 2, 1–18.
- Cetin, M. O., and Kinik, F. S. F. (2015). An analysis of academic leadership behavior from the perspective of transformational leadership. *Procedia Soc. Behav. Sci.* 207, 519–527. doi: 10.1016/j.sbspro.2015.10.122
- Coğaltay, N., Karadağ, E., and Öztekin, Ö. (2014). The effect of school principals' transformational leadership behaviors on teachers' organizational commitment: a metaanalysis study. *Kuram ve Uygulamada Eğitim Yönetimi* 20, 483–500. doi: 10.14527/kuey.2014.019
- Coğaltay, N., Yalcin, M., and Karadağ, E. (2016). Educational leadership and job satisfaction of teachers: a meta-analysis study on the studies published between 2000 and 2016 in Turkey. *Eurasian J. Educ. Res.* 16, 255–282. doi: 10.14689/ejer.2016.62.13
- Cohen, L., Manion, L., and Morrison, K. (2007). *Research Methods in Education (6th)*. New York, NY, US: Routledge/Taylor and Francis Group.
- Cote, R. (2017). A comparison of leadership theories in an organizational environment. *Int. J. Bus. Adm.* 8, 28–35. doi: 10.5430/ijba.v8n5p28
- Dahleez, K., and Aboramadan, M. (2022). Servant leadership and job satisfaction in higher education: the mediating roles of organizational justice and organizational trust. *Int. J. Leadersh. Educ.*, 1–22. doi: 10.1080/13603124.2022.2052753
- Dalati, S., Raudeliūnienė, J., and Davidavičienė, V. (2017). Sustainable leadership, organizational trust on job satisfaction: empirical evidence from higher education

institutions in Syria. *Bus. Manag. Econom. Eng.* 15, 14–27. doi: 10.3846/bme.2017.360

Dietz, C., Zacher, H., Scheel, T., Otto, K., and Rigotti, T. (2020). Leaders as role models: effects of leader presenteeism on employee presenteeism and sick leave. *Work Stress*. 34, 300–322. doi: 10.1080/02678373.2020.1728420

Diñer, S. (2014). *Eğitim bilimlerinde uygulamalı meta-analiz [Applied meta-analysis in educational sciences]*. Ankara: Pegem Akademi

Djaelani, A. K., Sanusi, A., and Triatmanto, B. (2021). Spiritual leadership, job satisfaction, and its effect on organizational commitment and organizational citizenship behavior. *Manag. Sci. Lett.* 10, 3907–3914. doi: 10.5267/j.msl.2020.7.020

Durmaz, C., Ergeneli, A., and Camgöz, S. M. (2020). The roles of individualism and collectivism among paternalistic leadership, mobbing and organizational cynicism relationships. *Mehmet Akif Ersoy Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi* 7, 631–655. doi: 10.30798/makuiibf.789944

Duyan, M. (2019). The effect of transformational leadership on job satisfaction: An application on academic staff in faculties of sport science. Dissertation. Muğla Sıtkı Koçman University, Türkiye.

Eren, E. (2001). Yönetim ve organizasyon. Çağdaş ve küresel yaklaşımlar. 5. Baskı, İstanbul: Beta.

Eren, E. (2015). Örgütsel davranış ve yönetim psikolojisi. Beta Basım Yayım Dağıtım. 15. Beta Basım Yayım Dağıtım. 15. Baskı: İstanbul.

Fırat, E., Ürün, E., and Aydın, A. (2015). The relationship of development and education: an evaluation of turkey's education level by human development index. In *International Conference on Eurasian Economies*, Kazan – Russia . 876–883.

Gigliotti, R. A., and Ruben, B. D. (2017). Preparing higher education leaders: a conceptual, strategic, and operational approach. *J. Leader. Educat.* 16, 96–114. doi: 10.12806/V16/11/T1

Gölebakar, S. (2020). The relationship between transformational leadership and job satisfaction in multinational companies: The role of power distance in German and Turkish national cultures [Master's thesis]. Türkiye: Marmara University

Goleman, D. (2002) in *Yeni liderler*. eds. F. Nıyır and O. Deniztekin (İstanbul: Varlık Yayınları)

Gok, K., Sumanth, J. J., Bommer, W. H., Demirtas, O., Arslan, A., Eberhard, J., et al (2017). You may not reap what you sow: How employees' moral awareness minimizes ethical leadership's positive impact on workplace deviance. *Journal of Business Ethics* 146:257–277. doi: 10.1007/s10551-017-3655-7

González-Alcaide, G., Park, J., Huamani, C., and Ramos, J. M. (2017). Dominance and leadership in research activities: collaboration between countries of differing human development is reflected through authorship order and designation as corresponding authors in scientific publications. *PLoS One* 12:8. doi: 10.1371/journal.pone.0182513

Griffeth, R. W., and Hom, P. W. (1987). Some multivariate comparisons of multinational managers. *Multivar. Behav. Res.* 22, 173–191. doi: 10.1207/s15327906mbr2202_3

Gumus, S., Bellibas, M. S., Esen, M., and Gumus, E. (2018). A systematic review of studies on leadership models in educational research from 1980 to 2014. *Educational Management Administration & Leadership* 46, 25–48. doi: 10.1177/1741143216659296

Hacıfazlıoğlu, Ö. (2010). Entry and transition to academic leadership: experiences of women leaders from Turkey and the U.S. *Kuram ve uygulamada eğitim bilimleri* 10, 2221–2273.

Hamutoğlu, N. B., Ünveren-Bilgiç, E. N., and Elmas, M. (2020). Quality processes in higher education: a comparative study of countries according to human development index reports. *Yükseköğretim Dergisi* 10, 112–124. doi: 10.2399/yod.19.521343

Harash, A. H. (2010). *An analysis of the relationship between the perceived leadership styles of educational leaders and the job satisfaction of academic staff who serve under them within community colleges*. [dissertation] USA: Pepperdine University.

Harris, K., Hinds, L., Manansingh, S., Rubino, M., and Morote, E. S. (2016). What type of leadership in higher education promotes job satisfaction and increases retention? *J. Leadersh. Instruct.* 15, 27–32.

Harrison, G. L. (1995). Satisfaction, tension and interpersonal relations: a cross-cultural comparison of managers in Singapore and Australia. *J. Manag. Psychol.* 10, 13–19. doi: 10.1108/02683949510100741

Hee, O. C., Shi, C. H., Kowang, T. O., Fei, G. C., and Ping, L. L. (2020). Factors influencing job satisfaction among academic staffs. *International Journal of Evaluation and Research in Education* 9, 285–291. doi: 10.11591/ijere.v9i2.20509

Hedges, L., and Olkin, I. (1985). *Statistical methods for meta-analysis*. London: Academic Press.

Hendrickson, R. M., Lane, J. E., Harris, J. T., and Dorman, R. H. (2013). *Academic leadership and governance of higher education: A guide for trustees, leaders, and aspiring leaders of two-and four-year institutions*. Virginia: Stylus Publishing, LLC.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, 2 Edn. Thousand Oaks, California: Sage Publication. Sage.

Hofstede, G., Hofstede, G. J., and Minkov, M. (2010). *Cultures and Organizations: Software of the Mind: Intercultural Cooperation and Its Importance for Survival* New York: McGraw-Hill.

Hou, X. (2017). Multilevel influence of destructive leadership on millennial generation employees innovative behavior. *Soc. Behav. Pers.* 45, 1113–1126. doi: 10.2224/sbp.6117

House, R. J., and Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis? *J. Manag.* 23, 409–473. doi: 10.1177/014920639702300306

Hui, C. H., Yee, C., and Eastman, K. L. (1995). The relationship between individualism-collectivism and job satisfaction. *Appl. Psychol. Int. Rev.* 44, 276–282. doi: 10.1111/j.1464-0597.1995.tb01080.x

Hofstede Insights (2020). Hofstede insights country comparison tool. Available at: <https://www.hofstede-insights.com/country-comparison/>

Iordache-Platis, M. (2016). Higher education leadership and institutional development: stakeholders perceptions. In *Proceedings of the 12th European Conference on Management, Leadership and Governance*, November 10–11 99–108.

Isa, K., Muda, W. H. N. W., and Sabri, B. (2011). Effect of transformational and transactional leadership style towards employee commitment in the organization. *IPN J.* 1, 133–140.

Jameel, A. S., and Ahmad, A. R. (2020). The mediating role of job satisfaction between leadership style and performance of academic staff. *Int. J. Psychosoc. Rehabil.* 24, 2399–2414. doi: 10.37200/IJPR/V24I4/PR201349

Javed, M., Akhtar, M. W., Husnain, M., Lodhi, R., and Emaan, S. (2020). A stakeholder-centric paradigm bids well for the “business case”-an investigation through moderated-mediation model. *Corp. Soc. Responsib. Environ. Manag.* 27, 2563–2577. doi: 10.1002/csr.1976

Javed, M., Akhtar, M. W., Hussain, K., Junaid, M., and Syed, F. (2021). “Being true to oneself”: the interplay of responsible leadership and authenticity on multi-level outcomes. *Leadersh. Org. Dev. J.* 42, 408–433. doi: 10.1108/LODJ-04-2020-0165

Jones, S., Lefoe, G., Harvey, M., and Ryland, K. (2012). Distributed leadership: A collaborative framework for academics, executives and professionals in higher education. *Journal of Higher Education Policy and Management* 34, 67–78. doi: 10.1080/1360080X.2012.642334

Kalkan, F. (2017). The effect of gender on school administrators and teachers' perceptions of learning organization: a meta-analysis study. *Educ. Sci.* 42, 165–183. doi: 10.15390/EB.2017.5033

Karadağ, E. (2020). The effect of educational leadership on students' achievement: a cross-cultural meta-analysis research on studies between 2008 and 2018. *Asia Pac. Educ. Rev.* 21, 49–64. doi: 10.1007/s12564-019-09612-1

Karatepe, O. M., Aboramadan, M., and Dahleez, K. A. (2020). Does climate for creativity mediate the impact of servant leadership on management innovation and innovative behavior in the hotel industry? *Int. J. Contemp. Hosp. Manag.* 32, 2497–2517. doi: 10.1108/IJCHM-03-2020-0219

Keçeci, M. (2017). The impact of individualism and collectivism on the relationship between leadership styles and organizational citizenship behaviour. *Res. J. Bus. Manag.* 4, 469–484. doi: 10.17261/Pressacademia.2017.755

Kiplangat, H. K., Momanyi, M., and Kangethe, N. S. (2017). Dimensions of Kenyan university academic staff's job satisfaction in view of various managerial leadership practices. *J. Educ. Pract.* 8, 120–129.

Koçal, S. (2018). The relationship among cultural values, human development level and terror crimes. Master's thesis. Türkiye: Yıldırım Beyazıt University.

Kulinskaya, E., Morgenthaler, S., and Staudte, R. G. (2008). *Meta-Analysis: A Guide to Calibrating and Combining Statistical Evidence*. London: Wiley.

Lacy, F. J., and Sheehan, B. A. (1997). Job satisfaction among academic staff: an international perspective. *High. Educ.* 34, 305–322. doi: 10.1023/A:1003019822147

Lan, T. S., Chang, I. H., Ma, T. C., Zhang, L. P., and Chuang, K. C. (2019). Influences of transformational leadership, transactional leadership, and patriarchal leadership on job satisfaction of cram school faculty members. *Sustainability* 11:3465. doi: 10.3390/su11123465

Landis, J. R., and Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics* 33, 159–174. doi: 10.2307/2529310

Leary, H. M. (2012). Self-directed learning in problem-based learning versus traditional lecture-based learning: A meta-analysis. Dissertation, United States: Utah State University.

Lee, S., Kim, Y. J., and Jones, W. D. (2017). Central peptidergic modulation of peripheral olfactory responses. *BMC Biol.* 15:35. doi: 10.1186/s12915-017-0374-6

Li, M., Yang, F., and Akhtar, M. W. (2022). Responsible leadership effect on career success: the role of work engagement and self-enhancement motives in education sector. *Front. Psychol.* 13, 1–9. doi: 10.3389/fpsyg.2022.888386

- Lincoln, J. R., and Kalleberg, A. L. (1985). Work organization and workforce commitment: a study of plants and employees in the United States and Japan. *Am. Sociol. Rev.* 50, 738–219. doi: 10.2307/2095502
- Liu, Y., Bellibaş, M. Ş., and Gümüş, S. (2021). The effect of instructional leadership and distributed leadership on teacher self-efficacy and job satisfaction: mediating roles of supportive school culture and teacher collaboration. *Educ. Manag. Administrat. Leader.* 49, 430–453. doi: 10.1177/1741143220910438
- Mamiseishvili, K., Miller, M. T., and Lee, D. (2016). Beyond teaching and research: faculty perceptions of service roles at research universities. *Innov. High. Educ.* 41, 273–285. doi: 10.1007/s10755-015-9354-3
- Maryati, T., Astuti, R. J., and Udin, U. (2019). The effect of spiritual leadership and organizational culture on employee performance: the mediating role of job satisfaction. *Int. J. Innovat. Creativ. Change* 9, 130–143.
- Mittal, R., and Dorfman, P. W. (2012). Servant leadership across cultures. *J. World Bus.* 47, 555–570. doi: 10.1016/j.jwb.2012.01.009
- Morris, T. L., and Laipple, J. S. (2015). How prepared are academic administrators? Leadership and job satisfaction within US research universities. *J. High. Educ. Policy Manag.* 37, 241–251. doi: 10.1080/1360080X.2015.1019125
- Muhonen, T. (2016). Exploring gender harassment among university teachers and researchers. *Journal of Applied Research in Higher Education* 8, 131–142. doi: 10.1108/JARHE-04-2015-0026
- Mwesigwa, R., Tusiime, I., and Ssekiziyivu, B. (2020). Leadership styles, job satisfaction and organizational commitment among academic staff in public universities. *J. Manag. Dev.* 39, 253–268. doi: 10.1108/JMD-02-2018-0055
- Nazim, F., and Mahmood, A. (2018). A study of relationship between leadership style and job satisfaction. *J. Res. Soc. Sci.* 6, 165–181.
- Neubert, M. J., de Luque, M. S., Quade, M. J., and Hunter, E. M. (2022). Servant leadership across the globe: assessing universal and culturally contingent relevance in organizational contexts. *J. World Bus.* 57:101268. doi: 10.1016/j.jwb.2021.101268
- Nguni, S., Slegers, P., and Denessen, E. (2006). Transformational and transactional leadership effects on teachers' job satisfaction, organizational commitment, and organizational citizenship behavior in primary schools: the Tanzanian case. *Sch. Eff. Sch. Improv.* 17, 145–177. doi: 10.1080/09243450600565746
- Nguyen, P. N. D., Nguyen, L. L. K., and Le, D. N. T. (2021). The impact of extrinsic work factors on job satisfaction and organizational commitment at higher education institutions in Vietnam. *The Journal of Asian Finance, Economics and Business* 8, 259–270. doi: 10.13106/jafeb.2021.vol8.no8.0259
- Northouse, P. G. (2018). *Leadership: Theory and Practice 8th Edn.* United States: Sage.
- Novikov, V. (2017). Spiritual leadership in collectivist and individualist cultures. *Emerg. Leader. Journey* 10, 1–29.
- Okan, T., and Akyüz, A. M. (2015). Exploring the relationship between ethical leadership and job satisfaction with the mediating role of the level of loyalty to supervisor. *Bus. Econ. Res. J.* 6, 155–177.
- Öztürk, F., and Kılıçoğlu, G. (2021). The relationship between academic intellectual leadership, perceived organizational support and organization citizenship: a study on the higher education institutions in Turkey. *Yükseköğretim Dergisi* 11, 409–420. doi: 10.2399/yod.20.639356
- Pani, A. (2017). Academic leadership: concept, attributes and practices. *Univ. News* 55, 17–25.
- Pio, R. J., and Tampi, J. R. E. (2018). The influence of spiritual leadership on quality of work life, job satisfaction and organizational citizenship behavior. *Int. J. Law Manag.* 60, 757–767. doi: 10.1108/IJLMA-03-2017-0028
- Polat, S. (2011). The level of academic staff' spiritual leadership (SL) qualities display according to students in faculty of education. *Proc. Soc. Behav. Sci.* 15, 2033–2041. doi: 10.1016/j.sbspro.2011.04.049
- Rahman, M. A. (2018). Influence of female leadership styles and organization culture on locus of control and job satisfaction. *Integrat. J. Bus. Econom.* 2, 1–134. doi: 10.33019/ijbe.v2i2.76
- Riggio, R. E. (2014). *Endüstri ve Örgüt Psikolojisine Giriş*. Ankara: Nobel Yayıncılık.
- Robyn, A., and Preez, R. D. (2013). Intention to quit amongst Generation Y academics in higher education. *SA J. Ind. Psychol.* 39, 1–14. doi: 10.4102/sajip.v39i1.1106
- Sathiyaseelan, S. (2021). Transformational leaders in higher education administration: understanding their profile through phenomenology. *Asia Pacific J. Educat.* 1–16. doi: 10.1080/02188791.2021.1987185
- Saylık, A. (2017). The relationship between paternalistic leadership behaviours of school principals and culture dimensions of Hofstede. Dissertation, Türkiye: Ankara University.
- Schulze, S. (2006). Factors influencing the job satisfaction of academics in higher education. *South Afr. J. High. Educat.* 20, 318–335.
- Settles, I. H., Brassel, S. T., Soranno, P. A., Cheruvil, K. S., Montgomery, G. M., and Elliott, K. C. (2019). Team climate mediates the effect of diversity on environmental science team satisfaction and data sharing. *PLoS One* 14:e0219196. doi: 10.1371/journal.pone.0219196
- Shaari, R., Kamarudin, D., Ju, S. Y., and Zakaria, H. (2022). Effects of leadership types on job satisfaction among Malaysian higher education institutions. *Asian J. Instruat.* 10, 54–70. doi: 10.47215/aji.1020324
- Shaked, H. (2021). Instructional leadership in higher education: the case of Israel. *High. Educ. Q.* 75, 212–226. doi: 10.1111/hequ.12274
- Sharma, S., Amir, S. D. S., Veeriah, J., and Kannan, S. (2016). Leadership behavior of deans and its impact on effectiveness for quality in a high-ranking university. *Egitim ve Bilim* 41, 49–58. doi: 10.15390/eb.2016.6071
- Shi, X., Yu, Z., and Zheng, X. (2020). Exploring the relationship between paternalistic leadership, teacher commitment, and job satisfaction in Chinese schools. *Front. Psychol.* 11, 1–12. doi: 10.3389/fpsyg.2020.01481
- Siddique, A., Aslam, H. D., Khan, M., and Fatima, U. (2011). Impact of academic leadership on faculty's motivation and organizational effectiveness in higher education System. *International journal of academic research* 3, 3.730–3.737.
- Sims, C., Carter, A., and Moore De Peralta, A. (2021). Do servant, transformational, transactional, and passive avoidant leadership styles influence mentoring competencies for faculty? A study of a gender equity leadership development program. *Hum. Resour. Dev. Q.* 32, 55–75. doi: 10.1002/hrdq.21408
- Spector, P. E. (1997). *Job Satisfaction: Application, Assessment, Causes, and Consequences*. Beverly Hills: Sage
- Suong, H. T. T., Thanh, D. D., and Dao, T. T. X. (2019). The impact of leadership styles on the engagement of cadres, lecturers and staff at public universities-evidence from Vietnam. *J. Asian Fin. Econom. Bus.* 6, 273–280. doi: 10.13106/jafeb.2019.vol6.no1.273
- Syakur, A., Susilo, T. A. B., Wike, W., and Ahmadi, R. (2020). Sustainability of communication, organizational culture, cooperation, trust and leadership style for lecturer commitments in higher education. *Budapest Int. Res. Crit. Inst.* 3, 1325–1335. doi: 10.33258/birci.v3i2.980
- Syed, F., Naseer, S., Akhtar, M. W., Husnain, M., and Kashif, M. (2021). Frogs in boiling water: a moderated- mediation model of exploitative leadership, fear of negative evaluation and knowledge hiding behaviors. *J. Knowl. Manag.* 25, 2067–2087. doi: 10.1108/JKM-11-2019-0611
- Taras, V., Kirkman, B. L., and Steel, P. (2010). Examining the impact of culture's consequences: a three-decade, multi-level, meta-analytic review of Hofstede's cultural value dimensions. *J. Appl. Psychol.* 95, 405–439. doi: 10.1037/a0018938
- Thompson, N., and Franz, N. (2016). Decision points in academic leadership development as an engaged scholar: to lead or not to lead. *J. Commun. Engag. Scholarsh.* 9, 74–80. doi: 10.54656/UKVK8586
- Tight, M. (2012). Higher education research 2000–2010: changing journal publication patterns. *High. Educ. Res. Dev.* 31, 723–740. doi: 10.1080/07294360.2012.692361
- Triandis, H. C. (1995). *Individualism and Collectivism*, Boulder: Westview Press.
- Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *Am. Psychol.* 51, 407–415. doi: 10.1037/0003-066X.51.4.407
- Triandis, H. C., and Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *J. Pers. Soc. Psychol.* 74, 118–128. doi: 10.1037/0022-3514.74.1.118
- United Nations Development Programme (UNDP). (2019). *Human Development Report 2019. Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century*. <http://report.hdr.undp.org/>
- Vliert, E. V., and Einarsen, S. (2008). Cultural construals of destructive versus constructive leadership in major world niches. *Cross Cult. Manag.* 8, 275–295. doi: 10.1177/1470595808096670
- Vliert, E. V., Matthiesen, S. B., Gangsoy, R., Landro, A. B., and Einarsen, S. (2010). Winters, summers and destructive leadership cultures in rich regions. *Cross Cult. Res.* 44, 315–340. doi: 10.1177/1069397110369093
- Wall, A. (2014). Common method variance: An experimental manipulation, Dissertation, Ruston, LA: Louisiana Tech University
- Wong, S. C., Mahmud, M. M., and Omar, F. (2015). Spiritual leadership values and organisational behaviour in Malaysian private institutions of higher education. *Pertanika J. Soc. Sci. Humanit.* 23, 495–507.
- Wu, M., Peng, Z., and Estay, C. (2018). How destructive leadership influences compulsory organizational citizenship behavior. *Chin. Manag. Stud.* 12, 453–468. doi: 10.1108/CMS-10-2017-0298
- Youngs, H. (2017). A critical exploration of collaborative and distributed leadership in higher education: developing an alternative ontology through leadership-as-practice. *J. High. Educ. Policy Manag.* 39, 140–154. doi: 10.1080/1360080X.2017.1276662
- Yukl, G. (2018). *Örgütlerde Liderlik*, (Çev Ed. Sahin Cetin ve Resul Baltacı), Ankara: Nobel Yayıncılık.
- Zargar, P., Sousan, A., and Farmanesh, P. (2019). Does trust in leader mediate the servant leadership style–job satisfaction relationship? *Manag. Sci. Lett.* 9, 2253–2268. doi: 10.5267/j.msl.2019.7.028
- Zheng, X., Yin, H., and Ve Li, Z. (2019). Exploring the relationships among instructional leadership, professional learning communities and teacher self-efficacy in China. *Educ. Manag. Administr. Leader.* 47, 843–859. doi: 10.1177/1741143218764176
- Zhou, G., Gül, R., and Tufail, M. (2022). Does servant leadership stimulate work engagement? The moderating role of trust in the leader. *Front. Psychol.* 13, 1–9. doi: 10.3389/fpsyg.2022.925732



OPEN ACCESS

EDITED BY

Muhammad Waheed Akhtar,
COMSATS University,
Pakistan

REVIEWED BY

Muhammad Aamir,
Huanggang Normal University,
China
Uzma Sarwar,
Huanggang Normal University,
China

*CORRESPONDENCE

Lin Luo
5925860@qq.com

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 09 September 2022

ACCEPTED 11 November 2022

PUBLISHED 29 November 2022

CITATION

Yuan J, Zhang L, Weng S, Yin Y, Li C and
Luo L (2022) Validation of the Chinese
version of the physical education teacher
job satisfaction scale.
Front. Psychol. 13:1040388.
doi: 10.3389/fpsyg.2022.1040388

COPYRIGHT

© 2022 Yuan, Zhang, Weng, Yin, Li and
Luo. This is an open-access article
distributed under the terms of the [Creative
Commons Attribution License \(CC BY\)](#). The
use, distribution or reproduction in other
forums is permitted, provided the original
author(s) and the copyright owner(s) are
credited and that the original publication in
this journal is cited, in accordance with
accepted academic practice. No use,
distribution or reproduction is permitted
which does not comply with these terms.

Validation of the Chinese version of the physical education teacher job satisfaction scale

Junfeng Yuan¹, Liping Zhang¹, Shaojing Weng¹, Yujia Yin²,
Chen Li² and Lin Luo^{1,3*}

¹School of Physical Education, Guizhou Normal University, Guiyang, China, ²School of Physical Education, Guiyang College, Guiyang, China, ³Basic Education Research Center, Southwest University, Chongqing, China

Purpose: The purpose of this study was to test the factor structure as well as the reliability of the Physical Education Teacher Job Satisfaction Scale (PETJSS).

Method: The scale's structural validity, internal consistency and reliability were examined using CFA and Cronbach alpha. The predictive validity of the PETJSS was examined using Teacher Self-Efficacy (TSES-11) and the personal characteristics of the subjects.

Result: The three-factor structure of the PETJSS was confirmed. The PETJSS three-dimensional model had good internal consistency/reliability. The three dimensions of the PETJSS (colleague satisfaction, parent satisfaction and student behaviour satisfaction) explained 81.206% of the overall job satisfaction. Also, the PETJSS demonstrated the expected correlation with teachers' self-efficacy, whilst the PETJSS test results were related to physical education teachers' job titles.

Conclusion: The PETJSS (Chinese version) can be considered as a valid and reliable method.

KEYWORDS

physical education teachers, job satisfaction, self-efficacy, PETJSS, validation

Introduction

Although job satisfaction is used in scientific research and in everyday life, there is no universally accepted definition of job satisfaction in academia (Ghazzawi, 2008). Researchers from different disciplines have different theoretical approaches and frameworks for the study of job satisfaction. For example, in the field of psychology, job satisfaction was defined as employees' emotional responses to their work environment (Sypniewska, 2014; Yousef, 2016). Pandey and Asthana (2017) defined optimism based on employees' desired outcomes as job satisfaction, a view that considers job satisfaction as the positive impact of job-related experiences on an individual's (Toropova et al., 2021). In sociology, on the other hand, it was seen as a different category of variable related to how each employee evaluates

and thinks about his job (Taheri et al., 2020). Job satisfaction was viewed as a result of employees' interactions and perceptions with their workplace and surroundings (Asrar-ul-Haq et al., 2017; Pongton and Suntrayuth, 2019). Although studies have approached the phenomenon of job satisfaction in different ways, researchers agree that job satisfaction is a multidimensional concept that consists of many components (Munir and Rahman, 2016; Sinha et al., 2022).

In the literature, teacher job satisfaction was found to be positively associated with teacher turnover (Hee et al., 2019), teaching attitudes (Cunningham, 2016), positive relationships with students (Banerjee et al., 2017), and with teacher anxiety, depression (Capone and Petrillo, 2020), and job stress (Troesch and Bauer, 2017) were negatively correlated. "Satisfied" teachers contributed to improved organisational performance and demonstrated high levels of job commitment (McCarthy et al., 2014). "Satisfied" teachers had higher self-efficacy, which in turn influenced students' academic performance (Tsai and Antoniou, 2021).

In teacher professional psychology, it is crucial to have a reliable instrument to measure teachers' job satisfaction (Sahito and Vaisanen, 2020). This would contribute to enhancing the management and services provided to teachers in schools, reduce teacher occupational stress (Nagar, 2012) and burnout (Skaalvik and Skaalvik, 2017), and promote teacher job satisfaction (Akomolafe and Ogunmakin, 2014). It is therefore important to develop easy-to-apply tools for school administrators and researchers to measure teacher job satisfaction.

In order to assess teacher satisfaction quantitatively, researchers have developed a number of operationalised instruments for assessing teacher job satisfaction. Scarpello and Campbell (1983) advocated the use of single-item measures to assess job satisfaction, i.e., "How satisfied are you with your job?" They argued that individual items take up less time, were more cost-effective, and could be used to monitor satisfaction on a daily basis. However, in dynamic and complex settings, researchers rarely use single-item instruments to measure teacher job satisfaction, and most questionnaires are multidimensional or multiple. For example, Lester (1987) developed the Teacher Job Satisfaction Questionnaire (TJSQ) containing nine dimensions, which are supervision, colleagues, working conditions, pay, responsibility, work (itself), advancement, security, and recognition. Hirschfeld (2000) assessed 20 aspects of teachers' job satisfaction through 100 items. Ho and Au (2006) developed the Teaching satisfaction scale (TSS), a five-item questionnaire that asks teachers about their perceptions of job satisfaction in a variety of ways. Pepe (2011) developed the Teacher Job Satisfaction Scale (TJSS-9), a three-dimensional, nine-item scale that includes colleague satisfaction, parent satisfaction and student behaviour satisfaction. Although research on teacher job satisfaction has been conducted for decades, scholars are also increasingly looking at the quality of teacher job satisfaction assessment instruments and their applicability to teachers of different disciplines (Chalghaf et al., 2019).

A review of the literature revealed that few studies had investigated Chinese primary and secondary school physical education teachers' perceptions of their job satisfaction. To our knowledge, there was no Chinese version of a psychological measurement instrument to assess the job satisfaction of Chinese primary and secondary school PE teachers. Whereas primary and secondary school physical education teachers are the main implementers of school physical activity and health promotion for students at the basic education level, the job satisfaction of primary and secondary school physical education teachers is a topic of concern in the Chinese educational environment.

Therefore, this study aimed to find a reliable teacher job satisfaction measure to assess the job satisfaction of Chinese primary and secondary school physical education teachers. The TJSS-9 developed by Pepe (2011) has been cross-culturally adapted and validated with physical education teachers in Arabic-speaking countries and has obtained good internal consistent reliability/confidence, predictive validity and sensitivity validation results. Pepe's three-dimensional theoretical model of the TJSS-9 considered the teacher-student relationship, clearly the first dimension of teacher job satisfaction, on which there is now consensus amongst researchers (Spilt et al., 2011; Addimando, 2013). A common source of job stress for teachers is their interaction with students, classroom management difficulties, which is a key factor in stress and burnout later in a teacher's career (Veldman et al., 2013). The second dimension of the TJSS-9 is also related to the social climate in the work organisation, mainly the impact of collegiality on individual job satisfaction. Luthans (2002) suggested that this factor as the main determinant of job satisfaction. Finally, in line with current thinking on the social aspects of teachers' work, the third dimension included in the model is satisfaction with parents. Extensive research has explored the importance of parental involvement on children's academic performance, suggesting that families should be fully involved in the school process (Fan and Chen, 2001; Jeynes, 2010). The TJSS-9 has achieved good measurement invariance in international cohorts from Netherlands, Russia, Hong Kong, China, the United States, Italy and Palestine. Chalghaf et al. (2019) applied the TJSS-9 to physical education teachers in Arabic departments and achieved good measurement invariance. The TJSS-9 has previously been validated well in a Hong Kong, China sample. However, as there are many differences between the education systems and management models in Mainland China and Hong Kong, the applicability of the TJSS-9 to the assessment of job satisfaction of physical education teachers in primary and secondary schools in China needs to be tested with an empirical sample. Therefore, the main objective of this study was to validate the psychometric properties of the Chinese version of the Physical Education Teacher Job Satisfaction Scale (PETJSS) on the basis of the three-dimensional theoretical model of the TJSS-9. The main objective of this study was to validate the psychometric properties of the Chinese version of the PETJSS and to determine the factor structure of the PETJSS and its measurement invariance in a

sample of Chinese primary and secondary school physical education teachers.

Materials and methods

Participant

The sample consisted of 764 physical education teachers from primary and secondary schools in China. 64.92% were male and 35.08% were female. 49.74% were primary school physical education teachers, 30.37% were middle school physical education teachers, 15.71% were high school physical education teachers and 4.19% were physical education teachers from other educational institutions. Age: 46.07% were under 30 years old, 31.94% were 31–40 years old, 19.37% were 41–50 years old and 2.62% were 51–60 years old. Education level: high school/high school/secondary school and below 0.52%, college and bachelor's degree 94.24%, master's degree and above 5.24%. 33.51% in rural, 66.49% in urban. Years of teaching experience: 44.50% for <5 years, 24.61% for 6–10 years, 10.47% for 11–15 years, 3.14% for 16–20 years, 13.09% for 21–25 years, 3.14% for 26–30 years, and 1.05% for 30 years and above. All subjects signed an informed consent form and volunteered to participate in the survey. Questionnaires were administered electronically to all participants. Questionnaires were completed anonymously. The sample was collected from July 3, 2022 to October 26, 2022.

Ethical approval for the research protocol of this survey was obtained from the Academic Committee of the School of Physical Education, Guizhou Normal University (No. 20220630). An electronic informed consent form was set up on the first page of the questionnaire for this study. Teachers were made widely aware of the purpose and procedures of the study and were informed that the results would be made available to them upon completion of the study in summary form only, with no possibility of tracing individual teacher scores, thus ensuring anonymity and protecting the privacy of each participant. The survey was conducted in accordance with the ethical principles of the 1964 Declaration of Helsinki and its subsequent amendments.

Instrument

The Teacher Job Satisfaction Scale (TJSS-9; [Pepe, 2011](#)) is a questionnaire designed to measure teacher job satisfaction and was developed specifically for use in educational settings. The TJSS-9 consists of nine items in three dimensions. The three dimensions are colleague satisfaction (three items), parent satisfaction (three items) and student behaviour satisfaction (three items). The items are coded using a five-point Likert scale for response making. The original version of the TJSS-9 was written in English. The TJSS-9 is a modified and simplified version of the initial six dimensions of 35 items. The TJSS-9 has a more robust, reliable and compact measurement model.

The Chinese version of PETJSS was completed in three steps. Firstly, two authors (W.S.J and Z.L.P) translated the English version of the TJSS-9 into Chinese and referred to the study by [Chalghaf et al. \(2019\)](#). Adding the definition of the environment of physical education work to the description of the work environment. Secondly, the linguistic expressions were discussed and revised collectively by two linguistics professors. Third, a pre-reading group of 10 physical education teachers was recruited to pre-reading the Chinese version of the PETJSS in order to revise the way the language was described that was deemed inappropriate. The PETJSS has a total of nine items, one dimension for every three items. The answers to the PETJSS items were coded using a five-point Likert scale. The English and Chinese descriptions of the Chinese version of the PETJSS are shown in [Table 1](#).

TABLE 1 English and Chinese versions of PETJSS.

Code	Item	项目
A1	The quality of your relationships with your colleagues of sports and physical education at work	您在体育教育工作中与同事的关系?
A2	The extent to which your colleagues of sports and physical education encourage and support you in your work	您在体育教育工作中获得同事鼓励和支持的程度?
A3	Your overall satisfaction with your colleagues of sports and physical education	您对体育教育工作中同事的满意程度?
A4	The extent of students' self-discipline behaviour in the sports and physical education class	您的体育课上学生自律吗?
A5	Your satisfaction with the behaviour of students in the sports and physical education class	您对体育课上学生行为的满意程度
A6	The overall level of satisfaction with students' discipline in sports and physical education class	您对体育课上学生体育成绩的满意程度?
A7	The degree of interest shown by parents towards their children being taught sports and physical education	您的学生家长对孩子学习体育的兴趣程度?
A8	The extent to which parents support the school and its programs in sports and physical education	您的学生家长对学校体育教育的支持程度?
A9	Your overall level of satisfaction with parents where you work	您对学生家长的总体满意程度?

The Teacher Self-Efficacy Questionnaire (TSES-11), was designed to assess teachers' self-efficacy in educational work settings (Kalkan, 2020). It was used as a means of cross-validating PETJSS scores in this study for the following main reasons: (a) Teacher self-efficacy is again a high predictor of teacher job satisfaction (Caprara et al., 2006; Kalkan, 2020). (b) The Chinese version of the questionnaire has been well used in China (Ma et al., 2019), with satisfactory results in terms of score reliability and normality of the distribution. The Cronbach alpha values and confidence intervals for the TSES-11 questionnaire scores were: $\alpha = 0.801$, 95% CI [0.783, 0.809].

Statistical analysis

Stata17 and AMOS 23.0 software were used for statistical analysis. Descriptive statistics were used to analyse the demographic characteristics of the sample, such as frequencies and percentages for categorical variables, and means and standard deviations for continuous-type variables. Assumptions related to factor analysis (e.g., normality, etc.) were checked for all variables between analyses to avoid cases of overly skewed distributions. Outliers were identified by $p < 0.01$. As there is no single statistical significance test to determine the correct model for a given data sample, the study recommended that the test consider the goodness of fit of multiple indicators (Lance et al., 2016). In line with this recommendation, the indicators of model fit chosen for this study were the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Standardised Root Mean Square Residual (SRMR) to test (Bentler and Bonett, 1980). To obtain evidence of discriminant validity for the factors that comprise the instrument, this study used validated factor analysis CFA (estimation method: maximum likelihood) to assess three different models for the entire sample. The first (M1), was to build a robust baseline PETJSS model for further analysis. M1 loaded all items onto a single one-dimensional factor. Then, the fit of the two-dimensional model (M2) and the three-dimensional model (M3) was continued to be evaluated to compare the fit strengths and weaknesses of the different models through the fit metrics. To avoid the possibility of overfitting, we applied exploratory structural equation modelling ESEM for a mixed approach of EFA and CFA to assess the factorial validity of the selected optimal models (Satorra and Bentler, 2001; Li, 2016). The results of CFA and ESEM were interpreted according to the following commonly used model fit cut-off criteria: $\chi^2/df \leq 3$, CFI > 0.90 , TLI > 0.90 , RMSEA < 0.10 and SRMR < 0.08 . A good criterion for CFA and ESEM is that each latent variable factor should be > 0.5 , ideally > 0.7 (Hair, 2009). For discriminant validity, a correlation coefficient of < 0.85 between both factors was used as a criterion for validity (Kline, 2015). The internal consistency of the scale was tested using Cronbach's α coefficient, which was > 0.7 (Viladrich et al., 2017). Scale items were tested for measurement invariance based on published guidelines for building model measurement invariance (Pepe et al., 2017). After determining the

validity and reliability of the PETJSS, TSES-11 scores were used to analyse its correlation with job satisfaction scores. Statistically significant correlations between PETJSS scores and TSES-11 scores imply concurrent validity.

Results

Preliminary analysis

Preliminary analysis showed that none of the items had missing, discrete or invalid values. Table 2 shows item correlations, means, standard deviations, skewness and kurtosis. The correlation matrix for all items showed that all items had statistically significant correlations ($p < 0.01$). The mean PETJSS total score for the nine items was 33.587 (SD = 5.525). The skewness and kurtosis results for the nine items of the PETJSS (Table 3) suggest that the normality assumption is invalid (Kline, 2015). Therefore, we believe that the maximum likelihood estimator (MLR) is appropriate for the CFA and ESEM (Tabachnick et al., 2007) calculations.

Internal consistency

Table 4 lists the key indicators of internal consistency for the PETJSS. Corrected item total correlations (CITC) ranged from 0.520 to 0.813, indicating that all nine items were suitable for scale construction. The Cronbach alpha coefficient for the PETJSS was 0.915, indicating that the scale is reliable (Tabachnick et al., 2007). The alpha coefficients for the items that have been removed are all above 0.80, indicating that the data are of high reliability quality and can be used for further analysis. The results of the other Cronbach alpha coefficient analyses are also presented in Table 4. The results indicated that removing an item had no significant effect on the Cronbach alpha coefficient.

Factor validity

Use KMO to check for bias correlation between variables. The closer the KMO value is to 1, the stronger the biased correlation between the variables and the better the factor analysis will be. The KMO of the questionnaire was 0.892, indicating a strong bias correlation between variables. The Bartlett's sphericity test was used to determine whether the correlation matrix was a unitary array.

The data passed the Bartlett's sphericity test ($p < 0.05$). The results of the KMO and Bartlett's sphericity tests indicated that the questionnaire was suitable for further factorial validation. The CFA results for the initial measurement model (M1) reported poor factor validity. The one-dimensional structure of the PETJSS, whilst meeting the criterion of all factor loadings being > 0.4 , failed to meet most of the criteria for a good model. A two-dimensional

TABLE 2 Pearson correlation of PETJSS items.

Code	Mean	SD	A1	A2	A3	A4	A5	A6	A7	A8
A1	4.119	0.886								
A2	3.913	0.886	0.695**							
A3	3.956	0.747	0.607**	0.755**						
A4	3.438	0.758	0.325**	0.507**	0.545**					
A5	3.644	0.721	0.431**	0.620**	0.636**	0.701**				
A6	3.594	0.746	0.368**	0.469**	0.600**	0.572**	0.687**			
A7	3.656	0.832	0.226**	0.377**	0.441**	0.529**	0.644**	0.564**		
A8	3.663	0.784	0.330**	0.464**	0.544**	0.546**	0.654**	0.624**	0.785**	
A9	3.606	0.778	0.333**	0.488**	0.609**	0.561**	0.645**	0.644**	0.664**	0.781**

** $p < 0.01$.

TABLE 3 Normality test results for PETJSS items.

Code	Mean	SD	Skewness	Kurtosis	Kolmogorov–Smirnov Test	
					D-value	Value of p
A1	4.119	0.886	−1.390	2.890	0.278	<0.001
A2	3.913	0.886	−0.487	−0.452	0.252	<0.001
A3	3.956	0.747	−0.204	−0.504	0.261	<0.001
A4	3.438	0.758	0.302	−0.229	0.293	<0.001
A5	3.644	0.721	0.248	−0.491	0.264	<0.001
A6	3.594	0.746	0.271	−0.456	0.274	<0.001
A7	3.656	0.832	0.056	−0.338	0.254	<0.001
A8	3.663	0.784	0.121	−0.165	0.263	<0.001
A9	3.606	0.778	0.087	−0.029	0.263	<0.001

TABLE 4 Corrected item correlation statistics for PETJSS items.

Code	Correction item total correlation (CITC)	Item deleted alpha coefficient	Cronbach α
A1	0.520	0.920	0.915
A2	0.702	0.906	
A3	0.769	0.901	
A4	0.679	0.907	
A5	0.813	0.899	
A6	0.721	0.905	
A7	0.665	0.908	
A8	0.758	0.902	
A9	0.757	0.902	

TABLE 5 Fitting indicators for the PETJSS model.

	χ^2/df	CFI	TLI	RMSEA	SRMR
M1	8.195	0.807	0.743	0.213	0.093
M2	4.243	0.916	0.884	0.143	0.066
M3	2.556	0.959	0.970	0.089	0.052

model was then fitted to the PETJSS on its basis (M2). In M2, A1–A3 were classified as one dimension and A4–A9 as the other in terms of factor loadings. The fit metrics for M2 showed a decrease in χ^2/df , an increase in CFI and TLI, and a decrease in RMSEA and SRMR. Although the fit metrics for M2 improved to some extent, they still fell short of the recommended range and the factor loadings for each of the items in M2 were above 0.4. The fitting of the three-dimensional model (M3) was then continued on the basis of M2 with factor loadings based on the three-dimensional divisions. In M3, A1–A3 were classified as one dimension, A4–A6 as one dimension and A7–A9 as one dimension in terms of factor loadings. Compared to M2, the fit indices for M3 showed a decrease in χ^2/df , reaching the criterion of $\chi^2/df < 3$. CFI and TLI increased, reaching the criterion of CFI, TLI > 0.9. RMSEA and SRMR decreased, reaching the criterion of RMSEA < 0.1 and SRMR < 0.08. M3 showed a satisfactory fit index, indicating that it should be accepted. The three dimensions of M3 (colleague satisfaction, parent satisfaction and student behaviour satisfaction) were consistent with the three dimensional divisions of the TJSS-9, explaining 81.206% of the overall job satisfaction of primary and secondary PE teachers. The fit indices of the PETJSS model are shown in Table 5. The relationships between the items and satisfaction dimensions of M3 are reported in Figure 1.

Predictive validity

Table 6 presents the relationship between PETJSS scores and TSES-11 scores. Pearson correlation analysis revealed that TSES-11 scores were positively correlated ($p < 0.01$) with scores on all three dimensions of the PETJSS (colleague satisfaction, student behaviour satisfaction and parent satisfaction). These correlations are consistent with other previous studies exploring the relationship between job satisfaction and teacher self-efficacy (Caprara et al., 2006).

Table 7 presents the results of the multiple linear regression of PETJSS scores with physical education teachers' gender, age, occupation, residence, years of teaching experience, educational experience and job title. The results showed that PETJSS scores were positively correlated with teachers' job titles only ($p < 0.05$).

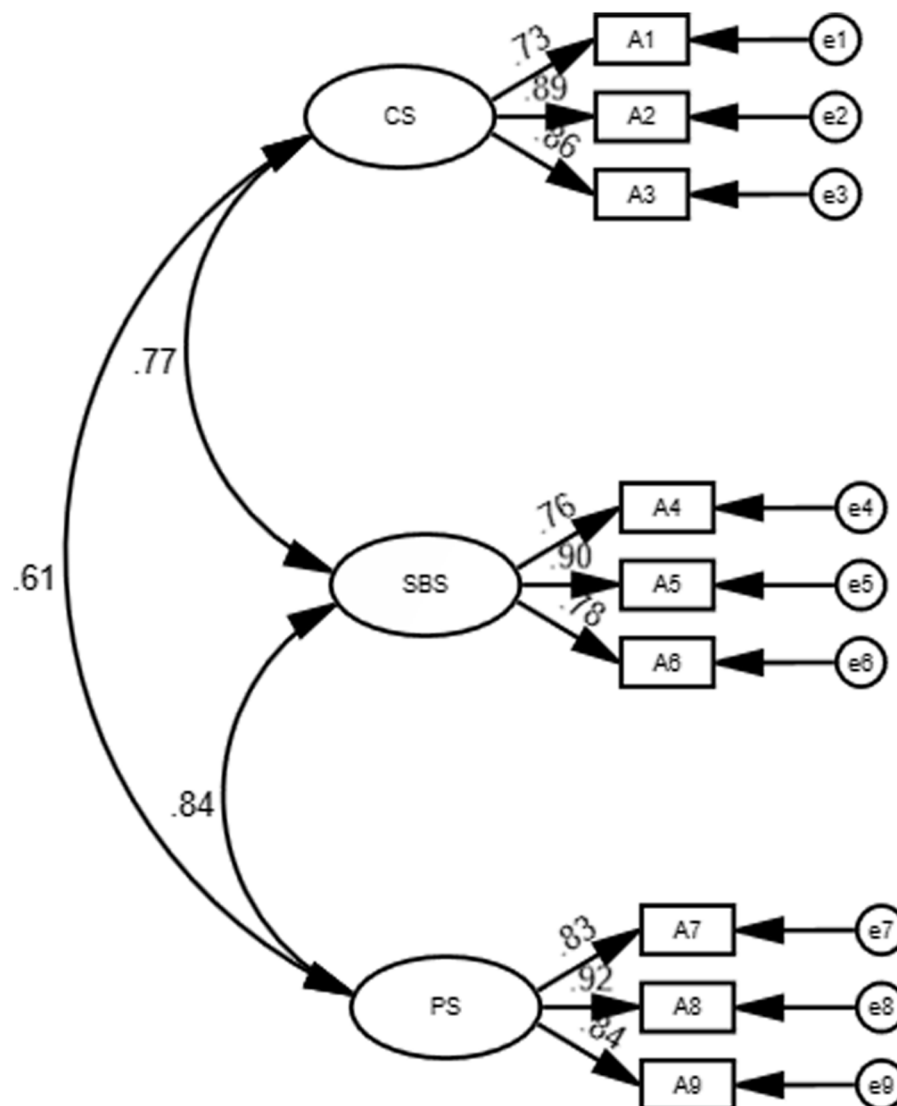


FIGURE 1
PETJSSI three-dimensional model. CS, Colleague Satisfaction; SBS, Student Behaviour Satisfaction; PS, Parent Satisfaction.

Discussion

The purpose of this study was to validate the validity of the Teacher Job Satisfaction Scale (TJSS-9) amongst Chinese primary and secondary school physical education teachers. The PETJSS was translated from Pepe's TJSS-9 three-dimensional model and referenced from Chalhaf et al. (2019) by adding physical education work to the description of the work environment in the definition of environment. The findings suggest that the three-dimensional structure of the PETJSS was validated in a sample of Chinese primary and secondary school physical education teachers. Both ESEM and CFA were used in this study. The ESEM factors loaded well and the CFA fit indices were satisfactory. After validation, the three-dimensional model was found to have good internal consistency/reliability. The three dimensions of the PETJSS

(colleague satisfaction, parent satisfaction and student behaviour satisfaction) explained 81.206% of the overall job satisfaction of primary and secondary school physical education teachers.

To our knowledge, no study to date has used a sample of Chinese primary and secondary school physical education teachers to validate the adaptation of the TJSS-9 in a Mandarin Chinese context. This is despite the fact that the TJSS-9 has been previously validated for measurement invariance in six countries/regions (Netherlands, United States, Russia, Hong Kong, China, Italy and Palestine) with 2,819 teachers. The validation results showed that the TJSS-9 demonstrated strong psychometric properties, with no significant differences between groups in terms of measurement invariance (Pepe et al., 2017).

The results of this study showed that job satisfaction was only related to the job title of primary and secondary school physical

TABLE 6 Pearson correlation between PETJSS scores and TSES-11 score.

	PS	SBS	CS
TSES-11 score	0.290**	0.340**	0.270**

** $p < 0.01$.

education teachers. That is, job title was a significant independent predictor of job satisfaction amongst primary and secondary school physical education teachers in China. [Sahito and Vaisanen's \(2020\)](#) study found that job title affects teacher satisfaction in developing countries. [Tolliver's \(2018\)](#) study reported that job title helps to increase primary school teachers' job satisfaction. [Aytac's \(2020\)](#) study identified that job title significantly affects job satisfaction of teachers in both public and public schools. Some previous studies have found that there may also be gender differences in teachers' job satisfaction. In [Topchyan and Woehler's \(2021\)](#) study, female teachers had slightly higher job satisfaction than males. In addition, other scholars ([Sak, 2018](#); [Magee, 2013](#)) suggested that gender may have a direct or indirect relationship with job satisfaction. However, the results of [Oshagbemi's \(2000\)](#) study supported that gender does not affect teachers' job satisfaction. The study by [Lüleci and Çoruk \(2018\)](#) reported that age did not affect teachers' job satisfaction. This study also did not find a significant effect of age on job satisfaction of physical education teachers. Whilst [Crisci et al.'s \(2019\)](#) study reported that age affects teachers' job satisfaction.

This study did not find that the occupation of the teacher had an effect on the job satisfaction of physical education teachers. In contrast, some previous studies found significant differences in the levels of job satisfaction amongst primary, secondary or high school teachers. For example, [Demirtas \(2010\)](#) reported that primary school teachers had higher job satisfaction than secondary school or university teachers. [Buyukgoze-Kavas et al. \(2014\)](#) reported higher job satisfaction amongst Turkish teachers in primary and secondary schools than amongst secondary school teachers. [Indhumathi \(2011\)](#) conducted a study amongst teachers in a secondary school and there were significant differences in job satisfaction amongst teachers depending on their grade level. In addition, some studies had found that teachers' self-efficacy was a significant predictor of teachers' job satisfaction. For example, [Collie et al. \(2012\)](#) reported that teachers' job satisfaction was directly related to teaching self-efficacy. This was consistent with the findings of this study. From a methodological perspective, based on the experience of developing the Chinese version of the PETJSS in this study, it is possible to derive overall and specific dimensions of PE teachers' job satisfaction, which will help in assessing and understanding the constructs studied. The short duration of the Chinese version of the PETJSS assessment, the low burden of questions and the ease of interpretation of the scores encourage that the PETJSS can be applied to different educational settings at different stages of basic education in China. The Chinese version of the PETJSS can therefore be categorised as a short and user-friendly measure of job satisfaction, designed to make data collection as easy as possible whilst avoiding overburdening individuals working in dynamic organisations (e.g., schools).

TABLE 7 Multiple linear regression results of PETJSS scores and personal characteristics of physical education teachers.

	Non-standardised coefficient		Standardised coefficient	<i>t</i>	Value of <i>p</i>
	<i>B</i>	Standard error	Beta		
Gender	−1.014	0.957	−0.087	−1.060	0.291
Age	0.155	0.901	0.024	0.172	0.864
Occupation	0.787	0.598	0.115	1.318	0.190
Education level	1.800	1.850	0.080	0.973	0.332
Job title	2.763	1.197	0.219	2.309	0.022*
Years of teaching experience	−0.476	0.475	−0.143	−1.002	0.318
Residence	−0.106	0.935	−0.009	−0.113	0.910

* $p < 0.05$.

This study also had limitations that are worth discussing. Firstly, the research design is cross-sectional. Therefore, a further interesting development would be a longitudinal follow-up of the patterns of job satisfaction across different groups of teachers. Secondly, the sample size for this study was relatively small, although it met the sample size requirement of 5–7 times the scale question size. Thirdly, the sample size of rural teachers in our sample was small. Although we attempted to compensate for sampling error by increasing the sample size, the scope for generalising our findings to a broader group of teachers remains limited. A final limitation comes from the TJSS-9 itself, a measurement model that only includes satisfaction with social relationships (colleagues, parents and students) and does not include other factors that influence job satisfaction, such as organisational culture, work climate and pay. Therefore, it is also important to refine and add to the Chinese version of the PETJSS in the future in order to obtain a complete assessment of job satisfaction amongst physical education teachers.

Conclusion

The Chinese version of the Physical Education Teacher Job Satisfaction Scale (PETJSS) is a measure of job satisfaction for physical education teachers. The scale is based on the TJSS-9 three-factor model, which analyses colleague satisfaction, parent satisfaction and student behaviour satisfaction. This study supports the sub-dimensional model of the PETJSS and demonstrates measurement invariance amongst Chinese primary and secondary school physical education teachers. In addition PETJSS demonstrated the expected correlation with the reference instrument. In conclusion, the Chinese version of the PETJSS is a valid and reliable measure.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The ethical review of this study was reviewed and approved by the Academic Committee of the School of Physical Education, Guizhou Normal University (No. 20220630). Patients/participants provided their written informed consent to participate in this study.

Author contributions

JY and LL were responsible for design, data statistics and text writing. LZ and SW were responsible for literature search and scale translation. YY and CL were responsible for data collection. LL was responsible for final reading of the manuscript. All authors contributed to the article and approved the submitted version.

Funding

The research was funded by the Guizhou Provincial Department of Education Youth Growth Project Fund (Qianjiao

He KY (2021) 291), the Guizhou Province Education Planning Fund Project (2021A058) and the Guizhou Normal University Curriculum Thinking and Government Teaching Reform Project (2022(60).

Acknowledgments

We would like to thank all the subjects and volunteers who participated in this study.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Addimando, L. (2013). I comportamenti controproducenti dei genitori a scuola: un'analisi sulla soddisfazione e l'autonomia lavorativa degli insegnanti. I comportamenti controproducenti dei genitori a scuola: un'analisi sulla soddisfazione e l'autonomia lavorativa degli insegnanti, 33–51. Available at: <https://www.torrossa.com/en/resources/an/2629167>
- Akomolafe, M. J., and Ogunmakin, A. O. (2014). Job satisfaction among secondary school teachers: emotional intelligence, occupational stress and self-efficacy as predictors. *J. Educ. Social Res.* 16, 49–56. doi: 10.1080/0144341960160104
- Asrar-ul-Haq, M., Kuchinke, K. P., and Iqbal, A. (2017). The relationship between corporate social responsibility, job satisfaction, and organizational commitment: case of Pakistani higher education. *J. Clean. Prod.* 142, 2352–2363. doi: 10.1016/j.jclepro.2016.11.040
- Aytac, T. (2020). The effects of working in public or private schools on job satisfaction of teachers in Turkey: a meta-analysis study. *Eurasian J. Educ. Res.* 20, 1–22. doi: 10.14689/ejer.2020.89.9
- Banerjee, N., Stearns, E., Moller, S., and Mickelson, R. A. (2017). Teacher job satisfaction and student achievement: the roles of teacher professional community and teacher collaboration in schools. *Am. J. Educ.* 123, 203–241. doi: 10.1086/689932
- Bentler, P. M., and Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychol. Bulletin* 88:588. doi: 10.1037/0033-2909.88.3.588
- Buyukgoze-Kavas, A., Duffy, R. D., Güneri, O. Y., and Autin, K. L. (2014). Job satisfaction among Turkish teachers: exploring differences by school level. *J. Career Assess.* 22, 261–273. doi: 10.1177/10690727134939
- Capone, V., and Petrillo, G. (2020). Mental health in teachers: relationships with job satisfaction, efficacy beliefs, burnout and depression. *Curr. Psychol.* 39, 1757–1766. doi: 10.1007/s12144-018-9878-7
- Caprara, G. V., Barbaranelli, C., Steca, P., and Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: a study at the school level. *J. Sch. Psychol.* 44, 473–490. doi: 10.1016/j.jsp.2006.09.001
- Chalhaf, N., Guelmami, N., Re, T. S., Maldonado Briegas, J. J., Garbarino, S., Azaiez, F., et al. (2019). Trans-cultural adaptation and validation of the "teacher job satisfaction scale" in Arabic language among sports and physical education teachers
- He KY (2021) 291), the Guizhou Province Education Planning Fund Project (2021A058) and the Guizhou Normal University Curriculum Thinking and Government Teaching Reform Project (2022(60).
- (“teacher of physical education job satisfaction inventory”—TPEJSI): insights for sports, educational, and occupational psychology. *Front. Psychol.* 10:2234. doi: 10.3389/fpsyg.2019.02234
- Collie, R. J., Shapka, J. D., and Perry, N. E. (2012). School climate and social-emotional learning: predicting teacher stress, job satisfaction, and teaching efficacy. *J. Educ. Psychol.* 104, 1189–1204. doi: 10.1037/a0029356
- Crisci, A., Sepe, E., and Malafronte, P. (2019). What influences teachers' job satisfaction and how to improve, develop and reorganize the school activities associated with them. *Qual. Quant.* 53, 2403–2419. doi: 10.1007/s11135-018-0749-y
- Cunningham, S. L. (2016). *A Quantitative Analysis of the Factors Associated with Teacher Attitudes and Perceptions Towards Job Satisfaction. Doctoral dissertation.* New Jersey, USA: Seton Hall University ProQuest Dissertations Publishing. Available at: <https://www.proquest.com/openview/c02c6388adfb0a707e75401b1541c60b/1?pq-origsite=gscholar&cbl=18750>
- Demirtas, Z. (2010). Teachers' job satisfaction levels. *Procedia Soc. Behav. Sci.* 9, 1069–1073. doi: 10.1016/j.sbspro.2010.12.287
- Fan, X., and Chen, M. (2001). Parental involvement and students' academic achievement: a meta-analysis. *Educ. Psychol. Rev.* 13, 1–22. doi: 10.1023/A:1009048817385
- Ghazzawi, I. (2008). Job satisfaction antecedents and consequences: a new conceptual framework and research agenda. *Bus. Rev.* 11, 1–10.
- Hair, J. F. (2009). Multivariate Data Analysis. Available at: <https://digitalcommons.kennesaw.edu/facpubs/2925/>
- Hee, O. C., Shukor, M. F. A., Ping, L. L., Kowang, T. O., and Fei, G. C. (2019). Factors influencing teacher job satisfaction in Malaysia. *Int. J. Acad. Res. Bus. Social Sci.* 9, 1166–1176. doi: 10.6007/IJARBS/v9-i1/5628
- Hirschfeld, R. R. (2000). Does revising the intrinsic and extrinsic subscales of the Minnesota satisfaction questionnaire short form make a difference? *Educ. Psychol. Meas.* 60, 255–270. doi: 10.1177/00131640021970493
- Ho, C. L., and Au, W. T. (2006). Teaching satisfaction scale: measuring job satisfaction of teachers. *Educ. Psychol. Meas.* 66, 172–185. doi: 10.1177/0013164405278573

- Indhumathi, S. (2011). *Job Satisfaction, Occupational and Organizational Commitment and Performance of Teachers at the Secondary Level. Published Master's Thesis*. Tamilnadu Teachers Education University, Chennai, India.
- Jeynes, W. H. (2010). The salience of the subtle aspects of parental involvement and encouraging that involvement: implications for school-based programs. *Teach. Coll. Rec.* 112, 747–774. doi: 10.1177/016146811011200311
- Kalkan, F. (2020). The relationship between Teachers' self-efficacy beliefs and job satisfaction levels: a meta-analysis study. *Educ. Sci./Egitim ve Bilim* 45, 317–343. doi: 10.15390/EB.2020.8549
- Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. New York, USA: Guilford Publications.
- Lance, C. E., Beck, S. S., Fan, Y., and Carter, N. T. (2016). A taxonomy of path-related goodness-of-fit indices and recommended criterion values. *Psychol. Methods* 21, 388–404. doi: 10.1037/met0000068
- Lester, P. E. (1987). Development and factor analysis of the teacher job satisfaction questionnaire (TJSQ). *Educ. Psychol. Meas.* 47, 223–233. doi: 10.1177/0013164487471031
- Li, C. H. (2016). Confirmatory factor analysis with ordinal data: comparing robust maximum likelihood and diagonally weighted least squares. *Behav. Res. Methods* 48, 936–949. doi: 10.3758/s13428-015-0619-7
- Lüleci, C., and Çoruk, A. (2018). The relationship between morale and job satisfaction of teachers in elementary and secondary schools. *Educ. Policy Anal. Strategic Res.* 13, 54–70. doi: 10.29329/epasr.2018.137.3
- Luthans, F. (2002). The need for and meaning of positive organizational behavior. *J. Organizational Behav. Int. J. Ind. Occup. Organizational Psychol. Behav.* 23, 695–706. doi: 10.1002/job.165
- Ma, K., Trevethan, R., and Lu, S. (2019). Measuring teacher sense of efficacy: insights and recommendations concerning scale design and data analysis from research with preservice and inservice teachers in China. *Front. Educ. China* 14, 612–686. doi: 10.1007/s11516-019-0029-1
- Magee, W. (2013). Anxiety, demoralization, and the gender difference in job satisfaction. *Sex Roles* 69, 308–322. doi: 10.1007/s11199-013-0297-9
- McCarthy, C. J., Lambert, R. G., and Reiser, J. (2014). Vocational concerns of elementary teachers: stress, job satisfaction, and occupational commitment. *J. Employ. Couns.* 51, 59–74. doi: 10.1002/j.2161-1920.2014.00042.x
- Munir, R. I. S., and Rahman, R. A. (2016). Determining dimensions of job satisfaction using factor analysis. *Procedia Econ. Finance* 37, 488–496. doi: 10.1016/S2212-5671(16)30156-3
- Nagar, K. (2012). Organizational commitment and job satisfaction among teachers during times of burnout. *Vikalpa* 37, 43–60. doi: 10.1177/0256090920120205
- Oshagbemi, T. (2000). Gender differences in the job satisfaction of university teachers. *Women Manag. Rev.* 15, 331–343. doi: 10.1108/09649420010378133
- Pandey, P., and Asthana, P. K. (2017). An empirical study of factors influencing job satisfaction. *Indian J. Commerce Manage. Stud.* 8, 96–105. Available at: <https://www.ijcms.in/index.php/ijcms/article/view/175>
- Pepe, A. (2011). "Measuring teacher job satisfaction: a quantitative empirical tool," in *8th International Conference of European Research Network about Parents in Education, Milano, Italy*.
- Pepe, A., Addimando, L., and Veronese, G. (2017). Measuring teacher job satisfaction: assessing invariance in the teacher job satisfaction scale (TJSS) across six countries. *Eur. J. Psychol.* 13, 396–416. doi: 10.5964/ejop.v13i3.1389
- Pongton, P., and Suntrayuth, S. (2019). Communication satisfaction, employee engagement, job satisfaction, and job performance in higher education institutions. *ABAC J.* 39, 90–110. Available at: <http://www.assumptionjournal.au.edu/index.php/abacjournal/article/view/4204>
- Sahito, Z., and Vaisanen, P. (2020). A literature review on teachers' job satisfaction in developing countries: recommendations and solutions for the enhancement of the job. *Rev. Educ.* 8, 3–34. doi: 10.1002/rev3.3159
- Sak, R. (2018). Gender differences in Turkish early childhood teachers' job satisfaction, job burnout and organizational cynicism. *Early Childhood Educ. J.* 46, 643–653. doi: 10.1007/s10643-018-0895-9
- Satorra, A., and Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika* 66, 507–514. doi: 10.1007/BF02296192
- Scarpello, V., and Campbell, J. P. (1983). Job satisfaction: are all the parts there? *Pers. Psychol.* 36, 577–600. doi: 10.1111/j.1744-6570.1983.tb02236.x
- Sinha, C., Kamra, N. B., Duggal, T., Sinha, R., Sujatha, R., and Mutsuddi, I. (2022). Exploring the unison of socio-technical assemblage: impact of employee job behavior on job satisfaction. *Int. J. Sociotechnology Knowledge Devel.* 14, 55–72. doi: 10.4018/IJSKD.2022040104
- Skaalvik, E. M., and Skaalvik, S. (2017). Still motivated to teach? A study of school context variables, stress and job satisfaction among teachers in senior high school. *Soc. Psychol. Educ.* 20, 15–37. doi: 10.1007/s11218-016-9363-9
- Spilt, J. L., Koomen, H. M., and Thijs, J. T. (2011). Teacher wellbeing: the importance of teacher–student relationships. *Educ. Psychol. Rev.* 23, 457–477. doi: 10.1007/s10648-011-9170-y
- Sypniewska, B. (2014). Evaluation of factors influencing job satisfaction. *Contemp. Econ.* 8, 57–72. doi: 10.5709/ce.1897-9254.131
- Tabachnick, B. G., Fidell, L. S., and Ullman, J. B. (2007). *Using Multivariate Statistics* 5, 481–498. Boston, MA: Pearson.
- Taheri, R. H., Miah, M. S., and Kamaruzzaman, M. (2020). Impact of working environment on job satisfaction. *Eur. J. Bus. Manage. Res.* 5, 1–5. doi: 10.24018/ejbmr.2020.5.6.643
- Tolliver, J. L. (2018). *Factors that Contribute to Job Satisfaction and Teacher Retention in Title I Versus Non-title I Elementary Schools*. Virginia, USA: Liberty University.
- Topchyan, R., and Woehler, C. (2021). Do teacher status, gender, and years of teaching experience impact job satisfaction and work engagement? *Educ. Urban Soc.* 53, 119–145. doi: 10.1177/0013124520926
- Toropova, A., Myrberg, E., and Johansson, S. (2021). Teacher job satisfaction: the importance of school working conditions and teacher characteristics. *Educ. Rev.* 73, 71–97. doi: 10.1080/00131911.2019.1705247
- Troesch, L. M., and Bauer, C. E. (2017). Second career teachers: job satisfaction, job stress, and the role of self-efficacy. *Teach. Teach. Educ.* 67, 389–398. doi: 10.1016/j.tate.2017.07.006
- Tsai, P., and Antoniou, P. (2021). Teacher job satisfaction in Taiwan: making the connections with teacher attitudes, teacher self-efficacy and student achievement. *Int. J. Educ. Manag.* 35, 1016–1029. doi: 10.1108/IJEM-02-2020-0114
- Veldman, I., Van Tartwijk, J., Brekelmans, M., and Wubbels, T. (2013). Job satisfaction and teacher–student relationships across the teaching career: four case studies. *Teach. Teach. Educ.* 32, 55–65. doi: 10.1016/j.tate.2013.01.005
- Viladrich, C., Angulo-Brunet, A., and Doval, E. (2017). A journey around alpha and omega to estimate internal consistency reliability. *Ann. Psychol.* 33, 755–782. doi: 10.6018/analesps.33.3.268401
- Yousef, D. A. (2016). Organizational commitment, job satisfaction and attitudes toward organizational change: a study in the local government. *Int. J. Public Adm.* 40, 77–88. doi: 10.1080/01900692.2015



OPEN ACCESS

EDITED BY

Ahsan Akbar,
South China University of Technology,
China

REVIEWED BY

Zuheir N. Khlaif,
An-Najah National University,
Palestine
Marcela Sokolova,
University of Hradec Králové, Czechia

*CORRESPONDENCE

Pouya Zargar
p.zargar@hotmail.com

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 09 October 2022

ACCEPTED 30 November 2022

PUBLISHED 21 December 2022

CITATION

Horoub I and Zargar P (2022) Empowering
leadership and job satisfaction of academic
staff in Palestinian universities: Implications
of leader-member exchange and trust in
leader.
Front. Psychol. 13:1065545.
doi: 10.3389/fpsyg.2022.1065545

COPYRIGHT

© 2022 Horoub and Zargar. This is an
open-access article distributed under the
terms of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that
the original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

Empowering leadership and job satisfaction of academic staff in Palestinian universities: Implications of leader-member exchange and trust in leader

Ibrahim Horoub^{1,2} and Pouya Zargar^{1,2*}

¹Department of Communication, Girne American University, Kyrenia, Cyprus, ²Department of Business, Girne American University, Kyrenia, Cyprus

Introduction: In the aftermath of global pandemic of COVID-19, many sectors faced severe challenges to maintain security, health (psychological, and physical), and steer through the crisis by supporting the society.

Methods: Through a quantitative approach a total of 250 surveys were distributed after a pilot test. Specifically, this research gathers data from 178 (71.2% response rate) university teachers from different universities across Palestine via surveys that address the role of empowering leaders on job satisfaction among teachers. The proposed model of the re-search was analyzed using Smart-PLS and PLS-SEM technique.

Discussion and Results: The academic sector was disrupted and faced extreme changes during the pandemic, rendering teachers vulnerable and thus, role of leaders more crucial. Building on job demand-resources model, and social exchange theory, the current study examines the moderating effect of leader-member exchange (LMX) for increasing job satisfaction that can lead to enhanced overall wellbeing in the academic setting. Additionally, the mediating role of trust in leader is focused as a vital psychological element. While the results show a significantly positive effect on job satisfaction in the presence of empowering leaders, the moderating role of LMX alongside mediating impact of trust are observed. This implies that empowering leaders are highly influential in enhancing workplace for university teachers in the post-pandemic era.

KEYWORDS

empowering leadership, trust in leader, university teachers, job satisfaction, leader-member exchange, educational psychology

Introduction

The education sector was severely impacted by the COVID-19 pandemic as its traditional form was changed to online classrooms. In this regard, various scholars have reported that processes of learning, interactions, and cognitive and technological aspects were influenced for both teachers and students (Cachón-Zagalaz et al., 2020; De la Fuente et al., 2021; Telyani et al., 2021; Khawand and Zargar, 2022). Hence, the context of this study

falls within the premises of educational psychology (within organizational psychology spectrum) that focuses on psychological factors in this sector specifically (De la Fuente et al., 2021). The pandemic forced teachers to work from home, by which several psychological issues arose, such as stress, anxiety, low engagement and motivation, work-life balance (Cachón-Zagalaz et al., 2020; Martarelli et al., 2021; Khawand and Zargar, 2022). While the aforementioned issues hindered psychological wellbeing of teachers during the pandemic, this study focuses on their job satisfaction in the post-pandemic era and under a positive leadership style (i.e., empowering). Importantly, this research also emphasizes on the environment, in which trust and interactions among leaders and their followers are enhanced to increase job satisfaction for academicians. Hence, this study takes job satisfaction as an important element that can determine teachers' wellbeing after the pandemic and aid them with an appropriate workplace to thrive and develop both personally and professionally. Accordingly, this research argues that empowering leadership is an adequate approach in the academic setting that can yield in positive outcomes for teachers, considering the high demands of their jobs that are often combined with low amount of resources (Sarwar et al., 2021; Khawand and Zargar, 2022; Zaman et al., 2022).

Empowering leadership is regarded as a positive and ethical style that disregards the traditional flow of power by emphasizing on empowerment, and support, which lead to desirable outcomes for staff as well as the organization (i.e., university). This is due to the fact that such leaders can empower their followers from sociocultural (practices, interventions, and tactics for empowerment) and psychological aspects [self-determination, meaning, competence, and influence (Amundsen and Martinsen, 2015)]. Therefore, these leaders are found to be a good fit for the academic setting management (e.g., Amundsen and Martinsen, 2015; Farmanesh and Zargar, 2021; Jia et al., 2022). Within the context of this study, it is important to note that empowering leaders can boost trust (Farmanesh and Zargar, 2021) among their staff due to their behavior, and motivational approach that encourages positive exchange and interactions. This lies within the premises of leader-member exchange (LMX; Zhou et al., 2021), and its moderating impact on job satisfaction of university teachers is under examination in this research. Palestine, similar to other countries, had to face the challenges of the pandemic and its education sector shifted to online learning. However, in its current status, the universities are back to their normal settings. The current research aims to contribute to the extant literature of empowering leadership by examining its effects in academic sector with the inclusion of LMX, and trust in leader as determinants of job satisfaction. There is a vivid scarcity in the literature, when it comes to the Middle East and especially, Palestinian academic sector, which is regarded as a major driver for this study. In this sense, the core aim of this study is to investigate the relationship between empowering leadership and job satisfaction. The problem arises when in certain areas (i.e., Palestine) leadership style can differ from what is appropriate in

the educational setting. Notably, the conduct of this research can be beneficial for scholars as it expands the applications of theories used in this study. Furthermore, practitioners in universities can benefit from the results of this research as it highlights the importance of adequate communication among leaders and followers in academic setting. Similarly, adequate leadership style in academic setting can foster trust-building, which is highly effective in determining the work outcomes (i.e., job satisfaction). Scholars have abundantly reported the positive impacts of empowering leaders on various employee and organizational outcomes including and not limited to, job satisfaction (Atik and Celik, 2020), trust (Farmanesh and Zargar, 2021), engagement (Helland et al., 2020), motivation (Muijs and Harris, 2003), commitment (Limon, 2022), and extra-role behaviors (e.g., organizational citizenship behavior; Bogler and Anit, 2004). Such effects are highly influential in shaping individuals' careers in long-term as they provide the necessary atmosphere for growth and development (Zhou et al., 2021).

Following what was mentioned above, this study further justifies its conduct based on the male-dominant culture that persists in the leadership domain among Eastern cultures (Zhou et al., 2021) that can have different impacts on employees in the education sector, when compared to those in Western nations. Hence, this study has the potential to expand the geographical borders of existing knowledge on empowering leadership, and the applicability of LMX, job demand-resources model, and social exchange theories. As the current study highlights the gaps related to academic sector leadership, understanding empowering leaders' effectiveness in university settings, and the context of Palestine, it is expected that findings can contribute to theoretical understanding in the extant literature as well as providing tangible means for practitioners (i.e., university managers) to better implement leadership styles that can improve the overall performance of their staff, enhance their wellbeing, and foster an environment, where individuals can trust their leaders, and thus, perform better in their roles. As the overarching outcome, current findings can pave the way for a better learning environment for students, as their teachers are enabled to work better, and are more satisfied with their working conditions (e.g., work environment, leadership approach, and communications). In accord with what was mentioned, the gap pertaining to Palestinian academic sector and its leadership styles is addressed in this study. This highlights the purpose of the research that endeavors to provide empirical evidence from this sector in Palestine as the literature shows scarcity.

The proposed model of this research falls within the educational psychology domain and it pertains to the aforementioned theories. In this sense, the issue that is tackled in this research is that academic sector of Palestine needs to be improved and encompass leaders that actively promote positive attitudes and behaviors that yield in organizational success for universities. Notably, the positive effects on university teachers' wellbeing and performance will inevitably translate into an atmosphere, where students can thrive and benefit their societies

in the future. Additionally, this study can be beneficial for understanding leadership styles that are effective in Palestine, and thus, provide empirical evidence that suggests tangible means for university decision-makers in this context. This can be used by managers in universities at the top level to recruit and/or develop leaders in their organizations that understand and value empowerment, while focusing on psychological wellbeing of their staff through building trust, and improving communications and interactions that can improve the work environment.

The role of leaders in academic setting is highly important as they can influence the overall outcomes of the university, teachers' psychological wellbeing, and ultimately, the environment, in which students learn to build their futures. Hence, the current research emphasizes on the vitality of having satisfied teachers that are nurtured and empowered by their leaders through high-quality communications and interactions, and a focus on trust-building. The contextualization of this model is aimed at enhancing academic setting for teachers so that they can better perform their tasks and help shape the future of the country as they are more satisfied with their jobs. The problem is that not only there is scarcity in the literature regarding Middle East and Palestine, there is a need for better understanding leadership within academia as it affects the society (e.g., having satisfied teachers can benefit students as teachers are more likely to perform better). Considering the changes during and after the pandemic that occurred in the academic sector as well as the social, political, and economic issues of the country, the current research can pave the way for future studies addressing leadership in education sector, and psychological work outcomes (i.e., job satisfaction). To achieve the aforementioned aims, the following sections highlight the theoretical setting of the study while presenting its hypotheses. This is followed by detailed explanation of research methods and procedures (i.e., design, survey development and measures, data collection, ethical considerations, and deployed analytical technique). After this stage, the proposed model of the research is analyzed and results are discussed upon. Lastly, conclusions are noted alongside theoretical and practical implications as well as limitations that hindered this study in terms of conduct, and subsequent recommendations for future studies.

Hypothesis development

Theoretical setting

To shape the hypotheses of the study, and considering its aims and scope, a number of theories are used in this study that encompass relevant elements explaining the current context. These theories are: (a) Social exchange theory, which entails reciprocation as an important element for positive work outcomes (Mahmud et al., 2021; Haider et al., 2022). Within the workplace, staff are enabled to exchange knowledge and information in an adequate manner that is deployed by the leader. This has been

noted as "responsible leadership" in the extant literature (see Haider et al., 2022). In this study, individuals in academic setting can have higher rate of job satisfaction as ethical and positive leaders act responsibly and therefore, significantly enhance the workplace for their staff through constructive exchanges. Sharing knowledge and expertise are key aspects of an exchange within the workplace that leaders can engage in, which subsequently, improves employees' satisfaction. Within the context of academia, having satisfied employees is imperative as psychologically, they will be able to provide a better service (i.e., teaching) to students. (b) Job Demands-Resources model is also embedded in the current research as it encompasses both tangible and intangible aspects of work. Within the current research, it is argued that education sector is a highly demanding industry, where teachers and academic staff carry a number of responsibilities (Telyani et al., 2021; Khawand and Zargar, 2022). In addition to the aforementioned demands, the resources available for universities are often scarce and/or limited. Importantly, as the pandemic shifted the workplace of education organizations into online settings, the return to office after the pandemic is yet to be adequately examined. In terms of insufficient resources, various aspects can be noted, such as low wages, lack of long-term contracts, long hours of work, and additional tasks (e.g., exams, paperwork, research). As university teachers are required to use both mental and physical resources, and factors, such as anxiety, loneliness, work-life conflict, and performance have been hindered during the pandemic, it is argued whether empowering leaders can be a facilitator of change and enhance job satisfaction by establishing trust and appropriate practices within the organization (Atik and Celik, 2020; Helland et al., 2020; Tripathi et al., 2021; Haider et al., 2022). Considering the context of the current study, empowering leaders recognize the demands and resources, and strategically plan according to the limitations and capital that organization possesses.

In addition to what was noted, (c) Leader-Member exchange theory is also included in the current study as a managerial approach, in which leaders (i.e., empowering) take initiative in building and developing positive, engaging, and constructive exchanges in their relationship with employees, which establishes a nurturing environment, where information (e.g., knowledge) can be shared freely (Rehman et al., 2021). The importance of knowledge and its management within academic sector has been linked to gaining competitive advantage, developing organizational learning processes, and positive workplace outcomes. Notably, focusing on wellbeing of staff as well as providing a platform for their opinions and voices to be heard and/or implemented (where possible) can greatly improve the experience of individuals in the academic work setting (Martono et al., 2020; Rehman et al., 2021). The importance of exchanges and interactions between leaders and their followers is under examination in this research in relation to job satisfaction as a positive outcome. In this regard, the current study combines the premises of aforementioned theories to explain the current context and highlight its contributions. Following what was noted, through enhanced exchanges, leaders can create an

environment where employees are encouraged to exhibit and support such behavior, which can have a positive impact on service quality that is provided to students (Yasmin et al., 2021). This states that the benefits of having satisfied employees in the academic sector can have deeper levels as it benefits the future generations in the learning environment.

Empowering leadership and job satisfaction

Empowering leadership (hereafter EL) distinguishes itself from other leadership styles, such as transactional, transformational, and inclusive (Bolin, 1989; Amundsen and Martinsen, 2015; Capaldo et al., 2021). Empowering leaders tend to delegate tasks among their followers, include and involve them in decision-making processes, provide support, and increase job autonomy particularly in an academic setting, which can motivate teachers along other positive outcomes (i.e., job satisfaction; Wang and Yang, 2021). EL is noted to be comprised of competence, meaning, autonomy, and impact (Kim et al., 2018; Knezović and Musrati, 2018; Limon, 2022). In the context of university teachers and academic sector, EL manifests in a number of aspects that are namely, participation in decision-making processes (classroom management, and other school or departmental activities), professional development (opportunities perceived by teachers to grow and/or gain skills), status (perception of respect and appreciation), self-efficacy (teachers' perception on their skillfulness and competence), autonomy (the extent of which teacher perceives control over their jobs), and impact (teachers' perception of the level of their influence in the organization; Knezović and Musrati, 2018; Kim et al., 2018). Social exchange theory (SET; Blau, 1964) is embedded in this study as it addresses reciprocation behavior that occurs in the face of ethical, beneficial, and empowering behaviors of leaders toward university teachers (Helland et al., 2020; Wang et al., 2020). This theory also encompasses sharing knowledge and expertise within the workplace, which can greatly benefit employees and enhance the work environment (Rehman et al., 2021; Yasmin et al., 2021; Haider et al., 2022). When knowledge is shared and managed under a responsible leadership, who advocated ethics and empowerment for their staff, it is more likely that the experience of individuals is improved and thus, the likelihood of yielding in positive outcomes is increased.

Therefore, this study assumes that by enhancing work conditions and attributes, based on empowering leaders' characteristics, job satisfaction of university teachers can be increased as they are more motivated and engaged (Amundsen and Martinsen, 2014). When teachers are provided with an atmosphere of prosperity, support, and development that includes autonomy, and encourages impact, it is more likely that their satisfaction level rises. Consequently, this can have positive impacts on psychological wellbeing and performance of teachers (Short and Rinehart, 1992; Wu and Short, 1996; Telyani et al., 2021; Khawand and Zargar, 2022). Importantly, in the current context, teachers in

the university level are required to perform a number of tasks, while carrying the role of teacher. This can exhaust personal resources available to the individual especially when a crisis occurs, which can greatly change the settings in which work is routinely conducted (i.e., office). In this respect, the current study aims to contribute to the current understanding of job satisfaction among university-level teachers, which as a psychological aspect is highly influential in determining positive work and behavioral outcomes (Rehman et al., 2021; Haider et al., 2022).

Similarly, the JD-R model (Bakker and Demerouti, 2007) also fits in the current context as it addresses physical and psychological aspects of teachers' job that is highly demanding and can lack in adequate resources (Khawand and Zargar, 2022) particularly, in the case of Palestine due to the general short-comings of the country (e.g., economic, social, and political issues; Aboramadan, 2020). This theory encompasses availability of resources (both personal and provided by the organization) to employees to perform their tasks. In this research, it is conceptualized that autonomy and competence can be promoted for teachers that can enhance their work processes and mental resources that they need (Atik and Celik, 2020; Helland et al., 2020). In contrast, when resources are scarce and demands are high (i.e., education sector and teaching profession), negative outcomes can arise such as decreased job satisfaction, lack of motivation and engagement, burnout, and work-life conflict (e.g., Aboramadan, 2020; Dahleez and Aboramadan, 2022; Khawand and Zargar, 2022). The role of appropriate leadership (e.g., empowering, responsible, and ethical) is highly influential in improving work environment for employees considering the limitations that the organization face (i.e., during and after the pandemic), and available resources (e.g., economic, risk management and policy and change management). Recent studies have emphasized on the importance of such matters in the academic setting (e.g., Helland et al., 2020; Rehman et al., 2021; Telyani et al., 2021; Yasmin et al., 2021; Haider et al., 2022), which further drives the conduct of current study, as additional empirical evidence is needed to develop the existing literature. Using the premises of JD-R model and SET, the current study emphasizes on leaders' impact on overall improvement and development of academic workplace (i.e., university). Through empowering employees and particularly, teachers, the overall performance of the university can be improved as an overarching outcome linked to satisfied employees, who provide high-quality classes to their students.

As university teachers carry a number of responsibilities (e.g., teaching, exams, research, registration, and mentoring), provision of necessary tools and resources alongside organizational support and empowerment by their leaders become vital for their job satisfaction and performance outcomes that affect their wellbeing (Amundsen and Martinsen, 2015; Telyani et al., 2021; Zhou et al., 2021; Jia et al., 2022; Zaman et al., 2022). Job satisfaction of teachers is considered to be an emotional state toward work that entails subjective views, and attitudes toward the job itself (Zhou et al., 2021). Following what was mentioned, this research argues that empowering leaders can negate demands through delegation and increase resources *via* provision of support for teachers, which can positively affect job

satisfaction. In addition, EL focuses on impact and meaning for teachers, which recognizes their value in the organization and enables involvement and influence in work processes. Based on the aforementioned arguments, the following hypothesis is shaped:

Hypothesis 1: EL has a positive and direct impact on job satisfaction of university teachers.

Moderating role of LMX

The concept of LMX pertains to the relationship between leaders and their followers. This relationship is linked to the extent of which teachers, perceived interactions with leaders as close, honest, and high quality (Zhou et al., 2021). When employees perceive connectedness with their leaders, they are more likely to exhibit trust (Atik and Celik, 2020) and feel emotional attachments. This is embedded within the premises of SET as leaders can influence emotions of followers *via* positive, ethical, and effective communications that promotes reciprocation and trustworthiness (Farmanesh and Zargar, 2021; Zhou et al., 2021). Importantly, when employees have “good” exchanges with their leaders, they are prone to be more engaged and involved with their jobs, which can have positive outcomes (i.e., job satisfaction; Atik and Celik, 2020; Martono et al., 2020). Furthermore, to improve the academic work setting, having leaders, who engage in constructive, knowledge-based, valuable, and developmental (both personal and professional) exchanges with their followers is imperative. This is vivid in this context as considering university teachers’ knowledge, skills, and ability to manage classes requires a leadership, where opinions and voices are heard (Rehman et al., 2021; Haider et al., 2022), and their psychological and physiological wellbeing is cared for (Yasmin et al., 2021; Khawand and Zargar, 2022). Referring to the moderating role of LMX, the current study conceptualizes that through adequate leadership, the exchanges among leaders and teachers in university can create an atmosphere, where ideas and opinions are heard, while management endeavors to implement and optimize the workplace accordingly. Furthermore, sharing knowledge and expertise initiated by leaders can trigger reciprocity, where positive exchanges can occur across all levels and among employees following the behavior of the leader.

The current study examines the effect of social exchanges between an empowering leader and their followers in an academic setting that encompasses resources, and emotions of teachers being supported (Zhou et al., 2021). In this sense, contribution level, loyalty behavior, and respect (status) play an important role in determining the quality of exchanges between leaders and members. It is argued in this study that EL can implement high-quality interactions as it emphasizes on empowerment, support, and provision of necessary means (physical or mental support) for teachers in universities. As SET and JD-R models are linked to this context, empowering leaders can foster positivity, trust, and effectiveness in the workplace with a focus on employees’ wellbeing, which, in turn, can enhance their job satisfaction (Martono et al., 2020; Dahleez and Aboramadan, 2022).

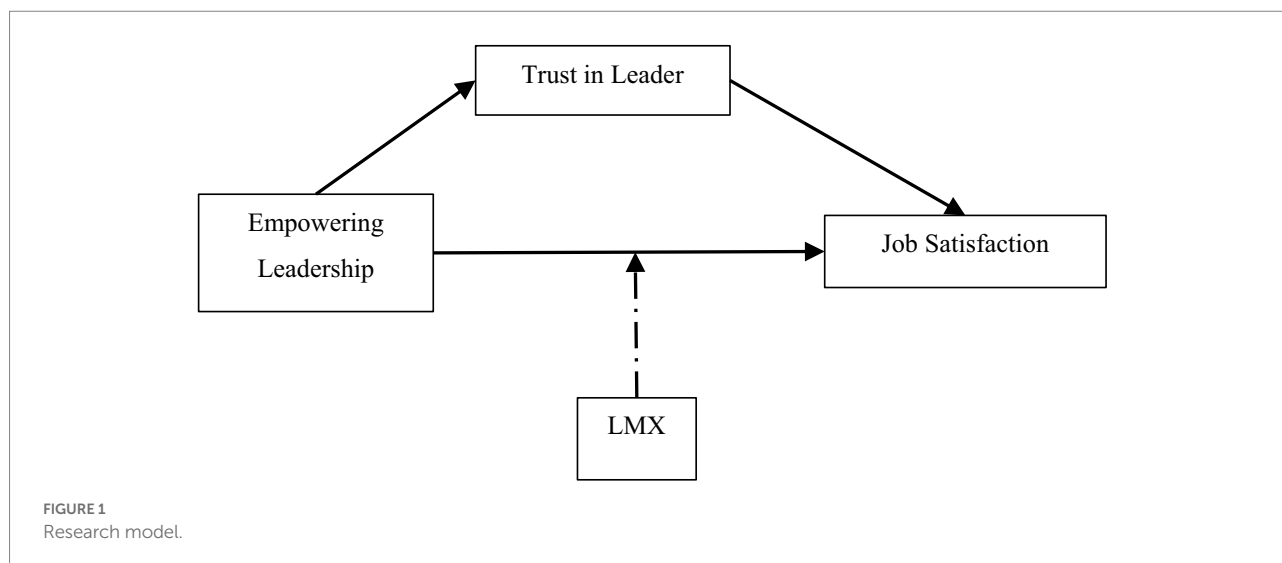
- There are a limited number of studies that address this notion in the context of Palestinian education sector (e.g., Alkadash, 2020; Aboramadan et al., 2021). Notably, the proposed model of this research (see Figure 1) includes LMX as a moderating variable that enhances the relationship between empowering leaders and job satisfaction of their employees in university setting. In this regard, the importance of trust is also examined, which is explained in the following section. Empowering leaders enable participation for teachers in decision-making, recognize their skills and contributions to the organization, provide means for professional development, show respect to teachers, and implement their voice and ideas in work processes (Bruhn, 2006; Li and Zhang, 2016; Atik and Celik, 2020; Elkhwesky et al., 2022). Linked to the concept of LMX and SET, the behavior of empowering leaders creates bonds with their staff that are based on interactions, effective communication, and care. It is argued in this research that the aforementioned characteristics of EL are influential on job satisfaction of teachers in universities and can be further enhanced through appropriate and high-quality exchanges among followers and leaders. Accordingly, the following hypothesis is developed:

Hypothesis 2: LMX moderates the relationship between EL and job satisfaction.

Mediating role of trust in leader

Trust in leader is regarded as a vital element in organizational setting as it encompasses an emotional state, where employees feel safe, cared for, and perceive ethical behavior in the conduct of their leaders (Farmanesh and Zargar, 2021). Empowering leaders can foster trust by creating an atmosphere, where teachers feel important, heard, valued, included, and supported (Farmanesh and Zargar, 2021). Employees can manage risk more effectively, show more involvement and creativity, and have more self-efficacy and job satisfaction, when the leaders empower sense of trust through their supportive behavior (McAllister, 1995; Zhang and Zhou, 2014; Javed et al., 2018; Martono et al., 2020). Trust in leader is noted to be in line with confidence, where both parties tend to maintain the trust by avoiding exploitations of vulnerabilities (Zargar et al., 2019). Leaders’ behavior is a key determinant in fostering trust within an organization (Liu et al., 2010). In this sense, the current research focuses on SET as the premise, in which ethical approach of leaders through EL will trigger trust and connectedness as it provides support and autonomy, and enables inclusion for teachers in university decision-making processes (Li et al., 2017; Lee et al., 2018). Empowering teachers psychologically can have a direct influence on their job satisfaction (Li et al., 2017; Zhu et al., 2019), leading to enhanced wellbeing and performance (Zhu et al., 2019; Razeq, 2022).

Employees feel secure and engage in pragmatic behaviors, when trust exists between them and their leaders (Atik and Celik, 2020). Persistence of trust has numerous constructive impacts on



the psychology of teachers, which can lead to enhanced performance (Çelik and Konan, 2021; Tripathi et al., 2021), more engagement (Zhou et al., 2021), and significant rise in job satisfaction (Short, 1998; Gkorezis, 2016; Siachou et al., 2020). Therefore, it can be interpreted that the trust in leader can better explain the relationship between leader's behavior (i.e., empowering), and employees' psychological outcomes toward work (i.e., job satisfaction). As a vital psychological element, trust plays a major role in organizational settings and thus, its importance cannot be neglected (Mineo, 2014; Siachou et al., 2020; Farmanesh and Zargar, 2021). A leader who uses empowerment as the core approach and takes responsibility in action to provide care for mental wellbeing of their staff can exhibit behaviors that trigger trust especially within an academic setting (Rehman et al., 2021; Haider et al., 2022). This can translate into having empowering leaders within universities while conducting more examination on the subject. In the current context, trust can be nurtured by leaders' who engage in interactions and conversations (LMX) that is directed toward benefiting the employee while sharing knowledge, policies, and ideas. This combined with overall positive behavior of the leader can trigger reciprocation (SET) through engaging in constructive and developmental exchanges that are focused on wellbeing (Yasmin et al., 2021; Haider et al., 2022). Based on the theoretical setting of the study and its aims and objectives, a hypothesis is merged:

Hypothesis 3: Trust in leader has a mediating effect on the relationship between EL and job satisfaction.

Methodology

Research approach and design

Based on the context of this research, a deductive quantitative approach is undertaken to test the hypotheses and achieve the set

goals. Notably, many scholars have deployed a similar approach toward the subject as it addresses perception of employees (teachers in this case) regarding the behavior of their leaders (e.g., Amundsen and Martinsen, 2015; Atik and Celik, 2020; Helland et al., 2020; De la Fuente et al., 2021; Zhou et al., 2021; Limon, 2022). The hypotheses of the research are illustrated in Figure 1. A questionnaire was developed using available measures in the extant literature, and sample of questions are provided in the next section. Several universities were contacted by the first author using personal networks. It was established that empowering leadership is used in the selected universities to match the context of the study through a purposive approach. This inclusion criterion enables the researchers to ensure that participants are in fact interacting with empowering leaders. Several meetings (online and in-person) were held with department managers (i.e., deans), where information about EL was provided and upon confirmation, the university was selected for data collection. Relevant permissions were obtained from authorities in each university.

Measurements

The self-administered questionnaire for this study is designed using relevant, valid, and available scales in the extant literature of the subject. In this respect, empowering leadership as the independent variable is measured through its dimensions (i.e., competence, meaning, autonomy, and impact) using a 10-item scale. These dimensions encompass leaders' behavior and approach as well as psychological empowerment (Amundsen and Martinsen, 2015; e.g., my leader supports me in taking initiatives; my leader recognizes my contributions and skills; the work I do is meaningful; and I have influence in what happens in my department) ($\alpha > 0.7$) (see Table 1). Trust in leader as a mediator was measured through organizational trust inventory (Nyhan and Herbert, 1997) using five items (e.g., I trust my leader because of his/her integrity) ($\alpha = 0.813$). LMX as the moderator

in the current model was measured through three questions (e.g., my leader is a person to befriend with; and I enjoy interactions and communications with my leader; Scandura and Graen, 1984; Zhou et al., 2021) ($\alpha = 0.724$). Lastly, a short version of job satisfaction scale (Weiss, 2002) was used comprising five questions (e.g., my leaders' behavior satisfies me; and I am satisfied with the organization I work with) ($\alpha = 0.765$). This scale has been used to fit in the context of academia (Zhou et al., 2021). All questions are designed in a 5-item Likert scale ranging from 1 = totally disagree, to 5 = totally agree.

Sampling procedure

Using G*power software (Faul et al., 2007), and recommendations of experts (Hair et al., 2017), the sample size was calculated at 163 with a specific criterion that meets satisfactory statistical prowess (statistical power = 85%, Min $R^2 = 0.10$, and $\alpha = 0.01$). Hence, the desired sample size should not fall below 163. A pilot test was deployed with 20 participants, where readability and validity of items were tested and found significant. Upon completion of pilot test, a total of 250 questionnaires were

distributed among teachers of 6 universities across Palestine based on their willingness to participate and availability. The survey was translated into Arabic by a professional and translated back into English using a second translator to ensure accuracy of terms (Podsakoff et al., 2012). Surveys were shared *via* email during July 2022 and respondents were given 3 days to return their responses. Convenience sampling technique was used for gathering data from participants. To ensure ethical means of conduct, several aspects were taken into consideration, namely each participant was informed of research purposes and objectives; written consent form was provided to participants; participation was voluntary and withdrawal was made possible at any stage; no personal information was collected and confidentiality was given to participants; and original data were deleted upon computerization of responses. These measures ensured compliance with ethics while reducing the rate of common method bias (Podsakoff et al., 2012). A total of 180 surveys were returned, from which 2 were incomplete and thus, were not qualified for final analysis, leaving 178 responses for data analysis (71.2% response rate). Collinearity test was deployed, where variance inflation factor (VIF) values were below the threshold of 3, implying that common method bias (CMB) is not a concern (Kock, 2015; see Table 1).

TABLE 1 Measurement model assessment.

Construct	Dimensions	Indicator	Outer loadings	α	Rho A	CR	AVE	VIF	Weights	t-stat.	CV
Empowering leadership	Competence	CP1	0.711	0.807	0.807	0.785	0.613	2.014	0.409	2.341**	0.719
		CP2	0.802						0.422	2.211**	
	Meaning	MN3	0.845	0.784	0.813	0.761	0.707	1.889	0.361	2.188*	0.701
		MN4	0.807						0.470	4.004**	
	Autonomy	AU5	0.823	0.731	0.776	0.719	0.631	2.120	0.413	3.647**	0.713
		AU6	0.757						0.324	2.578*	
	Impact	IM7	0.883	0.724	0.744	0.726	0.723	2.244	0.355	2.649**	0.708
		IM8	0.862						0.386	2.178*	
		IM10	0.853						0.502	3.805*	
Trust in leader	–	TIL1	0.803	0.813	0.870	0.762	0.739	–			
		TIL2	0.734								
		TIL3	0.728								
		TIL4	0.798								
		TIL5	0.804								
LMX	–	LMX1	0.720	0.724	0.779	0.722	0.656	–			
		LMX2	0.753								
		LMX3	0.761								
Job satisfaction	–	JS1	0.832	0.765	0.811	0.873	0.616	–			
		JS2	0.860								
		JS3	0.831								
		JS4	0.876								
		JS5	0.855								

*0.05; **0.01; ***0.001.

TABLE 2 Demographics.

Factor	Item	Frequency
Age	30–35	68
	36–41	57
	42–47	34
	above 47	19
Gender	Male	87
	Female	91
Experience (years) N = 178	Less than 5	49
	5–10	67
	More than 10	62

TABLE 3 Heterotrait-monotrait (HTMT).

	EL	CP	MN	AU	IM	TIL	LMX
EL							
CP	0.765						
MN	0.566	0.523					
AU	0.637	0.613	0.770				
EIM	0.619	0.707	0.684	0.722			
TIL	0.693	0.580	0.671	0.744	0.820		
LMX	0.744	0.701	0.626	0.751	0.775	0.811	
JS	0.623	0.657	0.658	0.667	0.721	0.703	0.731

Control variables

Demographic factors included in the survey (i.e., age, gender, and years of experience) were controlled in the analysis based on their impact on perception toward leader, job satisfaction, and trust. These measures were undertaken based on the extant literature and relevant studies in the same context (e.g., Amundsen and Martinsen, 2014; Helland et al., 2020; Zhou et al., 2021).

Respondents' characteristics

As noted above, to reduce CMB and ensure confidentiality, personal/demographic variables included in the survey were age, gender, and years of experience. The results in Table 2 show that the number of women ($n = 91$) and men ($n = 87$) do not differ significantly. Moreover, majority of participants were between 30 and 35 years of age (38%) followed by 36–41 (32%), 42–47 (19%) and above 47 (11%). Notably, majority of participants had above 5 years of experience (61%), which implies their understanding, awareness, and level of know-how in the academic setting.

Analysis and results

Smart-PLS software was used to analyze the obtained data through a specific criterion that fits the deployed analytical

technique of this research (i.e., Partial Least Squares–Structural Equation Modeling; PLS-SEM). This technique is deemed appropriate for the current study as it entails latent variable, small sample size that requires statistical power, and does not concern normality of distribution in the data (Lowry and James, 2014; Hair et al., 2019). As the current study aims to investigate empowering leadership-job satisfaction relationship empirically, it is deemed appropriate that quantitative method is applied. Furthermore, to adequately analyze moderation and mediation effects of LMX and trust in leader respectively, PLS-SEM is an analytical technique that can appropriately test the hypotheses and yield in tangible results (considering the specific criteria and framework of the study).

Measurement model assessment

The results presented in Table 1 suggest that the measurement model is acceptable as reliability and validity values are within the satisfactory thresholds. In this respect, internal consistency (Rho A and α) and composite reliability (CR) are found to be above 0.7 and below 0.9, stating satisfactory values for these measures (Kroonenberg et al., 2006; Diamantopoulos et al., 2012; Dijkstra and Henseler, 2015). Additionally, outer loading are found statistically acceptance as they are above 0.708 (Hair et al., 2019). Moreover, Table 1 shows that average variance extracted (AVE) is above 0.5. This implies that convergent validity (CV; Dijkstra and Henseler, 2015) is adequate for the proposed model (Hair et al., 2017).

Table 3 shows the result of heterotrait-monotrait (HTMT), which states that discriminant validity of measurement model is adequate as it does not surpass 0.85 (Henseler et al., 2015). Combined results of Tables 1, 3 provide a satisfactory level for the measurement model, which implies its appropriateness and adequacy.

Structural model assessment

Table 4 presents the results of structural model assessment (hypothesis testing). The model meets the requirements, namely (1) normal fit index (NFI = 0.920) and standardized root mean square residual (SRMR = 0.023) are representations of a “good model fit” (Henseler et al., 2014); (2) no multicollinearity issues were noted ($VIF < 3$; see Table 1; Hair et al., 2019); both in-sample predictive power (R-square) and predictive relevance (Q-square) are within acceptable range of values (Henseler et al., 2009), as shown in Table 4. As it can be observed from Table 4, the direct and significantly positive impact of EL on job satisfaction is proven ($\beta = 0.307$), which provides support for the first hypothesis of the research. Similarly, the moderation effect of LMX on the EL-job satisfaction relationship is found to be statistically significant ($\beta = 0.136$). This supports the second hypothesis of the research. Lastly, mediation effect of trust in leader is also found to

be significant ($\beta = 0.144$), which leads to acceptance of the third hypothesis of the research.

Discussion

As this research focuses on the benefits of empowering leadership in an academic setting in the Middle East (i.e., Palestine), job satisfaction was analyzed as a representation of psychological wellbeing within the context of educational psychology. In addition, the moderating effect of LMX as an enhancer was analyzed in this context with a focus on the quality of interaction between empowering leaders and their followers (i.e., university teachers). Furthermore, trust in leader as a critical psychological factor was examined based on its mediating effect on the relationship between EL and job satisfaction of university teachers.

Vivid positive effects of EL were noted in the results, which shows consensus with prior studies in this context (e.g., Atik and Celik, 2020; Farmanesh and Zargar, 2021; Zhou et al., 2021; Jia et al., 2022). It was also noted in the literature that positive attributes of leaders can lead to notable positive attitudes toward the job and the organization (Amundsen and Martinsen, 2015). In the same context, studies have also reported that empowering leadership is a determinant of creativity due to delegation and autonomy that is provided to employees (Short and Rinehart, 1992; Wu and Short, 1996; Atik and Celik, 2020; Dahleez and Aboramadan, 2022). This study argues that by increasing autonomy for university teachers, they are more likely to be engaged and involved with their jobs, and use new approaches or techniques to better perform their tasks. When leaders empower teachers in the university setting, job satisfaction will increase and thus, performance can be enhanced. This can further be achieved by provision of professional development programs

to increase competence level of teachers. The current findings while being in line with previous findings add to the current understanding of EL in the context of Middle East and particularly, Palestine, which is understudied in terms of leadership, and its academic sector. These results are embedded within the premises of SET and JD-R (Alkadash, 2020; Helland et al., 2020; Limon, 2022) as they describe the relationship between leader and follower in academic setting that is a high-demanding sector, which in Palestine specifically, is often parallel with lack of adequate resources (Alkadash, 2020; Aboramadan et al., 2021).

Pertaining to second hypothesis of this study, moderating role of LMX was found to be significant. Inclusion of LMX (high-quality interactions and exchanges between leader and teacher) enhances the effect of EL on job satisfaction. The positive impacts of LMX have been reported in the extant literature related to leadership, organizational outcomes, and psychological wellbeing (Khawand and Zargar, 2022). Based on SET (Blau, 1964) and LMX (Gottfredson et al., 2020) theories, leaders in universities can explicitly increase job satisfaction by focusing on effective communication and informing teachers on work settings, managerial decisions, and other processes. This also is linked to empowerment of teachers by promoting participation, provision of professional development opportunities, exhibition of respect, increasing autonomy, and implementing teachers' ideas (Kim et al., 2018; Knezović and Musrati, 2018). These results are beneficial for understanding the importance of adequate leadership in academia. Empowering leaders are found to be a good fit in this context as they can foster necessary means to motivate, empower, and meet the needs of teachers in their demanding jobs.

Referring to the third hypothesis of this research, which was supported in the data analysis (see Table 4), mediating role of trust in leader was found statistically significant in the proposed model of this research. It is important to note that the vitality of trust in

TABLE 4 Hypothesis testing.

Effects	Relations	β	t-statistics	f^2	Decision
Direct					
H1	EL \rightarrow JS	0.307	5.227***	0.122	Supported
Interaction					
H2	EL*LMX \rightarrow JS	0.136	2.846**	0.041	Supported
Mediation					
H3	EL \rightarrow TIL \rightarrow JS	0.144	2.979**	0.033	Supported
Control variables					
	Gender \rightarrow JS	0.151	2.578*		
	Age \rightarrow JS	0.132	2.655*		
	Experience \rightarrow JS	0.166	2.702*		
$R^2_{JS} = 0.49 / Q^2_{JS} = 0.29$ $R^2_{TIL} = 0.67 / Q^2_{TIL} = 0.47$ SRMR: 0.023; NFI: 0.920					

*0.05; **0.01; ***0.001.

leader has been noted across the literature by a considerable number of scholars (e.g., Zhang and Zhou, 2014; Javed et al., 2018; Saleem et al., 2020; Farmanesh and Zargar, 2021; Faulks et al., 2021), stating that trust carries a major role in determining satisfaction, motivation, involvement, and other positive behaviors, such as creativity and commitment (Tsang et al., 2022). As trust is tied to complex psychological processes for each individual, behavior of leader is essential in fostering an environment, where employees can perceive trustworthiness, and ethical conduct. Through trust, teachers are more likely to have higher engagement with their work, which, in turn, will enhance the classroom environment for students (Telyani et al., 2021; Khawand and Zargar, 2022; Sun et al., 2022). Therefore, it can be interpreted from current results that teachers should be empowered by their leaders in a manner that establishes trust and encourages honest, clear, and effective communications. Linked to SET, teachers will be more willing to contribute to their organizations, when they feel that they can trust their supervisors/leaders.

It is also important to note that control variables of the research (i.e., age, gender, and experience) were found to be influential in determining job satisfaction of teachers in universities. However, as these effects were controlled, further research is required to shed light upon this matter. Based on what was mentioned above, the current results contribute to both theoretical and practical domains surrounding leadership (i.e., empowering), trust in leader, and job satisfaction literature. These implications can be beneficial for scholars and managers in the Middle East and specifically Palestine. Conclusions and implications derived from current findings are presented in the following sections.

Conclusion

The results that support the conclusions and discussions of this study show that empowering leaders can explicitly improve job satisfaction of employees in an academic setting. Due to high extent of competitiveness in this sector (Muijs and Harris, 2003; Bouwmeester et al., 2021; Mayya et al., 2021), leaders' role become more vital in maintaining an environment, where teachers can develop their professional skills while being satisfied of work settings and communications and interactions with their supervisors. With a focus on LMX and SET, empowered teachers are more likely to have their job satisfaction improved. Furthermore, characteristics of an empowering leader can manifest in an atmosphere of trust, where teachers are encouraged to show more engagement, involvement, and commitment. Therefore, the conclusions of this research can be summarized into (a) empowering leadership is an appropriate style in academic setting as it can increase job satisfaction; (b) empowering leaders can boost interactions with university teachers through LMX; and (c) by emphasizing on trust-building, job satisfaction of teachers can be better explained in the university level. The overarching outcome is improved psychological wellbeing of teachers in a job that demands their mental and physical resources. Moreover, it can

be interpreted that through applying adequate leadership styles in the academic sector, students can benefit as the ultimate results. This is due to the fact that job satisfaction is a psychological factor that is a vital element for psychological wellbeing. Therefore, in the high-demanding sector of education, having satisfied teachers can greatly benefit the society by better preparing the next generation through engaging, positive, and innovative classes. Scholars can benefit from current results as the analyzed model of this study combines SET, JD-R, and LMX in terms of their premises. Notably, the enhancing effect of LMX can be beneficial for practitioners as emphasizing on developing and optimizing exchanges in the workplace can significantly improve job satisfaction of employees in university level. Furthermore, combination of the aforementioned theories can be used by scholars in different settings and using various techniques to better understand the impact of empowerment in the education sector of neighboring countries. This can further increase the benefits of current results as comparative evidence can yield in improved comprehension of the subject of leadership in academia.

Theoretical implications

The current findings showed a positive impact on job satisfaction in the presence of empowering leaders in university setting. This is linked to the context of educational psychology as well as organizational psychology as broader concepts. Importantly, SET and JD-R (Blau, 1964; Bakker and Demerouti, 2007; Wang et al., 2020; Zhou et al., 2021) models are used in this research that address interactions and reciprocations in workplace, and physical and psychological resources needed to conduct the job of a university teacher. The findings show that empowering leaders can improve psychological wellbeing of university teachers in Palestine, implying the application and appropriateness of the aforementioned theories. While SET explains how EL can generate reciprocity in a positive way that can improve performance and engagement while contributing to job satisfaction as psychological wellbeing, JD-R pertains to the importance of providing necessary means for teachers to conduct their tasks. In this respect, this study suggests that empowering leaders recognize demands and resources of university teachers' jobs and tend to provide development opportunities and mental and professional support, and implement different techniques (e.g., human resource management initiatives) that increase competence and skill level of these individuals. As respect, and recognition are important in the Middle Eastern culture (Behery et al., 2018), current findings imply that EL through SET can be highly effective for improving academic sector by empowering teachers.

Furthermore, this study embeds the premises of LMX theory (Scandura and Graen, 1984; Zhou et al., 2021) in the current context, which pertains to the extent of which leaders engage in high-quality interactions and communications with their staff. In this respect, the findings show that although LMX is not rooted among the characteristics of EL, its inclusion can lead to higher rates of positive outcomes (i.e., job satisfaction). While some individuals

can have better relationships with their leaders (Zhou et al., 2021), current findings suggest that through LMX, an empowering leader can improve job satisfaction of teachers by focusing on enhanced interactions and exchanges. The concept of this theory can also be linked to the notion of trust-building as it pertains to honest, direct, and support that can yield in positive outcomes (i.e., psychological wellbeing; Rasool et al., 2019, 2022; Zhou et al., 2020; Zaman et al., 2022). Implementation of such approaches in universities as leadership strategies of the organization can overcome the negative impacts of the pandemic (e.g., stress, anxiety, and burnout; Telyani et al., 2021), while increase resilience for the university, when facing future crises (Ojo et al., 2021).

Practical implications

First, shareholders in universities of Palestine (and Middle East region by extension) should recognize the effectiveness and adequacy of empowering leaders in education sector. By doing so, recruitment, attraction, and development of such leaders becomes a strategic plan, through which empowerment of employees at all levels turns into organizational mission. As these leaders consider different aspects of the job carried by their followers, they can improve the quality of workplace for teachers, which, in turn, can improve the learning process of their students. Secondly, deans and leaders in departments of universities should engage in healthy, positive, and honest communications with teachers and inform them of organizational decisions and processes. This will improve inclusion, involvement, and thus, job satisfaction. Thirdly, exhibition of respect and recognition of teachers' contribution is highly important as it can create a positive attitude toward the leader and organization and develop trust. Fourthly, collaboration with HR departments in universities can lead to establishing support systems, counseling, and professional development programs that can improve teachers' skills, wellbeing, and satisfaction. By implementing such initiatives, universities can have systems that not only benefit teachers during their work, but further prepare the organization for facing future crises as the implemented HR systems can play a major role in promoting work-life balance, and providing support both mentally and professionally (e.g., facilitating work conditions). Lastly, department deans (i.e., leaders) should hear the voice and ideas of their teachers and implement these ideas in the flow of organization. Where implementation of all ideas is not feasible, teachers should be provided with autonomy to conduct their tasks and manage their roles. Such initiatives can have both short- and long-term outcomes that benefit teachers, university as the organization, and subsequently, improve students' learning environment.

Limitations and recommendations

Regardless of findings and achieving research objectives, there are a number of con-straining factors that hindered the

process of this study. In this regard, due to complexity of human behavior, there are other theories (e.g., social learning, achievement goal theory, signaling theory, self-determination, and social cognitive theories) that are linked to the context of this research. However, the context of this study was limited to SET, JD-R and LMX theories, which provided sufficient support for its conduct. Future studies can address this limitation and combine relevant theories to provide a better understanding on the subject at hand. In addition, this study was limited by the scarcity of studies that address the Middle East and specifically, Palestine. Therefore, we suggest that scholars provide more empirical evidence from this region to yield in more knowledge and awareness regarding leadership and education sector of the Middle East. Moreover, the data collection process was conducted in a cross-sectional manner, which does not include temporal links among variables. Future studies can deploy longitudinal technique to avoid this limit and examine changes in behavior of teachers in a period of time. Similarly, quantitative nature of this research is limited in terms of generalizability, and lacks in-depth understanding of the phenomenon at hand. This can be avoided in future studies that take a qualitative approach. Last but not least, cultural elements were not examined in the current study as they fall beyond its scope. Hence, future studies can analyze how cultural and social elements can impact teachers and leadership in education sector of Palestine.

Data availability statement

The raw data supporting the conclusions of this article can be made available upon request from the corresponding author.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

IH: initial writing, model development, and data collection. PZ: data analysis, revision, review, software, and methodology. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

References

- Aboramadan, M. (2020). The effect of green HRM on employee green behaviors in higher education: the mediating mechanism of green work engagement. *Int. J. Organ. Anal.* Vol. 30, 7–23. doi: 10.1108/IJOA-05-2020-2190
- Aboramadan, M., Khalid, A. D., and Caterina, F. (2021). Inclusive leadership and extra-role behaviors in higher education: does organizational learning mediate the relationship? *Int. J. Educ. Manag.* Vol. 36, 397–418. doi: 10.1108/IJEM-06-2020-0290
- Alkadash, T. M. (2020). Mediating role between authentic leadership, organizational commitment on talents turnover intention: In Palestine higher education. *TEST Eng. Manag.* 2, 112–118.
- Amundsen, S., and Martinsen, Ø. L. (2014). Empowering leadership: construct clarification, conceptualization, and validation of a new scale. *Leadersh. Q.* 25, 487–511. doi: 10.1016/j.leaqua.2013.11.009
- Amundsen, S., and Martinsen, Ø. L. (2015). Linking empowering leadership to job satisfaction, work effort, and creativity: the role of self-leadership and psychological empowerment. *J. Leadersh. Organ. Stud.* 22, 304–323. doi: 10.1177/1548051814565819
- Atik, S., and Celik, O. T. (2020). An investigation of the relationship between school principals' empowering leadership style and teachers' job satisfaction: the role of trust and psychological empowerment. *Int. Online J. Educ. Sci.* 12, 177–193. doi: 10.15345/ijoes.2020.03.014
- Bakker, A. B., and Demerouti, E. (2007). The job demands-resources model: state of the art. *J. Manag. Psychol.* Vol. 22, 309–328. doi: 10.1108/02683940710733115
- Behery, M., Amjad, D. A. N., Fauzia, J., and Ahmed, S. E. R. (2018). Toxic leadership and organizational citizenship behavior: a mediation effect of followers' trust and commitment in the middle east. *Int. J. Bus. Soc.* 19.
- Blaug, P. (1964). *Power and Exchange in Social Life*. New York, NY: John Wiley & Sons.
- Bogler, R., and Anit, S. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teach. Teach. Educ.* 20, 277–289. doi: 10.1016/j.tate.2004.02.003
- Bolin, F. S. (1989). Empowering leadership. *Teach. Coll. Rec.* 91, 81–96. doi: 10.1177/016146818909100104
- Bouwmeester, O., Rose, A., Lucie, N., and Riku, R. (2021). Work-life balance policies in high performance organisations: a comparative interview study with millennials in Dutch consultancies. *Ger. J. Hum. Resour. Manag.* 35, 6–32. doi: 10.1177/2397002220952738
- Bruhn, C. (2006). Higher education as empowerment: the case of Palestinian universities. *Am. Behav. Sci.* 49, 1125–1142. doi: 10.1177/0002764205284722
- Cachón-Zagalaz, J., Sánchez-Zafra, M., Sanabrias-Moreno, D., González-Valero, G., La-ra-Sánchez, A. J., and Zagalaz-Sánchez, M. L. (2020). Systematic review of the literature about the effects of the COVID-19 pandemic on the lives of school children. *Front. Psychol.* 11:569348. doi: 10.3389/fpsyg.2020.569348
- Capaldo, G., Vincenza, C., Jolanta, B., Beata, B., and Dorota, K. (2021). Efficacy beliefs, empowering leadership, and project success in public research centers: an Italian-polish study. *Int. J. Environ. Res. Public Health* 18:6763. doi: 10.3390/ijerph18136763
- Celik, O. T., and Konan, N. (2021). The relationship between school principals' empowering leadership with teachers' self-efficacy and organizational citizenship behaviors. *Educ. Sci. Egitim ve Bilim* 46, 241–261.
- Dahleez, K. A., and Aboramadan, M. (2022). Empowering leadership and healthcare workers performance outcomes in times of crisis: The mediating role of safety climate. *J. Organ. Effect. People Perform.* doi: 10.1108/JOEPP-03-2021-0080
- De la Fuente, J., Douglass, F. K., Michael, S. D., and Yashu, K. (2021). Analysis and psychoeducational implications of the behavior factor during the COVID-19 emergency. *Front. Psychol.* 12:613881. doi: 10.3389/fpsyg.2021.562372
- Diamantopoulos, A., Marko, S., Christoph, F., Petra, W., and Sebastian, K. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *J. Acad. Mark. Sci.* 40, 434–449. doi: 10.1007/s11747-011-0300-3
- Dijkstra, T. K., and Henseler, J. (2015). Consistent partial least squares path modeling. *MIS Q.* 39, 29–316.
- Elkhwesky, Z., Islam, E. S., Haywantee, R., and José, A. C. G. (2022). A systematic and critical review of leadership styles in contemporary hospitality: a roadmap and a call for future research. *Int. J. Contemp. Hosp. Manag.* Vol. 1, 135–554.
- Farmanesh, P., and Zargar, P. (2021). *Trust in Leader as a Psychological Factor on Employee and Organizational Outcome*. IntechOpen. doi: 10.5772/intechopen.100372
- Faul, F., Erdfelder, E., Buchner, A., and Lang, A.-G. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, 175–191.
- Faulks, B., Yinghua, S., Moses, W., Bojan, O., and Danijela, G. (2021). Impact of empowering leadership, innovative work, and organizational learning readiness on sustainable economic performance: an empirical study of companies in Russia during the COVID-19 pandemic. *Sustainability* 13:12465. doi: 10.3390/su132212465
- Gkorezis, P. (2016). Principal empowering leadership and teacher innovative behavior: a moderated mediation model. *Int. J. Educ. Manag.* Vol. 1, 135–554. doi: 10.1108/IJEM-08-2015-0113
- Gottfredson, R. K., Sarah, L. W., and Emily, D. H. (2020). A critique of the leader-member exchange construct: back to square one. *Leadersh. Q.* 31:101385. doi: 10.1016/j.leaqua.2020.101385
- Haider, S. A., Akbar, A., Tehseen, S., Poulava, P., and Jaleel, F. (2022). The impact of responsible leadership on knowledge sharing behavior through the mediating role of person-organization fit and moderating role of higher educational institute culture. *J. Innov. Knowl.* 7:100265. doi: 10.1016/j.jik.2022.100265
- Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Hair, J. F., Jeffrey, J. R., Marko, S., and Christian, M. R. (2019). When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* 31, 2–24. doi: 10.1108/EBR-11-2018-0203
- Helland, E., Marit, C., and Siw, T. I. (2020). The relationship between empowering leadership, work characteristics, and work engagement among academics: a sem mediation analysis. *Scand. J. Work Organ. Psychol.* 5:11. doi: 10.16993/sjwop.84
- Henseler, J., Christian, M. R., and Marko, S. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43, 115–135. doi: 10.1007/s11747-014-0403-8
- Henseler, J., Christian, M. R., and Rudolf, R. S. (2009). "The use of partial least squares path modeling in international marketing" in *New Challenges to International Marketing* (Emerald Group Publishing Limited), Vol. 20, pp. 227–319. doi: 10.1108/S1474-7979(2009)0000020014
- Henseler, J., Theo, K. D., Marko, S., Christian, M. R., Adamantios, D., Detmar, W. S., et al. (2014). Common beliefs and reality about PLS: comments on Rönkkö and Evermann (2013). *Organ. Res. Methods* 17, 182–209. doi: 10.1177/1094428114526928
- Javed, B., Mohammed, Y. A. R., Sujata, K., Kamran, S., and Hafiz, H. T. (2018). Ethical leadership, trust in leader and creativity: the mediated mechanism and an interacting effect. *J. Manag. Organ.* 24, 388–405. doi: 10.1017/jmo.2017.56
- Jia, K., Tianlun, Z., Weiwei, Z., Samma, F. R., Ali, A., and Tachia, C. (2022). The linkage between ethical leadership, well-being, work engagement, and innovative work behavior: the empirical evidence from the higher education sector of China. *Int. J. Environ. Res. Public Health* 19:5414. doi: 10.3390/ijerph19095414
- Khawand, S., and Zargar, P. (2022). Job autonomy and work-life conflict: a conceptual analysis of teachers' wellbeing during COVID-19 pandemic. *Front. Psychol.* 4246. doi: 10.3389/fpsyg.2022.882848
- Kim, M., Terry, A. B., and Matthew, S. P. (2018). Employee responses to empowering leadership: a meta-analysis. *J. Leadersh. Organ. Stud.* 25, 257–276. doi: 10.1177/1548051817750538
- Knezović, E., and Musrati, M. A. (2018). Empowering leadership, psychological empowerment and employees' creativity: a gender perspective. *Int. J. Innov. Creat. Change* 4, 51–72.
- Kock, N. (2015). Common method bias in PLS-SEM: a full collinearity assessment approach. *Int. J. e-Collaboration* 11, 1–10. doi: 10.4018/ijec.2015100101

- Kroonenberg, P. M., Frans, J. O., Glenn, T. S., Sue, E. L., Esther, C., and Christopher, G. G. (2006). Motor function in Parkinson's disease and supranuclear palsy: simultaneous factor analysis of a clinical scale in several populations. *BMC Med. Res. Methodol.* 6, 1–13. doi: 10.1186/1471-2288-6-26
- Lee, A., Sara, W., and Amy, W. T. (2018). Empowering leadership: a meta-analytic examination of incremental contribution, mediation, and moderation. *J. Organ. Behav.* 39, 306–325. doi: 10.1002/job.2220
- Li, S. L., Yuan, H., and Li, R. L. (2017). Chinese traditionalism matters: effects of differentiated empowering leadership on followers' trust in leaders and work outcomes. *J. Bus. Ethics* 145, 81–93. doi: 10.1007/s10551-015-2900-1
- Li, M., and Zhang, P. (2016). Stimulating learning by empowering leadership: can we achieve cross-level creativity simultaneously? *Leadersh. Organ. Dev. J. Vol.* 37, 0143–7739. doi: 10.1108/LODJ-01-2015-0007
- Limon, I. (2022). Relationship between empowering leadership and teachers' job performance: organizational commitment as mediator. *J. Theor. Educ. Sci.* 15, 16–41. doi: 10.30831/akueg.945201
- Liu, J., Oi-Ling, S., and Kan, S. (2010). Transformational leadership and employee well-being: the mediating role of trust in the leader and self-efficacy. *Appl. Psychol.* 59, 454–479. doi: 10.1111/j.1464-0597.2009.00407.x
- Lowry, P. B., and James, G. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: when to choose it and how to use it. *IEEE Trans. Prof. Commun.* 57, 123–146. doi: 10.1109/TPC.2014.2312452
- Mahmoud, M. A., Ahmad, S., and Poespowidjojo, D. A. L. (2021). Psychological safety and individual performance: the mediating effect of intrapreneurial behavior. *International Journal of Productivity and Performance Management*, (ahead-of-print).
- Martarelli, C. S., Simona, G. P., Maik, B., and Wanja, W. (2021). High trait self-control and low boredom proneness help COVID-19 homeschoolers. *Front. Psychol.* 12:594256. doi: 10.3389/fpsyg.2021.594256
- Martono, S., Wulansari, N. A., and Khoiruddin, M. (2020). The role of empowering leadership in creating employee creativity: moderation-mediation mechanism. *IOP Conf. Ser. Earth Environ. Sci.* 485:012060. doi: 10.1088/1755-1315/485/1/012060
- Mayya, S. S., Maxie, M., Lena, A., Monteiro, A. D., and Mayya, S. (2021). Work-life balance and gender differences: a study of college and university teachers from Karnataka. *SAGE Open* 11:21582440211054479. doi: 10.1177/21582440211054479
- McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Acad. Manag. J.* 38, 24–59. doi: 10.2307/256727
- Mineo, D. L. (2014). The importance of trust in leadership. *Res. Manag. Rev.* 20:n1
- Muijs, D., and Harris, A. (2003). Teacher leadership—improvement through empowerment? An overview of the literature. *Educ. Manag. Admin.* 31, 437–448. doi: 10.1177/0263211X030314007
- Nyhan, R. C., and Herbert, A. M. Jr. (1997). Development and psychometric properties of the organizational trust inventory. *Eval. Rev.* 21, 614–635. doi: 10.1177/0193841X9702100505
- Ojo, A. O., Olawole, F., and Mohd, Y. Y. (2021). Examining the predictors of resilience and work engagement during the COVID-19 pandemic. *Sustainability* 13:2902. doi: 10.3390/su13052902
- Podsakoff, P. M., Scott, B. M., and Nathan, P. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569. doi: 10.1146/annurev-psych-120710-100452
- Rasool, S. F., Madeeha, S., Amna, A., Mubbasher, M., and Talat, M. K. (2019). Relationship between modern human resource management practices and organizational innovation: empirical investigation from banking sector of China. *Int. Trans. J. Eng. Manag. Appl. Sci. Technol.* 10, 1–11. doi: 10.14456/ITJEMAST.2019.266
- Rasool, S. F., Tachia, C., Mansi, W., Ali, A., Anwar, K., and Li, Z. (2022). Exploring the role of organizational support, and critical success factors on renewable energy projects of Pakistan. *Energy* 243:122765. doi: 10.1016/j.energy.2021.122765
- Razeq, A. H. A. (2022). “Palestinian English teachers' challenges for well-being and excellence” in *Teacher Well-being in English Language Teaching* (Routledge), 235–251.
- Rehman, K., Poulouva, P., Yasmin, F., Haider, S. A., and Jabeen, S. (2021). Empirical investigation of the impacts of knowledge management on organizational learning—a CASE study of higher education institutions. *Acad. Strateg. Manag. J.* 20, 1–15.
- Saleem, A., Sarfraz, A., Hong-biao, Y., and Congman, R. (2020). Principal leadership styles and teacher job performance: viewpoint of middle management. *Sustainability* 12:3390. doi: 10.3390/su12083390
- Sarwar, F., Siti, A. P., Mohammad, S. M. S., and Noraini, R. (2021). A job demand–resource model of satisfaction with work–family balance among academic faculty: mediating roles of psychological capital, work-to-family conflict, and enrichment. *SAGE Open* 11:21582440211006142. doi: 10.1177/21582440211006142
- Scandura, T. A., and Graen, G. B. (1984). Moderating effects of initial leader–member exchange status on the effects of a leadership intervention. *J. Appl. Psychol.* 69:428. doi: 10.1037/0021-9010.69.3.428
- Short, P. M. (1998). Empowering leadership. *Contemp. Educ.* 69:70.
- Short, P. M., and Rinehart, J. S. (1992). School participant empowerment scale: assessment of level of empowerment within the school environment. *Educ. Psychol. Meas.* 52, 951–960. doi: 10.1177/0013164492052004018
- Siachou, E., Panagiotis, G., and Faith, A. (2020). “The relationship between empowering leadership and volunteers' service capability: intention to share knowledge as mediator” in *Evidence-Based HRM: A Global Forum for Empirical Scholarship* (Emerald Publishing Limited), Vol. 8, 215–235. doi: 10.1108/EBHRM-07-2019-0058
- Sun, B., Feng, Z., Shuwei, L., Jiayu, S., Ying, W., and Weilong, X. (2022). How is professional identity associated with teacher career satisfaction? A cross-sectional design to test the multiple mediating roles of psychological empowerment and work engagement. *Int. J. Environ. Res. Public Health* 19:9009. doi: 10.3390/ijerph19159009
- Telyani, A. E. I., Panteha, F., and Pouya, Z. (2021). The impact of COVID-19 instigated changes on loneliness of teachers and motivation–engagement of students: a psychological analysis of education sector. *Front. Psychol.* 12:4353. doi: 10.37247/PAPSY2ED.2.2022.10
- Tripathi, P. M., Shalini, S., Lata, B. S., Vartika, K., and Umesh, S. (2021). A JD-R perspective for enhancing engagement through empowerment: a study on Indian hotel industry. *J. Hosp. Tour. Manag.* 46, 12–25. doi: 10.1016/j.jht.2020.11.007
- Tsang, K. K., Guangqiang, W., and Hui, B. (2022). Enabling school bureaucracy, psychological empowerment, and teacher burnout: a mediation analysis. *Sustainability* 14:2047. doi: 10.3390/su14042047
- Wang, C.-J., and Yang, I. H. (2021). Why and how does empowering leadership promote proactive work behavior? An examination with a serial mediation model among hotel employees. *Int. J. Environ. Res. Public Health* 18:2386. doi: 10.3390/ijerph18052386
- Wang, K., Yeping, L., Wen, L., and Shuai, Z. (2020). Selected factors contributing to teacher job satisfaction: a quantitative investigation using 2013 TALIS data. *Leadersh. Policy Sch.* 19, 512–532. doi: 10.1080/15700763.2019.1586963
- Weiss, H. M. (2002). Deconstructing job satisfaction: separating evaluations, beliefs and affective experiences. *Hum. Resour. Manag. Rev.* 12, 173–194. doi: 10.1016/S1053-4822(02)00045-1
- Wu, V., and Short, P. M. (1996). The relationship of empowerment to teacher job commitment and job satisfaction. *J. Instr. Psychol.* 23, 85–89.
- Yasmin, F., Li, S., Zhang, Y., Poulouva, P., and Akbar, A. (2021). Unveiling the international students' perspective of service quality in Chinese higher education institutions. *Sustainability* 13:6008. doi: 10.3390/su13116008
- Zaman, S., Zilong, W., Samma, F. R., Qamar, U. Z., and Hamid, R. (2022). Impact of critical success factors and supportive leadership on sustainable success of renewable energy projects: empirical evidence from Pakistan. *Energy Policy* 162:112793. doi: 10.1016/j.enpol.2022.112793
- Zargar, P., Sousan, A., and Farmanesh, P. (2019). Does trust in leader mediate the servant leadership style–job satisfaction relationship? *Manag. Sci. Lett.* 9, 2253–2268. doi: 10.5267/j.msl.2019.7.028
- Zhang, X., and Zhou, X. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: interaction effects and a mediating mechanism. *Organ. Behav. Hum. Decis. Process.* 124, 150–164. doi: 10.1016/j.obhdp.2014.02.002
- Zhou, X., Samma, F. R., and Dawei, M. (2020). The relationship between workplace violence and innovative work behavior: the mediating roles of employee well-being. *Healthcare* 8:332. doi: 10.3390/healthcare8030332
- Zhou, X., Samma, F. R., Jing, Y., and Muhammad, Z. A. (2021). Exploring the relationship between despotic leadership and job satisfaction: the role of self efficacy and leader–member exchange. *Int. J. Environ. Res. Public Health* 18:5307. doi: 10.3390/ijerph18105307
- Zhu, J., Jihai, Y., and Lili, Z. (2019). Linking empowering leadership to innovative behavior in professional learning communities: the role of psychological empowerment and team psychological safety. *Asia Pac. Educ. Rev.* 20, 657–671. doi: 10.1007/s12564-019-09584-2



OPEN ACCESS

EDITED BY

Shumaila Naz,
The University of Lahore, Pakistan

REVIEWED BY

Eglantina Hysa,
Epoka University, Albania
Khalid Hussain,
Sultan Qaboos University, Oman

*CORRESPONDENCE

Cunbo Yang
yangcunbo@shengda.edu.cn

SPECIALTY SECTION

This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 12 September 2022

ACCEPTED 17 November 2022

PUBLISHED 21 December 2022

CITATION

Yang C and Yasmin F (2022) Effects of
high-performance human resource
practices in the education sector: The
mediational model.
Front. Psychol. 13:1042082.
doi: 10.3389/fpsyg.2022.1042082

COPYRIGHT

© 2022 Yang and Yasmin. This is an
open-access article distributed under
the terms of the [Creative Commons
Attribution License \(CC BY\)](#). The use,
distribution or reproduction in other
forums is permitted, provided the
original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which
does not comply with these terms.

Effects of high-performance human resource practices in the education sector: The mediational model

Cunbo Yang^{1,2*} and Fakhra Yasmin^{3,4}

¹School of Management, Zhengzhou Shengda University, Zhengzhou, China, ²Graduate School, Claro M. Recto Academy of Advanced Studies, Lyceum of the Philippines University, Manila, Philippines, ³School of Education, South China Normal University, Guangzhou, China, ⁴Department of Informatics and Quantitative Methods, Faculty of Informatics and Management, University of Hradec Kralove, Hradec Králové, Czech Republic

In order to better understand the link between High-Performance Human Resource Practices (HPHRPs) and outcomes, this study examines the mediating roles of person–job fit (PJ fit) and person–organization fit (PO fit) using congruence theory. Through a survey questionnaire, data were gathered from 296 people who work at educational institutions in China. The results demonstrated that the association between HPHRPs and outcomes is mediated by both PJ fit and PO fit. We observed theoretical implications and discovered that HPHRPs are an important antecedent that builds congruence among employees' values and goals and organizational values and goals, as well as their job goals, which in turn prevents employees from experiencing stress and developing intentions to leave their workplace. The current study adds to extant literature on education and HPHRPs by identifying PJ fit and PO fit as mechanisms through which HPHRPs demonstrate their authority on employee outcomes. The managerial implications, limitations, and directions for future studies are included in detail at the end.

KEYWORDS

high-performance human resource practices, job stress, turnover intentions, person–organization fit, person–job fit

Introduction

In contemporary work environments, the ability to attract, recruit, and retain talented employees are a prerequisite for a company's success. These factors also form employee perspectives, influencing their selection of an appropriate profession and employer, which are crucial for achieving a higher quality of work life (Alniacik et al., 2013). High-performance human resource practices (HPHRPs) are, for the most part, seen as an arrangement of interconnected HPHRPs intended to upgrade employees' value and execution within corporations (Messersmith et al., 2011). Most researchers have analyzed the relationship between HPHRPs and employees' work outcomes (Alqudah et al., 2022). Despite having adequate knowledge of HPHRPs, researchers still believe that there are unexplored links between HPHRPs and job outcomes that need to be explored (Hauff et al., 2022). We also need to further explore more intervening variables to better explain the HPHRPs and outcome links (Murphy et al., 2018).

Organizational behavior researchers have recently started to examine several underlying mechanisms to better understand and explain the relationships between HPHRPs and outcomes. For instance, human resource wellbeing attribution and human resource performance attribution explain the link between HPHRPs, commitment, and job strain (Van De Voorde and Beijer, 2015). Similarly, job embeddedness, the organizational climate, employee engagement, availability at work, meaningfulness, psychological experiences of safety, job demands, job resources, and public service motivation are among a few other mediating mechanisms that have been thought to explain the link between HPHRPs and job outcomes (Hauff et al., 2022). However, to date, no consideration has been given to the role of job and organizational congruence processes and the relationships between HPHRPs and outcomes.

By exploring congruence theory (Holland, 1997), we have identified gaps related to two important yet understudied mediators, person–organization fit (PO fit) and personal job fit (PJ fit). These particular mediators might provide further insights into HPHRPs and job outcomes above and beyond other mediators. Holland (1997) believed that employees desire an environment that is highly congruent with their personalities and individual values, and that this congruence leads to positive results. We believe that HPHRPs develop PO fit and PJ fit, which decrease job outcomes, specifically turnover intention (TOIs) and job stress. HPHRPs are believed to create synergy, and because of this, employees feel that the workplace is congruent with their own objectives, job requirements, and organization. This congruence ultimately leads to positive outcomes in the form of a decrease in TOIs and job stress.

The reason for considering both these variables is that we believe that HPHRPs develop congruence between an individual's beliefs and their job, as well as the organization, and both are important for reducing TOIs and job stress. Various deliberations provoked the selection of variables in the current research. The PO fit and PJ fit are viewed in relation to their outcomes by current employees in an organization (Haider et al., 2022). HRP in the organization can improve the intensity of employees' PO and PJ fits and, as a result, can change employees' behaviors and attitudes. Previous studies reveal that work-related stress and TOIs are notably connected with HPHRPs, PO, and PJ fit (Chen et al., 2022; Pattanawit and Charoensukmongkol, 2022). In addition, job stress and TOIs are crucial for companies that have serious concerns about their performance and employees (Syed et al., 2021). Findings from previous studies show that HPHRPs can positively affect employees by improving the similarities between their job and their existing company (Mostafa, 2017).

It is pertinent to mention that PJ fit is different from PO fit (Gould-Williams and Mohamed, 2010). We have tried to propose PO fit and PJ fit due to the difference in their scopes. The former is broader in scope and entails the congruence between personal and organizational values. In contrast, the

latter explains a narrow scope of congruence that encompasses similarities with job-related values. Previous research indicates that PO fit and PJ fit hinder intentions toward turnover and related work issues (Junaedi and Wulani, 2021). Therefore, this study encompasses both narrow and broader scopes of congruence as an underlying mechanism between HPHRPs and outcomes.

This research intends to address this query by evaluating the effect of PO fit and PJ fit as mediators between HPHRPs and outcomes in the current organization. This will fulfill the requirement raised by researchers to carry out a study on these two variables, PO fit (Paauwe et al., 2013) and PJ fit (Mashhadi et al., 2015), as mediators between HPHRPs and employees' approaches.

The present study will add value to the literature by describing the mediating mechanisms of PO and PJ fits in the relationship between HPHRPs and job outcomes through the lens of person–environment congruence theory (1997). It also helps the manager understand the role of HPHRPs in an organizational setting and their impact on job outcomes such as employee TOIs and stress. It provides insights into the role of PO fit and PJ fit in an organizational setting.

We contribute to the existing body of knowledge by identifying two important mediators between HPHRP–outcome relations and explaining this relationship with the help of congruence theory. This theory emphasizes the need to increase congruence among employees and their organizations and jobs to yield positive outcomes. In other words, HPHRPs give employees the feeling that their goals are congruent with organizational goals and their job. Employees who feel this alignment in values and goals are less likely to experience stress and tend to stay with the organization.

Theory and hypotheses development

The current study was conducted in accordance with person–environment congruence theory (Holland, 1997). The concept of congruence was pioneered by Parsons (1909); however, he discussed this phenomenon's social and cultural implications. Holland (1959) presented a more comprehensive view of person–environment fit, giving rise to congruence theory, which is still widely applied in psychology, business, and other domains. Holland (1997) used the word congruence to explain the level of alignment between the individual and their environment. They further explained that higher person–environment congruence or agreement leads to positive results and vice versa. In other words, congruence refers to the degree of synchronization between the individual and their occupational environments, such as their organization and job. This study, therefore, proposed that individuals always strive for a congruent environment. Individuals who achieve a congruent

environment are more likely to show positive outcomes and avoid negative behaviors such as TOIs and stress.

Holland (1997) also suggested that employers attempt to create an environment that causes congruency by eliminating the individuals who do not fit in and supporting those who do. Keeping this theory in mind, we propose that the HPHRP environment, due to the use of a bundle of HR practices, increases congruence between the environment and individuals in the form of PJ fit and PO fit, which leads to a decrease in job stress and TOIs; this is because employees are more likely to stay in an environment that offers greater congruence with their personalities.

HPHRPs

The privatization/deregulation scenarios, the competitive climate, and technological advancements have forced management to recalibrate numerous HR and other management practices in the context of the rapidly changing global economy. Organizations are now required to use HPHRPs that increase competitive advantages due to environmental changes (Gurbuz, 2009). Many scholars have identified HPHRPs in the literature. HPHRPs enhance employee competency, level of expertise, and aptitude, as well as create an opportunity to improve the company's output through a knowledge-sharing environment (López et al., 2004; Wei et al., 2012). HPHRPs are also defined as a bundle of HR practices adopted by any organization to achieve positive outcomes (Beltrán-Martín and Bou-Llusar, 2018). Recent research by Posthuma et al. (2013) identified 61 HRPs being practiced as HPHRPs. Despite wide literature on HPHRPs, the literature has a dearth in respect of types of human resource practices.

The current research used five HR practices in order to measure the employee's sensitivity to HPHRPs. The practices used are the most popular while analyzing the relationship between HPHRPs and employees' job-related outcomes (Alqudah et al., 2022; Hauff et al., 2022). Furthermore, these practices are believed to be high predictors of PJ and PO fit. Thus, we considered job security, promotion, autonomy at work, training/development, and communication HRPs. Here, it is important to mention that we took them collectively and not separately because HPHRPs create synergy by combining a bundle of HR practices.

Research in the past has found that PO/PJ fit awareness has a major effect on outcomes related to work (Pattanawit and Charoensukmongkol, 2022). Additionally, according to Cable and DeRue (2002), different fit types may be examined, as they can affect various work-related outcomes differently. Few researchers have also studied PO/PJ fits jointly. Available research has examined whether employees can differentiate between various fits (Chen et al., 2022). The focal point of our

study will be the effect of PO/PJ fits on work stress and the TOIs of current employees in organizations.

HPHRPs and PO fit

Our research evaluated the similarity between employees and company missions and objectives, focusing on the similarity between employee personalities and those of their employers. Schneider's (1987) ASA system clarifies how HPHRPs may influence the fit between employees and their employers. The primary reason behind this structure is that people are drawn to various sorts of companies because of their pre-passage perception of the company's core qualities and objectives. At that point, companies pick people who fit their qualities and objectives through formal and informal selection methods. In the long term, a few representatives may choose to leave because their qualities and objectives may change or no longer match those of the company. The PO fit is "progressive as well as adaptable" because people adjust to companies, and companies change after some time (Petrides and Furnham, 2001). Therefore, contracting practices are essential for assessing a person's ability to cope with the company, and different HPHRPs are instrumental in helping employees coordinate with their companies. For example, in preparing and advancing employees, work-related security, stability, and advancement impart authoritative qualities, objectives, and desires to employees, which ought to expand employees' impressions of PO fit (Akhtar et al., 2020). Two reviews assessed the association between HPHR practices and PO fit, demonstrating that employees' perceptions of HPHRPs coincided with those of companies (Uppal, 2020). Although most reviews have analyzed the impacts of PO fit on worker outcomes as a part of the HPHRP (Narayanan and Sekar, 2009). Person-environment congruence theory also claims that when the organization takes care of the employees by adopting HPHRPs for their benefit, employees start to feel that there is a high degree of congruence between them and their organization. Thus,

H1: HPHRPs is positively related to PO fit.

Mediating role of PO fit

The most extensively examined type of fit is PO fit since it has been recognized that it can significantly influence behavioral outcomes (Akhtar et al., 2020). Numerous studies have focused on how PO fit is an underlying mechanism in the link between service motivation and outcomes (Hue et al., 2022). Generally speaking, stress occurs when a person realizes that the demands of a situation exceed their capacity to deal with them (Mansoor et al., 2011). Stress inside the work environment is associated

with employment stress, a heavy workload, or work-related anxiety (Kalia, 2002). Little consideration has been given to the connection between HPHRPs and work results that weaken worker wellbeing and prosperity, for example, job stress (Jensen et al., 2011). Gould-Williams and Mohammed (2021) found that HPHRPs adversely influenced work stress.

It has been suggested that occupation stress results from an absence of compatibility between representative and authoritative qualities (Edwards et al., 1990). At the end of the day, work stress, for the most part, increases when the company's qualities differ from those of the employee. This distinction creates an absence of fit, which, as a result, causes negative mental impacts (Edwards et al., 1990). However, a raised PO fit level shows the compatibility between employees and company qualities (Akhtar et al., 2020; Pattanawit and Charoensukmongkol, 2022). This compatibility makes it easy for employees to talk with their colleagues and seek their help, which will most likely cause diminished levels of occupational stress (Edwards et al., 1990).

Similarly, past research found the mediating effect of PO fit on employee behaviors (Uppal, 2020). Holland (1997) also believed that high person-organization congruence reduces negative behavior among employees. On this premise, the following hypotheses are proposed:

H2: PO fit has a negative effect on job stress.

H3: PO fit mediates the HPHRPs and job stress link.

As indicated by Lambert and Hogan (2009), TOI is more critical from a business perspective than actual employee turnover. In the event that businesses can legitimately comprehend the antecedents of TOIs, they can introduce changes that decrease these intentions. When employees leave, the company has to bear the cost of contracting and preparing different representatives (Lambert and Hogan, 2009). TOIs are less demanding to quantify and foresee than actual employee turnover (Syed et al., 2021) and are a superior indicator of administration practice.

It has been confirmed through research that HPHRPs have a negative relationship with intentions to quit (Uppal, 2020). In any case, specialists contend that the procedures through which this relationship happens remain unverifiable (Kehoe and Wright, 2013).

Employees have demonstrated a greater propensity to remain with organizations that share their interests (Schneider, 1987). Researchers have discovered that employees' intentions to leave are reduced by a better PO fit (Abdalla et al., 2018). It can be contended that HPHRPs might impact TOI indirectly through a PO fit. In this way, the company's and its employees' values will reflect their characteristics. This will strengthen the bonds between employees and both their company and their colleagues, which will decrease the chance of employees leaving (Abdalla et al., 2018).

H4: PO fit has a negative effect on TOI.

H5: PO fit mediates HPHRPs and TOI links.

HPHRPs and PJ fit

Studies in the past corroborate the fact that there is a relationship between PJ fit and employee behavior on the job (Uppal, 2020; Junaedi and Wulani, 2021). Fit plays a vital role in the attainment of business accomplishments. However, the PJ fit is a basic, critical idea for individuals with employment features. Undoubtedly, without a solid match of individuals with work requirements, HR issues like poor staff output, the number of people leaving their organization, absence from the place of duty, and some others may amplify (Mathis and Jackson, 2003).

PJ fit points out the commonalities among employees' learning, aptitudes/abilities, and employment prerequisites (Carless, 2005). The PJ fit is accomplished once a representative has the skillset commensurate with the job requirements or once employment addresses employees' issues (Kristof-Brown, 2000). The HPHRPs can play an essential role in coordinating representatives with their employment (accomplishing PJ fit) and with the company (accomplishing PO fit). Nevertheless, it cannot be anticipated that those who do not feel their work satisfies their desire to give back to society or that their employer upholds public ideals will feel a fit and, as a result, do better than other individuals (Pandey et al., 2008). Psychological contract exhibits that HRP are genuine segments by which employees can comprehend the terms of their business (Rousseau and Greller, 1994). The demand and supply of employees and their fitness level will probably be influenced by the attributes of the companies (Akhtar et al., 2020), which are conveyed through HR practices. In addition, HRPs, for example, who select and train individuals, can coordinate the individuals with occupational prerequisites. HRPs may expand the level of PO fit and PJ fit by constantly conveying qualities, attributes, requests, and desires of the company to employees by giving assets to change or increment representatives' KSAs. In this way, we recommend that offering employees a steady arrangement of "superior" HR practices will probably cause an increase in their level of fit with their company. This is also aligned with the person-environment theory. Thus, we suggested the following hypothesis:

H6: HPHRPs are positively related to PJ fit.

Mediating role of PJ fit

Investigations of work selection decisions have additionally reported on the impact of worker improvement and reward frameworks on employment choices. Bretz and Judge (1994) observed compensation level and advancement openings

as noteworthy indicators of an employment decision. Cable and Judge (1996) found that compensation strategies are unequivocally identified with work-hunt choices. After the preliminary period of employment decision and selection, socialization practice helps to create PO and PJ fits amongst beginners/companies (Den Hartog and Verburg, 2004; Uppal, 2020; Chen et al., 2022; Pattanawit and Charoensukmongkol, 2022). Companies utilize improvement and reward practices to encourage the desired behavior out of employees and strengthen the harmony between employees and their company (Boon et al., 2007). On the whole, the finding recommends that different HRP, including hiring, training, evaluation, and remuneration procedures, can influence PJ fit. We related HPHRPs with PO/PJ fits and anticipated that the higher the arrangement of HRP, the higher the level of PO and PJ fits.

Studies continue to demonstrate connections between PJ fit and essential work states of mind and practices (Abdalla et al., 2018). The PJ fit is one of the vital predictors of the company's success. The PJ fit is a basic yet vital idea that includes coordinating the learning, aptitudes, and capacities of individuals with the qualities of occupations. Without a strong alignment between the individual and work demands, the probability of lower worker results, higher TOIs, absence, and other HR-related issues can rise (Mathis and Jackson, 2003; Abdalla et al., 2018; Haider et al., 2021, 2022).

A worker's objectives and qualities can be aligned with the company for which they work; however, there might be a lack of cooperation between the fundamental missions and objectives of their employment and their capacities or occupation inclinations. Siegrist (1996) exhibited the model that employees might be defied with stress if their endeavors are not adequately remunerated or perceived by the company. The company can show appreciation for employees by giving an extrinsic reward, a compensation raise, or a promotion in their profession. At the end of the day, a profession that is excessively hard, and does not also match hard work with the endeavors of employees and the rewards given, is damaging for workforce morale (Siegrist et al., 1990; Siegrist, 1996). Thus, we propose the following hypotheses:

H7: PJ fit has a negative effect on job stress.

H8: PJ fit mediates HPHRPs and job stress.

The opening and rewards provided by HRP indoctrinate the perception that employees will be rewarded for a job well done (Ramsay et al., 2000). As a response, the employees make good decisions on their own that are beneficial for the organization without being instructed to do so, are more loyal, and have a passion for their work and their organization. Thus, HRP can influence employee behaviors through a PJ fit. Nowadays, numerous companies are increasing compensation and giving extra advantages to employees to retain them (Gumbus and Johnson, 2003). Organizations are aware that

retaining employees is useful for maintaining and sustaining a competitive edge (Youndt et al., 1996; Walker, 2001). Thus, HPHRPs can enhance employee retention (Arthur, 1994). Mercer (2005) specified in his study that if employees are rewarded well, they tend to remain with the company. The top management's contribution, responsive behavior, and providing new openings can be beneficial for retaining employees (Birt et al., 2004).

Hollenbeck (1989) asserted that organizations might have to face higher TOIs from employees with lower levels of PJ fit. Employees who experience a mismatch between their skills and abilities and those expected from their occupation may intend to leave their current work to find a better alternative (Wilk and Sackett, 1996). Similarities between the worker and their work and/or company ethos lead to better performance, as the employee experiences more satisfied feelings at work, and is more likely to have company loyalty, meaning there is a reduction in the tendency to turn over (Iplik et al., 2011).

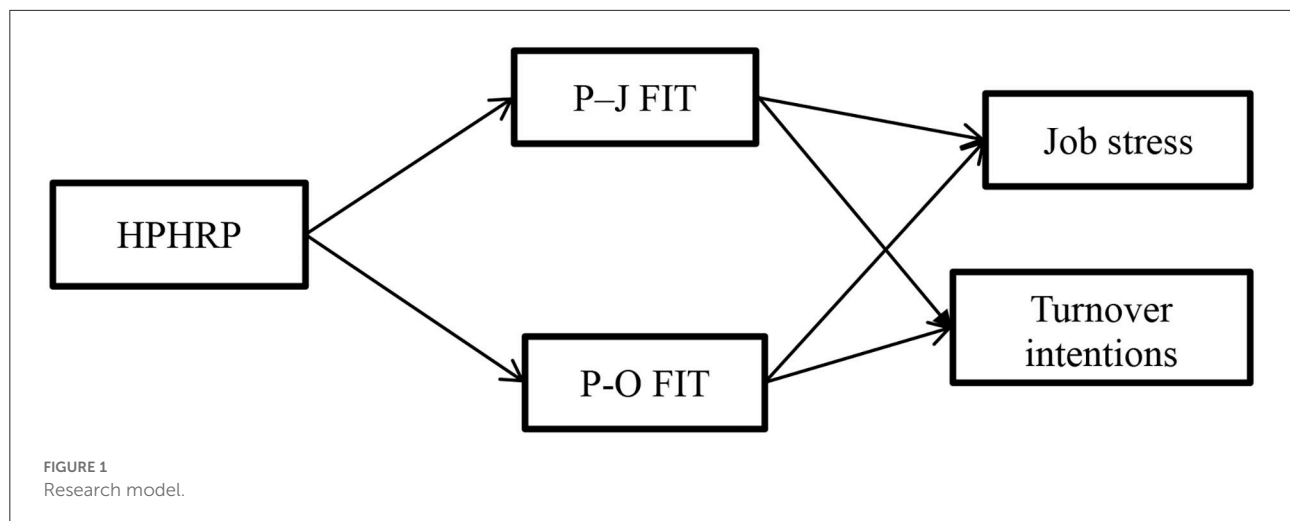
Past reviews have demonstrated that PJ fit discernments significantly affect work-related results (Pattanawit and Charoensukmongkol, 2022). An exploration by Cable and DeRue (2002) on company human resources recommends analyzing both sorts of fit, as they might be connected with various results. The PJ fit results in a reduction in TOIs (Uppal, 2020). Some research has examined both PJ fits in a similar review. These studies examined whether individual selectors differentiate between the two fits when selecting individuals (Bretz and Judge, 1994; Cable and Judge, 1996). Current research emphasizes the impact of two types of fits: work-related stress and employee intention to leave the existing organization. Thus, PJ fit acts as a mediator between HPHRPs and TOIs, such that employees who report high HPHRPs also report low TOIs because they are comfortable in their work environments.

H9: PJ fit has a negative effect on TOI.

H10: PJ fit mediates HPHRPs and TOI.

Research methodology

Following the positivistic philosophy, the quantitative approach was used to test the previously discussed hypotheses using the model proposed in Figure 1. Employees served as the units of analysis, and data were collected through a questionnaire survey of education sector employees. The study was cross-sectional. In the same way that previous research has employed it, we used convenience sampling to obtain data from the education sector (Aslam et al., 2021; Ran et al., 2021, 2022; Syed et al., 2021; Yasmin et al., 2021; Zeb et al., 2021; Idrees et al., 2022). In order to check for common method bias (CMB), we checked a single Harmon factor, whose value was 32%. It indicated that CMB was not an issue.



Twenty items were used from earlier research (Den Hartog and Verburg, 2004) to measure *HPHRPs*. Sample items included “My institution provides excellent opportunities for personal skills development.” This measurement’s Cronbach’s alpha was 0.91. Four items were used to represent the PO fit developed by O’Reilly and Chatman (1986). A sample item was, “What this organization stands for is very important to me.” This measurement’s Cronbach’s alpha was 0.83. Four items were used to represent the PJ fit developed by Cable and Judge (1996). A sample item was, “To what degree do you think you possess the skills and abilities to perform this job?” (Cronbach’s alpha is 0.80). *Job stress* was measured through four items introduced by Motowidlo et al. (1986). A sample item was “I almost never feel stressed at work” (Cronbach’s alpha was 0.88). Four items were used to explore how the TOIs developed by Pfeffer and Jeffrey (1998). A sample item was “I would prefer another more ideal job to the one I have now” (Cronbach’s alpha was 0.85).

For the identification of control variables, we conducted the one-way ANOVA test, and the result revealed that all demographic variables, i.e., gender, age, and education, had a significant effect on study variables. Therefore, we used any control variable while conducting further analysis.

Results analysis

All employees received 365 surveys. There were 296 complete surveys received (response rate: 81%). Demographics included age, gender, and education. Most respondents were below the age of 36 (80%), 71 % were male, and 58 % had a master’s degree.

The means and standard deviations of all variables were determined. The study variables were correlated. Table 1 shows that the *HPHRPs* were negatively correlated with the TOIs (-0.52^{**}) and job stress (-0.62^{**}) and positively correlated

with the PO fit (0.68^{**}) and PJ fit (0.66^{**}). TOI was positively correlated with job stress (0.65^{**}) and negatively correlated with the PO fit (-0.68^{**}) and PJ fit (-0.63^{**}). Job stress negatively correlated with the PO fit (-0.66^{**}) and the PJ fit (-0.62^{**}). Lastly, the PO fit positively correlated with the PJ fit (0.84^{**}). The reliability of scales was examined through Cronbach’s alpha. Reliability above 0.70 was considered significant (Guriting and Ndubisi, 2006).

To test the mediation effect, we employed Preacher and Hayes (2004) process technique. According to Table 2 results, H1 and *HPHRPs* were positively related to the PO fit. The result showed that the *HPHRPs* positively affect the PO fit ($p = 0.000 < 0.05$, $\beta = 0.91$). Thus, H1 was substantiated. Similarly, according to H6, *HPHRPs* were positively related to the PJ fit. The result showed that the *HPHRPs* positively affect PJ fit ($p = 0.000 < 0.05$, $\beta = 0.87$). Thus, H6 was also substantiated.

The result showed that entering PO fit mediates *HPHRPs* and job stress. Because *HRPs* ($p = 0.000$, beta -0.57) negatively impacted job stress through PO fit, confidence interval values also validate the significance of the indirect effect (LL = -0.95 , UL = -0.18). Thus, H2 and H3 were substantiated. The results revealed that under *HPHRPs*, employees’ levels of PO fit increased, and their level of job stress decreased.

We found that the PO fit mediates between *HPHRPs* and TOIs. Because HR practices ($p = 0.000$, beta -0.61) negatively impacted TOI through PO fit, confidence interval values also validated the significance of the indirect effect (LL = -0.92 , UL = -0.47). H4 and H5 were substantiated and the results revealed that under *HPHRPs*, employees’ levels of PO fit increased, and their turnover intention reduced.

Results also showed that the PJ fit mediates *HPHRPs* and job stress. Because *HPHRPs* ($p = 0.000$, beta -45) negatively impact job stress through the PJ fit, confidence interval values also validate the significance of the indirect effect (LL = -0.77 , UL = -0.09). So H7 and H8 were substantiated. Thus, the results

TABLE 1 Correlation, descriptive statistic, and reliability.

	Mean	Std. deviation	1	2	3	4	5
HP	3.17	0.68	(0.91)				
TOI	2.67	0.91	−0.52**	(0.85)			
JS	2.70	1.10	−0.62**	0.65**	(0.88)		
PO	3.32	0.84	0.69**	−0.68**	−0.66**	(0.83)	
PJ	3.29	0.78	0.66**	−0.63**	−0.62**	0.65**	(0.80)

** Correlation is significant at 0.01 level (two-tailed).

N = 296. Alpha values are in brackets. Bold values are significant.

reveal that under HPHRPs, employees' levels of PJ fit increased, and their job stress decreased.

According to the study results, the PJ fit mediates the HPHRPs and TOIs. Because HPHRPs ($p = 0.000$, beta -0.57) negatively impact TOI through PJ fit, confidence interval values also validate the significance of the indirect effect (LL = -84 , UL = -0.34). Thus, H9 and H10 were substantiated. The results reveal that under HPHRPs, employees' levels of PJ fit increased, and their leaving intentions were reduced.

Discussion

Recognizing the need for mediators between HPHRPs and employee outcomes to be examined, our study aimed to find a link between various types of fits and HRPs. The major reason behind choosing these two mediators was that there is little existing research on the role of PJ fit and PO fit between HPHRPs and outcome relationships. The existing literature also highlighted the need to identify the mediating mechanisms of the HPWS-outcome relationship, particularly in the service industry (Murphy et al., 2018). When adopted in bundles, we believe that HR practices make employees realize that their goals align with their job and their organization. This happens mainly because adopting HR practices makes employees feel that their organization values them. The current study examined job security, promotion, autonomy at work, training/development, and communication as HR practices that collectively form a bundle. All these practices are directly beneficial for the employees. Due to their benefits, employees realize that their organization is on the same page as they are, which ultimately leads to a decrease in negative behaviors like TOI and job stress. This is also in accordance with Kooij and Boon's (2018) belief that the perception of HPWS increases congruence between employees and their organization, which results in positive outcomes.

The research sample was education sector employees. The research contributed to HRPs' literature by providing empirical evidence of the HPHRPs' effects in a new manner. The exploration added to the HRP literature by providing empirical proof of HPHRPs' recent impacts. The findings support all

TABLE 2 Mediation analysis.

Effects	Coefficients	95% Confidence interval (CI)
Direct effect		
HPHRP → P O Fit	0.91	[0.83, 1.15]
HPHRP → P J Fit	0.87	[0.72, 1.03]
P O Fit → Job Stress	−0.80	[−1.07, −0.53]
P O Fit → Turnover Intentions	−0.68	[−0.88, −0.64]
P J Fit → Job Stress	−0.51	[−0.84, −0.18]
P J Fit → TOIs	−0.65	[−0.94, −0.37]
Indirect effect		
HPHRP → Job Stress via P O Fit	−0.57	[−0.95, −0.18]
HPHRP → TOIs via P O Fit	−0.61	[−0.92, −0.45]
HPHRP → Job Stress via P J Fit	−0.45	[−0.77, −0.09]
HPHRP → TOIs via P J Fit	−0.57	[−0.84, −0.34]

n = 296. Bootstrap sample size = 5,000. LL, lower limit; CI, confidence interval; UL, upper limit.

predictors of employee outcomes in the current study. The findings of assessing the mediating function of PO/PJ fits show that PO/PJ fits mediate HPHRPs and job outcomes (i.e., work stress/TOI) somewhat (but considerably).

Our investigation revealed a significant positive relationship between the PO fit and HPHRPs. This proves that HPHRPs share company values, goals, and aspirations with employees, energizing greater harmony between employees and groups (Boon et al., 2007). The current research has many useful findings similar to the ASA structure and past research (Boon et al., 2007). A sizeable portion, or 47.3%, of the variance in PO fit, was accounted for by HPHRPs. Takeuchi and Takeuchi (2013) stated that HPHRPs made up 28% of the difference in PO fit in Japan but reported that HPHRPs made up 29% of the change in PO fit in the Netherlands (Boon et al., 2007).

The outcomes presented in the present investigation indicate that HPHRPs shape the qualities and goals of employees, as HPHRPs caused major variations in the PO fit for employees in the Netherlands and Japan. The PO fit partially mediated

the relation between HPHRPs and job stress/TOIs. Moreover, the PO fit had a similar effect on the two outcome variables. For job stress and TOIs, the change resulting from HPHRPs and the PO fit was 6 and 20%, respectively. The majority of the shift was brought about indirectly by HPHRPs *via* PO fit, indicating that PO fit is a crucial mediator in these links.

As far as the links between PJ fit and employee outcomes are concerned, the results are in accordance with our hypotheses and previous studies (Jin et al., 2018). With respect to PJ fit, the outcomes recommend that negative thoughts about the HR framework do not specifically make people consider leaving the association. It is also possible that such thinking influences employees' feelings of fitness with work, which is identified with their goal to quit. Similarly, it holds for the relations with job stress, which happen partially by means of PJ fit. This proposes that HRP make it easier for employees to meet job necessities and be satisfied with their work in relation to their needs, thus diminishing their stress at work.

This investigation concentrated on PO fit, which is a popular and important fit type (Kristof-Brown et al., 2005). Compared to other forms of fit, PO fit has been shown to have a more solid association with employee outcomes (Kristof-Brown and Jansen, 2007). It has been discovered that a mismatch between a worker's abilities and the demands of their job leads to stress at work and intentions to quit. However, in this specific situation, other types of fit, such as PJ fit, may be significantly related to occupational stress and TOI (Chen et al., 2022; Pattanawit and Charoensukmongkol, 2022).

The findings of this study have significant practice-related ramifications. Generally speaking, achieving alignment between employees' and business values is vital if companies are motivated to improve employees' work experiences. The research demonstrated that HPHRPs, like training opportunities, elevated job security, promotion from the inside, and working independently, are compelling in this respect. Supervisors, in this way, should utilize the authoritative mission and objectives as the premise on which HPHRPs are planned. This will expand the arrangement of employee objectives and those of the association. Supervisors ought to exercise cautious thoughtfulness regarding the implementation and correspondence of HPHRPs to positively impact how employees see these practices. This will help strengthen employees' relationships with the association's way of life and reinforce their bonds with the association, which will thus make it more unlikely that they feel stressed and need to leave. Overall, this study contributed to the literature, particularly in the education sector, by identifying the ways in which TOIs and job stress can be reduced in the education sector. An important takeaway from this study is the crucial role of congruence. Employees show positive outcomes only when they think that their job and organization are aligned with them and are not moving in

the opposite direction. One of the biggest lessons practitioners can take from this study is that they must adopt HPHRPs in the education sector, as it will make employees, whether they are nurses, doctors, or administrative staff, feel that their organization and jobs are in congruence with them. We can apply this concept of congruence to the whole society, especially in relationships. This means that individuals are more likely to show positive behavior when they believe they are fully aligned with others regarding goals, objectives, and much more. We tend to develop strong relationships with those who show higher congruency with us.

The discoveries of this examination ought to be interpreted in light of various constraints. For instance, the present study employed a cross-sectional design, and thus, no conclusions regarding causality can be established. For instance, it is conceivable that the degree of PO fit affects how employees see HPHRPs. Employees who successfully fit in with their organizations may have a favorable opinion of HPHRPs. Additionally, it is conceivable that individuals with low levels of work-related stress believe that their companies' opinions of them are predictable. More research with longitudinal or experimental designs is necessary to address the problem of causation. Second, common method bias may have inflated the associations since self-reported data from a single source was used. Third, it is unclear which set of procedures should be used to examine the correlation between HPHRPs and employee performance. The five practices used in the current analysis may not be an accurate representation of all HPHRPs used by companies; however, they need to be. In any event, the practices included in this analysis are among those that are most frequently used in studies linking HPHRPs and employee outcomes. Lastly, for the investigation, data were gathered from employees, and a convenience sample was utilized. Thus, the findings of the current study cannot be generalized to the current environment as a whole and are limited to the sample under consideration. Future studies might want to investigate whether the findings can be generalized across organizations and other geographical regions. Despite these limitations, our analysis confirms the significance of PJ fit and PO fits public links since the effects of HPHRPs depend on how well-employees get along with their companies. Fairness and social support have also been suggested as variables that may predict stress and turnover objectives (Leiter and Maslach, 2003). As per Leiter and Maslach (2003), employees feel distanced from the absence of value and support from their supervisors and colleagues, which, thus, may prompt negative results. Future researchers may wish to think about these relationships.

Conclusion

In conclusion, this study provided valuable insights into analyzing how HPHRPs provide beneficial results. The impact

of HPHRPs as significant drivers of employee outcomes *via* fits among employees in the education industry was well-supported by the findings of this study. The suggested links were tested in the education sector, an understudied area where research interest is growing. Thus, the work of this study strengthened the generalizability of ideas and policies in the countries examined. This is crucial since the investigation's contributing variables will significantly impact employees everywhere (Akhtar et al., 2022; Li et al., 2022).

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Ethics Committee of South China Normal University, China. The patients/participants provided their written informed consent to participate in this study.

References

- Abdalla, A., Elsetouhi, A., Negm, A., and Abdou, H. (2018). Perceived person-organization fit and turnover intention in medical centers: the mediating roles of person-group fit and person-job fit perceptions. *Pers. Rev.* 47, 863–881. doi: 10.1108/PR-03-2017-0085
- Akhtar, M. W., Huo, C., Syed, F., Safdar, M. A., Rasool, A., Husnain, M., et al. (2022). Carrot and stick approach: the exploitative leadership and absenteeism in education sector. *Front. Psychol.* 13, 890064. doi: 10.3389/fpsyg.2022.890064
- Akhtar, M. W., Javed, M., Syed, F., Aslam, M. K., and Hussain, K. (2020). Say no to wrongdoing: the serial mediation model of responsible leadership and whistleblowing intentions. *Int. J. Manpow.* 42, 889–903. doi: 10.1108/IJM-02-2020-0070
- Alniacik, E., Alniacik, Ü., Erat, S., and Akçin, K. (2013). Does person-organization fit moderate the effects of affective commitment and job satisfaction on turnover intentions? *Procedia Soc. Behav. Sci.* 99, 274–281. doi: 10.1016/j.sbspro.2013.10.495
- Alqudah, I. H., Carballo-Penela, A., and Ruzo-Sanmartin, E. (2022). High-performance human resource management practices and readiness for change: An integrative model including affective commitment, employees' performance, and the moderating role of hierarchy culture. *Eur. Res. Manag. Bus. Econ.* 28, 100177. doi: 10.1016/j.iedeen.2021.100177
- Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Acad. Manage J.* 37, 670–687. doi: 10.2307/256705
- Aslam, M. K., Akhtar, M. S., Akhtar, M. W., Asrar-ul-Haq, M., Iqbal, J., and Usman, M. (2021). “Reporting the wrong to the right”: the mediated moderation model of whistleblowing education and the whistleblowing intentions. *Kybernetes*. doi: 10.1108/K-02-2021-0123. [Epub ahead of print].
- Beltrán-Martín, I., and Bou-Llusar, J. C. (2018). Examining the intermediate role of employee abilities, motivation and opportunities to participate in the relationship between HR bundles and employee performance. *Bus. Res. Q.* 21, 99–110. doi: 10.1016/j.brq.2018.02.001
- Birt, M., Wallis, T., and Winternitz, G. (2004). Talent retention in a changing workplace: An investigation of variables considered important to South African talent. *South African Journal of Business Management*. 35, 25–31. doi: 10.4102/sajbm.v35i2.654
- Boon, C., Boselie, P., Paaewe, J., and den Hartog, D. (2007). “Measuring strategic and internal fit in hrm: an alternative approach,” in *Academy of Management Proceedings*, Vol. 2007 (Briarcliff Manor, NY: Academy of Management), 1–6.
- Bretz, Jr., Robert, D., and Judge, T. A. (1994). Person-organization fit and the theory of work adjustment: implications for satisfaction, tenure, and career success. *J. Vocat. Behav.* 44, 32–54. doi: 10.1006/jvbe.1994.1003
- Cable, D. M., and DeRue, D. S. (2002). The convergent and discriminant validity of subjective fit perceptions. *J. Appl. Psychol.* 87, 875. doi: 10.1037/0021-9010.87.5.875
- Cable, D. M., and Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organ. Behav. Hum. Decis. Process.* 67, 294–311. doi: 10.1006/obhd.1996.0081
- Carless, S. A. (2005). Person–job fit versus person–organization fit as predictors of organizational attraction and job acceptance intentions: a longitudinal study. *J. Occup. Organ. Psychol.* 78, 411–429. doi: 10.1348/096317905X25995
- Chen, L., Jilili, M., Wang, R., Liu, L., and Yang, A. (2022). The influence of person–job fit on health status and depression among chinese domestic employees: mediating effect of the employer–employee relationship. *Front. Psychol.* 12, 1–12. doi: 10.3389/fpsyg.2022.782022
- Den Hartog, D. N., and Verburg, R. M. (2004). High performance work systems, organisational culture and firm effectiveness. *Hum. Resour. Manag. J.* 14, 55–78. doi: 10.1111/j.1748-8583.2004.tb00112.x
- Edwards, J. R., Baglioni Jr, A. J., and Cooper, C. L. (1990). Stress, type-a, coping, and psychological and physical symptoms: a multi-sample test of alternative models. *Hum. Relat.* 43, 919–956. doi: 10.1177/001872679004301001
- Gould-Williams, J., and Mohamed, R. B. (2010). A comparative study of the effects of ‘best practice’HRM on worker outcomes in Malaysia and England local government. *Int. J. Hum. Resour. Manag.* 21, 653–675. doi: 10.1080/09585191003658821

Author contributions

CY: investigation, writing—review and editing, and conceptualization. FY: investigation, methodology, software, formal analysis, and writing—original draft. Both authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Gould-Williams, J. S., and Mohammed, A. (2021). "Linking HRM systems with public sector employees' performance," in *Managing for Public Service Performance: How People and Values Make a Difference*. p. 161–181.
- Gumbus, A., and Johnson, S. D. (2003). *The balanced scorecard at Futura Industries: relentless commitment to employees results in company success*. Available online at: <https://link.gale.com/apps/doc/A106059998/AONE?u=anon-a0936fb2&sid=googleScholar&xid=11b5122a> (accessed December 2, 2022).
- Gurbuz, S. (2009). The effect of high performance HR practices on employees' job satisfaction. *Istanbul Univ. J. School Bus. Admin.* 38, 110–123. Available online at: <https://iupress.istanbul.edu.tr/en/journal/ibr/article/the-effect-of-high-performance-hr-practices-on-employees-job-satisfaction>
- Guriting, P., and Ndubisi, N. O. (2006). Borneo online banking: evaluating customer perceptions and behavioural intention. *Manag. Res. News.* 29, 6–15. doi: 10.1108/01409170610645402
- Haider, S. A., Akbar, A., Tehseen, S., Poulova, P., and Jaleel, F. (2022). The impact of responsible leadership on knowledge sharing behavior through the mediating role of person–organization fit and moderating role of higher educational institute culture. *J. Innov. Knowl.* 7, 100265. doi: 10.1016/j.jik.2022.100265
- Haider, S. A., Gul, A., Anwar, B., Tehseen, S., and Iqbal, S. (2021). "The impacts of the COVID-19 outbreak on the education sector: evidence from Pakistan," in *Impact of Infodemic on Organizational Performance* (IGI Global), 311–328.
- Hauff, S., Felfe, J., and Klug, K. (2022). High-performance work practices, employee wellbeing, and supportive leadership: spillover mechanisms and boundary conditions between HRM and leadership behavior. *J. Hum. Resour. Manag.* 33, 2109–2137. doi: 10.1080/09585192.2020.1841819
- Holland, J. L. (1959). A theory of vocational choice. *J. Couns. Psychol.* 6, 35. doi: 10.1037/h0040767
- Holland, J. L. (1997). *Making Vocational Choices: A Theory of Vocational Personalities and Work Environments*, 3rd Edn. Odessa, FL: Psychological Assessment Resources.
- Hollenbeck, J. R. (1989). Control theory and the perception of work environments: the effects of focus of attention on affective and behavioral reactions to work. *Organ. Behav. Hum. Decis. Process.* 43, 406–430. doi: 10.1016/0749-5978(89)90045-9
- Hue, T. H., Vo Thai, H. C., and Tran, M. L. (2022). A Link between public service motivation, employee outcomes, and person–organization fit: evidence from Vietnam. *Int. J. Public Adm.* 45, 379–398. doi: 10.1080/01900692.2021.1912086
- Idrees, H., Hynek, J., Jin, X., Akbar, A., and Jabeen, D. (2022). Impact Of knowledge management capabilities on new product development performance through mediating role organizational agility and business model innovation as moderator. *Front. Psychol.* 13, 950054. doi: 10.3389/fpsyg.2022.950054
- Iplik, F. N., Kilic, K. C., and Yalcin, A. (2011). The simultaneous effects of person–organization and person–job fit on Turkish hotel managers. *Int. J. Contemp. Hosp. Manag.* 23, 644–661. doi: 10.1108/09596111111143386
- Jensen, J. M., Patel, P. C., and Messersmith, J. (2011). Exploring employee reactions to high performance work systems: Is there a potential "dark side"? *Acad. Manag. Proc.* 2011, 1–6.
- Jin, M. H., McDonald, B., and Park, J. (2018). Person–organization fit and turnover intention: Exploring the mediating role of employee followership and job satisfaction through conservation of resources theory. *Rev. Public Pers. Adm.* 38, 167–192. doi: 10.1177/0734371X16658334
- Junaedi, M., and Wulani, F. (2021). The moderating effect of person–organization fit on the relationship between job stress and deviant behaviors of frontline employees. *Int. J. Workplace Health Manag.* 14, 492–505. doi: 10.1108/IJWHM-06-2020-0103
- Kalia, M. (2002). Assessing the economic impact of stress [mdash] The modern day hidden epidemic. *Metab. Clin. Exp.* 51, 49–53. doi: 10.1053/meta.2002.33193
- Kehoe, R. R., and Wright, P. M. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *J. Manage.* 39, 366–391. doi: 10.1177/0149206310365901
- Kooij, D. T., and Boon, C. (2018). Perceptions of HR practices, person–organisation fit, and affective commitment: the moderating role of career stage. *Hum. Resour. Manag. J.* 28, 61–75. doi: 10.1111/1748-8583.12164
- Kristof-Brown, A. L. (2000). Perceived applicant fit: distinguishing between recruiters' perceptions of person–job and person–organization fit. *Pers. Psychol.* 53, 643–671. doi: 10.1111/j.1744-6570.2000.tb00217.x
- Kristof-Brown, A. L., and Jansen, K. J. (2007). "Issues of person–organization fit," in *Perspectives on Organizational Fit*, eds C. Ostroff and T. A. Judge (New York, NY: Lawrence Erlbaum Associates), 123–153.
- Kristof-Brown, A. L., Zimmerman, R. D., and Johnson, E. C. (2005). Consequences of individuals' fit at work: a meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. *Pers. Psychol.* 58, 281–342. doi: 10.1111/j.1744-6570.2005.00672.x
- Lambert, E., and Hogan, N. (2009). The importance of job satisfaction and organizational commitment in shaping turnover intent: a test of a causal model. *Crim. Justice Rev.* 34, 96–118. doi: 10.1177/0734016808324230
- Leiter, M. P., and Maslach, C. (2003). "Areas of worklife: a structured approach to organizational predictors of job burnout," in *Emotional and Physiological Processes and Positive Intervention Strategies* (Emerald Group Publishing Limited), 91–134.
- Li, M., Yang, F., and Akhtar, M. W. (2022). Responsible leadership effect on career success: the role of work engagement and self-enhancement motives in the education sector. *Front. Psychol.* doi: 10.3389/fpsyg.2022.888386
- López, S. P., Peón, J. M., and Ordás, C. J. (2004). Managing knowledge: the link between culture and organizational learning. *J. Knowl. Manag.* 8, 93–104. doi: 10.1108/13673270410567657
- Mansoor, M., Fida, S., Nasir, S., and Ahmad, Z. (2011). The impact of job stress on employee job satisfaction a study on telecommunication sector of Pakistan. *J. Bus. Stud. Q.* 2, 50.
- Mashhadi, M. B., Asadi, E., Eskandari, M., Kiani, S., and Marvasti, F. (2015). Heart rate tracking using wrist-type photoplethysmographic (PPG) signals during physical exercise with simultaneous accelerometry. *IEEE Signal Process. Lett.* 23, 227–231. doi: 10.1109/LSP.2015.2509868
- Mathis, R. L., and Jackson, J. H. (2003). *Human Resource Management*, (Manson, Ohio: Thomson South-Western, 2003). *Daniel Golden, "Buying Your Way into College," Wall Street Journal*.
- Mercer, G. (2005). "Job Retention: a new policy priority for disabled people," in *Working Futures: Disabled People, Policy and Social Inclusion* (Bristol University Press), 107.
- Messersmith, J. G., Patel, P. C., Lepak, D. P., and Gould-Williams, J. S. (2011). Unlocking the black box: exploring the link between high-performance work systems and performance. *J. Appl. Psychol.* 96, 1105. doi: 10.1037/a0024710
- Mostafa, A. M. (2017). High-performance HR practices, positive affect and employee outcomes. *J. Manag. Psychol.* doi: 10.1108/JMP-06-2016-0177
- Motowidlo, S. J., Packard, J. S., and Manning, M. R. (1986). Occupational stress: its causes and consequences for job performance. *J. Appl. Psychol.* 71, 618. doi: 10.1037/0021-9010.71.4.618
- Murphy, K., Torres, E., Ingram, W., and Hutchinson, J. (2018). A review of high performance work practices (HPWPs) literature and recommendations for future research in the hospitality industry. *Int. J. Contemp. Hosp. Manag.* doi: 10.1108/IJCHM-05-2016-0243
- Narayanan, S. S., and Sekar, P. C. (2009). A person–organisation fit study of college work culture and its impact on behavioural intentions of teachers. *Asia Pac. Manag. Rev.* 14.
- O'Reilly, C. A., and Chatman, J. (1986). Organizational commitment and psychological attachment: the effects of compliance, identification, and internalization on prosocial behavior. *J. Appl. Psychol.* 71, 492. doi: 10.1037/0021-9010.71.3.492
- Paaue, J., Wright, P., and Guest, D. (2013). HRM and performance: what do we know and where should we go?" In *HRM and Performance: Achievements and Challenges* (Wiley), 1–13.
- Pandey, S. K., Wright, B. E., and Moynihan, D. P. (2008). Public service motivation and interpersonal citizenship behavior in public organizations: testing a preliminary model. *Int Public Manag J.* 11, 89–108. doi: 10.1080/10967490801887947
- Parsons, F. (1909). *Choosing a vocation*: Brousson Press.
- Pattanawat, P., and Charoensukmongkol, P. (2022). Benefits of workplace spirituality on real estate agents' work outcomes: the mediating role of person–Job fit. *Manag. Res. Rev.* doi: 10.1108/MRR-06-2021-0482
- Petrides, K. V., and Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *Eur. J. Pers.* 15, 425–448. doi: 10.1002/per.416
- Pfeffer, J., and Jeffrey, P. (1998). *The Human Equation: Building Profits by Putting People First*. Harvard Business Press.
- Posthuma, R. A., Campion, M. C., Masimova, M., and Campion, M. A. (2013). A high performance work practices taxonomy: integrating the literature and directing future research. *J. Manage.* 39, 1184–1220. doi: 10.1177/0149206313478184

- Preacher, K. J., and Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav. Res. Meth. Instrum. Comput.* 36, 717–731. doi: 10.3758/BF03206553
- Ramsay, H., Scholarios, D., and Harley, B. (2000). Employees and high-performance work systems: testing inside the black box. *Br. J. Ind. Relat.* 38, 501–531. doi: 10.1111/1467-8543.00178
- Ran, Z., Gul, A., Akbar, A., Haider, S. A., Zeeshan, A., and Akbar, M. (2021). Role of gender-based emotional intelligence in corporate financial decision-making. *Psychol. Res. Behav. Manag.* 14, 2231. doi: 10.2147/PRBM.S335022
- Ran, Z. O., Zeb, S., Nisar, F., Yasmin, F., Poulouva, P., and Haider, S. A. (2022). The impact of emotional intelligence on career decision-making difficulties and generalized self-efficacy among university students in China. *Psychol. Res. Behav. Manag.* 15, 865. doi: 10.2147/PRBM.S358742
- Rousseau, D. M., and Greller, M. M. (1994). Human resource practices: administrative contract makers. *Hum. Resour. Manage.* 33, 385–401. doi: 10.1002/hrm.3930330308
- Schneider, B. (1987). The people make the place. *Pers. Psychol.* 40, 437–453. doi: 10.1111/j.1744-6570.1987.tb00609.x
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *J. Occup. Health Psychol.* 1, 27. doi: 10.1037/1076-8998.1.1.27
- Siegrist, J., Peter, R., Junge, A., Cremer, P., and Seidel, D. (1990). Low status control, high effort at work and ischemic heart disease: prospective evidence from blue-collar men. *Soc. Sci. Med.* 31, 1127–1134. doi: 10.1016/0277-9536(90)90234-J
- Syed, F., Naseer, S., Akhtar, M. W., Husnain, M., and Kashif, M. (2021). Frogs in boiling water: a moderated-mediation model of exploitative leadership, fear of negative evaluation and knowledge hiding behaviors. *J. Knowl. Manag.* doi: 10.1108/JKM-11-2019-0611
- Takeuchi, N., and Takeuchi, T. (2013). Committed to the organization or the job? Effects of perceived HRM practices on employees' behavioral outcomes in the Japanese healthcare industry. *Int. J. Human Res. Manag.* 24, 2089–2106. doi: 10.1080/09585192.2013.767059
- Uppal, N. (2020). Mediating effects of person–environment fit on the relationship between high-performance human resource practices and firm performance. *Int. J. Manpow.* doi: 10.1108/IJM-10-2019-0476
- Van De Voorde, K., and Beijer, S. (2015). The role of employee HR attributions in the relationship between high-performance work systems and employee outcomes. *Hum. Resour. Manag. J.* 25, 62–78. doi: 10.1111/1748-8583.12062
- Walker, J. W. (2001). Perspectives of human resource planning. *J. Manage.* 24, 6–10.
- Wei, C. C., Choy, C. S., Chew, G. G., and Yen, Y. Y. (2012). Knowledge sharing patterns of undergraduate students. *Lib. Rev.* 61, 327–344. doi: 10.1108/00242531211280469
- Wilk, S. L., and Sackett, P. (1996). Longitudinal analysis of ability–job complexity fit and job change. *Pers. Psychol.* 49, 937–967. doi: 10.1111/j.1744-6570.1996.tb02455.x
- Yasmin, F., Li, S., Zhang, Y., Poulouva, P., and Akbar, A. (2021). Unveiling the international students' perspective of service quality in Chinese higher education institutions. *Sustainability.* 13, 6008. doi: 10.3390/su13116008
- Youndt, M. A., Snell, S. A., Dean Jr, J. W., and Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Acad. Manage J.* 39, 836–866. doi: 10.2307/256714
- Zeb, S., Akbar, A., Gul, A., Haider, S. A., Poulouva, P., and Yasmin, F. (2021). Work–family conflict, emotional intelligence, and general self-efficacy among medical practitioners during the COVID-19 pandemic. *Psychol. Res. Behav. Manag.* 14, 1867. doi: 10.2147/PRBM.S333070



OPEN ACCESS

EDITED BY

Ahsan Akbar,
South China University of Technology,
China

REVIEWED BY

Bin He,
Guangdong University of Technology,
China
Sushanta Kumar Mishra,
Indian Institute of Management Bangalore,
India

*CORRESPONDENCE

Wei Shi
✉ swei@ruc.edu.cn

SPECIALTY SECTION

This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 02 October 2022

ACCEPTED 05 December 2022

PUBLISHED 22 December 2022

CITATION

Sun T, Shi W and Wang J (2022)
Re-examine the influence of organizational
identification on unethical pro-supervisor
behavior.
Front. Psychol. 13:1060032.
doi: 10.3389/fpsyg.2022.1060032

COPYRIGHT

© 2022 Sun, Shi and Wang. This is an
open-access article distributed under the
terms of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that
the original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

Re-examine the influence of organizational identification on unethical pro-supervisor behavior

Tuwei Sun¹, Wei Shi^{2*} and Jing Wang³

¹Chongqing City Branch, Industrial and Commercial Bank of China, Chongqing, China, ²School of Labor and Human Resources, Renmin University of China, Beijing, China, ³School of Management, Zunyi Medical University, Zunyi, China

Employees' unethical pro-supervisor behavior (UPSB) is common in organizations. Existing research primarily argued that organizational identification increases this behavior, emphasizing that UPSB benefits organizations indirectly. However, it ignores that UPSB can sometimes serve the interests of the supervisor at the expense of the interests of the organization. Drawing on social identity theory and social cognitive theory, this study aims to emphasize this point by proposing that organizational identification can inhibit employees' UPSB *via* the mediation of felt obligation. We also propose that perceived organizational cronyism would weaken the negative effect. Data were collected through a self-reported online questionnaire based on a three-wave research design and analyzed through hierarchical regression analyses. With a sample of 578 Chinese employees, we found support for our propositions. Implications and limitations are discussed.

KEYWORDS

unethical pro-supervisor behavior, organizational identification, perceived organizational cronyism, felt obligation, the unethical behavior to benefit others

1. Introduction

Unethical pro-supervisor behavior (UPSB) refers to the type of work behavior that benefits supervisor by violating core social values, ethics, laws, or standards (Johnson and Umphress, 2019). Concealing a supervisor's mistakes from the organization and deceiving customers to help a supervisor improve his or her performance are two examples.

Some scholars (Umphress and Bingham, 2011; Johnson and Umphress, 2019; Bryant and Merritt, 2021) argue that UPSB is a specific type of unethical pro-organization behavior (UPOB) and consider UPSB complying with the two key components of the definition of UPOB (Umphress et al., 2010; Umphress and Bingham, 2011): (1) unethical; (2) the intent to promote the effective functioning of the organization. Although Umphress and Bingham (2011) point out that the unethical behavior serving the interests of the organizational members falls into the scope of UPOB, they in fact take the members as the agency to help the organization (Cheng et al., 2021a) and have ignored that the interests of the organization

and the supervisor can sometimes conflict with each other (Jensen and Meckling, 1976). Thus, other scholars claim that UPSB is not a simply specific type of UPOB because it can benefit the supervisor while harming the organization at the same time (Cheng and Lin, 2019; Mesdaghinia et al., 2019; Li et al., 2021). Mesdaghinia et al. (2019, p. 493) have directly pointed out that “[UPSB] serves the interests of the supervisor, sometimes at the expense of the organization.” Similarly, Li et al. (2021, p. 3) argued that “UPSB focuses on its pro-supervisor aspect, yet is perceived as unethical by the larger society and might even be detrimental to the organization. For example, concealing a supervisor’s misconduct of receiving bribes for promotion helps the supervisor avoid punishment, but it violates shareholders’ and the organization’s interests.” These scholars distinguish the intent to benefit the organization and the intent to help the supervisor. It can be inferred that only when employees have the intents to help both of the supervisor and the organization, the scope of UPSB overlaps with that of UPOB. In sum, the key components of the definition of UPSB are unethical and the intent to help the supervisor, and there exists two understandings of UPSB based on whether this behavior beneficial for the organization or not.

Based on the assumption that UPSB indirectly helps the organization by helping its supervisors, some studies have explored how leadership and organization factors influence employees’ UPSB (Johnson and Umphress, 2019; Cheng et al., 2021a). Johnson and Umphress (2019) have identified organizational identification as a key antecedent of UPSB, because those who are highly identified want to benefit the organizations through promoting the effectiveness of the supervisor. However, they largely ignored UPSB benefits supervisors at the expense of the organization’s interests. We might get different findings when we consider this point.

The current study focuses on the UPSB promoting the interests of the supervisor at the expense of the organization and aims to re-examine the relationship between organizational identification and UPSB. Based on social identity theory and social cognitive theory, we propose that organizational identification might decrease UPSB harming the organization because those who are highly identified feel strongly obligated to care about the organization and to achieve its goals.

Moreover, the theories have clearly proposed that employees’ unethical behavior is conditioned by situational factors (Bandura, 1991). Perceived organizational cronyism refers to an employee’s perceptions about the supervisors favoring on employees based their personal relationships rather than performance standards (Turhan, 2014; De Clercq et al., 2021). When employees perceive there exist such phenomena in their organization, they are more willing to take pro-supervisor behaviors (e.g., Shaheen et al., 2019). Considering UPSB is a supervisor-focused behavior and can be used as a strategy to gain the favor of the supervisor (Cheng et al., 2021a), employee’s perceived organizational cronyism is likely to affect the effect of organizational identification on UPSB.

This study makes the following contributions: First, this study contributes to the literature about UPSB by providing preliminary

evidence that there exist different kinds of UPSB. We find that organizational identification negatively affects UPSB harming the organization is opposite to the finding by Johnson and Umphress (2019) with the understanding that UPSB indirectly helps the organization, which illustrates the likely existence of the two kinds of UPSB based on whether this behavior beneficiary for the organization or not. Second, the study reveals a new mechanism: felt obligation, thus deepening our understanding of why organizational identification matters. Last, the study explores the moderating effects of perceived organizational cronyism on the negative influence of organizational identification on UPSB, which helps us better understand what context might breed more UPSB. Figure 1 presents the moderated mediation model underlying our research.

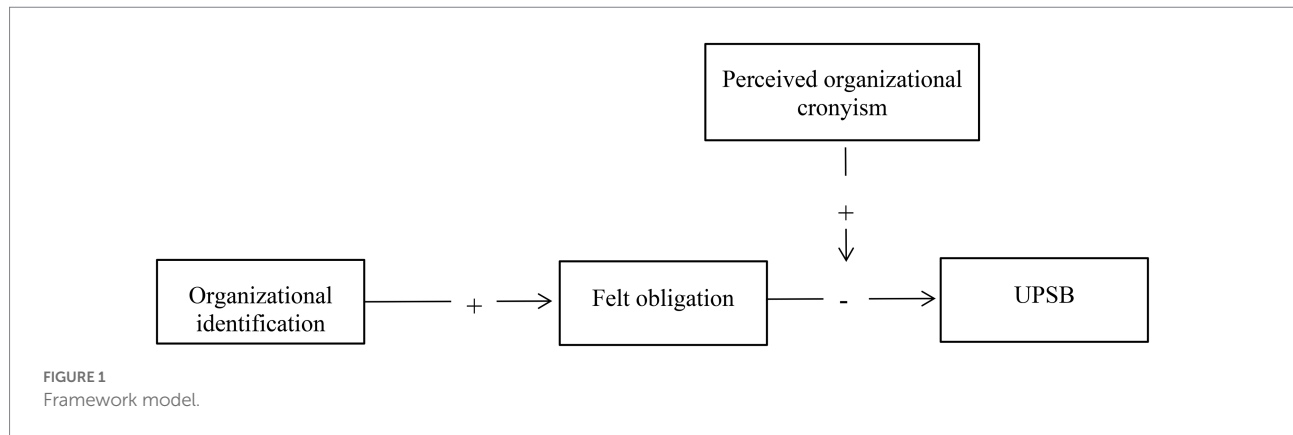
2. Theoretical background and hypotheses development

2.1. Organizational identification and UPSB

Organizational identification refers to the extent to which individuals define themselves as members of an organization (Mael and Ashforth, 1992). Individuals with a high level of organizational identification are more inclined to exhibit beneficial behaviors and contribute to the organization’s success (Haslam and Ellemers, 2005), even at the expense of others’ interests. For example, some scholars found that a high level of organizational identification could make employees engage in unethical behaviors that improve the organization’s efficiency at the expense of the customers’ interests (Umphress et al., 2010). This effect has received much empirical support (Umphress et al., 2010; Effelsberg et al., 2014; Kalshoven et al., 2016; Kong, 2016; Baur et al., 2019).

Specifically, Johnson and Umphress (2019) found that organizational identification could increase individuals’ UPSB, which in turn promotes the organization’s interests. However, their research considers UPSB as a way to indirectly help the organization and ignored the potentially harmful effect of UPSB on the organization (Mesdaghinia et al., 2019; Li et al., 2021). In an organization, it is common that there exist conflicts of interest between the supervisor and the organization (Jensen and Meckling, 1976). For example, if employees help a supervisor to cover up mistakes, the organization will lose an opportunity to correct such errors, which will ultimately result in losses for the organization. This study focuses on the aspect of UPSB that benefits supervisors but harms organizations (Mesdaghinia et al., 2019; Li et al., 2021).

According to social identity theory, with high organizational identification, employees are more inclined to define themselves based on their organizations and regard their organizations’ goals as their own (Mael and Ashforth, 1992). Such self-definition would motivate people to carry out activities that support and protect the interests of the organization (Ashforth and Mael, 1989).



Therefore, they are less likely to engage in behavior that could be detrimental to the interests of the organization (Tajfel and Turner, 1986). UPSB increases supervisors' benefits at the expense of the organization. As the level of organizational identification of employees increases, employees would care more about the organizations' benefits and behave in line with the role requirements of the organization (Hekman et al., 2009), which will make them less willing to display UPSB. Thus, we propose:

Hypothesis 1 (H1): Organizational identification negatively affects UPSB.

2.2. The mediating role of employees' felt obligation

According to social identity theory, when individuals define themselves as an organizational member, the self-concept will make individuals realize a stereotypical role mode as an organizational member about "what one should think and feel, and how one should behave" (Hogg et al., 1995, p. 260; Ashforth et al., 2008). When a certain identity is salient in mind, the stereotypical role mode of this identity is more internalized into this individual, which leads this individual to better understand and undertake the obligations and responsibilities brought by this identity (e.g., Hekman et al., 2009).

In an organization, employees' felt obligation is the belief held by individual employees that they should care for the healthy development of the organization and achieve its goals (Eisenberger et al., 2001), which reflects an employee's understanding of the obligations that he or she should assume as a member of the organization. With the increase of employees' organizational identification, employees increasingly regard organizational membership as the core identity to define their self-concept, which makes employees more clear about the obligations and responsibilities that organizational members need to undertake, and more clear that the obligations that organizational members need to perform are to safeguard and promote the interests of the

organization, and regard the goals of the organization as their own goals. In other words, organizational identification will affect the formation of employees' felt obligation.

When employees feel obligated to their organizations, they are motivated to achieve the group's goals and ensure their benefits (Thompson et al., 2020; Cheng et al., 2021b). If employees fail to fulfill their obligations, they feel guilty and this threatens their self-concept (e.g., Wang et al., 2021). To avoid this sense of guilt and threat to their self-concept, individuals with high felt obligation will be more inclined to display positive attitudes toward their organizations and conduct pro-organizational behaviors (Roch et al., 2019). For example, felt obligation was found to promote organizational citizenship behavior (Thompson et al., 2020) and inhibit unethical pro-family behavior (Cheng et al., 2021b). UPSB is a type of unethical behavior that improves the interests of supervisors by harming the interests of the organization, which is contrary to the obligations that employees should fulfill as members of the organization. The stronger their obligations, the less likely they are to engage in such behavior. Therefore, the study proposes the following hypothesis:

Hypothesis 2 (H2): The negative effect of organizational identification on UPSB is mediated by employees' felt obligation.

2.3. The moderating effect of perceived organizational cronyism

According to social cognitive theory, the ethical behaviors of employees are controlled by their self-regulation mechanism, which is highly contextualized—whether it is activated or not is affected by the individual's cognition at the time and the individual's recognition and interpretation of the situational factors (Bandura, 1991). When an employee's intended behavior violates his/her own self standards, the employee will self-condemn the expected unethical behavior, and then control himself/herself not to conduct the behavior (Bandura, 1991).

However, when employees can find adequate reasonable excuses for their unethical behaviors, their self-regulation mechanism can be dysfunctional, so that they can avoid self-condemnation when implementing unethical behaviors and conduct unethical behavior without psychological burden (Bandura, 1999).

With the increase of employees' felt obligation, employees become more aware of their obligations to care for the organization and achieve its goals as a member of the organization (Eisenberger et al., 2001). If an employee fails to fulfill his/her obligations, he/she will feel guilty and threaten his/her self-concept (e.g., Wang et al., 2021). Therefore, employees with higher sense of obligation are more likely to recognize the destructiveness of UPSB to the organization, recognize the unethical nature of the behavior, and activate the self-regulation mechanism to inhibit the occurrence of the behavior.

Organizational cronyism refers to the phenomenon that supervisors tend to show favoritism toward certain subordinates and prioritize their interests based on the quality of personal relationships rather than performance-based standard (Turhan, 2014). When employees perceive a high level of organizational cronyism, they will believe that loyalty to leaders is the most important criterion for evaluating the worthiness of an organizational member in the eyes of their supervisors (Turhan, 2014). The general emphasis on loyalty to their direct supervisors will make employees more likely to consider UPSB as reasonable behavior to express "loyalty" in the organization (Turhan, 2014). In addition, considering supervisors are one of key factors for employees' career success (e.g., Akkaya et al., 2022), employees might find that some employees in the organization receive benefits because they show loyalty and obedience to the supervisors, which makes employees eager to get the same preferential treatment (Shaheen et al., 2019). Taken together, when employees perceive high level of organizational cronyism, they are easier to find acceptable excuses to rationalize their UPSB and thus their self-regulation mechanism is harder to be activated by felt obligation to curb their UPSB. As a result, they are more likely to exhibit UPSB. On the contrary, when employee's perceived organizational cronyism is of low level, people might withhold UPSB because their self-regulation mechanisms more likely to be activated by felt obligation due to the lack of enough excuses for their UPSB. Therefore, the study proposes the following hypothesis:

Hypothesis 3 (H3): Employees perceived organizational cronyism will moderate the effect of employees' felt obligation on UPSB. Specifically, as the level of perceived organizational cronyism increases, the negative effect of employees' felt obligation on UPSB will be weakened.

Furthermore, combining H2 and H3, based on social identity theory and social cognitive theory, this study argues that the mediating effect of employee's felt obligation between organizational identification and UPSB is affected by the perceived organizational cronyism. With the increase of organizational

identification, employees are more likely to form felt obligation due to the salience of the identity as organizational membership, which makes it easier for employees to identify the damage of UPSB to the organization, thus activating the self-regulation mechanism and inhibiting their own UPSB. When employees have a high level of perceived organizational cronyism, they will think that giving priority to the interests of supervisors and showing their loyalty to supervisors are universal behaviors in the organization, and thus they are more likely to think that UPSB is a reasonable "loyalty" behavior in the organization. As a result, the self-regulation mechanism activated by the sense of obligation is inhibited, so that they can exercise UPSB without psychological burden. On the contrary, when employees have a low level of perceived organizational cronyism, the self-regulation mechanism activated by employees based on felt obligation will normally play a role in inhibiting UPSB.

Combining H2 and H3, this study proposes the following hypothesis:

Hypothesis 4 (H4): Employees perceived organizational cronyism will moderate the mediating effect of employees' felt obligation between organizational identification and UPSB. Specifically, as the level of perceived organizational cronyism increases, the negative impact of organizational identification on UPSB through employees' felt obligation diminishes.

3. Participants and study design

3.1. Data collection

Since UPSB was found to be popular in many industries and organizations (Mesdaghinia et al., 2019), we intended to collect a sample of adults with full-time jobs from different industries. In this study, we collected data from a database platform¹ where there are millions of online respondents from multiple industries. The quality of data collected from this platform has been demonstrated by many papers published in top-ranked journals (e.g., Huang and Sengupta, 2020; Chang et al., 2022).

To reduce common method bias, we conducted a three-wave questionnaire-based survey with a time lag of 2 weeks. We restricted the range of potential participants to adults with full-time jobs in government, enterprises, or public institutions. To avoid that one participant takes multiple surveys at one time, we required each IP address to be limited to completing the questionnaire once at every stage. In each round of the questionnaire survey, attention-check questions were added to ensure data quality.

Questionnaires were distributed to 806 employees, and 582 employees participated in three consecutive surveys. The overall

¹ <https://www.credamo.com>

employee retention rate of the three surveys was 72.21%. After deleting the questionnaires of four employees who had either responded in a perfunctory way or failed the attention check test, 578 valid questionnaires were obtained. In the final sample, men accounted for 44.6% of the total, and women for 55.4%. The sample's average age was 29.94 years old ($SD = 6.11$), with 61.1% under 30 years old, 32.8% between 30 and 40 years old, and 6.1% over 40 years old. In terms of education level, 3.8% had completed general high school/technical secondary school/technical school/vocational high school, 13.1% had completed junior college, 73.9% had a bachelor's degree, 8.7% a master's degree, and 0.5% a doctoral degree. The average job tenure was 5.25 years ($SD = 4.96$), and the average tenure with the direct supervisor was 2.93 years ($SD = 2.29$). In terms of the type of organizations, 10.7% were government agencies, 12.3% were public institutions, 50.7% were private enterprises, 21.5% were state-owned enterprises, and 4.8% were foreign-funded enterprises.

3.2. Measures

The scales used in this study are all mature scales published in top-tier journals and widely accepted by scholars in the field of organizational behavior. The researchers followed a strict "translation and back-translation" procedure (Brislin, 1970) to translate the original English scale into Chinese.

3.2.1. Organizational identification

In this study, the six-item scale of Mael and Ashforth (1992) was used to measure organizational identification ($\alpha = 0.83$).

3.2.2. Employees' felt obligation

The seven-item scale of Eisenberger et al. (2001) was used to measure felt obligation. ($\alpha = 0.79$).

3.2.3. Perceived organizational cronyism.

This study used the 15-item scale developed by Turhan (2014) to measure perceived organizational cronyism (six items measured insider preferences, five items measured paternalistic cronyism, and four items measured preferences based on reciprocal exchange relationships; $\alpha = 0.90$).

3.2.4. Unethical pro-supervisor behavior

Since there is no mature scale for measuring the type of UPSB that harms the interests of the organization, this study adopted the scale of Johnson and Umphress (2019) but changed the reference from "others" to "organization" and defined supervisor as the "direct supervisor." The scale contains six items: "Because it was necessary, I concealed information from the organization that could be damaging to my supervisor," "Because my direct supervisor needed me to, I did not reveal to other members of the organization a mistake my supervisor made that would damage the supervisor's reputation," "Because it helped my supervisor, I exaggerated the truth about my supervisor's performance to the organization," "Because it benefited my supervisor, I withheld negative

information about my supervisor's performance from others in the organization," "Because it helped my supervisor, I misrepresented the truth to make my supervisor look good," and "Because my supervisor needed me to, I spoke poorly of another individual in the organization who was a problem for my supervisor".

We conducted a pilot test to examine the reliability and validity of the scale. The questionnaire included items measuring UPSB and other concepts similar to UPSB that could show supervisor-centered behavior (e.g., supervisor-directed citizenship behavior, supervisor-directed ingratiation, and political behavior). The scale of Liao and Rupp (2005) was used to measure supervisor-directed citizenship behavior, the scale developed by Ingold et al. (2015) was used to measure supervisor-directed ingratiation, and the scale developed by Gabriel et al. (2018) was used to measure political behavior. Results of the pilot study including 200 employees showed that the internal consistency coefficient α of the UPSB scale was 0.92 and this scale had good discriminant validity with other similar constructs. Full results could be obtained from the authors.

3.2.5. Control variables

As the job tenure and the tenure with the direct supervisor could affect employees' cognition and attitude toward the organization and supervisor, the research took the two as control variables. Gender, age, educational background, and organization type were also taken as control variables.

4. Results

4.1. Confirmatory factor analysis

This study used Mplus 8.0 to conduct the confirmatory factor analysis. The details of the analysis results are summarized in Table 1. As perceived organizational cronyism is a three-dimensional structure, we created parcels based on these subdimensions (Little et al., 2002). The results of the analysis show that compared with other competitive models, the four-factor model has the best fit ($\chi^2 = 514.26$; $DF = 201$; $\chi^2/DF = 2.56$; $CFI = 0.95$; $TLI = 0.94$; $RMSEA = 0.05$; $SRMR = 0.05$). This indicates good discriminant validity among these four variables.

4.2. Descriptive analysis

The mean, standard deviation, and correlation coefficients of all the study's variables are shown in Table 2.

4.3. Convergent and discriminant validity

We checked the convergent and discriminant validity among constructs. Given that all average variance extracted (AVE) values were bigger than the squared correlation

TABLE 1 Results of the confirmatory factor analysis.

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR
Model 1: A, B, C, D	514.26	201.00	2.56	0.95	0.94	0.05	0.05
Model 2: A + B, C, D,	952.38	204.00	4.67	0.88	0.86	0.08	0.07
Model 3: A + B + C, D	1388.29	206.00	6.74	0.81	0.79	0.10	0.09
Model 4: A + B + C + D	3368.42	207.00	16.27	0.49	0.43	0.16	0.18

N = 578. A = perceived organizational cronyism, B = felt obligation, C = organizational identification, D = UPSB.

TABLE 2 Variable mean, standard deviation, and correlation coefficient.

	M	SD	1	2	3	4	5	6	7	8	9	10
1 Age	29.94	6.11	–									
2 Gender	0.55	0.50	–0.05	–								
3 Education	2.06	0.24	–0.08	0.05	–							
4 Job tenure	5.35	4.96	0.82**	–0.03	–0.010*	–						
5 Tenure with the direct supervisor	2.93	2.29	0.52**	–0.02	–0.05	0.60**	–					
6 Organization type	2.27	1.09	–0.22**	0.02	–0.18**	–0.25**	–0.12**	–				
7 Organizational identification (T1)	5.50	0.87	0.18**	–0.07	0.04	0.21**	0.20**	–0.10*	0.45			
8 Felt obligation (T2)	5.31	0.80	0.24**	–0.06	0.05	0.26**	0.28**	–0.06	0.51**	0.55		
9 Perceived organizational cronyism (T2)	3.86	0.50	–0.06	–0.02	0.03	–0.05	–0.12**	–0.08	–0.20**	0.67**	0.51	
10 UPSB (T3)	3.17	1.28	–0.09*	–0.09*	0.05	–0.10*	–0.17**	0.07	–0.14**	0.33***	0.39***	0.64

N = 578; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Gender: 0 = male, 1 = female; Education: 0 = general high school/technical secondary school/technical school/vocational high school, 1 = junior college, 2 = bachelor's degree, 3 = master's degree, 4 = doctoral degree; Type of organization: 0 = government, 1 = public institution, 2 = state-owned enterprise, 3 = private enterprise, 4 = foreign enterprise; average variance extracted (AVE) for constructs are provided on the diagonal.

between a specific variable and any other variables (see Table 2), and most of AVE were bigger than 0.5, the measurement model had acceptable convergent validity and discriminant validity.

4.4. Hypothesis tests

4.4.1. The negative influence of organizational identification on UPSB

After controlling employees' age, gender, educational background, job tenure, tenure with the direct supervisor, and organization type, we took *organizational identification* as the independent variable and *UPSB* as the dependent variable to conduct a hierarchical regression. Table 3 summarizes the results. Model 4 shows that organizational identification has a significant negative effect on UPSB ($B = -0.12$; $p = 0.006 < 0.01$). Therefore, H1 is supported.

4.4.2. The mediating effect of employees' felt obligation

To test the mediating effect of employees' felt obligation, we used Baron and Kenny's (1986) method. The results are summarized in Table 3. Model 2 shows that the independent

variable *organizational identification* has a significant positive effect on the mediating variable *felt obligation* ($B = 0.46$; $p = 0.000 < 0.001$). Model 5 shows that employees' felt obligation has a significant negative effect on UPSB ($B = -0.30$; $p = 0.000 < 0.001$), and the effect of organizational identification on UPSB is not significant ($B = 0.02$, $p = 0.640 > 0.05$). We also employed bootstrapping methods to retest the mediating effect. Results reveal there is a nonsignificant direct effect, $B = 0.03$, 95%CI = $[-0.101, 0.165]$, and a significant indirect effect, $B = -0.21$, 95%CI = $[-0.288, -0.126]$. Therefore, felt obligation fully mediate the relationship between organizational identification and UPSB. Thus, H2 is supported.

4.4.3. The moderating effect of perceived organizational cronyism

Next, we used hierarchical regression to test the moderating effect of perceived organizational cronyism. Before entering the variables into the regressions, we centralized the mediating variable *felt obligation*, and the moderating variable *perceived organizational cronyism*. After controlling age, gender, and other variables, the results are summarized in Table 4.

Model 4 in Table 4 shows that the interaction term of felt obligation and perceived organizational cronyism has a significant positive effect on UPSB ($B = 0.15$; $p = 0.000 < 0.001$). We then

TABLE 3 The test of the mediating effect of employees' felt obligation by causal stepwise regression.

Variable	Employees' felt obligation				UPSB					
	Model 1		Model 2		Model 3		Model 4		Model 5	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
Control variable										
Age	0.07	0.01	0.07	0.01	0.00	0.02	0.00	0.02	0.02	0.01
Gender	−0.06	0.06	−0.03	0.06	−0.10*	0.11	−0.11	0.11	−0.12**	0.10
Education	0.08*	0.05	0.05	0.05	0.06	0.09	0.06	0.09	0.08	0.09
Job tenure	0.09	0.01	0.04	0.01	0.02	0.02	0.04	0.02	0.05	0.02
Tenure with the direct supervisor	0.20***	0.02	0.14**	0.02	−0.18**	0.03	−0.16**	0.03	−0.12**	0.03
Organization type	0.01	0.03	0.03	0.03	0.06	0.05	0.06	0.05	0.07	0.05
Independent variables										
Organizational identification			0.46**	0.03			−0.12**	0.06	0.02	0.07
Mediating variable										
Employees' felt obligation									−0.30***	0.08
<i>R</i> ²	0.10		0.30		0.04		0.06		0.12	
ΔR^2			0.29***				0.05***		0.10***	

N = 578; **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

calculated simple effects to better illustrate the moderating effect. The results are shown in Figure 2. The negative effect of felt obligation on UPSB is nonsignificant when employees perceive a high level of organizational cronyism ($B = -0.13$; $SE = 0.07$; 95% CI = $[-0.279, 0.01]$), and significant when employees perceive a low level of organizational cronyism ($B = -0.56$; $SE = 0.10$; 95% CI = $[-0.766, -0.359]$). Hence, H3 is supported.

4.4.4. The moderated mediation effect

To test H4, based on the macro-process model 14 of SPSS, the bootstrapping method (5,000 replications) is used to test the second stage moderated mediation. The results show that when employees perceive a high level of organizational cronyism, the indirect effect of organizational identification on UPSB is not significant (indirect effect = -0.07 ; $SE = 0.04$; 95% CI = $[-0.155, 0.013]$). When employees perceive a low level of organizational cronyism, the indirect effect of organizational identification on UPSB is significant (indirect effect = -0.26 ; $SE = 0.06$; 95% CI = $[-0.384, -0.136]$). In addition, the index of moderated mediation is 0.09 ($SE = 0.03$; 95% CI = $[0.030, 0.162]$). Thus, H4 is supported.

5. Discussion

In the current study, based on social identity theory, we proposed a moderated mediation model linking organizational identification and UPSB. Based on a three-wave design, we found a negative association between these two variables. Besides, we showed the mediation effect of felt obligation and the moderation effects of perceived organizational cronyism. These results carry important implications.

5.1. Theoretical implications, and contributions

First of all, this study re-examines the influence of organizational identification on UPSB and finds a negative association between organizational identification on UPSB, which is different from previous studies (Johnson and Umphress, 2019). This finding showed that previous studies ignored an important point: UPSB might harm organizations. These studies examined the influence on UPSB by merely emphasizing that UPSB could indirectly promote organizational interests by helping leaders (Johnson and Umphress, 2019; Bryant and Merritt, 2021). This study shows that the research about UPSB is incomplete if it ignored the damage UPSB might have on an organization when exploring the influence of employees' relationships with the organization on the UPSB. In addition, this study contributes to the UPSB literature by providing preliminary evidence that there exist different types of UPSB based on whether this behavior beneficial for the organization or not.

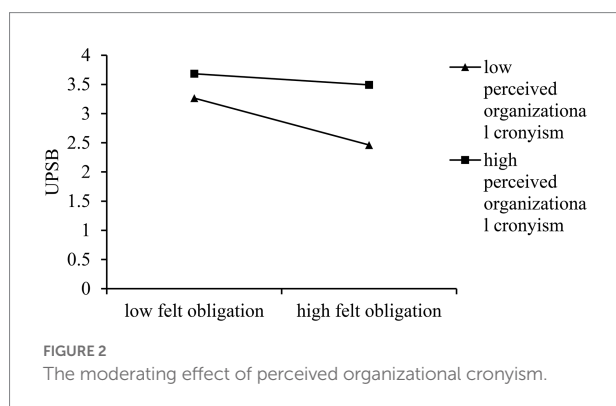
Second, the study reveals the mediating effect of felt obligation. So far, this is the first study to reveal the mechanism through which organizational identification influences UPSB. This study adds to the literature, and found that identification might increase people's obligation to their organizations, which would inhibit UPSB. This study deepens our understanding of why organizational identification could reduce UPSB.

Last, this study reveals the boundary conditions of organizational identification affecting UPSB. We found that perceived organizational cronyism could buffer the effect of organizational identification. These results showed that UPSB is a

TABLE 4 Moderating effect of organizational cronyism.

Variable	Dependent variable: UPSB Moderator: Perceived organizational cronyism							
	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
Control variable								
Age	0.00	0.02	0.02	0.01	0.02	0.01	0.04	0.01
Gender	−0.10**	0.11	−0.12**	0.10	−0.12**	0.10	−0.12***	0.10
Education	0.06	0.09	0.08	0.08	0.07	0.08	0.07	0.08
Job tenure	0.02	0.02	0.05	0.02	0.03	0.02	0.01	0.02
Tenure with the direct supervisor	−0.18**	0.03	−0.12**	0.03	−0.10**	0.03	−0.10**	0.03
Organization type	0.06	0.05	0.07	0.05	0.10	0.05	0.08	0.05
Mediating variable								
Employees' felt obligation			−0.29***	0.07	−0.16***	0.07	−0.22***	0.07
Moderating variable								
Perceived organizational cronyism					0.32***	0.06	0.27***	0.06
Interaction term								
Employees' felt obligation × perceived organizational cronyism							0.15***	0.06
<i>R</i> ²	0.03		0.11		0.20		0.22	
ΔR^2			0.08***		0.09***		0.02***	

N = 578; **p* < 0.05, ***p* < 0.01, ****p* < 0.001.



person-in-situation phenomenon. That is, while people would make decisions based on their identification and felt obligations, their final behavior was still influenced by their perceptions about the situation, which is in line with the prior research that employees' behavior is highly influenced by the situation (e.g., Haider et al., 2022).

5.2. Practical implications

This study has the following implications for management practice. First, organizations need to be aware of the positive effect of organizational identification and guide employees to establish the correct value orientation. Organizations could make it clear to managers that employees' organizational identification can increase

their felt obligation to care for the organization, and thus reduce non-ethical behaviors for supervisors that disregard the interests of the organization. Managers should utilize the positive side of organizational identification, make employees take their organization to heart, always take the interests of the organization into account, and emphasize the overall interests of the organization as a priority.

Second, organizations should create a favorable working environment and stick to meritocracy and oppose favoritism. This study reveals that in organizations where nepotism is prevalent, employees are more likely to engage in unethical supervisor-centered behavior. As managers are key to creating working environment (e.g., Tanveer et al., 2013; Jiang et al., 2022), managers should adhere to the principle of merit-based selection, explore, and select excellent talents with objective ability, and rationally allocate and use these talents. This requires managers to not judge employees according to their likes and dislikes, close relationships, or personal grudges, and to not encourage cliques. Instead, managers should realistically evaluate the ability and potential of each employee. When a healthy and harmonious atmosphere is created in the organization and unethical ways of selecting and employing people are eliminated, organizations are in a better position to promote cohesion, creativity, and increase effectiveness.

5.3. Limitations and future directions

Although this paper makes a theoretical contribution to the field of UPSB research and has implications for management practice, there are a few limitations, which might encourage

further improvement and the development of related research in this field.

First, this study focuses on UPSB that causes harm to an organization and ignores UPSB that indirectly benefits an organization. Future research could systematically theorize the two types of UPSB, create corresponding scales of them and investigate the different effects of various antecedents on them to advance our understanding of their conceptual scopes.

Second, while the study investigated the role of perceptions of situation in the process of displaying UPSB, it did not investigate the boundary conditions at an organizational and team level. Cross-level research could extend our understandings of the causes of UPSB at the organizational and team levels. To fill this gap in the literature, we encourage future research on the antecedents and boundary effects at the organizational and team levels.

Third, this study did not consider the differences of employees from various generations. For example, as employees of Generation Z born in the Internet age are natives of self-motivators (Dobrowolski et al., 2022), they may exhibit different tendencies for UPSB compared with other generations. Thus, future research can explore how different generations exhibit different tendencies to exhibit UPSB.

Last, this study was primarily conducted in China. Previous research has found that in East Asian countries that value harmony, leaders are placed at more importance places than organizations (Turhan, 2014). Our hypotheses have been verified in Chinese organizations, but more research needs to be conducted on whether the same conclusion can be drawn in the West.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

References

- Akkaya, B., Panait, M., Apostu, S. A., and Kaya, Y. (2022). Agile leadership and perceived career success: the mediating role of job embeddedness. *Int. J. Environ. Res. Public Health* 19:4834. doi: 10.3390/ijerph19084834
- Ashforth, B. E., Harrison, S. H., and Corley, K. G. (2008). Identification in organizations: an examination of four fundamental questions. *J. Manag.* 34, 325–374. doi: 10.1177/0149206308316059
- Ashforth, B. E., and Mael, F. (1989). Social identity theory and the organization. *Acad. Manag. Rev.* 14, 20–39. doi: 10.2307/258189
- Bandura, A. (1991). “Social cognitive theory of moral thought and action,” in *Handbook of Moral Behavior and Development: Theory, Research and Applications*, eds. W. M. Kurtines and J. L. Gewirtz (Hillsdale, NJ: Lawrence Erlbaum Associates Inc), 71–129.
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personal. Soc. Psychol. Rev.* 3, 193–209. doi: 10.1207/s15327957pspr0303_3
- Baron, R. M., and Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037/0022-3514.51.6.1173
- Baur, C., Soucek, R., Kühnen, U., and Baumeister, R. F. (2019). Unable to resist the temptation to tell the truth or to lie for the organization? Identification makes the difference. *J. Bus. Ethics.* 167, 643–662. doi: 10.1016/S0140-6736(03)12987-X
- Brislin, R. (1970). Back-translation for cross-cultural research. *J. Cross-Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301
- Bryant, W., and Merritt, S. M. (2021). Unethical pro-organizational behavior and positive leader–employee relationships. *J. Bus. Ethics* 168, 777–793. doi: 10.1007/s10551-019-04211-x
- Chang, E. C., Xie, C., and Fan, X. (2022). Defending the rules: how exposure to immoral behavior influences the boundary preference. *J. Bus. Res.* 139, 654–663. doi: 10.1016/j.jbusres.2021.10.021
- Cheng, K., and Lin, Y. (2019). Unethical pro-organizational behavior: a motivational perspective. *Adv. Psychol. Sci.* 27, 1111–1122. (In Chinese). doi: 10.3724/SPJ.1042.2019.01111
- Cheng, K., Lin, Y. H., Xia, Q., and Guo, L. M. (2021a). How does supervisor-subordinate guanxi influence unethical pro-supervisor behavior? A study based on the Chinese cultural context. *Foreign Econ. Manag.* 43, 34–49. (In Chinese). doi: 10.16538/j.cnki.fem.20201028.301
- Cheng, K., Zhu, Q., and Lin, Y. (2021b). Family-supportive supervisor behavior, felt obligation, and unethical pro-family behavior: the moderating role of positive reciprocity beliefs. *J. Bus. Ethics* 177, 261–273. doi: 10.1007/s10551-021-04765-9
- De Clercq, D., Fatima, T., and Jahanzeb, S. (2021). Cronies, procrastinators, and leaders: a conservation of resources perspective on employees’ responses to

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

TS was responsible for conceptualization, methodology, investigation, formal Analysis, and the original draft writing. WS was in charge of data curation. JW reviewed and edited the manuscript. All authors contributed to the article and approved the submitted version.

Conflict of interest

TS was employed by the company Industrial and Commercial Bank of China.

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher’s note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- organizational cronyism. *Eur. J. Work Org. Psychol.* 31, 77–88. doi: 10.1080/1359432X.2021.1928076
- Dobrowolski, Z., Drozdowski, G., and Panait, M. (2022). Understanding the impact of generation Z on risk management—a preliminary views on values, competencies, and ethics of the generation ZZ in public administration. *Int. J. Environ. Res. Public Health* 19:3868. doi: 10.3390/ijerph19073868
- Effelsberg, D., Solga, M., and Gurt, J. (2014). Transformational leadership and follower's unethical behavior for the benefit of the company: a two-study investigation. *J. Bus. Ethics* 120, 81–93. doi: 10.1007/s10551-013-1644-z
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., and Rhoades, L. (2001). Reciprocation of perceived organizational support. *J. Appl. Psychol.* 86, 42–51. doi: 10.1037/0021-9010.86.1.42
- Gabriel, A. S., Koopman, J., Rosen, C. C., and Johnson, R. E. (2018). Helping others or helping oneself? An episodic examination of the behavioral consequences of helping at work. *Pers. Psychol.* 71, 85–107. doi: 10.1111/peps.12229
- Haider, S. A., Akbar, A., Tehseen, S., Poulova, P., and Jaleel, F. (2022). The impact of responsible leadership on knowledge sharing behavior through the mediating role of person–organization fit and moderating role of higher educational institute culture. *J. Innov. Knowl.* 7:100265. doi: 10.1016/j.jik.2022.100265
- Haslam, S. A., and Ellemers, N. (2005). “Social identity in industrial and organizational psychology: concepts, controversies, and contributions” in *International Review of Industrial and Organizational Psychology*. eds. G. P. Hodgkinson and J. K. Ford (Sussex: Wiley), 39–118.
- Hekman, D. R., Bigley, G. A., Steensma, H. K., and Hereford, J. F. (2009). Combined effects of organizational and professional identification on the reciprocity dynamic for professional employees. *Acad. Manag. J.* 52, 506–526. doi: 10.5465/amj.2009.41330897
- Hogg, M. A., Terry, D. J., and White, K. M. (1995). A tale of two theories: a critical comparison of identity theory with social identity theory. *Soc. Psychol. Q.* 58, 255–269. doi: 10.2307/2787127
- Huang, Y., and Sengupta, J. (2020). The influence of disease cues on preference for typical versus atypical products. *J. Consum. Res.* 47, 393–411. doi: 10.1093/jcr/ucaa029
- Ingold, P. V., Kleinmann, M., König, C. J., and Melchers, K. G. (2015). Transparency of assessment centers: lower criterion-related validity but greater opportunity to perform? *Pers. Psychol.* 69, 467–497. doi: 10.1111/peps.12105
- Jensen, M. C., and Meckling, W. M. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *J. Financ. Econ.* 3, 305–360. doi: 10.1016/0304-405X(76)90026-X
- Jiang, X., Guo, J., Akbar, A., and Poulova, P. (2022). Right person for the right job: the impact of top management's occupational background on Chinese enterprises' R&D efficiency. *Econ. Res. Ekonomika Istraživanja*, 1–22. doi: 10.1080/1331677X.2022.2123022
- Johnson, H. H., and Umphress, E. E. (2019). To help my supervisor: identification, moral identity, and unethical pro-supervisor behavior. *J. Bus. Ethics* 159, 519–534. doi: 10.1007/s10551-018-3836-z
- Kalshoven, K., van Dijk, H., and Boon, C. (2016). Why and when does ethical leadership evoke unethical follower behavior? *J. Manag. Psychol.* 31, 500–515. doi: 10.1108/JMP-10-2014-0314
- Kong, D. T. (2016). The pathway to unethical pro-organizational behavior: organizational identification as a joint function of work passion and trait mindfulness. *Personal. Individ. Differ.* 93, 86–91. doi: 10.1016/j.paid.2015.08.035
- Li, S., Jain, K., and Tzini, K. (2021). When supervisor support backfires: the link between perceived supervisor support and unethical pro-supervisor behavior. *J. Bus. Ethics* 179, 133–151. doi: 10.1007/s10551-021-04797-1
- Liao, H., and Rupp, D. E. (2005). The impact of justice climate and justice orientation on work outcomes: a cross-level multifoci framework. *J. Appl. Psychol.* 90, 242–256. doi: 10.1037/0021-9010.90.2.242
- Little, T. D., Cunningham, W. A., Shahar, G., and Widaman, K. F. (2002). To parcel or not to parcel: exploring the question, weighing the merits. *Struct. Equ. Model. Multidiscip. J.* 9, 151–173. doi: 10.1207/S15328007SEM0902_1
- Mael, F. A., and Ashforth, B. E. (1992). Alumni and their alma-mater: a partial test of the reformulated model of organizational identification. *J. Organ. Behav.* 13, 103–123. doi: 10.1002/job.4030130202
- Mesdaghinia, S., Rawat, A., and Nadavulakere, S. (2019). Why moral followers quit: examining the role of leader bottom-line mentality and unethical pro-leader behavior. *J. Bus. Ethics* 159, 491–505. doi: 10.1007/s10551-018-3812-7
- Roch, S. G., Shannon, C. E., Martin, J. J., Swiderski, D., Agosta, J. P., and Shanock, L. R. (2019). Role of employee felt obligation and endorsement of the just world hypothesis: a social exchange theory investigation in an organizational justice context. *J. Appl. Soc. Psychol.* 49, 213–225. doi: 10.1111/jasp.12578
- Shaheen, S., Bari, M. W., Hameed, F., and Anwar, M. M. (2019). Organizational cronyism as an antecedent of ingratiation: mediating role of relational psychological contract. *Front. Psychol.* 10:1609. doi: 10.3389/fpsyg.2019.01609
- Tajfel, H., and Turner, J. C. (1986). “The social identity theory of intergroup behavior” in *The Social Psychology of Intergroup Relations*. eds. W. G. Austin and S. Worchel (Chicago, IL: Nelson-Hall), 7–24.
- Tanveer, M. A., Akbar, A., Gill, H., and Ahmed, I. (2013). Role of personal level determinants in entrepreneurial firm's success. *J. Basic Appl. Sci. Res.* 3, 449–458.
- Thompson, P. S., Bergeron, D. M., and Bolino, M. C. (2020). No obligation? How gender influences the relationship between perceived organizational support and organizational citizenship behavior. *J. Appl. Psychol.* 105, 1338–1350. doi: 10.1037/apl0000481
- Turhan, M. (2014). Organizational cronyism: a scale development and validation from the perspective of teachers. *J. Bus. Ethics* 123, 295–308. doi: 10.1007/s10551-013-1839-3
- Umphress, E. E., and Bingham, J. B. (2011). When employees do bad things for good reasons: examining unethical pro-organizational behaviors. *Organ. Sci.* 22, 621–640. doi: 10.1287/orsc.1100.0559
- Umphress, E. E., Bingham, J. B., and Mitchell, M. S. (2010). Unethical behavior in the name of the company: the moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *J. Appl. Psychol.* 95, 769–780. doi: 10.1037/a0019214
- Wang, X., Zhang, X., and Zheng, S. (2021). Repaying the debt: an examination of the relationship between perceived organizational support and unethical pro-organizational behavior by low performers. *J. Bus. Ethics* 179, 697–709. doi: 10.1007/s10551-021-04809-0



OPEN ACCESS

EDITED BY

Muhammad Waheed Akhtar,
COMSATS University,
Islamabad Campus, Pakistan

REVIEWED BY

Sulphey M. M.,
Prince Sattam Bin Abdulaziz University,
Saudi Arabia
Uzma Sarwar,
Huanggang Normal University,
China

*CORRESPONDENCE

Wei-Cheng Chien
✉ magi52042@gmail.com

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 11 October 2022

ACCEPTED 07 December 2022

PUBLISHED 29 December 2022

CITATION

Hsieh C-C, Chien W-C, Yen H-C and Li H-C
(2022) "Same same" but different?
Exploring the impact of perceived
organizational support at the school and
teacher levels on teachers' job engagement
and organizational citizenship behavior.
Front. Psychol. 13:1067054.
doi: 10.3389/fpsyg.2022.1067054

COPYRIGHT

© 2022 Hsieh, Chien, Yen and Li. This is an
open-access article distributed under the
terms of the [Creative Commons Attribution
License \(CC BY\)](#). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that
the original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

"Same same" but different? Exploring the impact of perceived organizational support at the school and teacher levels on teachers' job engagement and organizational citizenship behavior

Chuan-Chung Hsieh¹, Wei-Cheng Chien^{1,2,3,4*},
Hung-Chin Yen⁵ and Hui-Chieh Li⁶

¹Department of Education and Learning Technology, National Tsing Hua University, Hsinchu City, Taiwan, ²Research Center for Educational System and Policy, National Academy for Educational Research, New Taipei City, Taiwan, ³Department of Graphics Arts and Communications, National Taiwan Normal University, Taipei City, Taiwan, ⁴Department of Nursing, School of Nursing, National Taipei University of Nursing and Health Sciences, Taipei City, Taiwan, ⁵Chaoliao Elementary School, Kaohsiung City, Taiwan, ⁶Center for Teacher Education, National Tsing Hua University, Hsinchu City, Taiwan

All countries in the world are currently trying to implement educational reform, which increases the additional workload of teachers. It is more important to discuss how to inspire teachers' enthusiasm for educational reform from the perspective of organizational support (OS). Previous research on OS was limited to perceived organizational support (POS), but in recent years group-level OS has been considered the most promising. There is no study comparing POS and group-level OS in education, and therefore this study explored the relationships between OS, job engagement (JE) and organizational citizenship behavior (OCB) in an educational context. In particular, OS was examined at the individual-level (POS) and the aggregated group-level (school organizational support, SOS). Analysis was performed using structural equation modeling (SEM) at both single and multiple levels. SEM results showed direct and positive relationships of individual-level POS with both JE and OCB. Moreover, JE is directly and positively related to OCB and plays the partial mediating role of the indirect and positive impact of POS on OCB. Multilevel structural equation modeling (MSEM) analysis revealed direct and positive relationships of SOS with teachers' JE, which was directly and positively related to their OCB. While SOS had no significant positive relationship with OCB, it did have a positive impact on OCB through the mediation of JE. Comparison between SEM and MSEM results revealed the change in effect of OS on OCB from significant to insignificant, thus implying full mediation effect of JE when SOS is considered.

KEYWORDS

job engagement, organizational citizenship behavior, school organizational support, structural equation modeling, multilevel structural equation modeling

Introduction

Countries around the world have been introducing and implementing educational reforms at different levels, with Taiwan being no exception. Curriculum amendments and increased use of educational technology not only pose challenges but also add extra workload to front-line teachers. In face of these professional challenges and work pressure, teachers of today have to be more resourceful and work even harder. Needless to say, educational reforms bring changes in the school organization. Hence, relevant organizational theories can be used as a reference for schools to comprehend, absorb, and adapt to these changes. In particular, the organizational support theory (OST) provides a mechanism for understanding the mutual commitment between organization members and the organization. Drawing on Blau's social exchange theory and Gouldner's norm of reciprocity, OST holds that members when given positive resources and attention would have their socio-emotional needs satisfied and hence feel obligated to help the organization reach its goals (Caesens and Stinglhamber, 2020). In Taiwan, the education system promises and provides sufficient job security to elementary school teachers; yet, motivations and incentives seem to be lacking. Organizational atmosphere of the school plays a critical role in motivating teachers to take up more duties and make extra efforts. On the basis of OST, this study aims to explore how school organizations can inspire teachers to have a stronger zeal for education and motivate them to contribute to educational reforms with concerted efforts.

Prior empirical research on OST has mainly analyzed and discussed its central psychological construct, perceived organizational support (POS; Baran et al., 2012). POS refers to the degree to which employees believe their work organization values their contributions and cares about their well-being (Eisenberger et al., 1986). Syahril et al. (2022) stated that POS is defined as members' perception of the degree to which the organization provides support to the employees and the degree to which the organization is prepared to give assistance when needed. Findings from meta-analysis studies have revealed that POS is positively related to positive orientation toward the organization and affective organizational commitment, job performance and organizational citizenship behavior, subjective well-being in terms of job satisfaction and self-efficacy, organization-based self-esteem, and work-family balance (Aselage and Eisenberger, 2003; Kurtessis et al., 2017). With POS, employees feel obligated to reciprocate the organization's support, more committed to the organization, and a greater desire to help the organization to succeed. In the post-COVID-19 era, how to improve employee performance to assist organizational development is an important topic. POS has a greater impact on employees' work performance under COVID-19 (To and Huang, 2022), which shows its important research value. The study of Bernarto et al. (2020) also pointed out that teachers' POS has a positive impact on job satisfaction and life satisfaction. Furthermore, POS appears to have stronger positive outcomes in Eastern cultures than in

Western cultures (Eisenberger et al., 2020). Therefore, for Taiwanese teachers, POS is an indispensable and important assistance in the educational environment under the post-COVID-19 era.

In recent years, advances in multilevel research methods have led to breakthroughs in analytical approaches. Through data analytics, individual-level variables that used to reflect individual employee's behavior or perception of the organization can now be aggregated as group/organization-level variables. Hence, concepts previously of individual levels, such as POS, can now be examined variables at the group or organization level, such as collective commitment (Raineri, 2017; Bal and Boehm, 2019) and group-level organizational citizenship behavior (Choi and Sy, 2010; Bakar and McCann, 2016). Such approach not only expands traditional research but is also becoming a new trend in organizational research. Especially in the POS, the studies in recent years have begun to examine the influence of group/organizational-level perceptions of organizational support, which has surpassed almost all individual-level POS; group-level organizational support (OS) is more regarded as the most promising field of recent research (Eisenberger et al., 2020). For example, Wang et al. (2011) found that increases in benevolence and decreases in authority in CEO communications were associated with managers' positive attitudes at group-level OS. Berson et al. (2008) also found that group-level OS was positively correlated with CEO benevolent values and was also positively correlated with employee satisfaction. Wallace et al. (2006) found that group-level OS led to an enhanced organizational safety climate that would contribute to the reduction of accidents. González-Romá et al. (2009) found that group-level OS was positively correlated with team performance. These findings suggest that instructing leaders to convey positive appraisals of the contributions of their employees as a whole and the groups within them may broadly improve employees' positive attitudes, performance, and well-being. Take the case of POS of teachers in schools for example. On one hand, it reflects individual teacher's perception of the principal or the school as a whole; on the other hand, teachers of the same school work under the same principal or organization and theoretically should have similar perception. That is to say, there should be greater homogeneity in POS of teachers serving the same school. Therefore, aggregating the POS at the individual level of teachers from the same school into group-level OS can broaden the original POS research framework. Specifically, this approach is the major focus of the present study.

As mentioned above, POS is closely related to many positive organizational behaviors or mentalities. On the basis of positive psychology, job engagement (JE) is an emerging research topic that has attracted much attention. Also known as job engagement and employee engagement, JE refers to an individual's willingness to invest positive cognitive, emotional, and physical energies into their work roles and to dedicate persistence and resilience in pursuing task performance (Christian et al., 2011). Of note is that while JE and similar concepts such as organizational commitment and job involvement are all related to identification and engagement in organizational work roles, JE puts greater emphasis on occupational

health psychology or work-related well-being of employees (Bakker et al., 2008). Rich et al. (2010) reported the positive relationships of JE with task performance and organization citizenship behavior (OCB), highlighting the positive impact of job engagement on job performance. Contemporary education environment not only requires teachers to perform well in their teaching role, but also attaches great importance to their educational zeal and professionalism. Hence, JE as an antecedent of job performance and its related impacts are also topics that merit examination.

Moreover, organization citizenship behavior (OCB) is also an important aspect of employee performance worthy of investigation. Organ (1988) defines OCB as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization.” According to Kim and Park (2022), the behaviors demanded by organizations today are not only in-role behaviors, doing the work as stated in the job description, but also extra-role behaviors, that is, contributing additional roles to accomplish the work of the organization. The OST theory offers a clear explanation for the psychological mechanism behind employees’ OCB. Specifically, POS reveals the employees’ view of how much their organization values their contribution and cares about their well-being (Eisenberger et al., 1986). In accord with the principles of social exchange and the norm of reciprocity, employees perceiving organizational support in the form of concern, appreciation, and affirmation tend to give in return more positive feedback and better performance, displaying OCBs (Rhoades and Eisenberger, 2002). Kurtessis et al. (2017) meta-analysis found that POS was positively correlated with in-role performance, OCB directed toward the organization and toward individuals. Such an outcome could be expected given OST’s assertion that POS would lead to a perceived obligation to help the organization achieve its goals and also would raise the expectation that performance will be rewarded. The meta-analysis also found that POS was more strongly correlated with OCB directed toward the organization than with OCB toward individuals (Eisenberger et al., 2020). Emerging education model expects teachers to break through the stereotypes of textbook teaching, using diverse means and manners to promote students’ learning progress and achieve educational goals. Inevitably, teachers would have to make extra effort and take on roles beyond the job description. Hence, exploring how to enhance OCB among teachers through group-level school organizational support (SOS) would be of significance to current organizational research in education.

In addition to OCBs, reciprocation of POS can also be seen in employees’ affective organizational commitment and job performance (Eisenberger et al., 2001). Research on organizational behavior has discovered that job engagement, job involvement, and organizational commitment are empirically distinct constructs, reflecting different aspects of work attachment (Hallberg and Schaufeli, 2006). Meta-analytic results showed that moderate positive correlation with POS and job involvement (Rhoades and Eisenberger, 2002). In view of this finding, the present research postulates that POS would also have a positive impact on JE.

In this study, POS of individual elementary school teachers in Taiwan are aggregated into a group-level variable, namely SOS, in the multilevel research framework to examine its impact on JE and OCB. Constrained by laws and regulations, public elementary schools in Taiwan cannot directly provide monetary incentives, such as bonus or salary rise, to teachers to motivate better job performance. Hence, exploring the contribution of organizational support from school to enhancement in teachers’ performance should be of relevance and significance. As mentioned above, the school is an educational organization and POS of teachers serving in the same school should be of higher consistency. Providing organizational support to teachers can enhance overall job engagement and increase OCBs among the staff, thus contributing to better educational achievement. With such presumption, this study aims to investigate in depth the relationships between SOS, JE, and OCB.

Literature

Perceived organizational support

Perceived organizational support (POS) is an important concept that explains the social exchange relationship between the organization and employees and the principle of reciprocity (Settoon et al., 1996). This concept helps explain the relationships as well as cognitive and emotional processes within the organization (Dulac et al., 2008). According to the definition of Eisenberger et al. (1986), POS is indicative of an individual member’s perception of the organization as a whole, how much the organization values the member’s contribution and how important the member is to the organization.

To date, individual-level POS has been found to have positive association with desirable workplace outcomes including high performance, high commitment, and low deviance (Harris and Kacmar, 2018) and interactive effects on affective commitment to the organization (Casimir et al., 2014; Gaudet and Tremblay, 2017). Moreover, while POS enhances job satisfaction (Cullen et al., 2014), it reduces turnover intention (Wayne et al., 1997; Ekrot et al., 2018). Related studies in the field of education obtained similar findings. Affective commitment and job satisfaction of physical educators are found to be positively related to their POS (Richards et al., 2020), while relationship and task conflicts at workplace are negatively related to POS of Belgian teachers (Caesens et al., 2019).

On the other hand, common views or shared perceptions of individual members of an organization can be aggregated into a general appraisal of the work climate, reflecting the overall impression about an organization (James and James, 1989). This perspective justifies the aggregation of individual-level POS into group-level OS, and such approach has been adopted by some recent studies. For instance, Li et al. (2017) aggregated individual-level POS to reflect the organizational support climate. Their study with cross-level design reported the double-edged moderating effect, highlighting that organizational support may not always have uniformly positive effects on affiliative OCB. Moreover, the

multilevel analysis conducted by [Chang et al. \(2020\)](#) also found positive relationship between group-level OS and work performance of physical education teachers.

It is worth noting that the above-mentioned studies all measured group-level OS using the scale developed by [Eisenberger et al. \(1986\)](#). Hence, the nature of the aggregated group-level variable should be relatively uniform and consistent. Nevertheless, compared with stable results obtained using individual-level POS, the effects of group-level OS remain to be further clarified.

Job engagement

Job engagement (JE) is defined as an individual's willingness to invest positive cognitive, emotional, and physical energies into their work roles and is an important predictor of work performance ([Christian et al., 2011](#)). Consequences of high JE include happiness and job satisfaction rather than pressure from excessive work involvement or commitment ([Rich et al., 2010](#)). Hence, the concept of JE is an important topic in current research on positive organizational behavior.

Not only does JE inspire new insights in workplace psychology and behavior, its positive impact on work-related attitude and organizational conduct has also been proved in related research. [Shantz et al. \(2016\)](#) found that higher JE will reduce turnover intentions and deviant behaviors directed toward the organization, and such negative relationship is moderated by POS. [Karanika-Murray et al. \(2015\)](#) also found evidence on the mediating role of JE on job satisfaction enhanced by organizational identification. As mentioned above, [Chang et al. \(2014\)](#) reported positive relationship between POS and work performance. [Li et al. \(2012\)](#) evidenced that enhancement in job performance was mediated by job engagement.

Similar findings were obtained in studies conducted in the field of education. Job engagement was found to play a mediating role in the positive association between a supportive school climate and enhancement in knowledge creation practices of career and technical education teachers in the United States ([Song et al., 2013](#)). In the Netherlands, job engagement was also found to be positively related to job performance of starting teachers ([Bakker and Bal, 2010](#)) and OCB of secondary school teachers ([Runhaar et al., 2013](#)). Taken together, current findings evidenced the positive relationship of JE with work behaviors and attitudes in work environment of different fields.

Organizational citizenship behavior

Organizational citizenship behavior (OCB), as defined by [Organ \(1988\)](#), refers to the discretionary behavior of an individual, neither defined by a job description nor recognized by the formal reward system, but in aggregate would be beneficial to organizational operations and performance. Such organizational construct is alternatively called extra-role behavior or contextual performance. While OCB can be manifested in many forms, there

are several dimensions commonly adopted in related studies ([Bragger et al., 2005](#); [Somech and Ron, 2007](#)). The five common dimensions are (1) altruism, voluntary assistance offered to fellow members on organizationally relevant tasks; (2) conscientiousness, acts that go beyond the minimal role requirements of the organization; (3) sportsmanship, willingness to tolerate inevitable inconveniences and less-than-ideal situations without complaining; (4) courtesy, preventing work-related problems with others; and (5) civic virtue, responsive, constructive involvement in the life of the organization.

Reforms and innovations in education have changed and expanded the traditional roles and responsibilities of teachers. Besides teaching, teachers are expected to take on additional duties and perform further tasks beneficial to both students and the school. [Somech and Ron \(2007\)](#) pointed out that the success of schools fundamentally depends on teachers' willingness to go above and beyond the call of duty. That is, the responsibility of teachers is not only limited to the fixed and regular teaching duties, but should also involve assisting and promoting school development. The call for teachers to perform beneficial acts reveals the importance of OCB to both management and improvement of school.

Related studies on OCB of teachers reveal not only its close association with their job satisfaction and work efficacy ([Jimmieson et al., 2010](#)), but also its positive impact on enhancing students' performance and quality of life as well as improving school image ([Oplatka, 2009](#)). As highlighted by [Bogler and Somech \(2004\)](#), OCB provides the organization with additional resources and eliminates the need for expensive formal mechanisms otherwise crucial to successful restructuring processes. In view of OCB as the key to organizational success, research on OCB of teachers has received considerable attention in the field of education.

Theoretical model

This study proposes a multilevel theoretical model for the relationships between group-level SOS, individual-level JE, and individual-level OCB. As illustrated in [Figure 1](#), POS is not only an antecedent of both JE and OCB, but also has a positive impact on OCB through the mediation of JE. Of note is that POS, as the predictive variable, is analyzed at both individual teachers' level and the aggregated school's level. Not only can comparison between the two levels be made, results obtained can also bring new insight as related research using such approach is relatively scarce.

SOS and individual-level OCB

This study used OST as the theoretical basis for examining POS. According to social exchange principles and norm of reciprocity, members perceiving support from the organization

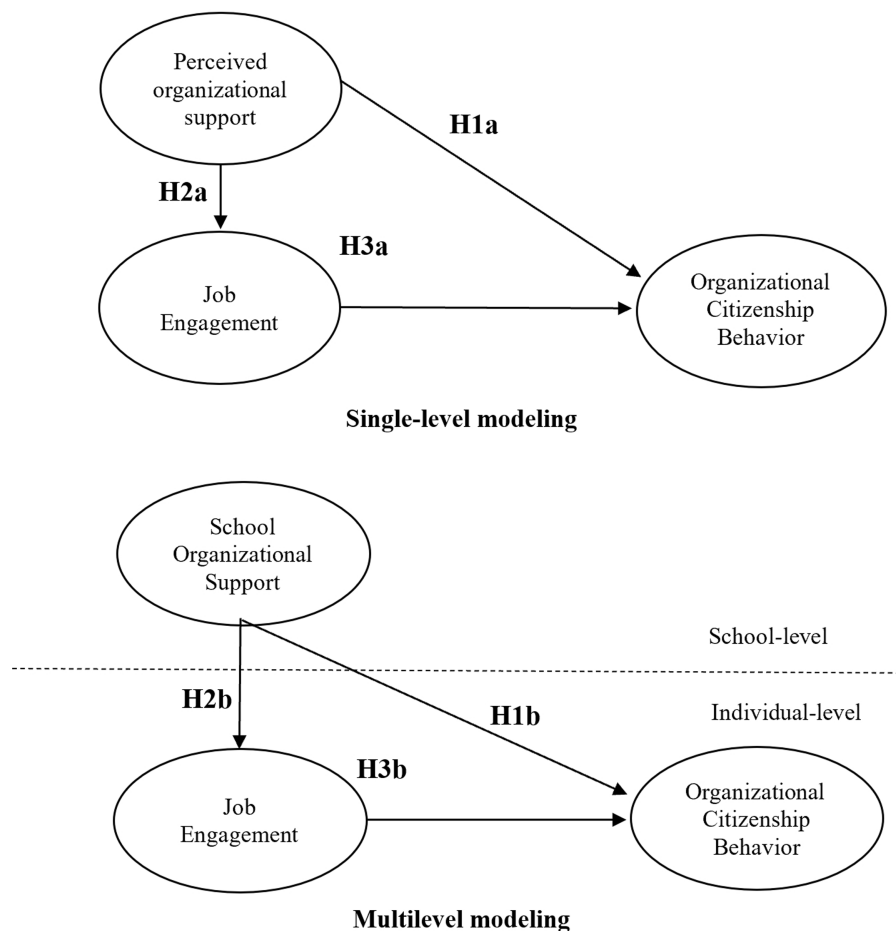


FIGURE 1
Theoretical model.

they belong will exhibit OCB in return. As the employees, when they are supported by the organization, they have an obligation to give back with their positive behavior. According to OST theory, if the employees perceive higher value, care, and support from the organization (such as POS), then they will get more rewards by exhibiting positive behaviors, thus developing a higher level of OCB (Spector and Che, 2014; Azim and Dora, 2016). Wahyuningrat and Rusmawan (2022) studied the impact of POS on OCB with job satisfaction as a mediating variable. The results of the study showed that POS has a positive impact on OCB. In their repeated assessment on POS and extra-role performance at a three-year interval, Chen et al. (2009) found evidence that POS leads to extra-role performance. Their results are echoed by those obtained by Muhammad (2014), Islam et al. (2014), Li et al. (2017), Zhang et al. (2017), and Ahmad and Zafar (2018) on the significant and positive relationship between POS and OCB. Wayne et al. (1997) in their study found that POS was strongly positively correlated with citizenship behavior at both the individual and organizational levels. Tremblay et al. (2019) reported that group-level OS, in addition to being positively related to collective affective commitment, also acts as a mediator

for group-level helping behaviors. In their repeated assessment on POS and extra-role performance at a three-year interval, Chen et al. (2009) found evidence that POS leads to extra-role performance. Of note is that among these studies, both Tremblay et al. (2019) and Li et al. (2017) aggregated individual-level POS into group/team-level POS for analysis. In view of the above findings, we posited that high POS and SOS should help the teachers and school attain its objectives by exhibiting high OCBs:

H1a: POS will be positively related to OCB.

H1b: SOS will be positively related to OCB.

SOS and individual-level JE

On the SET, employees with high POS tend to be more involved in their jobs and organizations to help achieve organizational goals as part of the SET norm of reciprocity (Byrne and Hochwarter, 2008). POS conveys the organization's evaluation of employees' efforts and satisfies their needs for

respect and recognition, which could also promote employees' interest, thereby increasing their job engagement (Eisenberger and Stinglhamber, 2011). Therefore, the support from organizations, supervisors, or managers can often promote JE. Some studies have investigated the impact of POS on job engagement, for example, Jonsdottir and Kristinsson (2020) observed a significant positive relationship between supervisors' active-empathetic listening, a manifestation of organizational support, and employees' job engagement. Imran et al. (2020) found that POS significantly and positively affects employees' job engagement. Managerial support for development (Kumar et al., 2018) can increase intention to engage in work, and also in the study conducted by Gillet et al. (2013) reported the positive relationship between POS and job engagement characterized by vigor, dedication, and absorption. Saks (2006) found POS was positively related to job engagement and organizational engagement (i.e., participation in one's role as a member of an organization). Structural equation modeling results on the relationship between POS and JE of bank employees revealed that POS fosters JE (Karatepe and Aga, 2016). Similarly, Kinnunen et al. (2008), Rahman et al. (2020), and Yang et al. (2020) found that POS was positively associated with key dimensions of job engagement. Similar findings of their positive relationship were also obtained by Caesens and Stinglhamber (2014) and Jin and McDonald (2017). In line with the above findings, we posited that high POS and SOS can help teachers demonstrate high JE:

H2a: POS will be positively related to JE.

H2b: SOS will be positively related to JE.

SOS, individual-level JE, and individual-level OCB

Many previous studies have found the positive relationship between POS and OCB (Masterson et al., 2000; Suliman and Al Obaidli, 2013). However, some studies also pointed out that there are mediating variables between POS and OCB (Islam et al., 2014; Muhammad, 2014). Among them, JE could be considered as a mediating variable between POS and OCB. Alshaabani et al. (2021) supported that POS is positively related to OCB and JE is also a strongly mediating variable in the relationship. Using hierarchical linear modeling (HLM), Zhong et al. (2016) analyzed the relationships between individual-level POS, JE, and OCB and found that POS can have an indirect impact on OCB through the mediation of JE. Sulea et al. (2012) showed that POS and conscientiousness are positively related to OCB through employees' JE. Other studies also supported the mediating role of JE (Karatepe, 2013; Shams et al., 2020).

This study analyzes the social interaction between the school and its teachers on the basis of individual-level POS. Further analysis is made with SOS for comparison. In this study, teachers'

JE would play a mediating role in the relationship between the effects of POS and SOS on OCB:

H3a: POS will be indirectly but positively related to OCB through the mediation of JE.

H3b: SOS will be indirectly but positively related to OCB through the mediation of JE.

Materials and methods

Sample

The study sample comprised elementary school teachers in Taiwan. There are differences in the size of schools and the number of teachers in various regions of Taiwan, in order to make the sampling more representative, 121 schools were selected from 11 counties distributed in northern, eastern, southern, and central Taiwan through stratified random sampling. Then according to the school size, different number of teachers were selected. Ten teachers were selected from the large schools, 8 from the medium-sized schools, and 6 from the small schools. A total of 1,040 (121 schools) questionnaires were sent out, of which 752 (98 schools) were returned, making up an overall response rate of 72.31%. After eliminating 22 partial or incomplete responses, 730 responses were valid for analysis, giving an effective response rate of 70.19%. Of the 730 respondents, 36.3% were male. The majority were aged 31–40 years (44.8%) and 41–50 years (41.1%) Their average teaching experience was 15.2 years.

Measures

The self-report questionnaire administered for collecting empirical data comprised a total of 31 items (see Appendix 1), to which respondents were asked to indicate their agreement using a seven-point Likert scale (1 indicates strongly disagree; 7, strongly agree). These items for testing different variables were adopted or adapted from scales validated by empirical studies in organizational research. The 5 items under POS were adopted from those used by Eisenberger et al. (2001). The 9 items under JE were taken from the scale used by Rich et al. (2010) and are categorized into three dimensions, representing physical, cognitive, and emotional engagement. The 17 items under OCB were extracted from the scale developed by Somech and Ron (2007) and listed under five dimensions, namely altruism, conscientiousness, sportsmanship, courtesy, and civic virtue.

The above scales used were originally in English. For the questionnaire to be administered to respondents in Taiwan, this study applied the back-translation technique (Brislin, 1980) to come up with a version in Traditional Chinese. First, the forward translation from English to Traditional Chinese was performed by a bilingual Taiwanese translator. Six experts with related background

in organizational research were invited to review and amend the translated items to ensure consistency in meaning and connotations with the original. Then, another bilingual Taiwanese translator back-translated the questionnaire into English. Comparison was made with the original English version to check further if any item or term discrepancy had occurred. Moreover, 10 scholars with school administration expertise and 6 elementary education practitioners were invited to review the descriptions in the items to confirm their correctness and relevance in the school organizational context.

Confirmatory factor analysis (CFA) was performed to examine the validity and reliability of the scales used in this study and the descriptive statistics of the variables were calculated. The required fit statistics are RMSEA and SRMR <0.08 and CFI and TLI >0.90 (Hu and Bentler, 1999).

POS. For the 5-item construct POS, the results of first-order CFA are $\chi^2=19.90$ ($df=5$, $p<0.001$), RMSEA=0.06, SRMR=0.01, CFI=0.99, and TLI=0.99, factor loadings ranging between 0.80 and 0.89, and Cronbach's $\alpha=0.93$, indicating good validity and reliability. To justify the aggregation of SOS, within-group agreement measure r_{wg} was calculated (Klein and Kozłowski, 2000). Results of r_{wg} obtained were all higher than 0.90, which exceeds the required.70 (Epitropaki, 2013), revealing high consistency within the group.

JE. For the 9-item construct JE, the results of second-order CFA are $\chi^2=67.24$ ($df=24$, $p<0.001$), RMSEA=0.05, SRMR=0.02, CFI=0.99, and TLI=0.99, factor loadings ranging between 0.87 and 0.94, and Cronbach's α of the three dimensions=0.92, 0.93, and 0.94, also indicating good validity and reliability.

OCB. For the 17-item construct OCB, the results of second-order CFA are $\chi^2=392.26$ ($df=114$, $p<0.001$), RMSEA=0.06, SRMR=0.04, CFI=0.97, and TLI=0.96, factor loadings ranging between 0.70 and 0.94, and Cronbach's α of the five dimensions=0.93, 0.84, 0.81, 0.91, and 0.84, also indicating good validity and reliability.

Analyses

The relationships between the variables were tested using multilevel structural equation modeling (MSEM) with Mplus Version 7. Not only is MSEM more flexible, it is superior to HLM in handling latent variables and to SEM in dealing with complex relationships on different levels. Moreover, Preacher et al. (2010)

have demonstrated the advantage and applicability of MSEM in assessing multilevel relationship and mediation. Furthermore, the maximum likelihood-based estimation on Mplus yields estimates with standard errors that are robust to non-normality and non-independence of observations and can adjust the goodness-of-fit estimates (Muthén and Muthén, 2012). The mediating effect between latent variables was examined using delta parameterization of Mplus (MacKinnon, 2008; Muthén and Muthén, 2012).

Results

Descriptive statistics

Table 1 displays descriptive statistics and zero-order correlations. The correlation coefficients between POS and JE ($r=0.38$, $p<0.001$) as well as that between POS and OCB ($r=0.39$, $p<0.001$) indicate moderate positive relationship while that between JE and POS ($r=0.77$, $p<0.001$) reveal a strong positive relationship.

SEM analyses

First, the goodness-of-fit statistics are CFI=0.98, TLI=0.97, RMSEA=0.06, and SRMR=0.04, indicating good model fit. Figure 2 shows the SEM results on the impact of teacher's POS at individual level on JE and OCB. As can be seen, POS has direct and positive relationships with both JE ($\beta=0.39$, $p<0.001$; H2a supported) and OCB ($\beta=0.11$, $p<0.001$; H1a supported); similarly, JE is directly and positively related to OCB ($\beta=0.85$, $p<0.001$). As for the mediator role of JE, POS does have an indirect and positive impact on OCB through JE. In view of the indirect impact of POS on OCB via JE ($\beta=0.33$, $p<0.001$; H3a supported) exceeding the direct impact of POS on JE ($\beta=0.39$, $p<0.001$) and JE on OCB ($\beta=0.85$, $p<0.001$), JE serves only as the partial mediator.

MSEM analyses

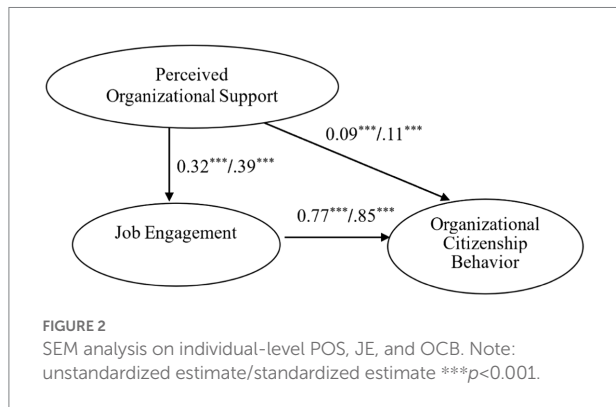
Analysis performed using MSEM also showed good model fit results: CFI=0.98, TLI=0.97, RMSEA=0.03, and SRMR=0.03/

TABLE 1 Summary statistics and correlation of individual- and school-level variables.

Variables	M	SD	1	2	3
Individual-level					
1. Perceived organizational support (POS)	5.04	1.00			
2. Job engagement (JE)	5.80	0.76	0.38***		
3. Organizational citizenship behavior (OCB)	4.98	0.61	0.39***	0.77***	
School-level					
School organizational support	5.05	0.47			

$n=730$ at individual-level; $n=98$ at school -level. *** $p<0.001$.

0.08 (within/between groups). Table 2 lists the estimates obtained using MSEM with SOS as the independent variable,



individual-level JE as the mediator variable, and individual-level OCB as the criterion variable.

As suggested by Baron and Kenny (1986), to understand the mediating role of JE in the cross-level model, the direct impact of SOS on individual-level OCB must first be analyzed. Results shown in Figure 3 reveal a direct and positive relationship between these two variables ($\beta = 0.62$, $p < 0.001$).

Cross-level analysis results obtained using MSEM are illustrated in Figure 4. As can be seen, SOS is directly and positively related to teachers' JE ($\beta = 0.55$, $p < 0.001$; H2b supported), and JE has direct and positive relationship with their OCB ($\beta = 0.89$, $p < 0.001$). While SOS has no significant positive relationship with individual-level OCB ($\beta = 0.13$, $p > 0.05$; H1b not supported), it does have a positive impact on OCB through the mediation of JE ($\beta = 0.48$, $p < 0.001$; H3b supported). Comparison

TABLE 2 Parameter estimates obtained using MSEM.

Variables	Unstandardized estimate	S.E.	Est./S.E.	standardized estimate
Within level				
Physical engagement \rightarrow JE	1.00	-	-	0.90***
Emotional engagement \rightarrow JE	1.07	0.05	21.77	0.81***
Cognitive engagement \rightarrow JE	1.01	0.04	25.83	0.88***
Altruism \rightarrow OCB	1.00	-	-	0.78***
Conscientiousness \rightarrow OCB	1.11	0.06	19.19	0.81***
Sportsmanship \rightarrow OCB	0.73	0.07	11.31	0.49***
Courtesy \rightarrow OCB	0.92	0.06	15.16	0.67***
Civic virtue \rightarrow OCB	1.08	0.07	16.62	0.72***
JE \rightarrow OCB (a_W)	0.82	0.05	17.70	0.89***
Between level				
S1 \rightarrow SOS	1.00	-	-	0.86***
S2 \rightarrow SOS	1.18	0.12	9.81	0.89***
S3 \rightarrow SOS	1.38	0.14	9.94	0.92***
S4 \rightarrow SOS	1.17	0.13	9.38	0.89***
S5 \rightarrow SOS	1.27	0.11	11.24	0.90***
Physical engagement \rightarrow JE	1.00	-	-	0.98***
Emotional engagement \rightarrow JE	1.14	0.17	6.82	0.82***
Cognitive engagement \rightarrow JE	1.19	0.10	11.75	0.99***
Altruism \rightarrow OCB	1.00	-	-	0.91***
Conscientiousness \rightarrow OCB	1.11	0.26	4.28	0.83***
Sportsmanship \rightarrow OCB	1.29	0.41	3.15	0.94***
Courtesy \rightarrow OCB	1.51	0.35	4.33	0.99***
Civic virtue \rightarrow OCB	1.50	0.36	4.13	0.89***
SOS \rightarrow JE (b_B)	0.32	0.10	3.14	0.55***
JE \rightarrow OCB (a_W)	0.65	0.16	4.20	0.87***
SOS \rightarrow OCB	0.06	0.05	1.17	0.13
Indirect effects				
$a_W \times b_B$	0.26**	0.08	3.12	0.48**

$N = 730/98$ (respondents/schools).

** $p < 0.01$; *** $p < 0.001$.

with Figure 3 reveals the change in effect of SOS on individual-level OCB from significant ($\beta = 0.62$, $p < 0.001$) to insignificant ($\beta = 0.13$, $p > 0.05$), thus implying full mediation effect of JE when SOS on individual-level OCB.

Discussion and conclusion

Partial mediation of JE between individual-level POS and OCB

The direct and positive relationship between POS and OCB at individual level revealed by SEM is consistent with previous findings by Chen et al. (2009), Ahmad and Zafar (2018), and Zhang et al. (2017). This result evidences the OST that teachers will exhibit OCB in return for POS manifested in the school's appreciation of their contributions and concern for their well-being. Moreover, the positive relationship between teachers' POS and their JE echoes the results obtained by Karatepe and Aga (2016), Caesens and Stinglhamber (2014), Jin and McDonald (2017), and further shows that the "social exchange" stimulated

by POS, according to the OST, involves not only the behavioral but also the cognitive aspect, as in the case of JE examined in this study. Owing to the positive relationship between JE on OCB, JE motivated by POS serves the mediating role in promoting OCB.

Full mediation of JE between SOS and individual-level OCB

A specific focus on this research is the impact of aggregated POS at the school level. While the insignificant relationship between SOS and teachers' OCB has also been reported by Li et al. (2017), the positive impact of SOS on JE has not been observed in other empirical studies. Nevertheless, it is conceivable that greater SOS would create an encouraging atmosphere for greater appreciation of the teachers' hard work and efforts, which would, in turn, enhance their JE. Moreover, SEM analysis at individual level showed a direct and positive relationship between JE and OCB. Hence, MSEM analysis on the relationship of SOS with individual-level JE and OCB revealed the full mediation effect.

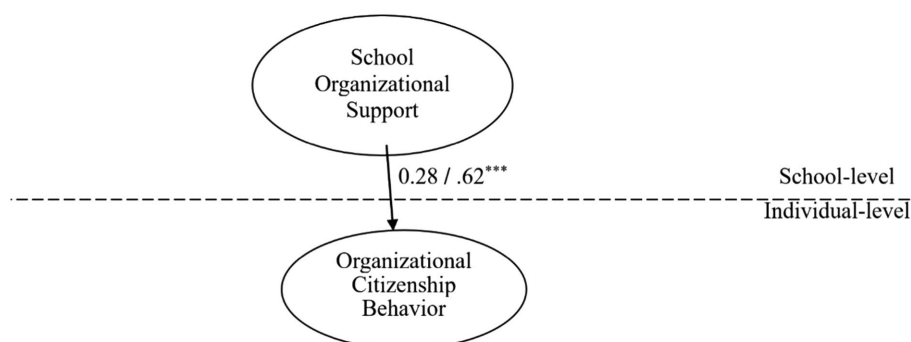


FIGURE 3
Cross-level SEM analysis on SOS and individual-level OCB. Note: unstandardized estimate/standardized estimate *** $p < 0.001$.

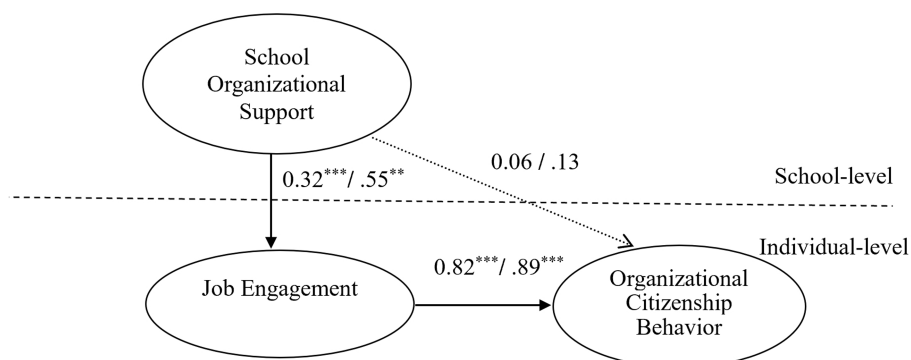


FIGURE 4
MEM analysis on SOS, individual-level JE and individual-level OCB. Note: unstandardized estimate/standardized estimate *** $p < 0.001$, ** $p < 0.01$.

Individual-level POS versus SOS

This research examines the impact of OS at both individual and school levels on teachers' JE and OCB. Conceptually, the two levels of OS are similar as they are both rooted in the OST, while their difference lies in one being closer to the organizational atmosphere and the other being personal cognitive perception. With regard to assessment, the same scale was used in this study for both levels, only with the individual perception of OS aggregated into a single value to represent the SOS. In terms of influence, individual-level POS has greater impact on OCB than SOS. Similar empirical evidence of such difference in impact has not been reported in the field of education but variation in results obtained using individual-level and group-level OS has been observed in the management study conducted by Li et al. (2017). In other words, different levels of group-level OS used in the analysis may influence the final results.

JE as significant mediating variable

In-depth investigation on meaningful mediating variables is very important for quantitative research. In this study, JE was found not only to be positively related to both individual-level POS and SOS, it also plays a significant mediating role in the relationship between OS of both levels and OCB. In other words, teachers who are physically, cognitively, and emotionally engaged tend to behave more positively toward the school beyond their formal job requirement, thus exhibiting OCB.

Implications for school practice

New tasks and roles shouldered by teachers as a result of incessant reforms in education have also aroused growing attention and emphasis on their OCB. Of particular interest are factors promoting teachers' OCB that can help make up deficiency in the formal education system and educational resources. The present findings evidence that school organizational support is conducive to enhancing JE and encouraging OCB. This is of particular meaning in Taiwan where motivation and incentives for teachers to take up more duties or make extra efforts are lacking in the education system. As implied by the results, the school should show greater appreciation of the teachers' contribution and concern for their well-being, thus creating a supportive organizational atmosphere that can motivate teachers to have greater job engagement. The emphasis in this study on the aggregated SOS highlights the importance of an organizational culture which will persist albeit personnel changes.

References

Ahmad, I., and Zafar, M. A. (2018). Impact of psychological contract fulfillment on organizational citizenship behavior: mediating role of perceived organizational

Limitations and future research

This study has several limitations. First, responses of the self-report questionnaire were collected from the participating teachers at a single time point, thus common method variance may be a concern. Second, the scales adopted are those used in management research, indicating tool deficiency in educational organization research. Hence, there should be greater effort devoted to the development of assessment tools applicable to the culture and characteristics of the domestic educational context.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

C-CH is responsible for the overall research architecture design, as well as research conclusions. W-CC was responsible for data analysis and discussion of research results. H-CY and H-CL were responsible for data and literature collection. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the Ministry of Science and Technology, Taiwan.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

support. *Int. J. Contemp. Hosp. Manag.* 30, 1001–1015. doi: 10.1108/IJCHM-12-2016-0659

- Alshaabani, A., Naz, F., Magda, R., and Rudnák, I. (2021). Impact of perceived organizational support on OCB in the time of COVID-19 pandemic in Hungary: employee engagement and affective commitment as mediators. *Sustainability* 13:7800. doi: 10.3390/su13147800
- Aselage, J., and Eisenberger, R. (2003). Perceived organizational support and psychological contracts: a theoretical integration. *J. Organ. Behav.* 24, 491–509. doi: 10.1002/job.211
- Azim, A. M. M., and Dora, M. T. (2016). Perceived organizational support and organizational citizenship behavior: the mediating role of psychological capital. *J. Hum. Cap. Develop.* 9, 99–118.
- Bakar, H. A., and McCann, R. M. (2016). The mediating effect of leader-member dyadic communication style agreement on the relationship between servant leadership and group-level organizational citizenship behavior. *Manag. Commun. Q.* 30, 32–58. doi: 10.1177/0893318915601162
- Bakker, A. B., and Bal, P. M. (2010). Weekly work engagement and performance: a study among starting teachers. *J. Occup. Organ. Psychol.* 83, 189–206. doi: 10.1348/096317909X402596
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., and Taris, T. W. (2008). Work engagement: an emerging concept in occupational health psychology. *Work Stress.* 22, 187–200. doi: 10.1080/02678370802393649
- Bal, P. M., and Boehm, S. A. (2019). How do I-deals influence client satisfaction? The role of exhaustion, collective commitment, and age diversity. *J. Manag.* 45, 1461–1487. doi: 10.1177/0149206317710722
- Baran, B. E., Shanock, L. R., and Miller, L. R. (2012). Advancing organizational support theory into the twenty-first century world of work. *J. Bus. Psychol.* 27, 123–147. doi: 10.1007/s10869-011-9236-3
- Baron, R. M., and Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037//0022-3514.51.6.1173
- Bernarto, I., Bachtar, D., Sudibjo, N., Suryawan, I. N., Purwanto, A., and Asbari, M. (2020). Effect of transformational leadership, perceived organizational support, job satisfaction toward life satisfaction: evidences from Indonesian teachers. *Int. J. Adv. Sci. Technol.* 29, 5495–5503.
- Berson, Y., Oreg, S., and Dvir, T. (2008). CEO values, organizational culture and firm outcomes. *J. Organ. Behav.* 29, 615–633. doi: 10.1002/job.499
- Bogler, R., and Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teach. Teach. Educ.* 20, 277–289. doi: 10.1016/j.tate.2004.02.003
- Bragger, J. D., Rodriguez-Srednicki, O., Kutcher, E. J., Indovino, L., and Rosner, E. (2005). Work-family conflict, work-family culture, and organizational citizenship behavior among teachers. *J. Bus. Psychol.* 20, 303–324. doi: 10.1007/s10869-005-8266-0
- Brislin, R. W. (1980). "Translation and content analysis of oral and written material," in *Handbook of cross-cultural psychology, methodology*. eds. H. C. Triandis and J. W. Berry (Boston, MA: Allyn and Bacon), 389–444.
- Byrne, Z. S., and Hochwarter, W. A. (2008). Perceived organizational support and performance: relationships across levels of organizational cynicism. *J. Manag. Psychol.* 23, 54–72. doi: 10.1108/02683940810849666
- Caesens, G., and Stinglhamber, F. (2014). The relationship between perceived organizational support and work engagement: the role of self-efficacy and its outcomes. *Eur. Rev. Appl. Psychol.* 64, 259–267. doi: 10.1016/j.erap.2014.08.002
- Caesens, G., and Stinglhamber, F. (2020). Toward a more nuanced view on organizational support theory. *Front. Psychol.* 11:476. doi: 10.3389/fpsyg.2020.00476
- Caesens, G., Stinglhamber, F., Demoulin, S., Wilde, M. D., and Mierop, A. (2019). Perceived organizational support and workplace conflict: the mediating role of failure-related trust. *Front. Psychol.* 9:2704. doi: 10.3389/fpsyg.2018.02704
- Casimir, G., Ng, Y. N. K., Wang, K. Y., and Ooi, G. (2014). The relationships amongst leader-member exchange, perceived organizational support, affective commitment, and in-role performance: a social-exchange perspective. *Leadersh. Org. Dev. J.* 35, 366–385. doi: 10.1108/LODJ-04-2012-0054
- Chang, H. T., Hsu, H. M., Liou, J. W., and Tsai, C. T. (2014). Psychological contracts and innovative behavior: a moderated path analysis of work engagement and job resources. *J. Appl. Soc. Psychol.* 43, 2120–2135. doi: 10.1111/jasp.12165
- Chang, C. M., Liu, L. W., Hsieh, H. H., and Chen, K. C. (2020). A multilevel analysis of organizational support on the relationship between person-environment fit and performance of university physical education teachers. *Int. J. Environ. Res. Public Health* 17, 2041–2057. doi: 10.3390/ijerph17062041
- Chen, Z., Eisenberger, R., Johnson, K. M., Sucharski, I. L., and Aselage, J. (2009). Perceived organizational support and extra role performance: which leads to which? *J. Soc. Psychol.* 149, 119–124. doi: 10.3200/SOCP.149.1.119-124
- Choi, J. N., and Sy, T. (2010). Group-level organizational citizenship behavior: effects of demographic faultiness and conflict in small work groups. *J. Organ. Behav.* 31, 1032–1054. doi: 10.1002/job.661
- Christian, M. S., Garza, A. S., and Slaughter, J. E. (2011). Work engagement: a quantitative review and test of its relations with task and contextual performance. *Pers. Psychol.* 64, 89–136. doi: 10.1111/j.1744-6570.2010.01203.x
- Cullen, K. L., Edwards, B. D., Casper, W. C., and Gue, K. R. (2014). Employees' adaptability and perceptions of change-related uncertainty: implications for perceived organizational support, job satisfaction, and performance. *J. Bus. Psychol.* 29, 269–280. doi: 10.1007/s10869-013-9312-y
- Dulac, T., Coyle-Shapiro, J. A. M., Henderson, D. J., and Wayne, S. J. (2008). Not all responses to breach are the same: the interconnection of social exchange and psychological contract processes in organizations. *Acad. Manag. J.* 51, 1079–1098. doi: 10.5465/AMJ.2008.35732596
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., and Rhoades, L. (2001). Reciprocation of perceived organizational support. *J. Appl. Psychol.* 86, 42–51. doi: 10.1037/0021-9010.86.1.42
- Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D. (1986). Perceived organizational support. *J. Appl. Psychol.* 71, 500–507. doi: 10.1037/0021-9010.71.3.500
- Eisenberger, R., Rhoades Shanock, L., and Wen, X. (2020). Perceived organizational support: why caring about employees counts. *Annu. Rev. Organ. Psych. Organ. Behav.* 7, 101–124. doi: 10.1146/annurev-orgpsych-012119-044917
- Eisenberger, R., and Stinglhamber, F. (2011). *Perceived organizational support: Fostering enthusiastic and productive employees*. Washington, DC: APA.
- Ekrot, B., Rank, J., Kock, A., and Gemündend, H. G. (2018). Retaining and satisfying project managers-antecedents and outcomes of project managers' perceived organizational support. *Int. J. Hum. Resour. Manag.* 29, 1950–1971. doi: 10.1080/09585192.2016.1255903
- Epitropaki, O. (2013). A multi-level investigation of psychological contract breach and organizational identification through the lens of perceived organizational membership: testing a moderated-mediated model. *J. Organ. Behav.* 34, 65–86. doi: 10.1002/job.1793
- Gaudet, M. C., and Tremblay, M. (2017). Initiating structure leadership and employee behaviors: the role of perceived organizational support, affective commitment and leader-member exchange. *Eur. Manag. J.* 35, 663–675. doi: 10.1016/j.emj.2017.04.001
- Gillet, N., Huart, I., Colombat, P., and Fouquereau, E. (2013). Perceived organizational support, motivation, and engagement among police officers. *Prof. Psychol. Res. Pract.* 44, 46–55. doi: 10.1037/a0030066
- González-Romá, V., Fortes-Ferreira, L., and Peiro, J. M. (2009). Team climate, climate strength and team performance: a longitudinal study. *J. Occup. Organ. Psychol.* 82, 511–536. doi: 10.1348/096317908X370025
- Hallberg, U. E., and Schaufeli, W. B. (2006). "Same" but different? Can work engagement be discriminated from job involvement and organizational commitment? *Eur. Psychol.* 11, 119–127. doi: 10.1027/1016-9040.11.2.119
- Harris, K. J., and Kacmar, K. M. (2018). Is more always better? An examination of the nonlinear effects of perceived organizational support on individual outcomes. *J. Soc. Psychol.* 158, 187–200. doi: 10.1080/00224545.2017.1324394
- Hu, L., and Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model.* 6, 1–55. doi: 10.1080/10705519909540118
- Imran, M. Y., Elahi, N. S., Abid, G., Ashfaq, F., and Ilyas, S. (2020). Impact of perceived organizational support on work engagement: mediating mechanism of thriving and flourishing. *JOITMC* 6:82. doi: 10.3390/joitmc6030082
- Islam, T., Khan, S., Ur, R., Ahmad, U. N. U., and Ahmed, I. (2014). Exploring the relationship between POS, OLC, job satisfaction and OCB. *Procedia Soc. Behav. Sci.* 114, 164–169. doi: 10.1016/j.sbspro.2013.12.678
- James, L. A., and James, L. R. (1989). Integrating work environment perceptions: explorations in the measurement of meaning. *J. Appl. Psychol.* 74, 739–751. doi: 10.1037/0021-9010.74.5.739
- Jimmieson, N. L., Hannam, R. L., and Yeo, G. B. (2010). Teacher organizational citizenship behaviours and job efficacy: implications for student quality of school life. *Br. J. Psychol.* 101, 453–479. doi: 10.1348/000712609X470572
- Jin, M. H., and McDonald, B. (2017). Understanding employee engagement in the public sector: the role of immediate supervisor, perceived organizational support, and learning opportunities. *Am. Rev. Public Adm.* 47, 881–897. doi: 10.1177/02750740166643817
- Jonsdottir, I. J., and Kristinsson, K. (2020). Supervisors' active-empathetic listening as an important antecedent of work engagement. *Int. J. Environ. Res. Public Health* 17:7976. doi: 10.3390/ijerph17217976
- Karanika-Murray, M., Duncan, N., Pontes, H. M., and Griffiths, M. D. (2015). Organizational identification, work engagement, and job satisfaction. *J. Manag. Psychol.* 30, 1019–1033. doi: 10.1108/JMP-11-2013-0359
- Karatepe, O. M. (2013). High-performance work practices and hotel employee performance: the mediation of job engagement. *Int. J. Hosp. Manag.* 32, 132–140. doi: 10.1016/j.ijhm.2012.05.003

- Karatepe, O. M., and Aga, M. (2016). The effects of organization mission fulfillment and perceived organizational support on job performance: the mediating role of work engagement. *Int. J. Bank Mark.* 34, 368–387. doi: 10.1108/IJBM-12-2014-0171
- Kim, D., and Park, J. (2022). The way to improve organizational citizenship behavior for the employees who lack emotional intelligence. *Curr. Psychol.* 41, 6078–6092. doi: 10.1007/s12144-020-01104-5
- Kinnunen, U., Feldt, T., and Mäkikangas, A. (2008). Testing the effort-reward imbalance model among Finnish managers: the role of perceived organizational support. *J. Occup. Health Psychol.* 13, 114–127. doi: 10.1037/1076-8998.13.2.114
- Klein, K. J., and Kozlowski, S. J. (2000). *Multilevel theory, research, and methods in organization: Foundations, extensions, and new directions*. San Francisco, CA: Jossey Bass.
- Kumar, M., Jauhari, H., Rastogi, A., and Sivakumar, S. (2018). Managerial support for development and turnover intention: roles of organizational support, work engagement and job satisfaction. *J. Organ. Chang. Manag.* 31, 135–153. doi: 10.1108/JOCM-06-2017-0232
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., and Adis, C. S. (2017). Perceived organizational support: a meta-analytic evaluation of organizational support theory. *J. Manag.* 43, 1854–1884. doi: 10.1177/0149206315575554
- Li, N., Chiaburu, D. S., and Kirkman, B. L. (2017). Cross-level influences of empowering leadership on citizenship behavior: organizational support climate as a double edged sword. *J. Manag.* 43, 1076–1102. doi: 10.1177/0149206314546193
- Li, X., Sanders, K., and Frenkel, S. (2012). How leader–member exchange, work engagement and HRM consistency explain Chinese luxury hotel employees' job performance. *Int. J. Hosp. Manag.* 31, 1059–1066. doi: 10.1016/j.ijhm.2012.01.002
- MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. Mahwah, NJ: Erlbaum.
- Masterson, S. S., Lewis, K., Goldman, B. M., and Taylor, M. S. (2000). Integrating justice and social exchange: the differing effects of fair procedures and treatment on work relationships. *Acad. Manag. J.* 43, 738–748. doi: 10.2307/1556364
- Muhammad, A. H. (2014). Perceived organizational support and organizational citizenship behavior: the case of Kuwait. *Int. J. Bus. Adm.* 5, 59–72. doi: 10.5430/ijba.v5n3p59
- Muthén, L. K., and Muthén, B. (2012). *Mplus User's Guide*. 7th Edn. Available at: https://www.statmodel.com/download/usersguide/MplusUserGuideVer_8.pdf
- Oplatka, I. (2009). Organizational citizenship behavior in teaching: the consequences for teachers, pupils, and the school. *Int. J. Educ. Manag.* 23, 375–389. doi: 10.1108/09513540910970476
- Organ, D. W. (1988). Organizational citizenship behavior: the good soldier syndrome. Health.
- Preacher, K. J., Zyphur, M. J., and Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychol. Methods* 15, 209–233. doi: 10.1037/a0020141
- Rahman, A., Björk, P., and Ravald, A. (2020). Exploring the effects of service provider's organizational support and empowerment on employee engagement and well-being. *Cogent Bus. Manag.* 7:1767329. doi: 10.1080/23311975.2020.1767329
- Raineri, A. (2017). Linking human resources practices with performance: the simultaneous mediation of collective affective commitment and human capital. *Int. J. Hum. Resour. Manag.* 28, 3149–3178. doi: 10.1080/09585192.2016.1155163
- Rhoades, L., and Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *J. Appl. Psychol.* 87, 698–714. doi: 10.1037/0021-9010.87.4.698
- Rich, B. L., Lepine, J. A., and Crawford, E. R. (2010). Job engagement: antecedents and effects on job performance. *Acad. Manag. J.* 53, 617–635. doi: 10.5465/AMJ.2010.51468988
- Richards, K. A. R., Washburn, N., and Lee, Y. H. (2020). Understanding emotional labor in relation to physical educators' perceived organizational support, affective commitment, and job satisfaction. *J. Teach. Phys. Educ.* 39, 236–246. doi: 10.1123/jtpe.2019-0029
- Runhaar, P., Konermann, J., and Sanders, K. (2013). Teachers' organizational citizenship behaviour: considering the roles of their work engagement, autonomy and leader-member exchange. *Teach. Teach. Educ.* 30, 99–108. doi: 10.1016/j.tate.2012.10.008
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *J. Manag. Psychol.* 21, 600–619. doi: 10.1108/02683940610690169
- Settoon, R. P., Bennett, N., and Liden, R. C. (1996). Social exchange in organizations: perceived organizational support, leader-member exchange, and employee reciprocity. *J. Appl. Psychol.* 81, 219–227. doi: 10.1037/0021-9010.81.3.219
- Shams, M. S., Niazi, M. M., and Asim, F. (2020). The relationship between perceived organizational support, employee engagement, and organizational citizenship behavior: application of PLS-SEM approach. *Kardan J. Eco. Manag. Sci.* 3, 35–55. doi: 10.31841/KJEMS.2021.37
- Shantz, A., Alfes, K., and Latham, G. P. (2016). The buffering effect of perceived organizational support on the relationship between work engagement and behavioral outcomes. *Hum. Resour. Manag.* 55, 25–38. doi: 10.1002/hrm.21653
- Somech, A., and Ron, I. (2007). Promoting organizational citizenship behavior in schools: the impact of individual and organizational characteristics. *Educ. Adm. Q.* 43, 38–66. doi: 10.1177/0013161X06291254
- Song, J. H., Bae, S. H., Park, S., and Kim, H. K. (2013). Influential factors for knowledge creation practices of CTE teachers: mutual impact of perceived school support, transformational leadership, and work engagement. *Asia Pac. Educ. Rev.* 14, 467–482. doi: 10.1007/s12564-013-9283-8
- Spector, P. E., and Che, X. X. (2014). Re-examining citizenship: how the control of measurement artifacts affects observed relationships of organizational citizenship behavior and organizational variables. *Hum. Perform.* 27, 165–182. doi: 10.1080/08959285.2014.882928
- Sulea, C., Virga, D., Maricutoiu, L. P., Schaufeli, W., Zaborila Dumitru, C., and Sava, F. A. (2012). Job engagement as mediator between job characteristics and positive and negative extra-role behaviors. *Career Dev. Int.* 17, 188–207. doi: 10.1108/13620431211241054
- Suliman, A., and Al Obaidli, H. (2013). Leadership and organizational citizenship behavior (OCB) in the financial service sector: the case of the UAE. *Asia Pac. J. Bus. Admin.* 5, 115–134. doi: 10.1108/17574321311321603
- Syahril, S., Sihotang, M., Hadinegoro, R., Sulastri, E., Rochmad, I., Cahyono, Y., et al. (2022). Hospitals Customer e-loyalty: how the role of e-service quality, e-recovery service quality and e-satisfaction? *UJoST-UNPRI J. Sci. Technol.* 1, 23–27. doi: 10.11111/ujost.v1i1.56
- To, W. M., and Huang, G. (2022). Effects of equity, perceived organizational support and job satisfaction on organizational commitment in Macao's gaming industry. *Manag. Decis.* 60, 2433–2454. doi: 10.1108/MD-11-2021-1447
- Tremblay, M., Gaudet, M. C., and Vandenberghe, C. (2019). The role of group-level perceived organizational support and collective affective commitment in the relationship between leaders' directive and supportive behaviors and group-level helping behaviors. *Pers. Rev.* 48, 417–437. doi: 10.1108/PR-06-2017-0172
- Wahyuningrat, W., and Rusmawan, T. (2022). The role of perceived organizational support (POS), emotional intelligence (EI) and organizational commitment (OC) on organizational citizenship behavior (OCB) of government staff. *J. Ind. Eng. Manag. Res.* 3, 175–184. doi: 10.7777/jiemar.v3i6.419
- Wallace, J. C., Popp, E., and Mondore, S. (2006). Safety climate as a mediator between foundation climates and occupational accidents: a group-level investigation. *J. Appl. Psychol.* 91, 681–688. doi: 10.1037/0021-9010.91.3.681
- Wang, H., Tsui, A. S., and Xin, K. R. (2011). CEO leadership behaviors, organizational performance, and employees' attitudes. *Leadersh. Q.* 22, 92–105. doi: 10.1016/j.leaqua.2010.12.009
- Wayne, S. J., Shore, L. M., and Liden, R. C. (1997). Perceived organizational support and leader-member exchange: a social exchange perspective. *Acad. Manag. J.* 40, 82–111. doi: 10.5465/257021
- Yang, S., Huang, H., Qiu, T., Tian, F., Gu, Z., Gao, X., et al. (2020). Psychological capital mediates the association between perceived organizational support and work engagement among Chinese doctors. *Front. Public Health* 8:149. doi: 10.3389/fpubh.2020.00149
- Zhang, L., Qiu, Y., and Teng, E. (2017). Cross-level relationships between justice climate and organizational citizenship behavior: perceived organizational support as mediator. *Soc. Behav. Pers.* 45, 387–397. doi: 10.2224/sbp.4842
- Zhong, L., Wayne, S. J., and Liden, R. C. (2016). Job engagement, perceived organizational support, high-performance human resource practices, and cultural value orientations: a cross-level investigation. *J. Organ. Behav.* 37, 823–844. doi: 10.1002/job.2076

Appendix 1. Questionnaire

Perceived organizational support (POS)/school organizational support (SOS).

1. The school recognizes my extra efforts.
2. The school takes my complaints or opinions seriously.
3. The school really cares about my well-being.
4. The school notices my dedication to work.
5. The school cares about my job satisfaction.

Job engagement (JE)

1. I exert my full effort to my job.
2. I try my hardest to perform well on my job.
3. I strive as hard as I can to complete my job.
4. I am enthusiastic in my job.
5. I feel energetic at my job.
6. I feel positive about my job.
7. At work, my mind is focused on my job.
8. At work, I pay a lot of attention to my job.
9. At work, I am absorbed by my job.

Organizational citizenship behavior (OCB)

1. I help other teachers who have been absent.
2. I help others who have heavy workloads.
3. I willingly help others who have work-related problems.
4. I am always ready to lend a helping hand to others around me.
5. I do not take extra breaks.
6. I obey school rules and regulations even when no one is watching.
7. I am one of the most conscientious teachers in the school.
8. I believe in giving an honest day's work for an honest day's pay.
9. I tend to make "mountains out of molehills."
10. I always find fault with what the school is doing.
11. I am the classic "squeaky wheel" that always needs greasing.
12. I am mindful of how my behavior affects other people's jobs.
13. I do not abuse the rights of others.
14. I try to avoid creating problems for colleagues.
15. I attend meetings that are not mandatory, but are considered important.
16. I attend functions that are not required but help the school image.
17. I keep abreast of changes in the school.



OPEN ACCESS

EDITED BY

Chunhui Huo,
Liaoning University,
China

REVIEWED BY

Sündüs Yerdelen,
Kafkas University,
Turkey
Muhammad Aamir,
Huanggang Normal University,
China

*CORRESPONDENCE

Yanling Liu
✉ liuyanling0203@163.com

SPECIALTY SECTION

This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Education

RECEIVED 18 October 2022

ACCEPTED 05 December 2022

PUBLISHED 04 January 2023

CITATION

Liu Y, Yi S and Siwatu KO (2023) Mediating
roles of college teaching self-efficacy in
job stress and job satisfaction among
Chinese university teachers.
Front. Educ. 7:1073454.
doi: 10.3389/feduc.2022.1073454

COPYRIGHT

© 2023 Liu, Yi and Siwatu. This is an open-
access article distributed under the terms
of the [Creative Commons Attribution
License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or
reproduction in other forums is permitted,
provided the original author(s) and the
copyright owner(s) are credited and that
the original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

Mediating roles of college teaching self-efficacy in job stress and job satisfaction among Chinese university teachers

Yanling Liu^{1*}, Soohyun Yi² and Kamau O. Siwatu³

¹Anhui University of Science and Technology, Huainan, China, ²Center for Curriculum Development and Management, Korea Research Institute for Vocational Education and Training, Sejong, Republic of Korea, ³Department of Educational Psychology and Leadership, Texas Tech University, Lubbock, TX, United States

Colleges and universities have been experiencing high rates of faculty turnover across countries, and hiring and retaining influential faculty members is a constant challenge that higher education institutions have encountered. Job stress and job satisfaction are stable predictors that psychologically determine teachers' persistence in their institutions. The present study aimed to extend understanding of a mediating effect of college teaching self-efficacy (CTSE) on the relationship between faculty job stress and job satisfaction. Data collected from 455 Chinese university teachers were analyzed using structural equation moderated mediation models. CTSE was an effective mediator in alleviating the negative relationship between job stress and job satisfaction. Our finding from a moderated mediation model suggests that the mediation effect of CTSE did not differ by teaching experience, ranks, gender, and workload. However, the significant covariate effect of teaching experience incorporated in the mediation effect implies that teachers with more teaching experiences may have greater teaching self-efficacy, which may positively change the perceptions of job stress and job satisfaction. By way of discussion, we provided evidence regarding current trends and underlying psychological reasons for university teachers' dissatisfaction which might be useful for educators, university administrators, and policymakers framing policy and institutional decisions. Some impractical implications are further discussed.

KEYWORDS

job stress, teaching self-efficacy, job satisfaction, social cognitive theory, structural equation modeling

Introduction

Colleges and universities have been experiencing high rates of faculty turnover across countries, and hiring and retaining influential faculty members is a constant challenge that higher education institutions have encountered (Wong and Heng, 2009; Finch et al., 2010). This issue may involve intricate underlying mechanisms. However, job stress and job satisfaction are stable predictors that psychologically determine teachers' persistence in their professions and institutions (Klassen and Chiu, 2011; Gardner, 2012; Ryan et al., 2012;

You, 2014; Calkins et al., 2019; Gonzales et al., 2020; Madigan and Kim, 2021; Al'Abri et al., 2022; Li et al., 2022).

Teachers and researchers in higher education have increasingly suffered from stress due to the intense demands for productivity and the complexity of the work (Graça et al., 2021). The situation is even harsher for Chinese university teachers because universities and colleges have raised expectations for teaching and research competitiveness, leading to high levels of stress, depressive symptoms, emotional exhaustion, and turnovers among university teachers (You, 2014; Yin et al., 2020; Han et al., 2021; Yu et al., 2022). Han et al. (2021) found that teachers who experienced intense stress from organizational practice harmed job satisfaction. According to a survey study in 2013, 36% of Chinese university teachers experienced great stress (Liu and Zhou, 2016), which deteriorated their job satisfaction (Gao et al., 2015; Liu and Zhou, 2016; Wang et al., 2020). Given the critical roles of university teachers in current educational systems (Chu et al., 2021; Coombe et al., 2021; Fathi et al., 2021), psychological understanding is now a substantial and foundational matter in approaching university teachers' retention and productivity and in helping them deal with the stressful environment and thrive in their career progression.

Teaching self-efficacy, also called teacher self-efficacy, is a well-known mechanism that can alleviate job stress and promote job satisfaction and further job retention by mitigating the negative impact of environmental obstacles and job stress (e.g., Klassen and Chiu, 2010, 2011; Li et al., 2017; Troesch and Bauer, 2017; Ismayilova and Klassen, 2019; Yin et al., 2020). Numerous studies found that teaching self-efficacy significantly predicted teacher job satisfaction in K-12 school settings (Klassen and Chiu, 2010; Sun and Xia, 2018; Zakariya, 2020; Ortan et al., 2021; Saks et al., 2021; Richter et al., 2022). Despite the attention to the relationship among teachers' job satisfaction, job stress, and teaching self-efficacy in K-12 school settings (Tschannen-Moran and Hoy, 2007; Skaalvik and Skaalvik, 2014), a mediating role of teaching self-efficacy has not been much scrutinized with diverse samples of teachers in higher education, particularly in non-Western cultural settings (Klassen and Chiu, 2010; Yin et al., 2020). Further, differential effects of contextual variables (e.g., teaching experience, rank, gender) surrounding university teachers have not been sufficiently investigated in such relationships.

Considering that teaching self-efficacy is associated with positive outcomes, such as teacher well-being (Bjorklund et al., 2021; Saks et al., 2021; Jaguaco et al., 2022; Song, 2022), quality of working life (Kong, 2021; Jaguaco et al., 2022; Matos et al., 2022), and job satisfaction (Chan et al., 2020; Zakariya, 2020), the present study aims to investigate a mediating role of college teaching self-efficacy (CTSE) as a mechanism underlying the relationship between job stress and job satisfaction. We further examined the effect of contextual variables such as gender, teaching experiences, ranks, and teaching loads to forge an understanding of the relationship. Our target population was Chinese university teachers, referring to those involved in teaching at higher education institutions as professors, lecturers, and instructors. This target population was ideal for examining the robust relationship among

job stress, CTSE, and job satisfaction in a non-Western culture, given that university and college faculty members' stress and turnover issues are also prevalent and severe in China (Liu, 2007; You, 2014). We thus aimed to extend a clearer understanding of how CTSE can serve as a psychological mechanism for job satisfaction among Chinese university teachers.

The present study is grounded on the job satisfaction model of social cognitive career theory (SCCT: Lent et al., 1994; Lent and Brown, 2006), which provides a framework for understanding the interplays among self-efficacy, work conditions, and satisfaction a person's experiences in career pathways. The job satisfaction model explains five variables, including personality and affective traits, self-efficacy expectations, goal-directed activity, efficacy-relevant environmental resources and barriers, and work conditions to predict one's experience of satisfaction in work settings (Lent and Brown, 2006). Self-efficacy beliefs are the central part of the model, which refers to beliefs in one's capabilities to finish the courses of action and produce expected attainments (Bandura, 1997). Self-efficacy influences an individual's resilience to adversity, the level of stress they can bear, and their accomplishments (Bandura, 1997). Such beliefs link to intrinsic motivation and behaviors to accomplishment as well as persistence and coping ability when they face difficulties (Peng and Mao, 2015), improving their job satisfaction.

The job satisfaction model (Lent and Brown, 2006) provides a unifying framework for understanding self-efficacy and work conditions' influences on job satisfaction. According to the model, job satisfaction is expected for those who strongly believe in their capability to accomplish job tasks under favorable work conditions. Job satisfaction is a personal gratification from one's different aspects of the work environment (Weiss et al., 1967). Work conditions and characteristics are associated with job satisfaction, including role stressors (e.g., work conflict, overload) and work events, which may influence job satisfaction and self-efficacy. The model emphasizes the human agent's role in its contribution to job satisfaction and tries to understand how affective traits, other personal factors, and environmental factors work together to influence job satisfaction, thus helping people become satisfied with their job (Lent and Brown, 2006).

Literature review and hypotheses

In higher education, university teachers' job satisfaction promotes teaching quality and research productivity (Chen, 2011; He et al., 2020). University teachers' job performance determines the quality of student satisfaction and affects student learning (Machado-Taylor et al., 2016). Conversely, faculty job dissatisfaction diminishes morale, results in turnover intention, and decreases research productivity (Johnsrud and Rosser, 2002; Seifert and Umbach, 2008; Zhang and Shen, 2017). Lawrence et al. (2012) demonstrated that faculty who experienced job satisfaction were more likely to report higher levels of organizational commitment and organizational citizenship behaviors. Other

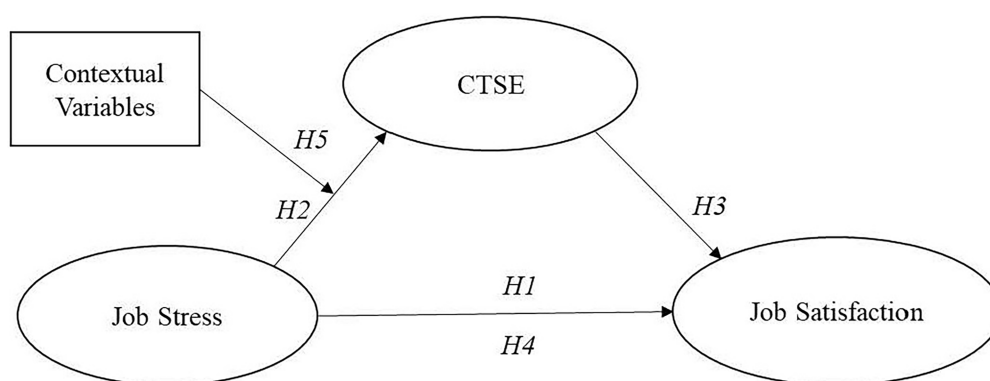


FIGURE 1

Hypothetical mediation model of college teaching self-efficacy. CTSE=college teaching self-efficacy; Contextual variables include teaching experience, gender, rank, and workload.

studies also showed that improving teachers' job satisfaction significantly reduced their attrition rates and intentions to leave their profession (Klassen and Chiu, 2011; Martin et al., 2012; Klassen and Tze, 2014; Toropova et al., 2021).

Given the well-established SCCT job satisfaction model and replications of empirical studies, we hypothesize that a mediation model of CTSE on the relationship between job stress and job satisfaction (Figure 1) would significantly explain Chinese university teachers' psychological mechanism in their workplaces. Five specific hypotheses (H1 to H5) were postulated and evaluated in the present study, which is explained below in detail.

Job stress and job satisfaction

Job stress is a critical factor that determines faculty job satisfaction. Teachers' job stress often results from several contextual predictors, such as increasing workloads, inadequate time, discipline problems, insufficient resources, lack of professional recognition, insufficient administrative support, and the diversity of tasks required (Kokkinos, 2007; Berryhill et al., 2009; Fütterer et al., 2022), which consequently influence the quality of education such as lower job satisfaction (Collie et al., 2012), reduced teaching self-efficacy (Klassen et al., 2013), job burnout (Wang et al., 2020), and increased rate of teacher attrition (Skaalvik and Skaalvik, 2011).

In higher education, very few studies were conducted on the direct relationship between faculty job stress and job satisfaction; but it is known that job stress explains faculty turnover, performance, and professional commitment, which are closely associated with job satisfaction (Tytherleigh et al., 2005; Catano et al., 2010; Ryan et al., 2012; Al'Abri et al., 2022). Changing work conditions and environments in higher education, such as increasing levels of managerial control, higher work demands, and job insecurity, may result in increases in faculty job stress at academic workplaces, and faculty experienced exceedingly high levels of stress even by those who were satisfied with their jobs

(Kinman and Jones, 2008; Ablanedo-Rosas et al., 2011; Shin and Jung, 2014). Catano et al. (2010) found that lack of control in workplaces predicted job dissatisfaction and psychological strain, and job insecurity and work-life imbalance led to job dissatisfaction. Therefore, the deteriorating working conditions of higher education institutions forces faculty to face increasing workloads, growing pressure to publish papers, and short-term contracts, which contribute to rising job stress (Jacobs and Winslow, 2004; Tytherleigh et al., 2005; Houston et al., 2006; Dickson-Swift et al., 2009).

Chinese university teachers also experienced high job stress (Li and Kou, 2018; Han et al., 2021), which negatively influenced their job satisfaction (He and Liu, 2012; Gao et al., 2015; He, 2015). Job stress among Chinese university teachers was also significantly linked to job insecurity, lack of control and resources, increasing student enrollment, and high demands for research productivity and grants (Jing, 2008; Sun et al., 2011). University teachers with higher job stress experienced higher job burnout (Li, 2018). A recent study (Wang et al., 2020) with 1,906 university teachers in China showed that job stress negatively influenced job satisfaction but mediated the negative relationship between job stress and organizational commitment. Prior research on teachers' job satisfaction found a robust relationship between job stress and job satisfaction across various samples. Thus, our first hypothesis is that university teachers' job stress is negatively related to job satisfaction (H1).

Job stress and CTSE

Accumulated empirical evidence exists concerning the negative relationship between teachers' job stress and teaching self-efficacy beliefs. Although gains in teaching self-efficacy do not guarantee the reduction of job stress (Klassen and Durksen, 2014), many researchers replicated the negative correlations between the two constructs with a variety of samples (Klassen and Chiu, 2011; El-Sayed et al., 2014; Hu et al., 2019; Han et al., 2021). El-Sayed

et al. (2014) found that 84.6% of the faculty members in an Egyptian university experienced a high level of occupational stress, which negatively influenced self-efficacy. Yin et al. (2020) examined the relationship between Chinese university teachers' job stress and their self-efficacy beliefs, showing that stress from organizational inadequacy and new challenges negatively influenced teaching self-efficacy, while stress derived from financial inadequacy and poor student quality positively influenced teaching self-efficacy. Another study on Chinese university teachers found that stress related to organizational practices was negatively associated with self-efficacy (Han et al., 2021). Fathi and Derakhshan (2019) examined the role of teacher self-efficacy and emotional regulation as predictors of teaching stress among Iranian teachers in different language institutes, schools, and universities. The results showed that teacher self-efficacy and emotional regulation negatively predicted teaching stress, and self-efficacy outweighed emotional regulation in predicting teaching stress. Therefore, the second hypothesis is that job stress is negatively related to CTSE (H2).

CTSE and job satisfaction

Teachers with greater self-efficacy put more energy into their job, have higher levels of job satisfaction, and develop interpersonal networks to sustain their job satisfaction (Caprara et al., 2006; Klassen et al., 2013; Perera et al., 2019; Alibakhshi et al., 2020; Gonzales et al., 2020; Toropova et al., 2021). Extensive research found a positive correlation between teaching self-efficacy and job satisfaction among K-12 teachers (Klassen and Chiu, 2010; Soto and Rojas, 2019; Zakariya, 2020).

Richter et al. (2022) examined retention intention and job satisfaction among first-year alternatively certified teachers in German. The results revealed that teacher extraversion and self-efficacy positively affected job satisfaction, and self-efficacy mediated the relationship between teacher extraversion and job satisfaction. Toropova et al. (2021) investigated the relationship between teacher job satisfaction, school working conditions, and teacher characteristics for eighth-grade mathematics teachers in Sweden. The results showed that teachers with more exposure to professional development and more efficacious teachers tended to have higher levels of job satisfaction. Recent studies also found a positive relationship between teaching self-efficacy and job satisfaction among teachers in China (Wang et al., 2015; Li et al., 2017), Iran (Alibakhshi et al., 2020), Norway (Zakariya, 2020), and Philippine (Gonzales et al., 2020). However, studies on teaching self-efficacy and job satisfaction at the university level are minimal. Ismayilova and Klassen (2019) found that teaching self-efficacy was the strongest predictor of job satisfaction among university faculty in Azerbaijan and Turkey. Frisby et al. (2015) examined the effect of students' instructional dissent on faculty burnout, commitment, satisfaction, and self-efficacy. However, this study did not show the relationship between faculty self-efficacy and job satisfaction.

Despite a lack of studies with university teacher samples, we postulated the third hypothesis based on robust findings concerning the positive relationship between CTSE and job satisfaction. We expect that CTSE predicts and positively influences Chinese university teachers' job satisfaction (H3).

In addition to the positive relationship between CTSE and job satisfaction, we further assume that CTSE would undermine the negative relationship between job stress and job satisfaction. According to Bandura's social cognitive theory, people have their own beliefs in their ability to engage in activities to develop themselves (Bandura, 1997), which plays a crucial role in changing human behaviors and circumstances. Studies demonstrated that people with firm self-efficacy beliefs were more likely to cope effectively with complex problems and pursue their goals persistently, thus improving their job satisfaction (Peng and Mao, 2015). Faculty members' job stress often has negative impacts on job satisfaction (He and Liu, 2012; Gao et al., 2015; Han et al., 2021) and may result in faculty member's decision to leave their institution (Johnsrud and Rosser, 2002; Rosser, 2004). However, teaching self-efficacy positively correlates with work engagement and reflection (Fathi et al., 2021; Han and Wang, 2021) and job satisfaction (Klassen and Chiu, 2010; Perera et al., 2019; Toropova et al., 2021; Richter et al., 2022). Pajares (2002) claimed that individuals with a higher sense of efficacy are more likely to challenge difficulties and adopt effective coping strategies to undergo stress. Therefore, self-efficacy beliefs may help undermine the negative effect of job stress on job satisfaction. Collie et al. (2012) found that elementary teachers' job stress from heavy workloads negatively influenced their job satisfaction, and teachers who felt stressed by student behavior had lower teaching efficacy. Therefore, our fourth hypothesis is that CTSE would undermine the negative relationship between job stress and job satisfaction (H4).

Contextual variables affecting job satisfaction model for university teachers

Based on the SCCT job satisfaction model (Lent and Brown, 2006), we assume that teaching experience, gender, rank, and workload may be related to job-related beliefs and job satisfaction.

Teaching experience is considered an essential predictor of teaching self-efficacy beliefs and job satisfaction. An abundance of empirical studies on this topic found a positive relationship between the two variables, showing that teachers with more teaching experience had higher self-efficacy beliefs (Fives et al., 2007; Wolters and Daugherty, 2007; Liu, 2014). Cheung (2008) stated that the length of teaching experiences was a significant source of Chinese primary in-service teachers' self-efficacy. Gurvitch and Metzler (2009) proposed that pre-service teachers' self-efficacy beliefs were raised as their teaching experience increased. Dimopoulou (2014) found that teachers with more years of teaching reported higher levels of teaching self-efficacy in special schools in the United Kingdom. Fives et al. (2007) found

that student-teacher self-efficacy increased significantly over the 12-week course of student-teaching practicum. Liu (2014) conducted a study on Chinese university teachers who teach English as a second language and found that teachers with more than 20 years of teaching experience had greater self-efficacy than those with less teaching experience. Another study showed that teachers with more than 11 years of teaching experience reported a higher level of self-efficacy than those with less than 11 years of experience (Wolters and Daugherty, 2007).

However, some studies implied that the relationship between teaching experience and teaching self-efficacy is insignificant or nonlinear (e.g., Klassen and Chiu, 2010; Tschannen-Moran and Johnson, 2011). Perera et al. (2019) found that teachers with more years of experience reported different self-efficacy beliefs among Australian secondary school teachers, with some belonging to a highly efficacious group but some being highly inefficacious. Given the contradictory findings, the relationship between teaching experience and teaching self-efficacy needs further investigation, particularly for university teachers, as this group seldom gets attention in the literature.

The effects of gender and workload on teaching self-efficacy beliefs have also been examined in various cultural contexts, including China and Australia (Liu, 2014; Perera et al., 2019). Male teachers are more likely to report inefficacious, while females report highly to moderately efficacious in classroom instruction (Perera et al., 2019). Liu (2014) found that male teachers experienced lower self-efficacy beliefs than females in China.

Studies showed that university faculty's job satisfaction differs in gender (Okpara et al., 2005; Sabharwal and Corley, 2009; Toker, 2011; Gardner, 2012) and rank (Zhou and Volkwein, 2004; Bozeman and Gaughan, 2011; Gao et al., 2015), with male and tenured experiencing a higher level of job satisfaction. However, Gao et al. (2015) found that male and female faculty in China showed no difference in job satisfaction. Excessive workload negatively affects faculty job satisfaction (Love et al., 2010; Mamiseishvili and Rosser, 2010).

Based on the above literature, the effect of covariates on teaching self-efficacy beliefs and job satisfaction is not apparent and needs further examination. In the present study, we examine the effect of teaching experience, gender, workload, and rank on the relationship between job stress, teaching self-efficacy, and job satisfaction. We hypothesize that the mediation effect of CTSE will differ by contextual variables, including teaching experience, gender, rank, and workload (H5).

Methods

Procedure

We recruited the study participants *via* a social media platform in cooperation with staff and faculty members in colleges and universities in China. The participation was completely voluntary and anonymous, which was highlighted in the invitation letter. The

College Working Stress Scale is originally in Chinese. The Chinese short form of the Minnesota Satisfaction Questionnaire (Weiss et al., 1967) is available by the original authors of the scale, so we used it to measure job satisfaction. Since one of the questionnaires, the College Teaching Self-Efficacy Scale (CTSES: Liu et al., 2020), is not available in Chinese, we translated it into Chinese and back-translated it into English by two professors in the United States and two university teachers in China. A Ph.D. student majoring in translation between English and Chinese checked the result of translation and back-translation. All questions in the Chinese version of the survey were then utilized to collect data, and a total of 68 items took the participants approximately 20 min to finish the survey. We approached nearly 700 university teachers, and the response rate was approximately 66.29%.

Participants

The final sample consisted of 455 university teachers in China, who are operationally defined as those involved in teaching at universities: 49.45% lecturers, 32.97% associate professors, 5.93% full professors, and 5.5% assistant instructors. An assistant instructor in China is a member who assists other teachers in their teaching work (Liu, 2018). Participants' teaching experience varied between 1 and 45 years ($M = 13.48$, $SD = 7.26$), and the time ratio of teaching to research ranged from 5 to 100% ($M = 63.43\%$, $SD = 21.28$). Participants reported their biological sex as 43.52% males and 56.48% females. Almost half of the participants (55.72%) were recruited from Anhui Province, and the others from different provinces (e.g., Shanxi, Zhejiang, Jilin) in China. The sample included participants with bachelor's degrees ($n = 10$, 2.20%), master's degrees ($n = 246$, 54.10%), doctorate degrees ($n = 148$, 32.50%), and postdocs ($n = 33$, 7.30%).

Measures

College teaching self-efficacy

College teaching self-efficacy was measured using 17 items of the College Teaching Self-Efficacy Scale (CTSES: Liu et al., 2020 [details removed for review]) which measures college teachers' beliefs about their ability to accomplish teaching tasks (Appendix A). Participants were asked to rate their confidence about teaching-related tasks on a scale ranging from 0 (*no confidence at all*) to 100 (*completely confident*). A sample item for CTSES is "how confident are you in your ability to motivate students to remain actively engaged in learning activities?" The Cronbach's alpha reliability of the one-factor scale in the present study was 0.95. A higher score represents a high level of college teaching self-efficacy.

Job stress

Job stress was measured using the College Working Stress Scale (CWSS: Li, 2005), which was designed to assess university

teachers' levels of job stress (Appendix B) CWSS consists of 24 items, rated on a five-point Likert scale ranging from 1 (*no stress*) to 5 (*extreme stress*). A sample item is "please rate how great a source of stress these factors are for you: an opportunity for promotion." The scale reflects five dimensions of job stress: job security, teaching-related job security, interpersonal relationships, workload, and work pleasure. Li (2005) showed that CWSS has solid internal consistency reliability of all items ($\alpha=0.92$). Extensive prior research demonstrates adequate internal consistency reliability ($\alpha=0.81$ to 0.91) and construct validity evidence for CWSS in the research in China (He and Liu, 2012; Ni et al., 2016; Wang and Jing, 2019).

Job satisfaction

Job satisfaction was measured using a short-form Minnesota Satisfaction Questionnaire (MSQ; Weiss et al., 1967; Appendix C). The MSQ is also available in many languages, including Chinese; thus, we used the Chinese short form of MSQ. The short-form MSQ consists of 20 items, rated on a five-point Likert-type scale (1 = *very dissatisfied*, to 5 = *very satisfied*). A sample item for the scale is rating "how satisfied with your job on a 5-point response scale: the competence of my superior in making decisions." Two factors were originally suggested; intrinsic job satisfaction includes 20 items, extrinsic job satisfaction includes eight items, and the general satisfaction score is also widely used. Extensive prior research demonstrates adequate internal consistency reliability and construct validity evidence for MSQ (Weiss et al., 1967; Saner and Eyüpoğlu, 2013; Pan et al., 2015). We used the general satisfaction score, the composite score of the whole items, and a higher score represents a higher level of teacher satisfaction.

Contextual variables

Demographic information was asked to answer, including gender, professional rank, workload, and years of experience. The teaching experience was measured as the number of years teaching at the college level cumulatively. The workload was indexed as the percentage of semester workload teachers spent on teaching work. Teachers were also asked to report their gender on a binary response scale (0 = female, 1 = male). Finally, faculty members' rank was indexed as four categories (1 = assistant instructor, 2 = lecturer, 3 = associate professor, 4 = full professor).

Statistical analyses

Data cleaning

The careless response is a pattern of responses in which participants respond without thinking of the item content (Meade and Craig, 2012), resulting in serious bias, particularly in online surveys. We identified careless responses based on out-of-range values, speed of response time, and excessively the same responses on consecutive items (e.g., rating only "3" on the whole survey pages). Consequently, we deleted the careless or inattentive

responders from the data set, resulting in 455 participants for further analyses. We also examined normality, linearity, homoscedasticity, and multicollinearity to check the assumptions for the multivariate statistical analyses. We found that all the assumptions were met by checking the normality histogram, Q-Q plot, scatterplot, and tolerance value.

Preliminary analysis – Measurement models

Before analyzing the mediation structural equation model, we tested the measurement models embedded in the structural equation model (SEM) for mediation analysis. Since the CTSE scale (Author, 2020) has not been validated with a sample of university teachers in China, we performed exploratory factor analysis first (EFA) to explore the factor structure. Parallel analysis (Horn, 1965) was performed using the R Paran package (Dinno, 2001–2009) to determine the number of factors comparing simulated and the actual data. We also conducted confirmatory factor analysis (CFA) for all the latent variables of the mediation model and examined if the data supported the hypothesized factor structure.

Mediation and moderated mediation analysis

The SEM mediation analysis based on bootstrapping was incorporated to examine the first four hypotheses ($H1 - H4$) using Mplus 8.8 (Muthén and Muthén, 1998–2022). Testing the indirect effect by bootstrapping or Monte Carlo methods is recommended rather than testing individual paths of the simple mediation model (Hayes and Rockwood, 2017). The previous methods, such as the Sobel test and the ratio of the paths of ab to c , are not recommended because of their unclear interpretability and inaccurate results. Thus, we relied on the indirect effect with the bootstrap confidence interval to test the significance of the hypothesized mediation effect. In our model, the mediation effect indicates the effect of job stress on job satisfaction depending on the effect of CTSE. The indirect effect was computed by bootstrapping from each resampled data set, and a confidence interval was produced to decide the indirect effect (Preacher and Hayes, 2004, 2008).

After examining the mediation effect, we continued to examine if the mediation effect was conditional on the level of teaching experience. Moderated mediation analysis (Preacher et al., 2007) was used, in which the interaction term of CTSE and teaching experience was additionally included in the mediation model. Before examining the moderating effects on the mediation model, these covariates were exploratorily specified to regress the mediator without interaction terms. Based on this baseline result, we added teaching experience as a moderator in the mediation model and analyzed a moderated mediation using the XWITH statement in Mplus syntax.

We evaluated the model fits based on multiple goodness-of-fit indices, including the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), the Tucker Lewis Index (TLI), and the Comparative Fit Index (CFI). The following criteria were used to determine the adequateness of the model fits: $RMSEA \leq 0.08$, $CFI > 0.90$, $TLI > 0.90$, and $SRMR \leq 0.05$ (Bentler, 1990; McDonald and

Marsh, 1990; Browne and Cudeck, 1992; Hu and Bentler, 1999; Brown, 2015). As seen in Figure 1, we specified the direct and indirect effects of the three main variables (mediation model) and the covariates (moderated mediation model) and estimated the parameters with bootstrapping (Preacher and Hayes, 2004, 2008). Full information maximum likelihood (FIML) estimation was used to handle missing data (Enders, 2010).

Results

Preliminary analysis: Measurement models

College teaching self-efficacy

Figure 2 presents the parallel analysis result, where the eigenvalues of the actual data are contrasted with the average eigenvalues of the simulated parallel data. The actual data line drops below the simulated data line at Factor 3. By comparing the eigenvalues obtained from the simulated data with the eigenvalues from the actual data, the parallel analysis recommended two factors in the CTSE scale. We further conducted CFA with a robust maximum likelihood estimator (MLR) based on the hypothesized two-factor model. The two-factor CTSE scale demonstrated acceptable model fit: $\chi^2(118)=306.98$, $p<0.001$, CFI=0.938, TLI=0.929, SRMR=0.035, and RMSEA=0.060, 90% CI [0.052, 0.068]. Standardized factor pattern loadings ranged from 0.74 to 0.87. However, the factor correlation was too high, $r=0.99$, implying that the two factors are not clearly distinguished.

We further examined the one-factor model combining the two factors, resulting in acceptable model fits: $\chi^2(119)=307.25$, $p<0.001$, CFI=0.939, TLI=0.930, SRMR=0.035, and RMSEA=0.060, 90% CI [0.051, 0.068]. We referred to modification indices for a more parsimonious and effective factor model and found that seven items were redundant in the one-factor model. Consequently, we deleted the seven items, and the model fits with the reduced model, which were notably improved: $\chi^2(77)=173.01$, $p<0.001$, CFI=0.959, TLI=0.952, SRMR=0.031, and RMSEA=0.053, 90% CI [0.042, 0.063]. The Cronbach's α for the final 10 items of the one-factor CTSE scale was 0.95.

College working stress scale

The CFA results for the original five-factor model yielded unacceptable model fits: $\chi^2(242)=742.48$, $p<0.001$, CFI=0.89, TLI=0.87, SRMR=0.06, and RMSEA=0.07, 90% CI [0.062, 0.073]. Factor loadings and modification indices implicated a need to combine the five factors into a smaller number of factors, mainly considering the strong correlations among the factors. Therefore, we decided to combine the five factors into three factors: job security, interpersonal relationship, and work pleasure. After deleting 10 items, the job stress scale demonstrated acceptable model fit: $\chi^2(74)=185.223$, $p<0.001$, CFI=0.940, TLI=0.926, SRMR=0.044, and RMSEA=0.058, 90% CI [0.047, 0.068]. The Cronbach's α for job security, interpersonal relationship, and work pleasure were 0.74, 0.78, and 0.84, respectively. Cronbach's alpha with all factors was $\alpha=0.89$. The factor correlations are 0.78, 0.90, and 0.87, respectively.

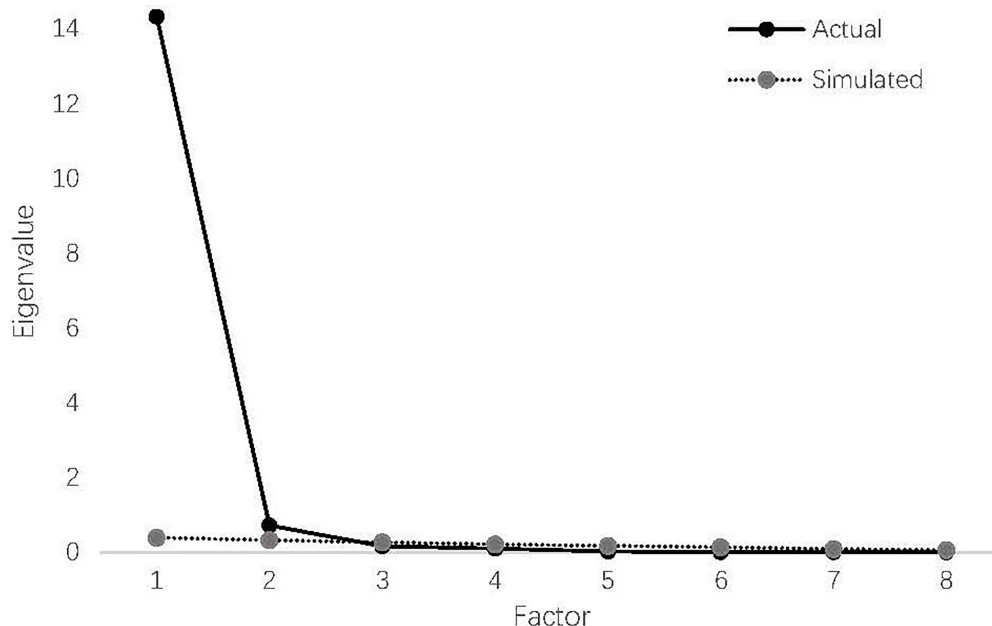


FIGURE 2
Parallel analysis result.

Minnesota satisfaction questionnaire

The CFA result for the one-factor model showed poor model fit the data: $\chi^2(54) = 201.265$, $p < 0.001$, CFI = 0.913, TLI = 0.893, SRMR = 0.045, and RMSEA = 0.078, 90% CI [0.670, 0.090]. Based on residuals and modification indices, we deleted two items, and the revised factor model yielded improved model fits: $\chi^2(35) = 108.36$, $p < 0.001$, CFI = 0.940, TLI = 0.924, SRMR = 0.041, and RMSEA = 0.068, 90% CI [0.054, 0.083]. The Cronbach's α was 0.88.

Mediation model

To test *H1* to *H5* (Figure 1), a mediation model using structural equation modeling (SEM) was incorporated. The indirect effect was estimated with bootstrapping and resampling 1,000 times (Perera, 2013). Table 1 summarizes the results.

As expected, we found negative associations of job stress with both job satisfaction and CTSE (*H1*, *H2*) and positive associations of CTSE with job satisfaction (*H3*). As proposed in *H1*, university teachers' job stress was negatively related to job satisfaction with a total effect (without CTSE): $\beta = -0.51$, $SE = 0.08$, 95%CI [-0.6, -0.34], and with direct effect: $\beta = -0.49$, $SE = 0.08$, $p = 0.004$, 95%CI [-0.6, -0.32]. We accepted *H2* that job stress was negatively related to CTSE: $\beta = -0.19$, $SE = 0.06$, $p = 0.003$. As proposed in *H3*, CTSE was positively related to job satisfaction; beta, $\beta = 0.14$, $SE = 0.05$, $p = 0.004$.

The path coefficient for indirect effect was significant, $\beta = -0.02$, $SE = 0.01$, 95%CI [-0.05, -0.01], and the confidence interval does not include zero. Therefore, the effect of job stress on job satisfaction was significantly mediated by CTSE (*H4*). This finding implies that CTSE may significantly reduce the negative relationship between job stress and job satisfaction. For example, even if university teachers' job stress is high, teachers with a higher level of CTSE may still feel satisfied with their job. In summary, we found that job stress was negatively related to job stress and CTSE; CTSE was positively related to job satisfaction and effectively undermined the negative effect of job stress on job satisfaction.

TABLE 1 Effects of job stress on job satisfaction by college teaching self-efficacy.

Path	β	SE	95% CI
Job stress \rightarrow CTSE	-0.19	0.06	[-0.27, -0.02]
CTSE \rightarrow Job satisfaction	0.14	0.05	[0.07, 0.27]
Job stress \rightarrow Job satisfaction (direct)	-0.49	0.08	[-0.64, -0.32]
Job stress on job satisfaction (indirect)	-0.02	0.01	[-0.05, -0.01]
Job stress \rightarrow Job satisfaction (total)	-0.51	0.08	[-0.65, -0.34]

Differential effects of the contextual variables on the mediation model

We further examined whether the mediation effect of CTSE differs depending on gender, teaching load, rank, and teaching experiences. Before examining the moderating effects on the mediation model, these covariates were specified to regress the mediator without interaction terms. With all four covariates, the model showed a marginally acceptable fit to the data, $\chi^2 = 1412.50$, $p < 0.001$, RMSEA = 0.048, 90% CI = [0.044, 0.051], CFI = 0.90, TLI = 0.89, SRMR = 0.053. Among the four covariates, only teaching experience was significantly associated with CTSE in the mediation model, $\beta = 0.15$, $SE = 0.08$, $p = 0.04$. Based on this result, we added teaching experience as a moderator in the mediation model (Figure 1) and analyzed a moderated mediation using the XWITH statement in Mplus syntax. The result showed that the interaction effect between stress and teaching experience on teaching self-efficacy was not significant, $\beta = -0.01$, $SE = 0.06$, $p = 0.90$. However, teaching experience was only significantly associated with teaching self-efficacy, $\beta = -0.15$, $SE = 0.05$, $p = 0.002$. This implies that university teachers' teaching self-efficacy may mediate the negative effect of job stress on job satisfaction, and teaching self-efficacy gets higher when university teachers are more involved in teaching. However, the negative relationship between job stress and teaching self-efficacy does not differ by years of teaching. Figure 3 presents the final model for the mediation results.

Discussion

The present study aimed to extend understanding of the relationship among job stress, job satisfaction, and teaching self-efficacy among university teachers, specifically with a sample of non-Western countries. Although it is well documented that efficacious teachers tend to be more satisfied with their work and could alleviate the negative effect of job stress on job satisfaction (Klassen and Chiu, 2010), the relationship has been relatively unknown in non-Western countries (Gilbert et al., 2014). Further, the interplay with contextual variables (e.g., gender, teaching experience, rank) has not been sufficiently investigated. To address this gap, the present study, predicated on the SCCT (Lent and Brown, 2006), examined direct and indirect relations among job stress, teaching self-efficacy, and job satisfaction and further examined the moderation effects of contextual variables. Our study showed that both job stress and CTSE negatively influenced job satisfaction, and CTSE positively influenced job satisfaction. In addition, CTSE mediated the relationship between job stress and job satisfaction, and teaching experience was positively linked with CTSE in the mediation effect of CTSE.

The finding in terms of the direct relationship between job stress and job satisfaction supports the prior literature. This result suggested that Chinese university teachers with a high level of job stress would feel unsatisfied with their job, which may lead to their motivation to leave their profession. Chinese university teachers'

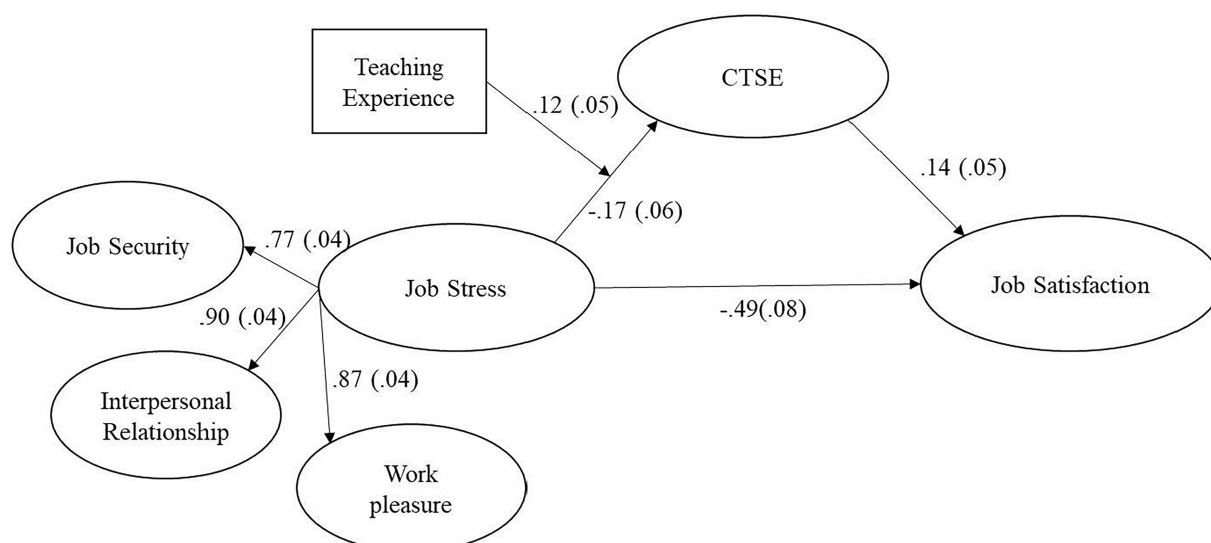


FIGURE 3

Final mediation model with teaching experience. Standardized coefficients are presented on the paths. All measurement indicators, error terms, variances, and covariances are omitted in this figure.

job stress led to lower levels of job satisfaction (He and Liu, 2012; Gao et al., 2015; He, 2015; Wang et al., 2020), which is also consistent with the majority of research findings with samples of K-12 education in western countries (Skaalvik and Skaalvik, 2011; Klassen et al., 2013; Struyven and Vanthournout, 2014). Job stress is an important factor for university teachers, influencing the cognitive and affective perception of the work environment and, thus job satisfaction. Although this finding has been replicated in much research, there are some exceptions. For example, a study with a sample of university teachers in Pakistan found that overall occupational stress was not associated with job satisfaction (Chaudhry, 2012). The contradiction may imply that university teachers in different countries and working environments have different perceptions of job stress and satisfaction. Future studies must dig into the relationship deeply in the higher education context.

We also found a negative relationship between job stress and CTSE. The result suggested that university teachers would feel less confident when experiencing high job stress in the long run. University teachers may perceive their job as more demanding and stressful, and those with higher stress levels perceive themselves as less able to accomplish their teaching tasks in college classrooms. The possible sources of university teachers' job stress are varied, including high demand for their performance, negative feedback from students, excessive workload, and poor working culture. Whatever the reasons are, job stress could be a significant hindrance to teaching work. The stress they endure under challenging situations may result in less confidence in their ability to finish a teaching task. This finding is congruent with studies conducted in Egyptian (El-Sayed et al., 2014), Canada (Klassen and Chiu, 2010), the Dominican Republic (Gilbert et al., 2014), and Iran (Fathi and Derakhshan, 2019), but partially aligns with other research conducted in China (Yin et al., 2020; Han et al.,

2021) and other countries (Klassen et al., 2013). More specifically, the relationship between job stress and CTSE can differ in some attributes or sources of stress. For example, stress originating from organizational practices, instructional changes, organizational inadequacy, and new challenges exhibited a negative relationship with teaching self-efficacy, while stressors associated with instructional activities, research support, student quality, and financial inadequacy are positively related to teaching self-efficacy (Yin et al., 2020; Han et al., 2021).

Moreover, a negative and weak relationship existed between workload stress and self-efficacy among teachers in Canada and Thailand. Still, a positive and weak relationship existed in England and Hongkong contexts (Klassen et al., 2013). Given the disparity in research, it would need further research investigating the differential effects of diverse cultures and work environments and different measures of stress on the relationship between job stress and CTSE.

Additionally, the positive correlation between CTSE and job satisfaction aligns with prior research (e.g., Klassen and Chiu, 2010; Gilbert et al., 2014; Alibakhshi et al., 2020; Zakariya, 2020; Toropova et al., 2021; Richter et al., 2022), and added an empirical study replicating the SCCT satisfaction model with a Chinese university teacher sample (Lent and Brown, 2006). In light of this, it can be claimed that Chinese university teachers with high teaching self-efficacy constantly contemplate their teaching tasks and find ways to accomplish them. This makes them more confident in their work and enjoy and feel satisfied with their job. This finding is consistent with research that also found positive relationships between teacher job satisfaction and engagement (Chan et al., 2020; Al'Abri et al., 2022). This raises the possibility of creating some programs to increase college teaching self-efficacy. Consequently, university teachers may perceive their job

satisfaction by reducing the likelihood of suffering job stress (Han et al., 2021). From a theoretical standpoint, teachers who feel highly efficacious in their abilities to accomplish teaching-related tasks may promote student learning and favorable work conditions that foster the experience of job satisfaction (Lent and Brown, 2006). Thus, teachers' beliefs that they can accomplish specific teaching-related tasks may inform more favorable assessments of their satisfaction with their professional roles.

Our mediation analysis also found that CTSE was an effective mediator in the negative relationship between job stress and job satisfaction. This finding supports the prior research that teaching self-efficacy alleviated the negative effect of stress on job satisfaction (Klassen and Chiu, 2010; Han et al., 2021). Teaching self-efficacy may change the perceptions of how job stress influences the feeling of satisfaction in their job and influence teachers' perception of job stress and anxiety. When exposed to stressful working conditions, teachers who have higher levels of self-efficacy may develop a positive attitude toward stress as they feel confident in coping with the challenges in their work (Bandura, 1997). Self-efficacy is a powerful influence on behavior (Bandura, 1997) and plays a critical role in influencing the effort teachers may put into teaching tasks and the persistence in pursuing teaching goals in the face of failure. University teachers with high teaching self-efficacy, suffering from high demand from higher educational context, manage to achieve professional goals, including engaging in challenging teaching work, publishing high-quality papers, and applying for the research fund. These successful experiences could be the sources of teacher self-efficacy and help them sustain satisfaction with their job even in the face of stress.

Although our moderated mediation effects were not significant with several contextual variables (gender, teaching experiences, rank), teaching experience was found to be significantly linked with teaching self-efficacy in the mediation model of CTSE. Our finding suggests that the mediation effect of CTSE may not differ by teaching experience (i.e., the non-significant result of moderated mediation); instead, the mediation effect would constantly work regardless of university teachers' teaching experience. However, the significant covariate effect of teaching experience implies that teachers with more teaching experiences may have greater teaching self-efficacy, which may positively change the perceptions of job stress and job satisfaction. It may simply support a well-known proposition that teaching experience is a vital source for teachers' cognitive evaluations of self-efficacy beliefs. This result also reinforces previous findings that teachers with more experience had high self-efficacy (Gurvitch and Metzler, 2009; Dimopoulou, 2014; Liu, 2014). It also consolidates Bandura (1997) suggestion that mastery experiences are critical to developing self-efficacy. Teachers learn much from their experiences because they try to continuously improve their teaching method and consciously seek useful resources, such as engagement in teacher training and teaching contest. During the process, their teaching self-efficacy is enhanced because they may be inspired by colleagues' encouragement, leaders' positive feedback, and positive role modeling. In addition, teachers with more teaching experience might have faced many challenging tasks and finally found good

ways to respond to stressful contexts. Therefore, they may learn from their previous teaching practices and believe they can accomplish any teaching task. When perceiving higher levels of teaching self-efficacy, teachers may be able to control their stress levels and deal with stressful teaching tasks.

However, prior research has not constantly observed such a positive relationship. The relationship between self-efficacy and teaching experience was not significant among K-8 teachers in Virginia, Kansas, and Arkansas (e.g., Tschannen-Moran and Johnson, 2011) and nonlinear among K-12 Canadian teachers (Klassen and Chiu, 2010). Some Australian secondary teachers with more teaching experiences had greater self-efficacy, while others had lower self-efficacy (Perera et al., 2019). These disparities imply that our sample of Chinese university teachers would have more invariant meanings of teaching experience related to CTSE, and years of teaching, which can be a future research topic.

The present study may contribute to the knowledge base regarding university teachers' job satisfaction as we address the prevalent issues in the university context. In this era of dramatic societal changes and competition surrounding university teachers, teaching self-efficacy is the key to determining teacher well-being and job satisfaction (Zakariya, 2020; Bjorklund et al., 2021; Kong, 2021; Saks et al., 2021; Toropova et al., 2021), engagement (Al'Abri et al., 2022), and retaining with high quality and effectiveness (You, 2014; Madigan and Kim, 2021). The study findings provide evidence-based information regarding the current trends and underlying psychological reasons for university teachers' dissatisfaction, burnout, and turnover, which might be useful for educators, university administrators, and policymakers framing policy and institutional decisions. Further research-based programs and policies should be developed and distributed to promote university teachers' teaching self-efficacy.

Limitations

There are some limitations to the present study. First, the findings cannot be generalized to a broader population because of the potential sample selection bias of the convenience sampling method. Convenience sampling might limit the participants who were interested in the study; thus, we might have oversampled the participants with favorable properties (e.g., low job stress and high self-efficacy). Indeed, our sample's baseline job stress level was low ($M = 2.36$ out of 5, $SD = 0.63$), while the average CTSE was high ($M = 79.03$ out of 100, $SD = 0.11.07$). The average job satisfaction was a moderate level ($M = 2.79$ out of 5, $SD = 0.48$). Therefore, it is possible that teachers with a high level of self-efficacy and a moderate level of satisfaction participated in the study. More replication studies with various samples should be conducted based on advanced sampling techniques (e.g., probability sampling). Secondly, the sample was primarily drawn from universities in a province and may not be nationally representative in China. Data collection from various higher institutions may provide a broad picture and a different finding for the study. Third, causal explanations should be avoided due to the cross-sectional

survey design. Future research should investigate the effect of job stress on job satisfaction utilizing longitudinal data with multiple waves because such longitudinal research design would allow the mediation tests to be relatively less biased (Maxwell and Cole, 2007). In addition, reducing the number of the original scales (CWSS, MSQ) might deteriorate the content and construct validity of the scale. More thorough investigations of the validity of such shortened scales should be performed to ensure the implications of the study findings. Finally, more in-depth qualitative studies (e.g., interviews) could assist in explaining the quantitative findings.

Implications

Notwithstanding these limitations, the results of this study have practical implications for university and college teachers, teacher programmers, school leaders, and policy and decision-makers in higher education. College teaching self-efficacy could be a valuable resource for teachers, and it may influence teachers to adopt good stress-coping skills and develop a positive attitude toward their job. The results can benefit the pre-service and in-service university and college teachers because they would try to find good ways to enhance their well-being by knowing the linkage among job stress, teaching self-efficacy, and job satisfaction. University teachers in China can dedicate much effort to enhancing their teaching competence by proactively being involved in more teaching practices and developing self-regulatory skills to cope with the stressors of the high demands of universities and colleges.

The findings are helpful for teacher programmers to take teacher psychological variables into account and design and offer appropriate programs and practices that engage teachers in teaching activities and strategies that help raise their self-efficacy beliefs. By engaging in more teaching practices and training, teachers will improve their pedagogical competence and thus improve their self-efficacy beliefs because mastery experience is the key source of self-efficacy (Bandura, 1997). In addition, education programmers should also provide teachers with opportunities to observe the teaching practices of award-winners because teachers may continually communicate with competent teachers to enrich their teaching experience and thus enhance their self-efficacy beliefs by observing other teachers' ability to accomplish a teaching task.

Equally, school leaders can benefit from this study by building a supportive and cooperative environment for university teachers. School leaders could help teachers deal with excessive demands and promote a healthier university which helps lessen work-related stressors and welcome job satisfaction, creating a sustainable working environment in which teachers improve teaching, have more chances to get promotions, and develop their teaching self-efficacy. In a cooperative environment, teachers should seek feedback from the principal or their colleagues, which is helpful for the job satisfaction and psychological safety of newly qualified-teachers (Vanmol et al., 2022). School leaders should also provide more resources and opportunities for university teachers (especially assistant instructors) to engage in teaching programs, teaching seminars, teaching contests, and challenging work. These practices

add to novice teachers' teaching experiences and help raise teaching self-efficacy when it is impossible for them to increase their teaching years.

Finally, policy and decision-makers in higher education can take advantage of the findings by reframing and changing some personnel policies to decrease teachers' job stress and increase job satisfaction. Policymakers could reframe and lower the criteria of teaching evaluation and job promotion for university teachers by reducing the high demand for the number of publications and research funds.

Conclusion

Several scholars have investigated the relationship between job stress, teaching self-efficacy, and job satisfaction among K-12 school teachers (e.g., Klassen and Chiu, 2010; Gilbert et al., 2014; Han et al., 2021). However, very few (e.g., Han et al., 2021) investigated their relationship in higher educational contexts. This study filled the gap and found that teaching self-efficacy undermines the negative effect of faculty job stress on job satisfaction. Our mediation model provides more information for understanding the mechanisms underlying the job stress-satisfaction relationship, with participants with firmer self-efficacy beliefs less likely to connect job stress to a lower level of job satisfaction. The present study contributes to the literature by replicating previous research on links between faculty job stress, teaching self-efficacy, and job satisfaction. Implications are provided to help administrators in higher educational institutions reduce faculty job stress *via* improving teaching self-efficacy in teachers' navigation of their job satisfaction.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Texas Tech university. The patients/participants provided their written informed consent to participate in this study.

Author contributions

YL wrote the original draft, did reviewing and editing work, collected data, and analyzed data. SY reviewed and edited the original draft, analyzed data, and decided methodology. KS reviewed the draft and edited it, guided the project, and suggested the process of collecting and analyzing data. All authors contributed to the article and approved the submitted version.

Funding

This work was funded by Education Department of Anhui Province [grant number 2021jyxm06366]. Education Department of Anhui Province offer researchers funds to do research and projects. I received 10,000 RMB (nearly \$1,388) from the department.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

References

- Ablanedo-Rosas, J. H., Blevins, R. C., Gao, H., Teng, W. Y., and White, J. (2011). The impact of occupational stress on academic and administrative staff, and on students: an empirical case analysis. *J. High. Educ. Policy Manag.* 33, 553–564. doi: 10.1080/1360080X.2011.605255
- AlAbri, K., Alhadabi, A., and Emam, M. (2022). Association between motivation to leave the teaching profession profiles and job satisfaction among Omani teachers: a latent profile analysis. *Teach. Teach. Educ.* 117, 103807–103812. doi: 10.1016/j.tate.2022.103807
- Alibakhshi, G., Nikdel, F., and Labbafi, A. (2020). Exploring the consequences of teachers' self-efficacy: a case of teachers of English as a foreign language. *Asian-Pacific J. Sec. For. Lang. Educ.* 5, 1–19. doi: 10.1186/s40862-020-00102-1
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychol. Bull.* 107, 238–246. doi: 10.1037/0033-2909.107.2.238
- Berryhill, J., Linney, J. A., and Fromewick, J. (2009). The effects of educational accountability on teachers: are policies too stress provoking for their own good? *Int. J. Educ. Policy Lead.* 4, 1–14. doi: 10.22230/ijep.2009v4n5a99
- Bjorklund Jr, P., Warstadt, M. F., and Daly, A. J. (2021). Finding satisfaction in belonging: Preservice teacher subjective well-being and its relationship to belonging, trust, and self-efficacy. *Front. Educ.* 6:639435. doi: 10.3389/feduc.2021.639435
- Bozeman, B., and Gaughn, M. (2011). Job satisfaction among university faculty: Individual, work, and institutional determinants. *J. High. Educ.* 2, 154–186. doi: 10.1353/jhe.2011.0011
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research (2nd ed.)*. New York: Guilford Press.
- Browne, M. W., and Cudeck, R. (1992). Alternative ways of assessing model fit. *Soc. Meth. Res.* 21, 230–258. doi: 10.1177/0049124192021002005
- Calkins, C. M., Chavez, M. M., and Rosser, V. J. (2019). Preventing extra costs: the impact of faculty satisfaction and morale. *Int. J. Educ. Res.* 97, 77–87. doi: 10.1016/j.ijer.2019.06.010
- Caprara, G. V., Barbaranelli, C., Steca, P., and Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *J. Sch. Psychol.* 44, 473–490. doi: 10.1016/j.jsp.2006.09.001
- Catano, V., Francis, L., Haines, T., Kirpalani, H., Shannon, H., Stringer, B., et al. (2010). Occupational stress in Canadian universities: a national survey. *Int. J. Stress. Manag.* 17, 232–258. doi: 10.1037/a0018582
- Chan, E. S., Ho, S. K., Ip, F. F., and Wong, M. W. (2020). Self-efficacy, work engagement, and job satisfaction among teaching assistants in Hong Kong's inclusive education. *SAGE Open* 10, 215824402094100–215824402094111. doi: 10.1177/2158244020941008
- Chaudhry, A. Q. (2012). The relationship between occupational stress and job satisfaction: the case of Pakistani universities. *Int. Educ. Stud.* 5, 212–221. doi: 10.5539/ies.v5n3p212
- Chen, S. H. (2011). A performance matrix for strategies to improve satisfaction among faculty members in higher education. *Qual. Quant.* 45, 75–89. doi: 10.1007/s11355-009-9291-2
- Cheung, H. Y. (2008). Teacher efficacy: a comparative study of Hong Kong and Shanghai primary in-service teachers. *Austr. Educ. Res.* 35, 103–123. doi: 10.1007/BF03216877
- Chu, W., Liu, H., and Fang, F. (2021). A tale of three excellent Chinese EFL teachers: unpacking teacher professional qualities for their sustainable career trajectories from an ecological perspective. *Sustainability* 13:6721. doi: 10.3390/su13126721
- Collie, R. J., Shapka, J. D., and Perry, N. E. (2012). School climate and social-emotional learning: predicting teacher stress, job satisfaction, and teaching efficacy. *J. Educ. Psychol.* 104, 1189–1204. doi: 10.1037/a0029356
- Coombe, C., Anderson, N. J., and Stephenson, L. (2021). *Professionalizing your English language teaching*. Cham, Switzerland: Springer.
- Dickson-Swift, V., James, E., Kippen, S., Talbot, L., Verrinder, G., and Ward, B. (2009). A non-residential alternative to off campus writers' retreats for academics. *J. Further High. Educ.* 33, 229–239. doi: 10.1080/03098770903026156
- Dimopoulou, E. (2014). Self-efficacy and collective efficacy beliefs in relation to position, quality of teaching and years of experience. *Liter. Infor. Comp. Educ.* 5, 1467–1475. doi: 10.20533/licej.2040.2589.2014.0196
- Dinno, A. (2001–2009). Paragon. Performs Horn's parallel analysis for principal component (or factor) retention. Packages written for use with STATA, and for R. Retrieved from <http://www.doyenne.com/stata/paragon.html>
- El-Sayed, S. H., Ali El-Zeiny, H. H., and Adeyemo, D. A. (2014). Relationship between occupational stress, emotional intelligence, and self-efficacy among faculty members in faculty of nursing Zagazig University Egypt. *J. Nurs. Educ. Pract.* 4, 183–194. doi: 10.5430/jnep.v4n4p183
- Enders, C. K. (2010). *Applied missing data analysis*. New York: Guilford Press.
- Fathi, J., and Derakhshan, A. (2019). Teacher self-efficacy and emotional regulation as predictors of teaching stress: an investigation of Iranian English language teachers. *Teach. Eng. Lang.* 13, 117–143. doi: 10.22132/TEL.2019.95883
- Fathi, J., Greenier, V., and Derakhshan, A. (2021). Self-efficacy, reflection, and burnout among Iranian EFL teachers: the mediating role of emotion regulation. *Iran. J. Lang. Teach. Res.* 9, 13–37. doi: 10.30466/ijl.2021.121043
- Finch, J. H., Allen, R. S., and Weeks, H. S. (2010). The salary premium required for replacing management faculty: evidence from a national survey. *J. Educ. Business* 85, 264–267. doi: 10.1080/08832320903449576
- Fives, H., Hamman, D., and Olivarez, A. (2007). Does burnout begin with student teaching? Analyzing efficacy, burnout and support during the student-teaching semester. *Teach. Teach. Educ.* 23, 916–934. doi: 10.1016/j.tate.2006.03.013
- Frisby, B. N., Goodboy, A. K., and Buckner, M. M. (2015). Students' instructional dissent and relationships with faculty members' burnout, commitment, satisfaction, and efficacy. *Commun. Educ.* 64, 65–82. doi: 10.1080/03634523.2014.978794
- Fütterer, T., Waveren, L. V., Hübner, N., Fischer, C., and Salzer, C. (2022). I can't get no (job) satisfaction? Differences in teachers' job satisfaction from a career pathways perspective. *Teach. Teach. Educ.* 121:103942. doi: 10.1016/j.tate.2022.103942
- Gao, L., Chen, S., and Wang, H. (2015). Young faculty's job satisfaction and its influencing factors: a survey of young faculty at ninety-four universities in Beijing. *Fudan. Educ. Forum.* 13, 74–80.
- Gardner, S. K. (2012). "I couldn't wait to leave the toxic environment": a mixed methods study of women faculty satisfaction and departure from one research institution. *NASPA J. Women. High. Educ.* 5, 71–95. doi: 10.1515/njawhe-2012-1079

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/feduc.2022.1073454/full#supplementary-material>

- Gilbert, R. B., Adesope, O. O., and Schroeder, N. L. (2014). Efficacy beliefs, job satisfaction, stress and their influence on the occupational commitment of English-medium content teachers in the Dominican Republic. *Educ. Psychol.* 34, 876–899. doi: 10.1080/01443410.2013.814193
- Gonzales, G., Gonzales, R., Costan, F., and Himang, C. (2020). Dimensions of motivation in teaching: relations with social support climate, teacher efficacy, emotional exhaustion, and job satisfaction. *Educ. Res. Int.* 2020, 1–10. doi: 10.1155/2020/8820259
- Graça, M., Pais, L., Mónico, L., Dos Santos, N. R., Ferraro, T., and Berger, R. (2021). Decent work and work engagement: a profile study with academic personnel. *Applied. Res. Qual. Life.* 16, 917–939. doi: 10.1007/s11482-019-09780-7
- Gurvitch, R., and Metzler, M. R. (2009). The effects of laboratory-based and field-based practicum experience on pre-service teachers' self-efficacy. *Teach. Teach. Educ.* 25, 437–443. doi: 10.1016/j.tate.2008.08.006
- Han, J., Perron, B. E., Yin, H., and Liu, Y. (2021). Faculty stressors and their relations to teacher self-efficacy, engagement and teaching satisfaction. *High. Educ. Res. Develop.* 40, 247–262. doi: 10.1080/072794360.2020.1756747
- Han, Y., and Wang, Y. (2021). Investigating the correlation among Chinese EFL teachers' self-efficacy, work engagement, and reflection. *Front. Psychol.* 12:763234. doi: 10.3389/fpsyg.2021.763234
- Hayes, A. F., and Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: observations, recommendations, and implementation. *Behav. Res. Therapy.* 98, 39–57. doi: 10.1016/j.brat.2016.11.001
- He, T. (2015). The effect of college teachers' social support on job stress and job satisfaction. *China. J. Health Psychol.* 23, 712–716.
- He, T., and Liu, W. (2012). The effect of university teachers' personality on job stress and job satisfaction. *J. Health Psychol.* 20, 1003–1005.
- He, Y., Liu, N., and Sun, Y. (2020). How does role nuclear drive influence job performance and well-being of college teachers: the mediating role of job satisfaction and the moderating role of proactive personality. *J. High. Educ. Explor.* 1, 99–108.
- Horn, J. L. (1965). A rationale and a test for the number of factors in factor analysis. *Psychometrika* 30, 179–185. doi: 10.1007/BF02289447
- Houston, D., Meyer, L. H., and Paewai, S. (2006). Academic staff workloads and job satisfaction: expectations and values in academe. *J. High. Educ. Policy Manag.* 28, 17–30. doi: 10.1080/13600800500283734
- Hu, L., and Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model.* 6, 1–55. doi: 10.1080/10705519909540118
- Hu, B., Li, Y., Wang, C., and Reynolds, B. L. (2019). The relation between school climate and preschool teacher stress: the mediating role of teachers' self-efficacy. *J. Educ. Administration* 57, 748–767. doi: 10.1108/JEA-08-2018-0146
- Ismayilova, K., and Klassen, R. M. (2019). Research and teaching self-efficacy of university faculty: relations with job satisfaction. *Int. J. Educ. Res.* 98, 55–66. doi: 10.1016/j.ijer.2019.08.012
- Jacobs, J. A., and Winslow, S. E. (2004). Overworked faculty: job stresses and family demands. *ANNALS. Am. Acad. Polit. Soc. Sci.* 596, 104–129. doi: 10.1177/0002716204268185
- Jaguaco, J. E., Turpo-Chaparro, J., Vásquez-Villanueva, S., and Apaza-Romero, A. (2022). Social support and general self-efficacy: two predictors of quality of life at work in Ecuadorian teachers. *Front. Educ.* 7:946723. doi: 10.3389/feduc.2022.946723
- Jing, L. (2008). Faculty's job stress and performance in the undergraduate education assessment in China: a mixed-methods study. *Educ. Res. Rev.* 3, 294–300.
- Johnsrud, L. K., and Rosser, V. J. (2002). Faculty members' morale and their intention to leave: a multilevel explanation. *J. High. Educ.* 73, 518–542. doi: 10.1353/jhe.2002.0039
- Kinman, G., and Jones, F. (2008). A life beyond work? Job demands, work-life balance, and wellbeing in UK academics. *J. Human. Behav. Soc. Environ.* 17, 41–60. doi: 10.1080/10911350802165478
- Klassen, R. M., and Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: teacher gender, years of experience, and job stress. *J. Educ. Psychol.* 102, 741–756. doi: 10.1037/a0019237
- Klassen, R. M., and Chiu, M. M. (2011). The occupational commitment and intention to quit of practicing and pre-service teachers: influence of self-efficacy, job stress, and teaching context. *Contemp. Educ. Psychol.* 36, 114–129. doi: 10.1016/j.cedpsych.2011.01.002
- Klassen, R. M., and Durksen, T. L. (2014). Weekly self-efficacy and work stress during the teaching practicum: A mixed methods study. *Learning and Instruction* 33, 158–169. doi: 10.1016/j.learninstruc.2014.05.003
- Klassen, R. M., and Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: a meta-analysis. *Educ. Res. Rev.* 12, 59–76. doi: 10.1016/j.edurev.2014.06.001
- Klassen, R. M., Wilson, E., Siu, A. F. Y., Hannok, W., Wong, M. W., Wongsri, N., et al. (2013). Preservice teachers' work stress, self-efficacy, and occupational commitment in four countries. *Europ. J. Psychol. Educ.* 28, 1289–1309. doi: 10.1007/s10212-012-0166-x
- Kokkinos, C. M. (2007). Job stressors, personality, and burnout in primary school teachers. *Br. J. Educ. Psychol.* 77, 229–243. doi: 10.1348/000709905X90344
- Kong, X. S. (2021). Chinese English as a foreign language teachers' self-efficacy and psychological well-being as predictors of their work engagement. *Front. Educ.* 12, 788756.1–788756.10. doi: 10.3389/fpsyg.2021.788756
- Lawrence, J., Ott, M., and Bell, A. (2012). Faculty organizational commitment and citizenship. *Res. High. Educ.* 53, 325–352. doi: 10.1007/s11162-011-9230-7
- Lent, R. W., and Brown, S. D. (2006). Integrating person and situation perspectives on work satisfaction: a social-cognitive view. *J. Vocat. Behav.* 69, 236–247. doi: 10.1016/j.jvb.2006.02.006
- Lent, R. W., Brown, S. D., and Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance [monograph]. *J. Vocat. Behav.* 45, 79–122. doi: 10.1006/jvbe.1994.1027
- Li, H. (2005). Development of college working stress scale. *Psychol. Develop. Educ.* 4, 105–109.
- Li, J. J. (2018). A study on university teachers' job stress-from the aspect of job involvement. *J. Interdisciplinary Math.* 21, 341–349. doi: 10.1080/09725052.2017.1420564
- Li, W., and Kou, C. (2018). Prevalence and correlates of psychological stress among teachers at a national key comprehensive university in China. *Int. J. Occup. Environ. Health* 24, 7–16. doi: 10.1080/10773525.2018.1500803
- Li, M., Wang, Z., Gao, J., and You, X. (2017). Proactive personality and job satisfaction: the mediating effects of self-efficacy and work engagement in teachers. *Curr. Psychol.* 36, 48–55. doi: 10.1007/s12144-015-9383-1
- Li, X. Y., Zhang, Q., and Gamble, J. H. (accepted 2022). Teacher burnout and turnover intention in higher education: the mediating role of job satisfaction and the moderating role of proactive personality. *Front. Psychol.* 13:6277. doi: 10.3389/fpsyg.2022.1076277
- Liu, R. (2007). On countermeasures of local college teachers' turnover in Central China. *J. East China Inst. Technol.* 1, 41–45.
- Liu, P. (2014). A study on the relationship between self-efficacy and job burnout of college English teachers. *For. Lang. Teach.* 35, 68–72.
- Liu, T. (2018). Perspective on the reform of professional title system of teachers in higher educational institutions. *J. High. Educ. Manag.* 12, 46–56.
- Liu, X. P., and Zhou, Y. Y. (2016). Research on the impact of job stress on job satisfaction of college teachers. *High. Educ. Explor.* 1, 125–129.
- Liu, Y., Hadi, N., Page, K., Tindle, T., Kirkland, A., and Siwatu, K. O. (2020). *The college teaching self-efficacy scale: Development and validation*. Paper presented at the annual meeting of the Southwestern Educational Research Association, Arlington, Texas.
- Love, K. M., Tatman, A. W., and Chapman, B. P. (2010). Role stress, interrole conflict, and satisfaction among university employees: the creation and test of a model. *J. Employ. Couns.* 47, 30–37. doi: 10.1002/j.2161-1920.2010.tb00088.x
- Machado-Taylor, M. L., Soares, V. M., Brites, R., Ferreira, J. B., Farhangmehr, M., Gouveia, O., et al. (2016). Academic job satisfaction and motivation: findings from a nationwide study in Portuguese higher education. *Stud. High. Educ.* 41, 541–559. doi: 10.1080/03075079.2014.942265
- Madigan, D. J., and Kim, L. E. (2021). Towards an understanding of teacher attrition: a meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teach. Teach. Educ.* 105, 103425–103414. doi: 10.1016/j.tate.2021.103425
- Mamishishvili, K., and Rosser, V. J. (2010). International and citizen faculty in the United States: an examination of their productivity at research universities. *Res. High. Educ.* 51, 88–107. doi: 10.1007/S11162-009-9145-8
- Martin, N. K., Sass, D. A., and Schmitt, T. A. (2012). Teacher efficacy in student engagement, instructional management, student stressors, and burnout: a theoretical model using in-class variables to predict teachers' intent-to-leave. *Teach. Teach. Educ.* 28, 546–559. doi: 10.1016/j.tate.2011.12.003
- Matos, M. M., Sharp, J. G., and Iaochite, R. T. (2022). Self-efficacy beliefs as a predictor of quality of life and burnout among university lecturers. *Front. Educ.* 7:887435. doi: 10.3389/feduc.2022.887435
- Maxwell, S. E., and Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychol. Methods* 12, 23–44. doi: 10.1037/1082-989X.12.1.23
- McDonald, R. P., and Marsh, H. W. (1990). Choosing a multivariate model: noncentrality and goodness of fit. *Psychol. Bull.* 107, 247–255. doi: 10.1037/0033-2909.107.2.247
- Meade, A. W., and Craig, S. B. (2012). Identifying careless responses in survey data. *Psychol. Methods* 17, 437–455.
- Muthén, L. K., and Muthén, B. O. (1998–2022). *Mplus User's guide*. Los Angeles, CA: Muthén & Muthén.

- Ni, S., Yang, R., and Wang, X. (2016). The effect of perceived unwritten roles on job stress of university teachers. *Chinese. You. Soc. Sci.* 4, 11–16.
- Okpara, J. O., Squillace, M., and Erond, E. A. (2005). Gender differences and job satisfaction: a study of university teachers in the United States. *Women Manag. Rev.* 20, 177–190. doi: 10.1108/09649420510591852
- Ortan, F., Simut, C., and Simut, R. (2021). Self-efficacy, job satisfaction and teacher well-being in the k-12 educational system. *Int. J. Environ. Res. Public. Heal.* 18, 1–32. doi: 10.3390/ijerph182312763
- Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory Pract.* 41, 116–125. doi: 10.1207/s15430421tip4102_8
- Pan, B. C., Shen, X., Liu, L., Yang, Y. L., and Wang, L. (2015). Factors associated with job satisfaction among university teachers in northeastern region of China: a cross-sectional study. *Int. J. Environ. Res. Public Health* 12, 12761–12775. doi: 10.3390/ijerph121012761
- Peng, Y., and Mao, C. (2015). The impact of person–job fit on job satisfaction: the mediator role of self-efficacy. *Soc. Indic. Res.* 121, 805–813. doi: 10.1007/s11005-014-0659-x
- Perera, H. N. (2013). A novel approach to estimating and testing specific mediation effects in educational research: explication and application of macho and Ledermann's (2011) phantom model approach. *Int. J. Quant. Res. Educ.* 1, 39–60. doi: 10.1504/IJQRE.2013.055640
- Perera, H. N., Calkins, C., and Part, R. (2019). Teacher self-efficacy profiles: determinants, outcomes, and generalizability across teaching level. *Contemp. Educ. Psychol.* 58, 186–203. doi: 10.1016/j.cedpsych.2019.02.006
- Preacher, K. J., and Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav. Res. Meth. Instr. Comp.* 36, 717–731. doi: 10.3758/BF03206553
- Preacher, K. J., and Hayes, A. F. (2008). “Contemporary approaches to assessing mediation in communication research” in *The Sage sourcebook of advanced data analysis methods for communication research*, eds. A. F. Hayes, M. D. Slater and L. B. Snyder (Thousand Oaks, CA: Sage), 13–54.
- Preacher, K. J., Rucker, D. D., and Hayes, A. F. (2007). Addressing moderated mediation hypotheses: theory, methods, and prescriptions. *Multiv. Behav. Res.* 42, 185–227. doi: 10.1080/00273170701341316
- Richter, E., Lucksnat, C., Redding, C., and Richter, D. (2022). Retention intention and job satisfaction of alternatively certified teachers in their first year of teaching. *Teach. Teach. Educ.* 114, 103704–103711. doi: 10.1016/j.tate.2022.103704
- Rosser, V. J. (2004). Faculty members' intentions to leave: a national study on their worklife and satisfaction. *Res. High. Educ.* 45, 285–309. doi: 10.1023/B:RIHE.0000019591.74425.f1
- Ryan, J. F., Healy, R., and Sullivan, J. (2012). Oh, won't you stay? Predictors of faculty intent to leave a public research university. *High. Educ.* 63, 421–437. doi: 10.1007/s10734-011-9448-5
- Sabharwal, M., and Corley, E. A. (2009). Faculty job satisfaction across gender and discipline. *Soc. Sci. J.* 46, 539–556. doi: 10.1016/j.soscij.2009.04.015
- Saks, K., Hunt, P., Leijen, Ä., and Lepp, L. (2021). To stay or not to stay: an empirical model for predicting teacher persistence. *Br. J. Educ. Stud.* 1–25, 1–25. doi: 10.1080/00071005.2021.2004995
- Saner, T., and Eyüpoğlu, Ş. Z. (2013). The gender marital status job satisfaction relationship of academics. *Procedia-Soc. Behav. Sci.* 106, 2817–2821. doi: 10.1016/j.sbspro.2013.12.324
- Seifert, T. A., and Umbach, P. D. (2008). The effects of faculty demographic characteristics and disciplinary context on dimensions of job satisfaction. *Res. High. Educ.* 49, 357–381. doi: 10.1007/s11162-007-9084-1
- Shin, J. C., and Jung, J. (2014). Academics job satisfaction and job stress across countries in the changing academic environments. *High. Educ.* 67, 603–620. doi: 10.1007/s10734-013-9668-y
- Skaalvik, E. M., and Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: relations with school context, feeling of belonging, and emotional exhaustion. *Teach. Teach. Educ.* 27, 1029–1038. doi: 10.1016/j.tate.2009.11.001
- Skaalvik, E. M., and Skaalvik, S. (2014). Teacher self-efficacy and perceived autonomy: relations with teacher engagement, job satisfaction, and emotional exhaustion. *Psychol. Rep.* 114, 68–77. doi: 10.2466/14.02.PR0.114k14w0
- Song, K. (2022). Well-being of teachers: The role of efficacy of teachers and academic optimism. *Front. Psychol.* 12:831972. doi: 10.3389/fpsyg.2021.831972
- Soto, M., and Rojas, O. (2019). Self-efficacy and job satisfaction as antecedents of citizenship behavior in private schools. *Int. J. Manag. Educ.* 13, 82–96. doi: 10.1504/IJME.2019.096472
- Struyven, K., and Vanthournout, G. (2014). Teachers' exit decisions: an investigation into the reasons why newly qualified teachers fail to enter the teaching profession or why those who do enter do not continue teaching. *Teach. Teach. Educ.* 43, 37–45. doi: 10.1016/j.tate.2014.06.002
- Sun, W., Wu, H., and Wang, L. (2011). Occupational stress and its related factors among university teachers in China. *J. Occup. Health* 53, 280–286. doi: 10.1539/joh.10-0058-OA
- Sun, A., and Xia, J. (2018). Teacher-perceived distributed leadership, teacher self-efficacy, and job satisfaction: a multilevel SEM approach using the 2013 TALIS data. *Int. J. Educ. Res.* 92, 86–97. doi: 10.1016/j.ijer.2018.09.006
- Toker, B. (2011). Job satisfaction of academic staff: an empirical study on Turkey. *Qual. Assur. Educ.* 19, 156–169. doi: 10.1108/09684881111125050
- Toropova, A., Myrberg, E., and Johansson, S. (2021). Teacher job satisfaction: the importance of school working conditions and teacher characteristics. *Educ. Rev.* 73, 71–97. doi: 10.1080/00131911.2019.1705247
- Troesch, L. T., and Bauer, C. E. (2017). Second career teachers: job satisfaction, job stress, and the role of self-efficacy. *Teach. Teach. Educ.* 67, 389–398. doi: 10.1016/j.tate.2017.07.006
- Tschannen-Moran, M., and Hoy, W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teach. Teach. Educ.* 23, 944–956. doi: 10.1016/j.tate.2006.05.003
- Tschannen-Moran, M., and Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: potential sources at play. *Teach. Teach. Educ.* 27, 751–761. doi: 10.1016/j.tate.2010.12.005
- Tytherleigh, M. Y., Webb, C., Cooper, C. L., and Ricketts, C. (2005). Occupational stress in UK higher education institutions: a comparative study of all staff categories. *High. Educ. Res. Dev.* 24, 41–61. doi: 10.1080/0729436052000318569
- Vanmol, S., De Vos, S., Beusaert, S., and De Wilde, J. (2022). How does newly qualified teachers' collegial network foster their feedback-seeking behaviour and job satisfaction? *Teach. Teach.* 28, 703–723. doi: 10.1080/13540602.2022.2098267
- Wang, P., Chu, P., Wang, J., Pan, R., Sun, Y., Yan, M., et al. (2020). Association between job stress and organizational commitment in three types of Chinese university teachers: mediating effects of job burnout and job satisfaction. *Front. Psychol.* 11, 1–12. doi: 10.3389/fpsyg.2020.576768
- Wang, H., Hall, N. C., and Rahimi, S. (2015). Self-efficacy and causal attributions in teachers: effects on burnout, job satisfaction, illness, and quitting intentions. *Teach. Teach. Educ.* 47, 120–130. doi: 10.1016/j.tate.2014.12.005
- Wang, Y., and Jing, Y. (2019). The relationship between job stress, self-efficacy beliefs and satisfaction with life of university teachers. *J. Hubei Norm. Univ.* 6, 136–140.
- Weiss, D. J., Davis, R. V., England, G. W., and Lofquist, L. H. (1967). *Manual for the Minnesota satisfaction Questionnaire*. Minneapolis: University of Minnesota, Industrial Relations Center.
- Wolters, C. A., and Daugherty, S. G. (2007). Goal structures and teachers' sense of efficacy: their relation and association to teaching experience and academic level. *J. Educ. Psychol.* 99, 181–193. doi: 10.1037/0022-0663.99.1.181
- Wong, E., and Heng, T. (2009). Case study of factors influencing job satisfaction in two Malaysian universities. *Int. Busin. Res.* 2, 86–98. doi: 10.5539/ibr.v2n2p86
- Yin, H., Han, J., and Perron, B. E. (2020). Why are Chinese university teachers (not) confident in their competence to teach? The relationships between faculty-perceived stress and self-efficacy. *Int. J. Educ. Res.* 100, 101529–101511. doi: 10.1016/j.ijer.2019.101529
- You, Y. (2014). The intention to leave: an experimental study of job satisfaction in higher education. *Peking Univ. Educ. Rev.* 12, 128–140.
- Yu, T., Li, J., He, L., and Pan, X. (2022). How work stress impacts emotional outcomes of Chinese college teachers: the moderated mediating effect of stress mindset and resilience. *Int. J. Environ. Res. Public Health* 19, 1–12. doi: 10.3390/ijerph191710932
- Zakariya, Y. F. (2020). Effects of school climate and teacher self-efficacy on job satisfaction of mostly STEM teachers: a structural multigroup invariance approach. *Int. J. STEM Educ.* 7, 1–12. doi: 10.1186/s40594-020-00209-4
- Zhang, B., and Shen, H. (2017). Effects of job satisfaction on the article outputs of faculty: based on 2014 faculty survey in China. *Fudan. Educ. For.* 15, 91–98.
- Zhou, Y., and Volkwein, J. F. (2004). Examining the influences on faculty departure intentions: a comparison of tenured versus nontenured faculty at research universities using NSOPF-99. *Res. High. Educ.* 45, 139–176. doi: 10.1023/B:RIHE.0000015693.38603.4c



OPEN ACCESS

EDITED BY
Chunhui Huo,
Liaoning University, China

REVIEWED BY
Mudassir Husnain,
University of Education
Lahore, Pakistan
Mirela Panait,
Petroleum & Gas University of
Ploiești, Romania

*CORRESPONDENCE
Fengrui Guo
✉ h215531412@dlmu.edu.cn

SPECIALTY SECTION
This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 08 September 2022
ACCEPTED 28 November 2022
PUBLISHED 04 January 2023

CITATION
Guo F, Xue Z, He J and Yasmin F (2023)
Ethical leadership and workplace
behavior in the education sector: The
implications of employees' ethical
work behavior.
Front. Psychol. 13:1040000.
doi: 10.3389/fpsyg.2022.1040000

COPYRIGHT
© 2023 Guo, Xue, He and Yasmin. This
is an open-access article distributed
under the terms of the [Creative
Commons Attribution License \(CC BY\)](#).
The use, distribution or reproduction
in other forums is permitted, provided
the original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which
does not comply with these terms.

Ethical leadership and workplace behavior in the education sector: The implications of employees' ethical work behavior

Fengrui Guo^{1*}, Zhongyi Xue¹, Jiaxu He¹ and Fakhra Yasmin^{2,3}

¹School of Marxism, Dalian Maritime University, Dalian, Liaoning, China, ²School of Education, South China Normal University, Guangzhou, China, ³Department of Informatics and Quantitative Methods, University of Hradec Kralove, Hradec Králové, Czechia

The study aimed to examine the effect of ethical leadership on employees' ethical work behavior. Furthermore, this study examined the mediating role of organizational commitment in the relationship between ethical leadership and employees' ethical work behavior. This study was conducted in a public-sector educational organization, and 500 questionnaires were distributed among targeted employees. Out of these, 400 valid responses were received from individuals working in the education sector in China. The findings showed a positive and significant impact of ethical leadership on employees' ethical work behavior. We found that organizational commitment also significantly mediates the relationship between ethical leadership and employees' ethical work behavior. The practical implications of the current study are useful for all organizations in the public sector. As ethical leadership is positively related to employees' work behavior, we recommend that organizations should develop and conduct such training programs to promote ethical work behavior. Leaders with a strong sense of ethics should be hired to encourage ethical work behavior within the organization. Furthermore, organizations can conduct management training programs, seminars, and workshops to encourage such behavior. Ethical behavior can be encouraged among employees by making it a clear requirement of their jobs. To achieve positive results, top management and leadership must educate employees on the value and importance of ethical behavior in the workplace.

KEYWORDS

organizational commitment, ethical work behavior, education sector, ethical leadership, China

1. Introduction

Recent ethical scandals have drawn attention to the importance of and need for further research on the ethical behavior of leaders and followers, especially in the public sector. The results presented by the 2018 federal employee viewpoint survey in the USA show that the value of honesty and integrity was not maintained by their leaders,

as 45% of government employees and 34% of private-sector employees were reluctant to expose violations of rules and regulations due to fear of retaliation. Brown and Treviño (2006) defined ethical leadership (EL) as the “demonstration of normatively appropriate conduct through personal actions and interpersonal relationships and their promotion of such conduct to followers through two-way communication, reinforcement, and decision making.” EL is demonstrated to be a leadership style that helps leaders treat their subordinates fairly, honestly, and respectfully. This behavior encourages them to be ethical and take more initiatives, which ultimately helps accomplish organizational goals. Brown and Treviño (2006) claimed that ethical leaders are eager to enhance the ethical behavior of their followers by providing guidance, communicating moral standards, and having a sense of responsibility regarding their conduct. Over the past decade, more attention has been given to demonstrating and studying the meaning of EL and its results by adopting systematic approaches (Hassan et al., 2014; Fehr et al., 2015).

Organizations focus on research and development for business growth to gain a competitive advantage over their rival organizations. This concept strongly emphasizes the synchronization of the organization–human relationship to achieve maximum productivity (Huo et al., 2022). The relationship between leaders and subordinates is meant to be stronger if leaders maintain respect, care, and honesty regarding decisions related to employees’ wellbeing (Li et al., 2022). Such moral behavior of supervisors serves as a driving force for followers, which enhances organizational commitment (OC) and positively improves employees’ ethical work behavior (EWB). The ethical aspects of leadership have received greater consideration from academia and researchers based on the recurring ethical scandals both in public- and private-sector organizations in recent years (Ahmad et al., 2021; Banks et al., 2021; Koay and Lim, 2021; Qasim et al., 2021). Martin et al. (2022) investigated the role of EL in team efficacy. Eluwole et al. (2022) stated that EL leads to employee outcomes.

Ethical leaders are reliable role models for their followers and treat them with respect and dignity. Many scholars describe them as being honest, caring, unbiased decision-makers who are also involved in ethical aspects that encourage subordinates’ EWB by providing them with rewards, recognition, and penalties depending on their behavior (Qing et al., 2020; Zeb et al., 2021; Idrees et al., 2022). In the present study, we focused on the mediating role of OC in the EL-EWB link. Some researchers recently studied the mediating role of OC (Akhtar et al., 2019; Ashfaq et al., 2021; Choudhary and Saini, 2021; Donkor et al., 2021).

To avoid economic crises and repeated ethical scandals, the field of business work ethics has undergone numerous transformations to promote transparency and ethical behavior

improvement. Formal and informal ethical codes of conduct were developed and implemented to enhance EWB in the workplace, but the ethics code alone cannot ensure EWB. As we observed in Islamic culture, especially in China’s public-sector organizations, there is an increasing trend in ethical scandals, and many unethical conducts of employees have been reported. These behavioral issues are significantly contributing to the downfall and financial loss of government organizations (Yasir and Rasli, 2018; Aslam et al., 2021). The current economic condition of China is at its worst, and almost every public sector organization is facing a crisis and, therefore, is not generating profits to support the country’s economy. The unethical behavior of employees in the workplace is rapidly increasing in China, causing financial loss and other organizational-level issues, especially in public-sector organizations. This includes leaving the office early (66%), taking longer breaks for lunch (90%), misusing official computers for gaming, entertainment, and social media instead of work (49%), stealing office equipment (49%), and making unofficial calls from office telephones (94%) (Bashir et al., 2012). The behavior of ethical leaders and their traits can transform their employees’ perceptions of their work, their beliefs, and their views about the context of work. This transformation in their behavior will motivate them to exert extra effort in their work and avoid unethical conduct at the workplace.

It is essential to explore the factors that significantly affect the emergence of ethical behaviors in the workplace for the achievement of organizational objectives in order to overcome the economic crisis. Due to the severity and intensity of ethical behavior in the workplace, this research will contribute to the understanding and implementation of work ethics to enhance the ethical behavior of leaders and employees in China’s public sector organizations.

The current study observed the causal-effect relationship between the variables, which is exploratory. This study contributes to the literature on behavioral research by further studying different constructs that contribute to shaping employees’ behavior in a different field. It will serve as a guide for measuring the effect of EL on EWB by using a different mediator and moderator variables. This study is also helpful in different settings: the study findings, from an educational point of view, are expected to help higher educational institutions sustain their moral values and norms to foster an ethically rich culture. It will also help them to understand their role in national development and how they provide relevant knowledge to their students. Educational institutes should provide knowledge related to ethical and moral values, which we have also learned from our religious teachings. Currently, many higher education institutes are focusing solely on the results their students achieve. Nevertheless, they should motivate their faculty and students to

practice an ethical code of conduct, which, ultimately, also helps shape the ethical behavior of society at large.

2. Literature review

2.1. Social learning theory

Social learning theory stipulates that people in a given society aim to learn from and imitate the behavior of those with superior social status and higher ranks (Bandura, 1969; Bandura and Walters, 1977). The behavior of employees toward their leader and coworkers reflects the same behavior because they imitate and learn it. Being better at taking accountability for their actions, ethical leaders make it clear to their teams what the organization's goals are and what is expected of them (Kalshoven and Den Hartog, 2009). First, employees also behave similarly by imitating, learning, and helping others achieve the organization's ultimate goals. EL consists of two essential and associated dimensions in which the leader first sets the ethical standards and then provides rewards, recognition, and penalties to ensure these standards are followed. Second, these leaders exhibit desirable qualities such as honesty, integrity, credibility, care, and respect for other employees through their behavior in the workplace (Yang and Wei, 2017; Huo et al., 2022). A leader observes the behaviors of other people and the outcomes of such behaviors to learn ethical standards, acquires related knowledge by evaluating the information, and retains the processed information. Furthermore, a formal code of conduct can be developed as a standardized guideline for developing ethical behavior in the workplace.

2.2. Ethical leadership and EWB

Ethical leaders develop a positive and high-quality relationship with their followers by respecting, caring for, and valuing their followers' beliefs and making decisions with their followers' wellbeing in mind; this encourages their followers to behave ethically in the workplace (Zhu et al., 2004). Many previous studies indicated that ethical leaders encourage constructive emotions and a sense of belongingness among their followers, which results in them developing a strong bond with the leader's beliefs, values, and targets (Ribeiro et al., 2018). Pastin (1988) also demonstrated in his study that corporations have given attention to EL because it will foster a culture of weak organizations and establish a good relationship with their employees. When ethical leaders treat employees through two-way communication to show them that they are part of the organization, employees become motivated to engage and achieve the organization's overall objectives (Babalola et al., 2019). Cognition plays a vital role in learning when employees observe the behaviors of their leaders. Social learning theory

demonstrates that employees learn through observations, imitations, and modeling; employees learn by observing attitudes, behaviors, and the results of others' behaviors. Thus, the employees gradually behave accordingly by imitating the behavior of their role models.

The study by Kalshoven et al. (2016) indicated that ethical leaders work efficiently because their expectations toward employees are clear. Furthermore, they indicated that an ethical leader communicates openly and fairly, influencing a positive relationship with the employees' behavior. Okan and Akyüz (2015) suggested that EL predicts some outcomes, such as the leader's effectiveness, job satisfaction, devotion to exert more effort, and readiness to report any ethical problems. Understanding its mutual benefits and involving employees in the decision-making process to achieve organizational objectives shape the EWB of employees. It promotes positive work behavior, as they feel that their leader is trustworthy and fairly involved in helping them achieve the targets (Brown and Treviño, 2006).

Meyer et al. (1993) explained that ethical leaders serve as role models, encouraging integrity, dignity, credibility, and trust within the organization; the followers reciprocate the ethical behavior with high OC. When an ethical leader discusses moral values and business ethics with their followers and acts as a model for them by demonstrating how to perform in the right way, the followers reciprocate the same behavior by imitating the traits of their leaders. Leaders can precisely identify which behaviors encourage EWB. Then, they will attempt to modify their behaviors to treat their subordinates fairly and without bias in order to make them feel good (Brown and Treviño, 2006).

Moreover, Yang and Wei (2017) indicated that EL positively influences employee behavior toward work. They further added that EL establishes EWB by listening to and keeping the best interests of subordinates in mind while making a decision. The followers understand that strict disciplinary action will be taken against them if they are involved in unethical conduct and violate the organization's ethical standards. A leader's positive gesture enhances employees' motivation to do their work more efficiently and effectively. Furthermore, many previous studies indicated that EL is positively influenced by various dimensions of leadership effectiveness toward employees' enhancement, commitment, and work performance as well (Yang and Wei, 2017; Babalola et al., 2019; Qing et al., 2020; Banks et al., 2021; Koay and Lim, 2021).

Belschak et al. (2018) asserted that there are various suitable ways to influence EWB among employees. They further added that, in this way, employees feel more confident about their job requirements and efficiently perform them. Some other researchers suggested that employees who have a positive relationship with ethical leaders are more likely to develop an inspirational goal and even lead their organization to tremendous success (Akhtar et al., 2020a, 2022a; Javed et al., 2021). Furthermore, some previous studies also

supported the idea that ethical leadership helps employees attain organizational objectives more confidently as they are committed, sincere, and honestly follow the instructions given by their leaders (Ahmad et al., 2021; Banks et al., 2021; Koay and Lim, 2021).

H1: Ethical leadership is positively related to EWB.

2.3. Mediating role of OC

The OC influences as a mediator and has the power to enhance EWB in the organization (Mowday, 1979). Akhtar et al. (2022b) recommended that some diverse employees have dissimilar norms, values, customs, and cultures, and it is the organization's responsibility to make them feel safe and positive. They further added that, in this way, employees feel that employees become an essential member of their organization, thereby making them more committed to it.

Brown and Treviño (2006) elucidated that the attributes of ethical leaders make them more valuable and attractive among their followers. Furthermore, the followers receive more respect, consideration, and support from their leaders, making them feel highly grateful and thus, developing a positive attitude with greater job satisfaction and commitment. Indeed, ethical leaders treat employees fairly and equally while making important decisions regarding job design and related activities. These attributes provoke enthusiasm and trust among followers, which contribute to OC (Ko et al., 2020). Lapointe and Vandenberghe (2018) also concluded in their study that OC was also significantly influenced by organizational and personal factors, which are interconnected with emotions and emotional reactions and, as a result, affect organizational productivity and productivity performance.

Qing et al. (2020) elucidated in their study, which was conducted in the public sector of China, that employee attitudes are positively influenced by EL, making their commitment and loyalty toward their organization stronger and more robust. They further added that EL positively impacts an organization and its employees' work behaviors. Observational learning theory suggests that when ethical leaders give rewards and punishments, it increases and decreases the chances of behaviors recurring. Brown and Treviño (2006) discovered that when organizations maintain their moral values and principles by implementing EL, employees' OC and loyalty are positively enhanced. They further added that EL has a positive and significant impact on OC, and the turnover ratio of employees is significantly reduced. Such committed employees ultimately strengthen the ethical culture of organizations and positively impact employees' work behavior. Similarly, unethical behavior of leaders weakens organizational culture and subordinates' commitment, which negatively impacts work behavior.

H2: OC mediates the relationship between EL and EWB.

3. Research methodology

This section explains the methodology of this study, which includes the nature of the study, research design and approach, method of data collection, and questionnaire design. Furthermore, this section describes the target population, unit of analysis, sampling technique, and sample size. It also explains the techniques of data analysis that have been used in this thesis. The study's research model was developed within the framework of theoretical assumptions and antecedent literature, which suggest that EL would be effective on followers' EWB and OC. In contrast, OC plays an intermediary role in the relationship between EL and EWB, making the current study's design essential to determining cause and effect.

We used a deductive approach to test the implications of social learning theory on EL and EWB. The positivist social and quantitative approaches have been used in this study. The current study was based on a cross-sectional time horizon and mono method. The survey technique was applied to measure the impact of all constructs. The present study investigated the impact of EL on EWB in public-sector organizations in China. Therefore, it is also pertinent to determine the unit of analysis before deciding on the target population. Previous studies used it (Akhtar et al., 2020b, 2022c; Syed et al., 2021; Huo et al., 2022).

The target population is public-sector organizations, where the public directly interacts with employees on a daily basis, and employees frequently interact with their managers and reporting officers. Therefore, EWB matters greatly in such organizations for better customer service and performance. We selected four universities that have more than 10,000 employees. The purposive or judgmental sampling technique was cost-efficient, time-effective, and helpful in approaching the target quickly. In the current study, only public-sector organizations were selected for data collection, and the sample size was determined as around 400 respondents with a 95% confidence level and a $p = 0.5$ from the overall population of four organizations (Yamane, 1973).

3.1. Variable measurements

3.3.1. Ethical leadership

This study used a 10-item scale to measure the ethical behavior of leaders developed by Brown and Treviño (2006). The scale is reliable because Cronbach's alpha is 0.814. We used a five-point Likert scale to measure the items. Sample items included "Discusses business ethics or values with employees."

3.3.2. OC

The 18-item scale OC developed by [Allen and Meyer \(1993\)](#) was used. The scale is reliable because Cronbach's alpha is 0.747. We used a five-point Likert scale to measure the items. Sample items were, "I would be very happy to spend the rest of my career with this organization."

3.3.3. Ethical work behavior

To measure ethical behavior in the workplace, a 13-item scale was used, which was developed by [Loe et al. \(2000\)](#). This scale is reliable as Cronbach's alpha is 0.745. We used a five-point Likert scale to measure the items. Sample items included "I think my coworkers do not pass the blame for errors on to an innocent colleague."

4. Data analysis

The current study distributed questionnaires to 500 employees of public-sector organizations, of which 430 responses were collected. These collected questionnaires were thoroughly checked; the excluded questionnaires had missing values. A total of 400 valid responses were received, with an 80% response rate.

The findings reveal that the percentage of men who participated in this survey was 82%, while only 18% of women participated. The employees' participation level regarding age group in the survey represents that 27.8% were in the 21–30 age group, 59.8% were in the 31–40 age group, 11% were in the 41–50 age group, and 1.5% belonged to the 51 and above age group. Regarding the education level, 6.3% were intermediate employees, 53% were graduate employees, 40.3% were postgraduate employees, and 0.5% had a doctorate. A total of 74.8% of government employees participated in this survey, and 25.2% were semi-government department employees. We used gender, age, and education as control variables, as recent studies have used them ([Syed et al., 2020](#); [Li et al., 2022](#)).

The findings in [Table 1](#) reveal a positive correlation between EL and EWB ($r = 0.627, p = 0.000$), EL and OC ($r = 0.639, p = 0.000$), and OC and EWB ($r = 0.697, p = 0.000$).

4.1. Hypotheses testing

The results showed that EL has a positive influence on EWB ($B = 0.248, t = 6.95, p = 0.04$). As a result of the preceding findings, Hypothesis 1 is verified. As per H2, OC plays a mediating role between EL and EWB. Thus, according to [Table 2](#), OC mediates the effect of EL on EWB ($B = 0.258, SE$

$= 0.039, CI = 0.19, 0.34$), as both confidence interval boundaries did not contain zero, supporting H2.

5. Discussion

This study aimed to explore the empirical and theoretical relationships between EL and EWB, where OC is used as a mediator for public-sector employees. Our findings also confirmed the conclusion of previous research where the effect of EL on OC and EWB was explored ([Qing et al., 2020](#)). The study findings confirmed the first hypothesis of the current study, i.e., EL is positively related to employee EWB, confirming that leaders who practice EL have a significantly positive impact on their EWB. The employees tend to reciprocate the ethical behavior when they recognize that they are treated equally and fairly by their supervisors and leaders. Ethical leaders influence employees' behavior by making fair and balanced decisions and involving them in the decision-making process. Hence, the study findings supported the arguments and confirmed the findings of previous studies by demonstrating that, when leaders keep the best interests of subordinates in mind and properly listen to what they want to say, it will ultimately develop trust and altruism and promote EWB. These leaders are trustworthy and honest and encourage ethical behavior among their subordinates by communicating moral standards and punishing employees who violate these ethical standards ([Yang and Wei, 2017](#)). Leaders are able to precisely identify which behaviors motivate EWB. They will modify their behaviors to treat their subordinates fairly and without bias to make them feel good ([Brown and Treviño, 2006](#)). [Engelbrecht et al. \(2017\)](#) also discovered that EL improves employee behavior.

The study findings for the second hypothesis of the current study, i.e., OC mediates the relationship between EL and employee EWB, confirm the previous research findings that OC positively mediates the association between EL and employees' work behavior. [Meyer et al. \(2002\)](#) explained that ethical leaders promote integrity, dignity, credibility, and trust within the organization by presenting themselves as role models, and the followers reciprocate the ethical behavior with a high OC level. [Okan and Akyüz \(2015\)](#) suggested that EL predicted some outcomes like a leader's effectiveness, OC, devotion to exert more effort, and readiness to report the ethical problem. Furthermore, they indicated that an ethical leader communicates openly and fairly, influencing positive behavior toward employees. [Engelbrecht et al. \(2017\)](#) also concluded that ethical leaders improve employee behavior. They further added that EL establishes an EWB work environment within organizations. Furthermore, many previous studies indicated that EL is positively influenced by various dimensions of leadership effectiveness toward employees' enhancement, commitment, and work behavior ([Hassan et al., 2014](#); [Yang and Wei, 2017](#);

TABLE 1 Correlation analysis.

	Mean	SDs	EL	EWB	OC
EL	4.09	0.46	(0.814)		
EWB	4.04	0.37	0.627**	(0.745)	
OC	4.08	0.31	0.639**	0.697**	(0.745)

**Correlation is significant at the 0.01 level (2-tailed).

TABLE 2 Mediation results.

Variable	R ²	B	SE	T	p
EL effect on EWB	0.39	0.25	0.04	6.95	0.001
EL effect on OC	0.41	0.43	0.03	16.56	0.001
OC effect on EWB	0.54	0.60	0.05	11.36	0.001
Bootstrap results for indirect effects					
		Effect	SE	LL 95% CI	UL 95% CI
OC		0.26	0.03	0.19	0.34

N = 400.

Ribeiro et al., 2018; Babalola et al., 2019; Qing et al., 2020; Banks et al., 2021; Donkor et al., 2021; Koay and Lim, 2021).

importance of ethical behavior in the workplace. Finally, the organizations can develop a proper ethical code of conduct and devise policies accordingly to enhance EWB among subordinates.

5.1. Practical implications

The following are the practical implications of the study. First, this study established that EL is valuable in developing OC and EWB. This study also suggested that the role of EL is essential to providing appropriate guidance in ethical dilemmas to encourage EWB. Second, the study's findings revealed that EL has a strong, positive impact on employees' work behavior. Thus, it is anticipated that leaders and organizations should ascertain such situations in which they can develop employees' work behaviors. It is further suggested that organizations should conduct seminars and conduct training sessions to boost employee EWB. Third, as the EL has a significant and positive impact on OC and EWB, organizations must encourage ethical behaviors among their employees. For example, organizations can develop and hire leaders with a strong, wise vision of moral obligations.

Furthermore, organizations can conduct management training programs and workshops to encourage such behavior. Fourth, ethical behavior can be encouraged among employees by making it part of their job requirements. The organization can display on information boards that such behaviors will be adequately punished or rewarded so that all employees feel obligated to perform ethically. To achieve positive results, top management, and leadership must educate employees on the value and

5.2. Limitations and future directions

The core objective of the research was to explore the impact of EL on EWB. First, we used only one mediator, which performed a significant mediating role between the EL and EWB. Second, data were collected only from China. Third, the only participants in this study were employees of public-sector organizations. Private firms could not be included in this study. Fourth, a self-reported bias may exist, as the respondents were supposed to answer questions about the ethical behavior of their coworkers and leaders. Since this study was conducted using the quantitative approach, future researchers should use the mixed-methods approach to further explore the relationship among the variables. Fifth, the scope of the research can be enhanced by examining other areas of Asia. Sixth, this research can also be conducted in China's business, corporate, and private sectors. Finally, the model can also be applied to other sectors, cultures, contexts, and countries.

5.3. Conclusion

This study extended the discussion on the impact of EL on the EWB of public-sector employees in the context of China. The study findings confirmed the acceptance of the

stated hypothesis, which explains that EL enhances EWB. Furthermore, OC performs an important role as a mediator and promotes the relationship between EL and EWB. By emphasizing the significance of EL, the findings of this study can help employees enhance EWB. It also helps scholars and practitioners better understand the impact of OC on EWB from the viewpoint of developing countries. Further, the finding indicates that the EL and OC have a significantly positive impact on the EWB of employees in China. Much recent research, however, has been conducted to explore the impact of EL in developed countries. EL, OC, and their impact on EWB vary across nations. This study is helpful and provides a baseline for scholars and practitioners to study this phenomenon in different cultures and sectors, especially in growing and developing countries. Hence, this study will help them recognize the significance of EL, and its implementation in every sector will become necessary for EWB.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Ethics Committee of Dalian Maritime University.

References

- Ahmad, S., Islam, T., Sadiq, M., and Kaleem, A. (2021). Promoting green behavior through ethical leadership: a model of green human resource management and environmental knowledge. *Leadersh. Organ. Dev. J.* 42, 531–547. doi: 10.1108/LODJ-01-2020-0024
- Akhtar, M. W., Aslam, M. K., Huo, C., Akbar, M., Afzal, M. U., and Rafiq, M. H. (2022a). The interplay of authentic leadership and social capital on team leader performance in public and private sector universities. *Kybernetes*. doi: 10.1108/K-06-2021-0446. [Epub ahead of print].
- Akhtar, M. W., Garavan, T., Asrar-Ul-Haq, M., Khatoon, Z., and Aslam, K. (2022b). The “Consequences of perceived organizational obstruction,” in *Academy of Management Proceedings, Vol. 10510* (Briarcliff Manor, NY: Academy of Management), 12757. doi: 10.5465/AMBPP.2022.12757abstract
- Akhtar, M. W., Huo, C., Syed, F., Safdar, M. A., Rasool, A., Husnain, M., et al. (2022c). Carrot and stick approach: the exploitative leadership and absenteeism in education sector. *Front. Psychol.* 13, 890064. doi: 10.3389/fpsyg.2022.890064
- Akhtar, M. W., Javed, M., Syed, F., Aslam, M. K., and Hussain, K. (2020a). Say no to wrongdoing: the serial mediation model of responsible leadership and whistleblowing intentions. *Int. J. Manpower* 42, 889–903. doi: 10.1108/IJM-02-2020-0070
- Akhtar, M. W., Syed, F., Husnain, M., and Naseer, S. (2019). Person-organization fit and innovative work behavior: the mediating role of perceived organizational support, affective commitment and trust. *Pak. J. Commer. Soc. Sci.* 13, 311–333. Available online at: <http://hdl.handle.net/10419/200994>
- Akhtar, M. W., Syed, F., Javed, M., and Husnain, M. (2020b). Grey shade of work environment triad—effect of supervisor ostracism and perceived organizational obstruction on employees’ behaviour: a moderated-mediation model. *Leadersh. Organ. Dev. J.* 41, 669–686. doi: 10.1108/LODJ-07-2019-0334
- Allen, N. J., and Meyer, J. P. (1993). Organizational commitment: evidence of career stage effects? *J. Bus. Res.* 26, 49–61. doi: 10.1016/0148-2963(93)90042-N
- Ashfaq, F., Abid, G., and Ilyas, S. (2021). Impact of ethical leadership on employee engagement: role of self-efficacy and organizational commitment. *Euro. J. Invest. Health Psychol. Educ.* 11, 962–974. doi: 10.3390/ejihpe11030071
- Aslam, M. K., Akhtar, M. S., Akhtar, M. W., Asrar-Ul-Haq, M., Iqbal, J., and Usman, M. (2021). “Reporting the wrong to the right”: the mediated moderation model of whistleblowing education and the whistleblowing intentions. *Kybernetes*. doi: 10.1108/K-02-2021-0123. [Epub ahead of print].
- Babalola, M. T., Stouten, J., Camps, J., and Euwema, M. (2019). When do ethical leaders become less effective? The moderating role of perceived leader ethical conviction on employee discretionary reactions to ethical leadership. *J. Bus. Ethics* 154, 85–102. doi: 10.1007/s10551-017-3472-z
- Bandura, A. (1969). “Social-learning theory of identificatory processes,” in *Handbook Of socialization Theory and Research*, Vol. 213. p.262.
- Bandura, A., and Walters, R. H. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Banks, G. C., Fischer, T., Gooty, J., and Stock, G. (2021). Ethical leadership: mapping the terrain for concept cleanup and a future research agenda. *Leadersh. Q.* 32, 101471. doi: 10.1016/j.leaqua.2020.101471

The patients/participants provided their written informed consent to participate in this study.

Author contributions

FG: investigation, writing, and conceptualization. ZX: conceptualization and methodology. FY: investigation, software, formal analysis, and writing—original draft. JH: investigation and writing—review and editing. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher’s note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Bashir, S., Nasir, M., Qayyum, S., and Bashir, A. (2012). Dimensionality of counterproductive work behaviors in public sector organizations of Pakistan. *Public Organ. Rev.* 12, 357–366. doi: 10.1007/s11115-012-0177-8
- Belschak, F. D., Den Hartog, D. N., and De Hoogh, A. H. (2018). Angels and demons: the effect of ethical leadership on machiavellian employees' work behaviors. *Front. Psychol.* 9, 1082. doi: 10.3389/fpsyg.2018.01082
- Brown, M. E., and Treviño, L. K. (2006). Ethical leadership: a review and future directions. *Leadersh. Q.* 17, 595–616. doi: 10.1016/j.leaqua.2006.10.004
- Choudhary, V., and Saini, G. (2021). Effect of job satisfaction on moonlighting intentions: mediating effect of organizational commitment. *Euro. Res. Manage. Bus. Econ.* 27, 100137. doi: 10.1016/j.jiedeen.2020.100137
- Donkor, F., Dongmei, Z., and Sekyere, I. (2021). The mediating effects of organizational commitment on leadership styles and employee performance in SOEs in Ghana: a structural equation modeling analysis. *Sage Open* 11, 21582440211008894. doi: 10.1177/21582440211008894
- Eluwale, K. K., Karatepe, O. M., and Avci, T. (2022). Ethical leadership, trust in organization and their impacts on critical hotel employee outcomes. *Int. J. Hosp. Manage.* 102, 103153. doi: 10.1016/j.ijhm.2022.103153
- Engelbrecht, A. S., Heine, G., and Mahembe, B. (2017). Integrity, ethical leadership, trust and work engagement. *Leadersh. Organ. Dev. J.* 38, 368–379. doi: 10.1108/LODJ-11-2015-0237
- Fehr, R., Yam, K. C., and Dang, C. (2015). Moralized leadership: the construction and consequences of ethical leader perceptions. *Acad. Manage. Rev.* 40, 182–209. doi: 10.5465/amr.2013.0358
- Hassan, S., Wright, B. E., and Yukl, G. (2014). Does ethical leadership matter in government? Effects on organizational commitment, absenteeism, and willingness to report ethical problems. *Public Admin. Rev.* 74, 333–343. doi: 10.1111/puar.12216
- Huo, C., Safdar, M., Akhtar, M., and Ahmed, M. (2022). Linking responsible leadership and green innovation: the role of knowledge sharing and leader-member exchange. *Front. Environ. Sci.* 10, 945817. doi: 10.3389/fenvs.2022.945817
- Idrees, H., Hynek, J., Jin, X., Akbar, A., and Jabeen, D. (2022). Impact of knowledge management capabilities on new product development performance through mediating role organizational agility and business model innovation as moderator. *Front. Psychol.* 13, 950054. doi: 10.3389/fpsyg.2022.950054
- Javed, M., Akhtar, M. W., Hussain, K., Junaid, M., and Syed, F. (2021). "Being true to oneself": the interplay of responsible leadership and authenticity on multi-level outcomes. *Leadersh. Organ. Dev. J.* 42, 408–433. doi: 10.1108/LODJ-04-2020-0165
- Kalshoven, K., and Den Hartog, D. N. (2009). Ethical leader behavior and leader effectiveness: the role of prototypicality and trust. *Int. J. Leadersh. Stud.* 5, 102–120. Available online at: http://www.regent.edu/acad/global/publications/ijls/new/vol5iss2/IJLS_vol5_iss1_kalshoven_ethical_leadership.pdf
- Kalshoven, K., Van Dijk, H., and Boon, C. (2016). Why and when does ethical leadership evoke unethical follower behavior? *J. Manag. Psychol.* 31, 500–515. doi: 10.1108/JMP-10-2014-0314
- Ko, J., Im, M., and Gwon, J. (2020). The influence of organizational commitment and resilience on presenteeism among clinical nurses. *Korean J. Occup. Health Nurs.* 29, 38–48. doi: 10.5807/kjohn.2020.29.1.38
- Koay, K. Y., and Lim, P. K. (2021). Ethical leadership and knowledge hiding: testing the mediating and moderating mechanisms. *J. Knowl. Manage.* 26, 574–591. doi: 10.1108/JKM-02-2021-0091
- Lapointe, E., and Vandenberghe, C. (2018). Examination of the relationships between servant leadership, organizational commitment, and voice and antisocial behaviors. *J. Bus. Ethics* 148, 99–115. doi: 10.1007/s10551-015-3002-9
- Li, M., Yang, F., and Akhtar, M. (2022). Responsible leadership effect on career success: the role of work engagement and self-enhancement motives in the education sector. *Front. Psychol.* 13, 888386. doi: 10.3389/fpsyg.2022.888386
- Loe, T. W., Ferrell, L., and Mansfield, P. (2000). A review of empirical studies assessing ethical decision making in business. *J. Bus. Ethics* 25, 185–204. doi: 10.1023/A:1006083612239
- Martin, S. R., Emich, K. J., Mcclean, E. J., and Woodruff, C. (2022). Keeping teams together: how ethical leadership moderates the effects of performance on team efficacy and social integration. *J. Bus. Ethics* 176, 127–139. doi: 10.1007/s10551-020-04685-0
- Meyer, J. P., Allen, N. J., and Smith, C. A. (1993). Commitment to organizations and occupations: extension and test of a three-component conceptualization. *J. Appl. Psychol.* 78, 538. doi: 10.1037/0021-9010.78.4.538
- Meyer, J. P., Stanley, D. J., Herscovitch, L., and Topolnysky, L. (2002). Affective, continuance, and normative commitment to the organization: a meta-analysis of antecedents, correlates, and consequences. *J. Vocat. Behav.* 61, 20–52. doi: 10.1006/jvbe.2001.1842
- Mowday, R. T. (1979). Leader characteristics, self-confidence, and methods of upward influence in organizational decision situations. *Acad. Manage. J.* 22, 709–725. doi: 10.2307/255810
- Okan, T., and Akyüz, A. M. (2015). Exploring the relationship between ethical leadership and job satisfaction with the mediating role of the level of loyalty to supervisor. *Bus. Econ. Res. J.* 6, 155–177. Available online at: [http://www.berjournal.com/wp-content/plugins/downloads-manager/upload/BERJ%206\(4\)15%20Article%209%20pp.155-177.pdf](http://www.berjournal.com/wp-content/plugins/downloads-manager/upload/BERJ%206(4)15%20Article%209%20pp.155-177.pdf)
- Pastin, M. (1988). *The Author Responds: Pastin to Willard*. doi: 10.1080/02691728808578476
- Qasim, M., Irshad, M., Majeed, M., and Rizvi, S. T. H. (2021). Examining impact of Islamic work ethic on task performance: mediating effect of psychological capital and a moderating role of ethical leadership. *J. Bus. Ethics* 180, 283–295. doi: 10.1007/s10551-021-04916-y
- Qing, M., Asif, M., Hussain, A., and Jameel, A. (2020). Exploring the impact of ethical leadership on job satisfaction and organizational commitment in public sector organizations: the mediating role of psychological empowerment. *Rev. Manag. Sci.* 14, 1405–1432. doi: 10.1007/s11846-019-00340-9
- Ribeiro, N., Gomes, D., and Kurian, S. (2018). Authentic leadership and performance: the mediating role of employees' affective commitment. *Soc. Responsib. J.* 14, 213–225. doi: 10.1108/SRJ-06-2017-0111
- Syed, F., Akhtar, M. W., Kashif, M., Asrar-Ul-Haq, M., Husnain, M., and Aslam, M. K. (2020). When leader is morally corrupt: interplay of despotic leadership and self-concordance on moral emotions and bullying behavior. *J. Manage. Dev.* 39, 911–928. doi: 10.1108/JMD-05-2019-0183
- Syed, F., Naseer, S., Akhtar, M. W., Husnain, M., and Kashif, M. (2021). Frogs in boiling water: a moderated-mediation model of exploitative leadership, fear of negative evaluation and knowledge hiding behaviors. *J. Knowl. Manage.* 25, 2067–2087. doi: 10.1108/JKM-11-2019-0611
- Yamane, T. (1973). *Statistics: An Introductory Analysis-3*.
- Yang, Q., and Wei, H. (2017). Ethical leadership and employee task performance: examining moderated mediation process. *Manage. Dec.* 55, 1506–1520. doi: 10.1108/MD-09-2016-0627
- Yasir, M., and Rasli, A. (2018). Direct and indirect effects of ethical leadership on workplace deviance in public healthcare sector of Pakistan. *J. Adv. Manage. Res.* 15, 558–574. doi: 10.1108/JAMR-11-2017-0109
- Zeb, S., Akbar, A., Gul, A., Haider, S. A., Poulouva, P., and Yasmin, F. (2021). Work-Family conflict, emotional intelligence, and general self-efficacy among medical practitioners during the COVID-19 pandemic. *Psychol. Res. Behav. Manage.* 14, 1867–1876. doi: 10.2147/PRBM.S333070
- Zhu, W., May, D. R., and Avolio, B. J. (2004). The impact of ethical leadership behavior on employee outcomes: the roles of psychological empowerment and authenticity. *J. Leadersh. Organ. Stud.* 11, 16–26. doi: 10.1177/1071791904010100104



OPEN ACCESS

EDITED BY
Chunhui Huo,
Liaoning University, China

REVIEWED BY
Zhongna Yang,
Tarim University, China
Muhammad Arslan Safdar,
COMSATS University, Islamabad
Campus, Pakistan

*CORRESPONDENCE
Muhammad Aamir
✉ aamirshaikh86@hotmail.com
Zhongwen Chen
✉ 1057623631@qq.com

SPECIALTY SECTION
This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 31 October 2022
ACCEPTED 28 November 2022
PUBLISHED 09 January 2023

CITATION
Sarwar U, Aamir M, Bichao Y and
Chen Z (2023) Authentic leadership,
perceived organizational support,
and psychological capital:
Implications for job performance
in the education sector.
Front. Psychol. 13:1084963.
doi: 10.3389/fpsyg.2022.1084963

COPYRIGHT
© 2023 Sarwar, Aamir, Bichao and
Chen. This is an open-access article
distributed under the terms of the
[Creative Commons Attribution License
\(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or
reproduction in other forums is
permitted, provided the original
author(s) and the copyright owner(s)
are credited and that the original
publication in this journal is cited, in
accordance with accepted academic
practice. No use, distribution or
reproduction is permitted which does
not comply with these terms.

Authentic leadership, perceived organizational support, and psychological capital: Implications for job performance in the education sector

Uzma Sarwar¹, Muhammad Aamir^{2*}, Yu Bichao¹ and
Zhongwen Chen^{1*}

¹School of Education, Huanggang Normal University, Huanggang, China, ²School of Computer Science, Huanggang Normal University, Huanggang, China

The present study sifts the indirect role of psychological capital (PsyCap) in linking authentic leadership (AL) and job performance (JP). Furthermore, this study investigates the interplay of AL and perceived organizational support (POS) in PsyCap. We tested these assumptions through PROCESS macro with two sources of data collected from 350 employees and their respective colleagues working in education sector organizations in China. The study findings established that AL positively influences employee performance directly and indirectly through PsyCap. POS moderates the effects of AL on PsyCap such that this relationship gets more pronounced in individuals with high levels of POS. All organizations in the education sector can benefit from the current study's practical application. We recommend that firms create and implement these training programs to improve JP since AL is favorably correlated with JP. The organization should pick executives with a vision to encourage e-JP. To promote this behavior, firms can also hold management training seminars, conferences, and programs. Making performance a clear necessity within job criteria will encourage it among personnel. To achieve great results, top management and leadership must inform the workforce about the importance of authentic behavior in the workplace.

KEYWORDS

authentic leadership, perceived organizational support, psychological capital, job performance, education sector

1. Introduction

Quality leadership is desperately needed in the education industry, which functions in a complicated environment marked by technological and economic developments (Akhtar et al., 2021; Syed et al., 2021). As increasing cases of corporate fraud and scams are revealed throughout the world, the need for more positive, authentic, and value-based leadership has become more apparent (Akhtar et al., 2022). Stakeholders want their leaders to operate with a high level of honesty (Akhtar et al., 2020a). In this environment, genuine leadership has gotten a lot of press in the business world, prompting a spike in organizational behavior (OB) study (Akhtar et al., 2022). Authentic leadership (AL) is frequently regarded as a prerequisite for all other types of constructive leadership (Avolio and Gardner, 2005). AL has enhanced self-awareness *via* an ethical climate and transparent relationship with followers (Walumbwa et al., 2008). Self-awareness relates to one's perception of oneself, the degree to which one is aware of one's strengths and faults, and one's effect on others. An internalized moral perspective, in which one's actions and behavior are regulated by personal values and moral principles, is a metaphor for self-regulation. The level of openness and honesty with which one shares information and expresses one's actual emotions is referred to as relational transparency. The degree to which a leader weighs all relevant information before making a choice is referred to as balanced processing. The possibility of regaining stakeholder confidence, trust, hope, resilience, and optimism is highlighted by supporters of AL (Avolio et al., 2004).

The research on AL is still in its early stages, which is surprising given the novelty of the idea. Despite the conceptualization shared by academics and practitioners that AL fosters encouraging employee behavior at work, there is a dearth of actual evidence to support this claim (Gardner et al., 2021). AL, such as moral integrity, care for others, and consistency between actions and moral principles, attempts to create a productive workplace (Clapp-Smith et al., 2009; Hannah et al., 2011). Leaders are moral and genuine. Since the concept is new, AL research is still in its very infant stage. Although theorists and practitioners alike contend that genuine leadership fosters positive employee attitudes and behavior in firms, there is a dearth of empirical data to support this claim (Gardner et al., 2011). Despite the benefits of AL on employee behavior, there are currently few empirical studies that support the relationships and mechanisms between AL and followers' behavior (Ribeiro et al., 2020). Haque et al. (2021) found that the mechanism through which leaders stimulate followers' behavior has not been well analyzed. Further research is still needed to substantiate these claims, according to Ribeiro et al. (2020), to confirm the AL-behavior linkage needed to identify the relevant mediating factors. Kim et al. (2022) stated that AL boosts task performance *via* emotional sharing. Aria et al. (2019)

confirmed that AL affect turnover intentions *via* POS among teachers. Moreover, it is not well understood how genuine leadership affects follower results psychologically from the ground up (Lei et al., 2021; Akhtar et al., 2022). Although recent research has identified self-efficacy as a potential mediator (Lei et al., 2021) of the link between AL and employee outcomes, investigating various underlying mechanisms allows for a deeper understanding of the nature of interactions. This is especially true for a developing concept like AL, which is still in its early phases of growth. AL is considered a part of human resource management (HRM). Recently, studies have focused on the outcomes of HRM, such as job performance (JP) (Akhtar et al., 2020a; Yu et al., 2022), social capital and performance (Singh et al., 2021), psychological safety (Moin et al., 2021), and presenteeism (Haque, 2018).

Since human energy can be infectious, encounters between staff members and AL might help them recharge (Wang and Xie, 2020). Psychological capital (PsyCap) includes features such as self-efficacy, optimism, hope, and resilience. An AL energizes and motivates his or her subordinates while also bringing rich resources into the organization under the signaling theory. Under authentic leaders, employees' PsyCap, hope, and positive affectivity grow (Luthans and Avolio, 2003; Rego et al., 2014). PsyCap was found to be favorably associated with the majority of employee behavioral outcomes (Luthans and Youssef-Morgan, 2017). The AL style holds that leaders develop their legitimacy *via* moral underpinnings, respect, and open communication with their followers. Typically, AL encourages openness and facilitates the growth of trust between superiors and followers, both of which are essential for personal success (Walumbwa et al., 2008).

There have been no empirical studies in OB research too far that examine the link between AL and PsyCap and their association with individual performance. Furthermore, limited empirical data indicate how cognitive processes may explain the association between AL and individual performance. The lack of clarity on the nexus between these two critical variables and the methods *via* which AL relates to individual performance hinders the ability of OB researchers to provide evidence-based recommendations. Given the positive impact of PsyCap witnessed in OB and the role of AL recognized by extant research in positive psychology to achieve personal success (Luthans et al., 2019). The primary aim of this study is to determine whether individual PsyCap mediates the effects of AL on their performance at various levels of perceived organizational support (POS).

The moderating function of POS is also investigated in this study. In addition, POS can forecast employee outcomes when combined with other factors (Chen and Eyoum, 2021; Côté et al., 2021). Côté et al. (2021) stated that POS buffered the presenteeism and job satisfaction relationship in the education sector. Employees with higher POS experience decreased turnover intentions (Huang et al., 2021) and job stress

(Xu and Yang, 2021). Higher POS workers are more prone to have a sense of entitlement (Alnaimi and Rjoub, 2021). As a result, in the context of education, the current study uses POS as a moderator between AL and PsyCap.

The current study makes a noteworthy contribution to the literature on AL. To the best of our knowledge, this is the first study to look at the connection between AL and worker performance using PsyCap. This study, therefore, contributes to the corpus of research that has already examined the impacts of AL, which in turn contributes to the consequences of AL. Second, we think the relationship between AL and PsyCap is more complicated and susceptible to external organizational influences. Thus, we add to the corpus of current information by proposing POS as a boundary condition on the AL–PsyCap relationship. By reexamining human resource policy, this study offers managers a comprehensive framework for encouraging AL in the workplace.

2. Theory and hypotheses development

The signaling theory explains the information asymmetries between two parties, by which asymmetric information is disturbed by the quality of information about intent (Stiglitz, 2000). When employees receive signals, such as moral integrity, care for others, and consistency between actions and moral principles, they attempt to create a productive workplace from AL, so individuals can feel PsyCap, and they are actively indulged in positive outcomes.

2.1. AL and job performance

Nearly six decades ago, the notion of AL was first discussed in the literature, resulting in a rapidly expanding body of academic and empirical study (Gardner et al., 2011). Since the theory's birth, AL has been considered one of the most important components affecting followers' behavior (Wang and Xie, 2020; Gardner et al., 2021; Akhtar et al., 2022). According to Akhtar et al. (2022), leaders who lead individuals with authenticity can promote a favorable atmosphere and long-term follower accomplishment. When AL fully acknowledges their talents and weaknesses, communicates their thoughts honestly, maintains an appropriate proportion in their perspective, and exhibits strong moral values in their conduct and interactions, an increase in JP is expected (Alilyyani et al., 2018). AL is viewed as the primary source of good leadership behavior needed to achieve constructive work-related results (Avolio and Gardner, 2005).

Authentic leadership acts according to its ideals and works to establish open and sincere communication with its followers (Gardner et al., 2005). It may set an example for others and

practice open communication (Avolio and Gardner, 2005). By setting an example for others, leaders exhibit their dedication to the task at hand and instruct those who follow them on how to be mentally, physically, and emotionally alert while working. According to Walumbwa et al. (2010), real leaders' ethical actions are likely to influence their followers because of their allure and authority as role models. Under AL, followers often absorb the beliefs and values of the leaders and act in a way that is congruent with their ideals and ethics. For instance, AL is seen by followers as being governed by high moral standards and characterized by fairness, honesty, and integrity in interacting with followers (Avolio et al., 2004). Because of their openness, optimism, and high ethical standards, these leaders can inspire others to share their ideals. As a result, followers are inspired to engage in constructive action and develop a sense of self-worth and duty to return the favor (Ilies et al., 2005).

Authentic leadership sets a good example in the workplace by demonstrating confidence, hope, and optimism (Gardner et al., 2005). Positive attitudes and emotions may be infectious, leading to a good trickle-down effect within companies to stimulate positive emotional and cognitive growth among their followers, resulting in more JP. AL examine all necessary facts objectively while making a choice; they provide a fair and transparent workplace atmosphere. Employees in such a workplace are more conscious of the value of assisting others and are encouraged to do so (Walumbwa et al., 2010); hence, they participate in high JP. Therefore, we argued that:

H1: AL is positively related to JP.

2.2. The mediating role of psychological capital

PsyCap (hope, optimism, self-efficacy, and resilience) of any individual has a great impact on the JP of that specific individual. On the other hand, AL could also create such a wonderful and achievable environment in which they can perform in a better way because AL develops such a capacity under which they put their optimal efforts that are more beneficial to achieve the desired goals of himself. Therefore, when leaders adopt the AL style, they will prepare authentic followers who will grow with the qualities of AL (transparency, moral/ethics, balanced processing, and self-conscience). It is criticized that the environment in which AL adopts that permit an undefended atmosphere under which access of followers could be enhanced for support, information, and resources (Walumbwa et al., 2008).

AL develops a capacity in the followers under which they can complete their work efficiently and effectively (Akhtar et al., 2022). It enables them to perform efficiently and settle/compromise with the job and be emotionally strong;

this way, the AL cultivates positive emotions in the followers (Bento and Ribeiro, 2013). PsyCap also plays a vital role in the behavioral and mental development of a person. Previous research has found that employees' PsyCap is critical to the effective completion of their jobs (Luthans and Youssef, 2004). Employees with more PsyCap, according to Karatepe and Karadas (2015), are frequently active and committed, and they like being absorbed in their job (Peláez Zuberbühler et al., 2021).

Psychologically capable individuals have strong self-efficacy and confidence in their abilities; as a result, they can completely participate in their job, which may allow them to satisfy JP beliefs (Xanthopoulou et al., 2007). Furthermore, they are resilient, which means that even if they fail, they can recover and re-engage in their task, allowing them to constantly spend their energy (Bakker et al., 2011). They are also optimistic; as a result, they stay involved and do not stray from their route of completing the task at hand, fully pouring their resources into the work and performing effectively (Syed et al., 2021).

H2: PsyCap mediates the relationship between AL and JP.

2.3. Moderating role of POS

Previous studies concluded that when employees get developmental training and pay raises, they feel obligated and repay the organization by achieving its objectives (Eisenberger et al., 2002; Rhoades and Eisenberger, 2002). POS is viewed as a resource in an organization that produces psychological outcomes (Xu et al., 2022). People perceive how they are treated by the organization through their superiors, which results in a perception of the amount of power they believe is being exerted over them (Aselage and Eisenberger, 2003). In the education sector, POS is positively related to pro-unethical work behavior (Wang X. et al., 2021), work engagement (Karatepe et al., 2022), and commitment (Zagenczyk et al., 2021). Regarding the impact of POS on PsyCap, Yang et al. (2020) concluded that organizational support predicts PsyCap. Existing studies stated that POS significantly moderates and mediates organizational relationships (Naseer and Raja, 2021).

In the education sector, individuals need POS to PsyCap to serve their customers. As in the education sector, POS works as a social clue that attenuates the RL–PsyCap relationship. We contend that POS reflects an individual's belief about his organization (Eisenberger et al., 1986), individuals with a high level of POS will optimize the salience of AL and increases the likelihood that employees experience PsyCap. In the case of high POS, employees perceive that they get an extra reward, praise, and recognition against JP, so they can feel happy (Eisenberger et al., 2020), thus making them more prone to perform their job with vitality. POS facilitates vitality at work as, due to POS, individuals feel obligated and want to repay the organization by

exerting high efforts for goal achievement (Eisenberger et al., 2002). POS promotes learning at work since it encourages people to learn new things and develop their abilities to assist the organization in achieving its objectives.

This personification tendency assigns organizations' human-like individualities (Eisenberger et al., 1986). According to Salancik and Pfeffer (1978), high trust, integrity, fair distribution of rewards, praise, and recognition work as social clues, and thus, individuals actively engage in PsyCap. AL provides these particular resources for PsyCap. Alternatively, individuals with low POS levels view their organization has little or no commitment toward them. Then individuals with low POS are likely to perform their work with low vitality and learning. Akhtar et al. (2019) study how employees who experience high levels of POS feel obligated to enhance their JP to meet company goals and do it with all of their hearts. Thus, high POS will amplify the AL–PsyCap relationship (see Figure 1).

H3: POS moderates the AL–PsyCap relationship in that the higher the POS, the stronger the aforementioned relationship.

3. Research method

Cross-sectional data from the education sector organization were used in the current study. Data were collected from January 2022 to February 2022. Individuals are the unit of analysis. We delivered 550 survey forms containing questions about AL, POS, and PsyCap, as well as demographic information, to respondents, and we got 410 usable answers. In addition, we circulated JP's survey form to the respondents' peers and got 372 useful responses. We gathered 350 legitimate responses after removing 22 responses that had multiple or inadequate answers (e.g., two replies to a single statement). The following requirements had to be met by employees: they had to be a part of a certain team or department, have a direct leader within that team or department, and operate in an environment where there was unity and constant communication between team members. Participation was optional, anonymous, and based on written informed permission with a flexible withdrawal policy. In addition, the researcher collected the surveys right after they were completed. We started by outlining the goal of the investigation. The study team emailed the management of each firm in advance of the survey's administration to describe in detail the study's goals (i.e., AL and its effects) and its methodology. Following the official's clearance, the same study polled each supervisor (by email), working with the heads of their respective departments, to describe the nature and objectives of the current study and inquire about their openness to having their followers.

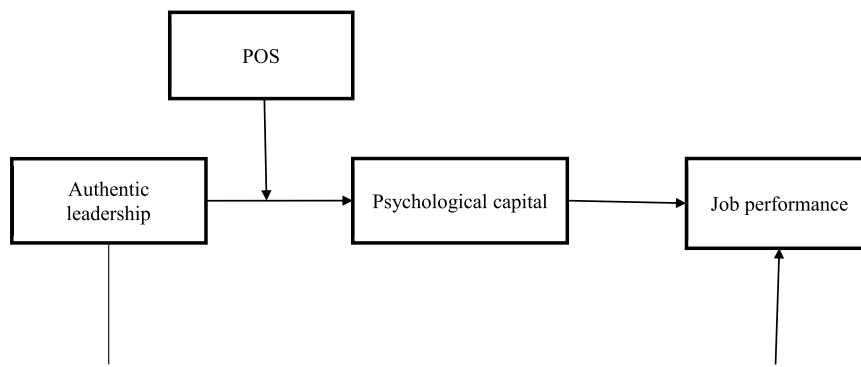


FIGURE 1
Hypothesized framework.

To reduce frequent method biases, the current study implemented procedural remedies and recommendations made by Podsakoff et al. (2007). We started by outlining the goal of the investigation. The study team emailed the management of each firm in advance of the surveys administration to describe in detail the study's goals (i.e., AL and its effects) and its methodology. Following the official clearance, the same study polled each supervisor (by email), working with the heads of their respective departments, to describe the nature and objectives of the current study and inquire about their openness to having their students participate. In addition, the poll asked supervisors to inform their staff of the study's objectives and methods and seek their participation.

Based on prior research, which indicates that having support first from the top improves the responsiveness of the prospective respondents, we chose this strategy (Dillman, 2000). Second, data were collected through a multi-source design. By which the surveys of AL, POS, and PsyCap were tapped among respondents along with their demographic details. Furthermore, the survey of JP was tabbed among the peers of the aforementioned respondents. Third, in the present study, we also used a moderator to minimize the CMB (Simons and Peterson, 2000). Previous studies reported that the chances of CMB were minimized in the presence of a moderator (Javed et al., 2020, 2021; Syed et al., 2020, 2021; Aslam et al., 2021; Li et al., 2022).

3.1. Measures

All the variables were measured by previously validated scales. All the items will be measured by the use of a five-point Likert scale.

A total of 16 items AL questionnaire (ALQ) used to measure AL Avolio (2007) α is 0.97. The item is *My supervisor admits if his/her decision was wrong/mistaken*. We measured POS with the help of the eight-items scale developed

by Eisenberger et al. (1986). A sample question was, "My organization considers my goals and values." The α is 0.91. The 12 items of PsyCap were adapted from Luthans et al. (2007). An example scale is "I am confident that I could deal efficiently with unexpected events." The α was 0.92. We utilized a peer-reported seven-item scale created by Williams and Anderson (1991) with a reliability score of 0.92 to measure JP. The example items include "*he or she adequately completes assigned duties*." Recently studies used the peers rating scale to measure JP by which peers rated their colleague's performance (Akhtar et al., 2021; Syed et al., 2021).

From a total of 350 responses, 234 were men (with 66.9%) and 116 were women (with 33.1%). Likewise, 35.7% are less than 29 years old, which shows that most of our respondents are young. In total of 27% respondents are 39 years old, 22% respondents are 49 years old and 15% respondents are 50 and above years old; 18% of respondents are at the graduate level, 70.9% of respondents have master's degrees, and 11.1% of respondents are MS degree holders. Notably, 43.4% of respondents have less than 5 years of experience, 25.7% of respondents have up to 10 years of experience, and 30% of respondents have more than 10 years of experience.

As some potential variables may influence thriving at work and megaphoning behavior, therefore, gender, age, education, department, and experience were treated as control variables because previous studies also controlled them for PsyCap and JP.

4. Results

4.1. Measurement model

All the study variables' reliability, convergent validity, and discriminant validity were calculated in the current study. The findings stated that estimated loadings of all items of each underlying construct are statistically significant and greater

TABLE 1 Confirmatory factor analysis: validity and reliability.

Latent variables	Standardized loadings	AVE	CR	Alpha
AL		0.70	0.974	0.97
Item 1	0.712			
Item 2	0.710			
Item 3	0.839			
Item 4	0.804			
Item 5	0.838			
Item 6	0.924			
Item 7	0.774			
Item 8	0.832			
Item 9	0.887			
Item 10	0.696			
Item 11	0.895			
Item 12	0.850			
Item 13	0.856			
Item 14	0.924			
Item 15	0.896			
Item 16	0.898			
POS		0.574	0.909	0.91
Item 1	0.505			
Item 2	0.964			
Item 3	0.511			
Item 4	0.535			
Item 5	0.892			
Item 6	0.859			
Item 7	0.592			
Item 8	0.998			
PsyCap		0.510	0.922	0.92
Item 1	0.592			
Item 2	0.617			
Item 3	0.669			
Item 4	0.574			
Item 5	0.739			
Item 6	0.981			
Item 7	0.533			
Item 8	0.944			
Item 9	0.664			
Item 10	0.944			
Item 11	0.508			
Item 12	0.623			
JP		0.633	0.920	0.92
Item 1	0.675			
Item 2	0.573			
Item 3	0.985			
Item 4	0.619			
Item 5	0.941			
Item 6	0.944			
Item 7	0.717			

All loadings are significant at the 0.01 level. AVE, average variance extracted; CR, composite reliability.

than the 0.4 threshold (see [Table 1](#); [Hair et al., 2010](#)). The measures are reliable as the value of Cronbach's alpha is greater than the cutoff level of 0.7 ([Nunnally and Bernstein, 1978](#); [Nunnally, 1994](#)). We employed average variance extracted (AVE) and composite reliability (CR) to measure internal validity ([Fornell and Larcker, 1981](#)). All variables have CRs larger than 0.7 ([Nunnally and Bernstein, 1994](#)), and the AVE of each construct is greater than the cutoff level of 0.5 advocated by [Fornell and Larcker \(1981\)](#). Furthermore, we utilized the [Fornell and Larcker \(1981\)](#) approach to verify discriminant validity since the correlation between the two associated variables was $>$ for each $\sqrt{\text{AVE}}$ (see [Table 2](#)).

4.2. Correlation

According to [Table 3](#), AL has a positive and significant correlation to POS ($r = 0.53$, $p < 0.01$), PsyCap ($r = 0.65$, $p < 0.01$), and employee JP ($r = 0.63$, $p < 0.01$). POS shows the positive and significant correlation to PsyCap ($r = 0.47$, $p < 0.01$) and employee JP ($r = 0.52$, $p < 0.01$). PsyCap shows the positive and significant correlation to the employee JP ($r = 0.64$, $p < 0.01$).

4.3. Hypotheses testing

[Table 4](#) displays the findings for our H1, H2, and H3 as direct and indirect hypotheses. We employed PROCESS macro (model 4) to examine this indirect effect and PROCESS macro model 1 to assess the moderating effect ([Hayes, 2017](#)) PROCESS macro (model 4), and to test the moderating effect, we used the model 1 of PROCESS macro. With the help of PROCESS macro, we also calculated the bias-corrected confidence interval by

TABLE 2 Discriminant validity test results.

Latent constructs	1	2	3	4
1. AL	0.837			
2. POS	0.367	0.758		
3. PsyCap	0.635	0.102	0.714	
4. JP	0.416	0.395	0.402	0.795

The $\sqrt{\text{AVE}}$ of the average variance extracted was shown on the diagonal.

TABLE 3 Correlations mean and standard deviation of study variables.

Sr #		Mean	SD		2	3	4
1	AL	3.29	1.30	(0.94)			
2	POS	2.85	1.24	0.53**	(0.93)		
3	PsyCap	3.11	1.0	0.65**	0.47**	(0.90)	
4	JP	3.48	0.91	0.63**	0.52**	0.64**	(0.83)

$N = 350$. ** $p < 0.01$. #Means number. Bold values means are significant.

using the bootstrap technique. The current study also employs control variables, that is, age, education, and experience, but control variables did not significantly alter the main findings of the study. Thus, for clarity and parsimony, we excluded them from tables (Carlson and Wu, 2012); however, results with controls are available from the authors.

For H1, we anticipated that AL is positively related to JP. Results are shown in Table 4 and support our H1, as AL had a positive and significant association with positive JP ($\beta = 0.77$, $p < 0.001$). Furthermore, H2 states that AL is positively related to JP via PsyCap. In Table 2, we also present the indirect effect estimate (from 10,000 bootstrap samples) of AL on JP via PsyCap with 95% confidence intervals. Our results reveal that the indirect effects of AL on JP via PsyCap were significant ($\beta = 0.31$, boot 95% CI [0.10, 0.37], did not include zero). Providing support to our H2.

H3 observed the moderating role of POS on the association between AL and PsyCap. Table 5 demonstrates that AL and POS have positive and significant interactive effects on the PsyCap

($\beta = 0.05$, SE = 0.02, $p < 0.05$). The interactive effect pattern provides support to our H3. By following the suggestion of Aiken et al. (1991), we also demonstrated the characteristics of the interaction term. Figure 2 demonstrates that slop analysis provides support to our H3, by indicating that the interactive effect was stronger at a high level of POS ($\beta = 0.45$, boot 95% CI [0.22, 0.69], did not include zero) and weaker at a low level of POS ($\beta = 0.20$, boot 95% CI [0.03, 0.37], did not include zero). Providing support to our H3.

5. Discussion

In this study, we created and evaluated a conceptual model that describes how AL affects employee JP. Two ideas were conceptualized for the investigation. The original model proposed PsyCap as a mediator of the AL–JP link. POS was proposed in the second model to moderate the aforementioned link. Both ideas were supported by the findings. AL was discovered to affect JP both directly and indirectly through PsyCap. High AL employees felt their work had a purpose and had greater JP than lower AL employees. It was discovered that the PsyCap fostered by sincere leaders helped people think and perform successfully. The psychological condition of having meaningful experiences increased intrinsic motivation and caused workers to give everything they had (May et al., 2004). The active employees felt the need to articulate themselves in ways to enhance their JP. They were passionate and prepared to go above and beyond in their job to improve their JP.

Employees with high PsyCap have the strength and energy essential to perform well (Choi et al., 2020), and their more frequent experience of good affect (Fredrickson, 2001) compelled them to seek unusual paths and perform better (Choi et al., 2020). This supports our claim that AL improves perceptions of PsyCap by requiring workers to engage in decision-making and sustaining a trusting relationship through relational transparency. A person's confidence in his capacity to generate creative ideas and partake in creative activities is increased by this sense of worth and value. In addition, feeling acknowledged increases one's psychological readiness to do vocational duties (Kahn, 1990). The findings add and extend the findings of previous studies on AL, demonstrating its link to PsyCap (McDowell et al., 2018; Ramalu and Janadari, 2020; Wang D. et al., 2021) and JP (Duarte et al., 2021). The findings highlight the importance of AL in education sector firms in cultivating good employee behavior. These findings from education sector firms are especially significant since AL is an emerging construct, and proof of its good consequences from many cultures is required on the path toward robust theory development. This study, therefore, contributes to the body of knowledge and aids in the advancement of AL by offering crucial empirical data on its effects in a distinctive cultural context.

TABLE 4 Mediating role of PsyCap.

Sr. no	Variable	R ²	B	SE	T	P
1	AL → JP	0.60	0.77	0.06	12.83	0.000
2	AL → PsyCap	0.60	0.72	0.07	10.28	0.000
3	Psychological capital → JP	0.51	0.76	0.06	12.67	0.000
Bootstrap results for indirect effects						
			M	SE	LL 95% CI	UL 95% CI
Effect	Psychological capital		0.31	0.06	0.10	0.37
Indirect effect and significance using normal distribution						
			Effect	SE	Z	P
	Sobel test		0.31	0.06	5.17	0.001

N = 350. Control variables: marital status, department, and grade. The boot (LLCI and ULCI) from bias-corrected bootstrapping test. ** $p < 0.01$, *** $p < 0.001$. SE, standard error.

TABLE 5 Moderating role of POS.

Predictors	PsyCap			
	R ²	Estimate	SE	Sig
AL		0.61	0.35	0.08
POS		0.22	0.11	0.04
AL × POS	0.11	0.05	0.02	0.02
Conditional direct effects of X on Y at values of moderator				
POS	Effect	Boot SE	LLCI	ULCI
−1 SD	0.20	0.08	0.03	0.37
M	0.33	0.08	0.16	0.49
+ 1 SD	0.45	0.12	0.22	0.69

N = 350. * $p < 0.05$, ** $p < 0.01$.

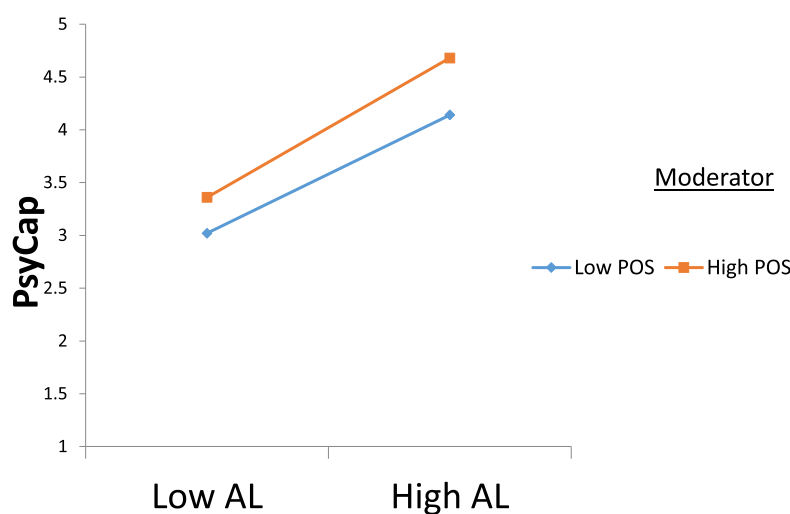


FIGURE 2
Interaction plot.

The findings indicate that POS modifies the relationship between AL and PsyCap. People are more likely to gain greater PsyCap from AL when they perceive that their organizations are supporting them. Previous scholars have also investigated the moderating impact of POS (Côté et al., 2021). Côté et al. (2021) concluded that POS buffered presenteeism and job satisfaction relationship. Kumar et al. (2022) confirmed that POS moderates the employee capital and taking charge behavior. As a result, the findings of their study agree with those of the current study. POS thereby modifies the association between AL and PsyCap, which is direct.

5.1. Theoretical implications

First, this study expanded the body of study on the impact of AL with findings (Gardner et al., 2021). Even though enough studies show the favorable effects of AL on employee results, there are not many studies that show how AL affects long-term, fruitful relations with employees (Gardner et al., 2011). The study's results also suggested that a brief bond, such as PsyCap, may act as a mediator between AL and JP.

The moderation research model is the second contribution of this study. The present study found that the relationship between AL and PsyCap was moderated by POS. By using POS as a moderator, the majority of earlier studies analyzed and examined the likelihood that AL and POS will interact either synergistically or substitutively. However, our study aims to address Iqbal et al. (2018)'s need for researchers to look at how AL employs behavioral outcomes. According to our research, AL actively encourages JP among its personnel. In particular, their interplay prompts us to reconsider the notion that researchers should pay attention to both the AL and organizational variables

that are closer to the AL, such as POS, in addition to just the AL itself.

5.2. Practical implications

The finding has important ramifications for organizational managers as well. The managers must be authentic. According to the findings of this study, AL affects the PsyCap of subordinates. Managers generally push their frontline staff to offer exceptional education by either empowering or supporting them (Johanson and Woods, 2008) or raising their incentives, rewards, or acknowledgment. Managers may enhance their employees' emotional control by being more real when engaging with education staff since authenticity reduces work strain and encourages work resources (Walumbwa et al., 2008). Therefore, leaders in the education sector would work to become more authentic in their relationships with others by asking for input, stating what they mean, owning up to their mistakes when they are incorrect, and basing choices on their core values (Gardner et al., 2005).

The findings offer valuable insights to top management in terms of improving JP. The findings show that AL improves JP by increasing PsyCap. AL will assist organizations in developing an active staff, committed, and engaged in their work, in addition to assisting them in establishing such a workforce. Keeping employees motivated has evolved as the most challenging HR issue facing firms due to the expansion of multinationals in the education sector that are all vying for the same talent. Our study advances knowledge on the factors influencing PsyCap. The study gives an essential tool to organizational managers for fostering a JP-oriented workforce by establishing AL as a forecaster of PsyCap and JP.

5.3. Limitations and future directions

The limitations and future directions of this study are listed below. The orientations of the links between the variables in this study may shift, decrease, or even be strengthened by some of the factors as a result of AL's influence on JP via PsyCap. Other potential processes explaining the benefits of AL on JP deserve additional study and exploration. In the education sector, for example, job autonomy and feedback may be linked to AL and JP. Second, the relationships between AL and subordinate JP should be investigated in diverse education situations. Employees may develop or adopt various tactics for dealing with demands in various circumstances (Seymour, 2000). Third, additional studies on leaders' motivating functions in the education sector should be done. The energy of followers may be affected differently by different leadership philosophies, either increasing or decreasing it. This has been determined to be essential to each person's JP (Baum and Youngblood, 1975). Positive leaders, like spiritual and caring ones, give their followers energy, while negative ones, like oppressive and destructive ones, drain it from their followers. In light of this, the results of other styles of leadership, especially dark leadership such as despotic leadership (Syed et al., 2020), leaders' knowledge hiding (Akhtar et al., 2021), exploitative leadership (Syed et al., 2021), and super ostracism (Akhtar et al., 2020b), on the JP of education employees should be investigated from the viewpoint of human power.

6. Conclusion

The subject of how AL affects public sector employees' JP in the unique setting of China was expanded upon in this study. The results of the investigation support the viability of the proposed concept, which explains how AL raises JP among employees. In addition, PsyCap plays a crucial role as a mediator and advances the friendship between AL and JP. The results of this study also suggested that POS mediated the association between AL and PsyCap. Therefore, this research will enable them to understand the importance of AL, and its

application across all industries will become essential for the JP of employees.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Ethics Committee of Huanggang Normal University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

US works on initial model, theory, literature review, and Research method. MA works on Introduction, literature review, and Research method. YB works on data analysis. ZC works on discussion and proof reading. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Aiken, L. S., West, S. G., and Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Akhtar, M. W., Aslam, M. K., Huo, C., Akbar, M., Afzal, M. U., and Rafiq, M. H. (2022). The interplay of authentic leadership and social capital on team leader performance in public and private sector universities. *Kybernetes*. doi: 10.1108/K-06-2021-0446
- Akhtar, M. W., Javed, M., Syed, F., Aslam, M. K., and Hussain, K. (2020a). Say no to wrongdoing: The serial mediation model of responsible leadership and whistleblowing intentions. *Int. J. Manpow.* 42, 889–903. doi: 10.1108/IJM-02-2020-0070
- Akhtar, M. W., Syed, F., Javed, M., and Husnain, M. (2020b). Grey shade of work environment triad—effect of supervisor ostracism and perceived organizational obstruction on employees' behaviour: A moderated-mediation model. *Leadersh. Organ. Dev. J.* 41, 669–686. doi: 10.1108/LODJ-07-2019-0334
- Akhtar, M. W., Karatepe, O. M., Syed, F., and Husnain, M. (2021). Leader knowledge hiding, feedback avoidance and hotel employee outcomes: A moderated mediation model. *Int. J. Contemp. Hosp. Manag.* 34, 578–600. doi: 10.1108/IJCHM-04-2021-0545
- Akhtar, M. W., Syed, F., Husnain, M., and Naseer, S. (2019). Person-organization fit and innovative work behavior: The mediating role of perceived

- organizational support, affective commitment and trust. *Pakistan J. Commer. Soc. Sci.* 13, 311–333.
- Aliluyani, B., Wong, C. A., and Cummings, G. (2018). Antecedents, mediators, and outcomes of authentic leadership in healthcare: A systematic review. *Int. J. Nurs. Stud.* 83, 34–64. doi: 10.1016/j.ijnurstu.2018.04.001
- Alnaimi, A. M. M., and Rjoub, H. (2021). Perceived organizational support, psychological entitlement, and extra-role behavior: The mediating role of knowledge hiding behavior. *J. Manag. Organ.* 27, 507–522. doi: 10.1017/jmo.2019.1
- Aria, A., Jafari, P., and Behifar, M. (2019). Authentic leadership and teachers' intention to stay: The mediating role of perceived organizational support and psychological capital. *World J. Educ.* 9, 67–81. doi: 10.5430/wje.v9n3p67
- Aselage, J., and Eisenberger, R. (2003). Perceived organizational support and psychological contracts: A theoretical integration. *J. Organ. Behav.* 24, 491–509. doi: 10.1002/job.211
- Aslam, M. K., Akhtar, M. S., Akhtar, M. W., Asrar-Ul-Haq, M., Iqbal, J., and Usman, M. (2021). "Reporting the wrong to the right": The mediated moderation model of whistleblowing education and the whistleblowing intentions. *Kybernetes*. doi: 10.1108/K-02-2021-0123
- Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory-building. *Am. Psychol.* 62:25. doi: 10.1037/0003-066X.62.1.25
- Avolio, B. J., and Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *Leadersh. Q.* 16, 315–338. doi: 10.1016/j.leaqua.2005.03.001
- Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., and May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadersh. Q.* 15, 801–823. doi: 10.1016/j.leaqua.2004.09.003
- Bakker, A. B., Albrecht, S. L., and Leiter, M. P. (2011). Work engagement: Further reflections on the state of play. *Eur. J. Work Org. Psychol.* 20, 74–88. doi: 10.1080/1359432X.2010.546711
- Baum, J. F., and Youngblood, S. A. (1975). Impact of an organizational control policy on absenteeism, performance, and satisfaction. *J. Appl. Psychol.* 60:688. doi: 10.1037/0021-9010.60.6.688
- Bento, A., and Ribeiro, M. I. (2013). Authentic leadership in school organizations. *Eur. Sci. J.* 9:31.
- Carlson, K. D., and Wu, J. (2012). The illusion of statistical control: Control variable practice in management research. *Organ. Res. Methods* 15, 413–435. doi: 10.1177/1094428111428817
- Chen, H., and Eyoum, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *Int. J. Hosp. Manag.* 94:102850. doi: 10.1016/j.ijhm.2020.102850
- Choi, W., Noe, R., and Cho, Y. (2020). What is responsible for the psychological capital-job performance relationship? An examination of the role of informal learning and person-environment fit. *J. Manag. Psychol.* 35, 28–41. doi: 10.1108/JMP-12-2018-0562
- Clapp-Smith, R., Vogelgesang, G. R., and Avey, J. B. (2009). Authentic leadership and positive psychological capital: The mediating role of trust at the group level of analysis. *J. Leadersh. Organ. Stud.* 15, 227–240. doi: 10.1177/1548051808326596
- Côté, K., Lauzier, M., and Stinglhamber, F. (2021). The relationship between presenteeism and job satisfaction: A mediated moderation model using work engagement and perceived organizational support. *Eur. Manag. J.* 39, 270–278. doi: 10.1016/j.emj.2020.09.001
- Dillman, D. A. (2000). "Procedures for conducting government-sponsored establishment surveys: Comparisons of the total design method (TDM), a traditional cost-compensation model, and tailored design," in *Proceedings of American Statistical Association, Second International Conference on Establishment Surveys*, Buffalo, NY, 343–352.
- Duarte, A. P., Ribeiro, N., Semedo, A. S., and Gomes, D. R. (2021). Authentic leadership and improved individual performance: Affective commitment and individual creativity's sequential mediation. *Front. Psychol.* 12:675749. doi: 10.3389/fpsyg.2021.675749
- Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D. (1986). Perceived organizational support. *J. Appl. Psychol.* 71:500. doi: 10.1037/0021-9010.71.3.500
- Eisenberger, R., Rhoades Shanock, L., and Wen, X. (2020). Perceived organizational support: Why caring about employees counts. *Annu. Rev. Organ. Psychol. Organ. Behav.* 7, 101–124. doi: 10.1146/annurev-orgpsych-012119-044917
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., and Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *J. Appl. Psychol.* 87:565. doi: 10.1037/0021-9010.87.3.565
- Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50. doi: 10.1177/002224378101800104
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *Am. Psychol.* 56:218. doi: 10.1037/0003-066X.56.3.218
- Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., and Walumbwa, F. (2005). Can you see the real me?" A self-based model of authentic leader and follower development. *Leadersh. Q.* 16, 343–372. doi: 10.1016/j.leaqua.2005.03.003
- Gardner, W. L., Cogliser, C. C., Davis, K. M., and Dickens, M. P. (2011). Authentic leadership: A review of the literature and research agenda. *Leadersh. Q.* 22, 1120–1145. doi: 10.1016/j.leaqua.2011.09.007
- Gardner, W. L., Karam, E. P., Alvesson, M., and Einola, K. (2021). Authentic leadership theory: The case for and against. *Leadersh. Q.* 32:101495. doi: 10.1016/j.leaqua.2021.101495
- Hair, J. F., Celsi, M., Ortinau, D. J., and Bush, R. P. (2010). *Essentials of Marketing Research*. New York, NY: McGraw-Hill/Irwin.
- Hannah, S. T., Avolio, B. J., and Walumbwa, F. O. (2011). Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. *Bus. Ethics Q.* 21, 555–578. doi: 10.5840/beq201121436
- Haque, A. (2018). Strategic human resource management and presenteeism: A conceptual framework to predict human resource outcomes. *N. Z. J. Hum. Resour. Manag.* 18, 3–18.
- Haque, A., Fernando, M., and Caputi, P. (2021). Responsible leadership and employee outcomes: A systematic literature review, integration and propositions. *Asia Pac. J. Bus. Adm.* 13, 383–408. doi: 10.1108/APJBA-11-2019-0243
- Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York, NY: Guilford Publications.
- Huang, C., Du, P.-L., Wu, L.-F., Achyldurdyeva, J., Wu, L.-C., and Lin, C. S. (2021). Leader-member exchange, employee turnover intention and presenteeism: The mediating role of perceived organizational support. *Leadersh. Organ. Dev. J.* 42, 249–264. doi: 10.1108/LODJ-03-2020-0094
- Ilies, R., Morgeson, F. P., and Nahrgang, J. D. (2005). Authentic leadership and eudaemonic well-being: Understanding leader-follower outcomes. *Leadersh. Q.* 16, 373–394. doi: 10.1016/j.leaqua.2005.03.002
- Iqbal, S., Farid, T., Ma, J., and Mehmood, Q. (2018). Cultivating employees' communal relationship and organizational citizenship behavior through authentic leadership: Studying the influence of procedural justice. *Psychol. Res. Behav. Manag.* 11:545. doi: 10.2147/PRBM.S179019
- Javed, M., Akhtar, M. W., Husnain, M., Lodhi, R., and Emaan, S. (2020). A stakeholder-centric paradigm bids well for the "business case"—An investigation through moderated-mediation model. *Corp. Soc. Responsib. Environ. Manag.* 27, 2563–2577. doi: 10.1002/csr.1976
- Javed, M., Akhtar, M. W., Hussain, K., Junaid, M., and Syed, F. (2021). Being true to oneself": The interplay of responsible leadership and authenticity on multi-level outcomes. *Leadersh. Organ. Dev. J.* 42, 408–433. doi: 10.1108/LODJ-04-2020-0165
- Johanson, M. M., and Woods, R. H. (2008). Recognizing the emotional element in service excellence. *Cornell Hosp. Q.* 49, 310–316. doi: 10.1177/1938965508316267
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* 33, 692–724. doi: 10.2307/256287
- Karatepe, O. M., and Karadas, G. (2015). Do psychological capital and work engagement foster frontline employees' satisfaction? A study in the hotel industry. *Int. J. Contemp. Hosp. Manag.* 27, 1254–1278. doi: 10.1108/IJCHM-01-2014-0028
- Karatepe, O. M., Hsieh, H., and Aboramadan, M. (2022). The effects of green human resource management and perceived organizational support for the environment on green and non-green hotel employee outcomes. *Int. J. Hosp. Manag.* 103:103202. doi: 10.1016/j.ijhm.2022.103202
- Kim, J. S., Park, J. G., and Park, H. J. (2022). Linking authentic leadership with employee initiative behavior and task performance: The mediating role of emotional sharing and communication satisfaction. *SAGE Open* 12:21582440221086657. doi: 10.1177/21582440221086657
- Kumar, N., Liu, Z., and Jin, Y. (2022). Evaluation of employee empowerment on taking change behaviour: An application of perceived organizational support as a moderator. *Psychol. Res. Behav. Manag.* 15, 1055–1066. doi: 10.2147/PRBM.S355326

- Lei, S., Qin, C., Ali, M., Freeman, S., and Shi-Jie, Z. (2021). The impact of authentic leadership on individual and team creativity: A multilevel perspective. *Leadersh. Organ. Dev. J.* doi: 10.1108/LODJ-12-2019-0519
- Li, M., Yang, F., and Akhtar, M. W. (2022). Responsible leadership effect on career success: The role of work engagement and self-enhancement motives in the education sector. *Front. Psychol.* 13:888386. doi: 10.3389/fpsyg.2022.888386
- Luthans, F., and Avolio, B. J. (2003). Authentic leadership development. *Posit. Organ. Scholarsh.* 241:258.
- Luthans, F., and Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organ. Dyn.* 33, 143–160. doi: 10.1016/j.orgdyn.2004.01.003
- Luthans, F., and Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annu. Rev. Organ. Psychol. Organ. Behav.* 4, 339–366. doi: 10.1146/annurev-orgpsych-032516-113324
- Luthans, F., Avolio, B. J., Avey, J. B., and Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Pers. Psychol.* 60, 541–572. doi: 10.1111/j.1744-6570.2007.00083.x
- Luthans, K. W., Luthans, B. C., and Chaffin, T. D. (2019). Refining grit in academic performance: The mediational role of psychological capital. *J. Manag. Educ.* 43, 35–61. doi: 10.1177/1052562918804282
- May, D. R., Gilson, R. L., and Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *J. Occup. Organ. Psychol.* 77, 11–37. doi: 10.1348/096317904322915892
- McDowell, J., Huang, Y.-K., and Caza, A. (2018). Does identity matter? An investigation of the effects of authentic leadership on student-athletes' psychological capital and engagement. *J. Sport Manag.* 32, 227–242. doi: 10.1123/jsm.2017-0241
- Moin, M. F., Omar, M. K., Wei, F., Rasheed, M. I., and Hameed, Z. (2021). Green HRM and psychological safety: How transformational leadership drives follower's job satisfaction. *Curr. Issues Tour.* 24, 2269–2277.
- Naseer, S., and Raja, U. (2021). Why does workplace bullying affect victims' job strain? Perceived organization support and emotional dissonance as resource depletion mechanisms. *Curr. Psychol.* 40, 4311–4323.
- Nunnally, J. C. (1994). *Psychometric Theory* 3E. New York, NY: Tata McGraw-Hill education.
- Nunnally, J., and Bernstein, I. (1994). *Psychometric theory*, 3rd Edn. New York, NY: MacGraw-Hill.
- Nunnally, J. C., and Bernstein, I. (eds) (1978). "The role of university in the development of entrepreneurial vocations: a Spanish study," in *Psychometric Theory*, (New York, NY: McGraw-Hill), 387–405.
- Peláez Zuberbühler, M. J., Coe Calcagni, C., Martínez, I. M., and Salanova, M. (2021). Development and validation of the coaching-based leadership scale and its relationship with psychological capital, work engagement, and performance. *Curr. Psychol.* doi: 10.1007/s12144-021-01460-w
- Podsakoff, N. P., Lepine, J. A., and Lepine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *J. Appl. Psychol.* 92:438. doi: 10.1037/0021-9010.92.2.438
- Ramalu, S. S., and Janadari, N. (2020). Authentic leadership and organizational citizenship behaviour: The role of psychological capital. *Int. J. Product. Perform. Manag.*
- Rego, A., Sousa, F., Marques, C., and Cunha, E. M. P. (2014). Hope and positive affect mediating the authentic leadership and creativity relationship. *J. Bus. Res.* 67, 200–210. doi: 10.1016/j.jbusres.2012.10.003
- Rhoades, L., and Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *J. Appl. Psychol.* 87:698. doi: 10.1037/0021-9010.87.4.698
- Ribeiro, N., Duarte, A. P., Filipe, R., and Torres De Oliveira, R. (2020). How authentic leadership promotes individual creativity: The mediating role of affective commitment. *J. Leadersh. Organ. Stud.* 27, 189–202. doi: 10.1177/1548051819842796
- Salancik, G. R., and Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Adm. Sci. Q.* 23, 224–253. doi: 10.2307/2392563
- Seymour, D. (2000). Emotional labour: A comparison between fast food and traditional service work. *Int. J. Hosp. Manag.* 19, 159–171. doi: 10.1016/S0278-4319(00)00009-8
- Simons, T. L., and Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *J. Appl. Psychol.* 85:102. doi: 10.1037/0021-9010.85.1.102
- Singh, S. K., Mazzucchelli, A., Vessal, S. R., and Solidoro, A. (2021). Knowledge-based HRM practices and innovation performance: Role of social capital and knowledge sharing. *J. Int. Manag.* 27:100830. doi: 10.1016/j.intman.2021.100830
- Stiglitz, J. E. (2000). The contributions of the economics of information to twentieth century economics. *Q. J. Econ.* 115, 1441–1478. doi: 10.1162/003355300555015
- Syed, F., Akhtar, M. W., Kashif, M., Asrar-Ul-Haq, M., Husnain, M., and Aslam, M. K. (2020). When leader is morally corrupt: Interplay of despotic leadership and self-concordance on moral emotions and bullying behavior. *J. Manag. Dev.* 39, 911–928. doi: 10.1108/JMD-05-2019-0183
- Syed, F., Naseer, S., Akhtar, M. W., Husnain, M., and Kashif, M. (2021). Frogs in boiling water: A moderated-mediation model of exploitative leadership, fear of negative evaluation and knowledge hiding behaviors. *J. Knowl. Manag.* 25, 2067–2087. doi: 10.1108/JKM-11-2019-0611
- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., and Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *J. Manag.* 34, 89–126. doi: 10.1177/0149206307308913
- Walumbwa, F. O., Wang, P., Wang, H., Schaubroeck, J., and Avolio, B. J. (2010). *Retracted: Psychological Processes Linking Authentic Leadership to Follower Behaviors*. Amsterdam: Elsevier. doi: 10.1016/j.leaqua.2010.07.015
- Wang, D., Kan, W., Qin, S., Zhao, C., Sun, Y., Mao, W., et al. (2021). How authentic leadership impacts on job insecurity: The multiple mediating role of psychological empowerment and psychological capital. *Stress Health* 37, 60–71. doi: 10.1002/smi.2973
- Wang, X., Zheng, X. J., and Zhao, S. (2021). Repaying the debt: An examination of the relationship between perceived organizational support and unethical pro-organizational behavior by low performers. *J. Bus. Ethics* 179, 697–709. doi: 10.1007/s10551-021-04809-0
- Wang, Z., and Xie, Y. (2020). Authentic leadership and employees' emotional labour in the hospitality industry. *Int. J. Contemp. Hosp. Manag.* 32, 797–814. doi: 10.1108/IJCHM-12-2018-0952
- Williams, L. J., and Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J. Manag.* 17, 601–617. doi: 10.1177/014920639101700305
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., and Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *Int. J. Stress Manag.* 14:121. doi: 10.1037/1072-5245.14.2.121
- Xu, D., Zhang, N., Bu, X., and He, J. (2022). The effect of perceived organizational support on the work engagement of Chinese nurses during the COVID-19: The mediating role of psychological safety. *Psychol. Health Med.* 27, 481–487. doi: 10.1080/13548506.2021.1946107
- Xu, Z., and Yang, F. (2021). The impact of perceived organizational support on the relationship between job stress and burnout: A mediating or moderating role? *Curr. Psychol.* 40, 402–413. doi: 10.1007/s12144-018-9941-4
- Yang, S., Huang, H., Qiu, T., Tian, F., Gu, Z., Gao, X., et al. (2020). Psychological capital mediates the association between perceived organizational support and work engagement among Chinese doctors. *Front. Public Health* 8:149. doi: 10.3389/fpubh.2020.00149
- Yu, M., Jiao, Q., Wang, G. G., and Liu, Y. (2022). The threshold effect of commitment-oriented HRM practices on employee job performance: The role of employee age. *Empl. Relat. Int. J.* doi: 10.1108/ER-11-2020-0516
- Zagenczyk, T. J., Purvis, R. L., Cruz, K. S., Thoroughgood, C. N., and Sawyer, K. B. (2021). Context and social exchange: Perceived ethical climate strengthens the relationships between perceived organizational support and organizational identification and commitment. *Int. J. Hum. Resour. Manag.* 32, 4752–4771. doi: 10.1080/09585192.2019.1706618



OPEN ACCESS

EDITED BY
Chunhui Huo,
Liaoning University,
China

REVIEWED BY
Simon L. Albrecht,
Deakin University,
Australia
Zubair Akram,
Zhejiang Gongshang University,
China

*CORRESPONDENCE
Kexuan Zhu
✉ zhukexuan710736187@gmail.com

SPECIALTY SECTION
This article was submitted to
Educational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 06 December 2022
ACCEPTED 10 January 2023
PUBLISHED 25 January 2023

CITATION
Wang X, Kou F and Zhu K (2023) The influence
of responsible leadership on teachers' green
behavior: The mediating role of psychological
capital.
Front. Psychol. 14:1117386.
doi: 10.3389/fpsyg.2023.1117386

COPYRIGHT
© 2023 Wang, Kou and Zhu. This is an open-
access article distributed under the terms of
the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/)
(CC BY). The use, distribution or reproduction
in other forums is permitted, provided the
original author(s) and the copyright owner(s)
are credited and that the original publication
in this journal is cited, in accordance with
accepted academic practice. No use,
distribution or reproduction is permitted
which does not comply with these terms.

The influence of responsible leadership on teachers' green behavior: The mediating role of psychological capital

Xinyi Wang, Fengtian Kou and Kexuan Zhu*

Dhurakij Pundit University, Bangkok, Thailand

This research aimed to explore the impact of responsible leadership on teachers' green behavior in Chinese university, and applied psychological capital as a mediator variable to establish a research model. A questionnaire was conducted with 303 teachers using convenience sampling. SPSS version 19 was used to analyze the data and Sobel was used to test the mediating relationships. The results show that responsible leadership has a positive yet significant effect on teachers' green behavior. It also shows positive impact on psychological capital. Furthermore, psychological capital is shown to positively impact teachers' green behavior, while having a mediating effect between responsible leadership and teachers' green behavior. This study enriches the research of teachers' green behavior and fill the gap in previous education management research. The research conclusions enable managers to better understand teachers' green behavior and provides them with theoretical guidance for promoting psychological capital and improving teachers' green behavior.

KEYWORDS

responsible leadership, teachers' green behavior, psychological capital, social learning theory, Chinese university faculty

1. Introduction

The rapid development of industrial civilization has brought about the rapid growth of productivity, but it has also brought about many environmental problems: ecosystem degradation is severe, biodiversity is sharply reduced, and natural disasters occur frequently. These phenomena have aroused people's wide concern for environmental problems (Inauen et al., 2021) and also affect human health and well-being (Evans, 2019). Over the past few decades, organizations have been proactively and comprehensively addressing environmental issues (Wolff et al., 2018), as there is growing concern about the long-term antagonistic effects of climate change and environmental degradation (Aguinis and Glavas, 2012). Past research has shown that green behavior among employees can help improve the environment (Zhen et al., 2002; Unsworth et al., 2021). Employee green behavior is any personally assessable behavior that can contribute to environmental sustainability in the workplace (Andersson et al., 2013). Therefore, employee green behavior has become a kind of behavior that organizations and employees work together to help the organization and the environment (Chaudhary, 2020; Tian et al., 2020). The vision and mission of for-profit and non-profit organizations differ greatly in terms of underlying motivations, one being primarily revenue driven and the other being social mission-driven (Quarter and Richmond, 2001). Thus, the mechanisms that influence employee green behavior in education may be very different from those in business but have never been explored.

Employee green behavior is a kind of positive organizational behavior, which is considered a micro activity to solve the problems of the environment and sustainable development, and is

pro-social (Zhang et al., 2021). This can be demonstrated through recycling, rational use of resources, participation in environmental activities, and the maintenance of sustainable policies (De Roeck and Farooq, 2018). Based on social learning theory (Bandura, 1986), leadership is regarded as an important antecedent variable affecting employees' green behaviors, because leaders, as representatives of an organization, exert a profound influence on employees through their words and deeds (Afsar et al., 2020). Several studies have shown that leadership style can influence employees' green behavior, such as ethical leadership (Ahmad et al., 2021), servant leadership (Ying et al., 2020), and taoist leadership (Xing and Starik, 2017). However, the above studies are based on the binary relationship between leaders and employees, which fails to respond positively to the needs of stakeholders and is not fully consistent with the social responsibility and ethical values of the organization (Tian and Suo, 2021).

Responsible leadership is a powerful complement to existing research frameworks on leadership traits and leadership theories and can address scandals at the individual, organizational and system levels, as well as ethical and environmental challenges arising from new social and environmental issues (Pless and Maak, 2011). It is defined as the type of leadership that maintains mutual trust and collaboration between internal and external stakeholders of an organization in order to mobilize the cooperation of different stakeholders and achieve a common vision for the business (Maak and Pless, 2006). From a stakeholder perspective, responsible leadership is a hybrid of social responsibility, ethics, and leadership (Antunes and Franco, 2016; Waldman et al., 2019). Responsible leaders enhance employees' awareness of the organization's social responsibility and encourage them to participate in the organization's social responsibility activities (Voegtlin et al., 2012). Also, by participating in green behavior, employees are responding to the organization's call for social responsibility. Therefore, one of the motivations for this study was to explore the effects of responsible leadership on teachers' green behaviors.

However, not all employees can learn and imitate the behavior of their superiors, and previous studies have not focused on the motivation resources at the individual level. The role model effect of leaders may also be affected by individual psychological factors (Bouckennooghe et al., 2015). Psychological capital has become an important part of the research on positive organizational behavior (Luthans et al., 2010). It represents a major personal motivational tendency that accumulates through positive mental constructs such as efficacy, optimism, hope, and resilience (Luthans et al., 2007). Responsible leadership requires employees to respond to the social responsibility of the organization by giving clear and transparent expected goals (Voegtlin et al., 2012), which increases followers' motivation for positive behavior in the form of increased efficiency, hope, optimism, and resilience (Luthans et al., 2007). Therefore, the use of psychological capital as a potentially important mediating variable is of great importance for the research exploring the relationship between responsible leadership and teachers' green behavior. As such, the second motivation for this study was to explore the mediating role of psychological capital between responsible leadership and teachers' green behavior.

Based on the above discussion, the main contribution of this study is to explore the relationship between responsible leadership and teachers' green behavior based on social learning theory, and verify the mediating role of psychological capital, to fill the gap in previous education management research.

2. Theories and hypotheses

2.1. Social learning theory

Social learning theory assumes that most human behavior is observed through modeling (Decker, 1986). Individuals can learn appropriate behavior and norms by observing the behavior of others, especially those that seem reasonable (Bandura and Walters, 1977). Also, according to social learning theory, the extent to which individuals see others as role models and imitate them depends on the power and status of others (Manz and Sims, 1981). Responsible leadership focuses on the interests of various stakeholders related to the organization's business and exchanges information and opinions when communicating with employees (Witt and Stahl, 2016). In this interactive process, the leader conveys his views and insights to the employees, and the employees gradually accept and internalize the leader's values by observing and imitating the words and deeds of the leader (Han et al., 2019). Leaders are the key objects for employees to observe in an organization (Tian and Suo, 2021). According to the research by Voegtlin et al. (2012), responsible leaders set a positive example for employees by focusing on all stakeholders. Responsible leadership provides ethical role models for employees by emphasizing the ethics of the leader and the behavior that follows ethical principles (Shi and Ye, 2016). Thus, responsible leaders can reduce unethical behavior among employees (Voegtlin, 2011) and conversely increase ethical behavior. In education, responsible headmasters should build trusting and ethical relationships with their stakeholders, for the success of the school and for the common good of the local community (Oplatka, 2017). As McCullough (2012) maintained, responsible headmasters need to build and maintain an organizational culture that is based on and fully supported by a full network of middle managers, teachers, parents, students and other stakeholders. In addition, responsible leaders care about their subordinates and when teachers feel the attention of leaders, positive psychological capital will be triggered, and they may take the goals of the organization as their own and strive to achieve them (Tian and Suo, 2021). Therefore, teachers will learn from responsible leaders and actively put into behavior in order to meet the goals and requirements of the school.

2.2. Responsible leadership and teachers' green behavior

Responsible leadership is defined as "a relational and ethical phenomenon that occurs in the social process of interaction with those affected by leadership and is closely related to the purpose and vision of leadership" (Maak and Pless, 2006). As an intrinsically normative approach to leadership, responsible leadership differs from other value-centered leadership theories, such as ethical leadership (Shakeel et al., 2019), service-oriented leadership (Eva et al., 2019), authentic leadership (Whitehead, 2009), and transformational leadership (Korejan and Shahbazi, 2016). The key difference between them and responsible leadership is that responsible leadership focuses primarily on social and environmental goals, as well as goals for sustainable value creation and positive change. Responsible leaders, like weavers, have the advantage of bringing stakeholders together (Maak and Pless, 2006). Responsible leaders care about the interests of domestic and foreign stakeholders, fulfill corporate social responsibilities, and encourage employees to participate in corporate social responsibility activities (Voegtlin et al., 2012). Responsible leaders believe they have an obligation to serve and be accountable to their stakeholders, including the well-being of future generations, and continually seek the desired goal of

meeting the needs of a broad range of stakeholders by focusing on virtuous outcomes (Oplatka, 2017).

Employee green behavior is one of several strategies that organizations follow to improve environmental performance and achieve sustainable development goals (DuBois and Dubois, 2012). It is defined as any evaluable behavior of an individual that contributes to environmental sustainability in the workplace (Andersson et al., 2013). Ones and Dilchert (2012) state that to achieve ecological sustainability, we need to promote, influence, and change employee behavior in a way that aligns it with the environmental sustainability goals of the organization. They refer to these environment-related employee behaviors as employee green behaviors and define them as “scalable behaviors of employee participation” (Ones and Dilchert, 2012). In addition, Stern (2000) explained employee green behavior as employees’ intentional behavior to help reduce negative human behavior. It may include water conservation, efficient use of resources, waste reduction, energy conservation, and recycling (Norton et al., 2015).

Research shows that leadership style is closely related to employees’ green behaviors (Wang et al., 2018; Ahmad et al., 2021; Hameed et al., 2022). According to social learning theory (Bandura, 1986), subordinates guide their behavior by observing, imitating, and internalizing the values of the leader, leading to the replication of the leader’s behavior. There is a positive correlation between leaders’ environmental behaviors and those of their subordinates (Robertson and Barling, 2013) because leaders’ behaviors reflect their values, and leaders pass on their values to their subordinates through role models. Leaders may communicate why sustainability is important, clarify organizational direction, and set goals (Banerjee et al., 2003; Colwell and Joshi, 2013; Young et al., 2015). Their actions will increase employees’ focus on sustainability (Banerjee et al., 2003; Colwell and Joshi, 2013). Under the guidance of responsible leaders, employees will realize and understand the importance of employees’ pro-environment behaviors by imitating, learning, and following leaders (Steg and Vlek, 2009), thus increasing employees’ green behaviors.

Based on the above consideration, this study proposes research hypothesis

H1: responsible leadership has a positive and significant effect on teachers’ green behavior.

2.3. Responsible leadership and psychological capital

One form of strategic resource that has received increasing attention in the literature due to its impact on human performance is psychological capital (Ardichvili, 2011). Like human capital, psychological capital can be viewed as an asset that organizations need to embrace, develop and manage to achieve effective work behavior and organizational outcomes (Froman, 2010). It is defined as a positive state of individual psychological development and consists of four components: self-efficacy, hope, optimism, and resilience (Luthans and Youssef, 2007). Self-efficacy is defined as a person’s belief or confidence in his or her motivation, cognitive resources, or ability to successfully perform a specific task in a given setting (Stajkovic and Luthans, 1998); Optimism refers to an individual’s expectation of a positive outcome (Scheier et al., 2001); Hope is defined as a positive motivation based on an interactivity-derived state based on two aspects: agency (goal-directed energy) and path (a plan to achieve a goal; Snyder et al., 1996); Resilience refers to the ability to bounce back or recover from adversity, conflict, failure or even positive events, progress and increased responsibility (Luthans, 2002).

As an important environmental variable in an individual’s psychological capital, responsible leadership may affect psychological capital. Research has shown that leaders are a major source of both positive and negative emotions for employees at work (Dasborough and Ashkanasy, 2002). Doh and Quigley argue that responsible leaders increase employees’ trust in leaders by demonstrating their responsible and guided actions, which may bring significant benefits to the organization and relevant stakeholders, such as employee development of positive psychology (Doh and Quigley, 2014). According to social learning theory (Bandura and Walters, 1977), the example of a leader can serve as a clear road map, constitute desirable behaviors toward the realization of goals, and help employees establish positive mental states and necessary resources to perform well at work (Gardner et al., 2005; Gooty et al., 2009). Responsible leaders are very noble, do-good oriented leaders, a type of leadership that has a sense of justice, recognition, responsibility and concern for others (Cameron, 2011). A responsible leader is a good role model for employees and can help to generate more positive psychology.

Based on the above consideration, this study proposes research hypothesis

H2: responsible leadership has a positive and significant effect on psychological capital.

2.4. Psychological capital and teachers’ green behavior

The construction of psychological capital can be used to capture individual positive behavior. Individuals with high self-efficacy are driven by confidence in their ability to successfully perform certain tasks (Miao et al., 2018) and are also motivated by their behavior or the expected outcome of their behavior (Bandura, 1999). Optimistic people tend to expect positive outcomes from their actions (Bak et al., 2022). Researchers believe that resilience is related to employee behavior toward organizational development and sustainability in this rapidly changing era of globalization, where employees not only need to cope, and need to successfully recover from uncertainty, difficulties, and major changes (Luthans et al., 2007; Quick and Feldman, 2014). Also, hopeful employees are more likely to actively pursue goals, develop different ideas, and generate alternative pathways (e.g., green action plans) to achieve them (Luthans et al., 2007; Sweetman et al., 2011; Rego et al., 2012). Therefore, all four dimensions of psychological capital contribute to the positive behavior of employees. A Bangladeshi study found that employees with higher levels of positive psychological capital were more likely to engage in environmentally responsible behavior in the workplace (Afshar Jahanshahi et al., 2021). In summary, people with positive psychological capital are more likely to go beyond their regular tasks in the workplace and engage in voluntary, context-driven behavior.

Based on the above consideration, this study proposes research hypothesis

H3: psychological capital has a positive and significant effect on teachers’ green behavior.

2.5. The mediating role of psychological capital

In organizations, people with higher levels of psychological capital show better work outcomes than those with lower levels of psychological

capital (Newman et al., 2014). Employees with low psychological capital are more likely to produce negative work outcomes, such as turnover intention, etc. (Zhu et al., 2022). The reason may be that individuals with high self-efficacy adjust their goals according to their beliefs about their abilities, and therefore put more effort into achieving them (Seo and Ilies, 2009, Bandura, 2012). Also, more optimistic people receive more professional and psychosocial support throughout their careers than those who are less optimistic (Higgins et al., 2010). Responsible leaders actively participate in social responsibility activities (Shi and Ye, 2016), such as providing a comfortable working environment for teachers, establishing a good learning environment for students, educating and raising children for parents, working fairly and honestly with other units, saving resources, and protecting the environment. When teachers feel supported by their leaders, positive emotions are triggered, and they are more motivated to take environmental measures to help the school achieve sustainable development goals and create a long-term competitive advantage (Tian and Suo, 2021).

Many studies have confirmed the mediating role of psychological capital in the relationship between leadership and employee behavior. For example, a study in Sri Lanka confirmed the mediating role of psychological capital between authentic leadership and organizational citizenship behavior (Ramalu and Janadari, 2020). An Indian study showed that psychological capital had a significant mediating effect between sincere leadership and additional role behavior of nurses (Malik and Dhar, 2017). A Turkish study supported the mediating role of psychological capital in the relationship between ethical leadership and service innovation behavior (Özsungur, 2019).

Based on the above consideration, this study proposes research hypothesis

H4: psychological capital has a mediating role between responsible leadership and teachers' green behavior (Figure 1).

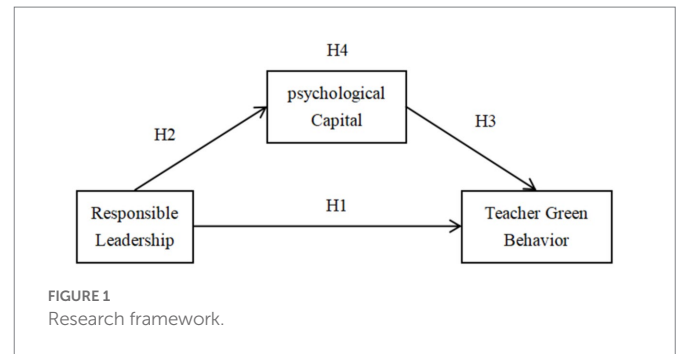
3. Research methods

3.1. Participants and procedures

The questionnaire was conducted for 2 months from September 2022 to November 2022. The study collected feedback from Chinese university faculty. HR heads of the schools were approached *via* emails and phones for the purpose of data collection. After a discussion on the purpose, procedure, anonymity and confidentiality of the study, some of the HR heads agreed to the request and asked the author to mail them the link to online questionnaire, which they circulated among their teachers. Questionnaires are distributed on a convenience basis. The main reason to use convenience sampling is the hectic schedule of such respondents.

Referring to Tinsley and Tinsley (1987), the number of questionnaires issued should be combined with the number of questions; the ratio of the number of items to the sample size should be between 1: 5 or 1:10. There are 28 items in this survey, and the maximum ratio is 1:10. So at least 280 valid samples are needed for this study. On the other hand, multiple regressions with sample sizes of 200–500 are valid, which may be used for more rigorous impact assessments (Ahmed et al., 2011).

In consideration of the possibility that some questionnaires might not be valid, a total of 320 questionnaires were distributed. Based on the screening of negative questions, invalid questionnaires were eliminated and 303 valid questionnaires were finally collected. To ensure the validity of the questionnaire, invalid questionnaires such as incomplete information were



eliminated. Finally, 303 valid questionnaires were collected. The proportion of valid questionnaires was 94.69%. Among them, 123 cases were male, accounting for 40.60%; 180 cases (59.40%) were female. In terms of age, 91 people were between 20 and 29 years old, accounting for 30.00%; 139 people aged 30–39, accounting for 45.90%; 57 people aged 40–49, accounting for 18.80%; 16 people aged 50 and above, accounting for 5.30%.

In order to evaluate the common method variance in this study, we ran the Harman's single-factor test. The results showed that 7 factors can explain the majority of variance (the maximum component explained only 31.681% of total variance), which means that there was no common method bias in this study.

3.2. Measures

In this study, the mature scale widely used was used to measure variables, and the questionnaire items were scored by the Likert5 score system. 1 means "strongly disagree" and 5 means "strongly agree." The higher the number, the higher the level of recognition.

- Responsible Leadership: the scale developed by Voegtlin (2011) consists of five items. Measures include "My superiors indicate that they are aware of stakeholder interests" and "My superiors fully consider the outcome of stakeholder decisions." In the study with Chinese subjects, Cronbach's alpha coefficient was 0.847 (Han et al., 2019). In this study, the consistency reliability coefficient of the scale is 0.707.
- Teachers' green behavior: using the Workplace environmentally-friendly Behavior Scale developed by Robertson and Barling (2013), which is a one-dimensional structure with seven items. For example, "I print double-sided whenever possible," "I turn off the lights when not in use," etc. The consistency reliability coefficient of this scale is 0.757.
- Psychological capital: using the scale developed by Luthans et al. (2006), the scale is a four-dimensional structure with 16 items. Sample items in the scale included: "I now consider myself fairly successful at work," "I can think of many ways to get out of difficult situations at work," and "I always look on the bright side of things at work." In this study, the consistency reliability coefficient of the scale was 0.926.
- Control variables: demographic variables. In this study, teachers' gender and age were used as control variables.

3.3. Statistical analysis

Firstly, SPSS 22.0 software was used to conduct descriptive statistics and Pearson correlation coefficient analysis for responsible leadership,

teachers' green behavior, and psychological capital variables. Finally, we explore the specific relationship between the three variable pairs and examine the mediating role of psychological capital in the influence of responsible leadership on teachers' green behavior. Finally, this study uses Sobel for mediation verification.

4. Results

4.1. Descriptive statistics and correlation analysis

Descriptive statistics show that college teachers' perception of responsible leadership, teachers' green behavior, and psychological capital are all at an above-average level. As can be seen from Table 1, there is a significant positive correlation between responsible leadership and teachers' green behavior ($r=0.307, p<0.001$). There was a significant positive correlation between responsible leadership and psychological capital ($r=0.171, p<0.01$), and there was a significant positive correlation between psychological capital and teachers' green behavior ($r=0.326, p<0.001$). The correlation coefficient is $0.171 \sim 0.326$, without collinearity.

4.2. Regression analysis

Multiple regression analyzes serve to verify the hypothesis. By controlling the influence of gender and age, the mediating effect of

psychological capital on the perception of responsible leadership and teachers' green behavior was examined.

As shown in Table 2, college teachers' perception of responsible leadership has a significant positive impact on teachers' green behavior ($\beta=0.281, t=5.239, p<0.001$) in Model 1, so hypothesis H1 is valid. In Model 2, college teachers' perception of responsible leadership had a significant positive effect on psychological capital ($\beta=0.217, t=3.906, p<0.001$), and thus hypothesis H2 is valid as well. In Model 3, after adding the mediating variable psychological capital, responsible leadership has a significant positive effect on teachers' green behavior ($\beta=0.221, t=4.196, p<0.001$), and psychological capital has a significant positive effect on teachers' green behavior ($\beta=0.273, t=5.077, p<0.001$) and thus the validation of hypothesis H3 can be confirmed. The β value of the influence of college teachers' perception of responsible leadership on teachers' green behavior decreased from 0.281 in model 1 to 0.221 in model 3, which was at a significant level. It can be seen that psychological capital plays a partial mediating role in the influence of responsible leadership on the green behavior of college teachers, and it can be confirmed that hypothesis H4 is valid.

In this study, the Sobel test (Sobel, 1982) was used to further test the mediating effect and calculate the non-standard regression coefficient and standard deviation. If Z is greater than 1.96, the mediating effect is significant. The results show that $Z=3.103, p<0.001$, indicating that psychological capital plays an intermediary role in the relationship between responsible leadership and teachers' green behavior. In Model 3, the VIF is between 1.129 to 5.280 (which is below the standard value of 10). This result indicates a lack of serious collinearity problems.

5. Conclusion and discussion

5.1. Conclusions of the study

This study aims to explore the influence mechanism of responsible leadership on college teachers' green behavior and empirically test the mediating role of psychological capital. The results show that responsible leadership has a positive effect on teachers' green behavior; responsible leadership has a positive influence on psychological capital;

TABLE 1 Variable descriptive statistics and correlation analysis.

Variable	M	SD	RL	GB	PC
RL	3.709	0.469	1		
GB	4.022	0.579	0.307***	1	
PC	3.976	0.518	0.171**	0.326***	1

*** $p<0.001$, ** $p<0.01$, * $p<0.05$. RL, Responsible Leadership; GB, Green Behavior; PC, Psychological Capital.

TABLE 2 Mediating effect of psychological capital on the relationship between responsible leadership on teacher green behavior.

Variable	Model 1		Model 2		Model 3		VIF
	GB		PC		GB		
	β	t	β	t	β	t	
Male	0.016	0.303	0.225	4.030***	−0.045	−0.849	1.147
20–29	−0.118	−1.051	−0.217	−1.863	−0.059	−0.541	4.757
30–39	0.015	0.130	0.102	0.828	−0.012	−0.109	5.280
40–49	0.285	2.851**	0.016	0.154	0.281	2.922**	3.750
RL	0.281	5.239***	0.217	3.906***	0.221	4.196***	1.129
PC					0.273	5.077***	1.173
R ²	0.207		0.147		0.270		
Adj R ²	0.194		0.133		0.256		
F	15.498***		10.261***		18.288***		

*** $p<0.001$, ** $p<0.01$, * $p<0.05$. β is the standardized regression coefficient. RL, Responsible Leadership; GB, Green Behavior; PC, Psychological Capital. Gender and age are dummy variables. Males are the experimental group within the gender group, while the females are the reference group. 20-29, 30-39, and 40-49 are the experimental group in the age group, while ≥ 50 are the reference group.

psychological capital has a positive effect on teachers' green behavior; psychological capital plays a partial mediating role between responsible leadership and teachers' green behavior.

5.2. Theoretical contributions

First, this study explores the relationship between responsible leadership and teachers' green behavior. Due to the increasingly prominent environmental problems and the country's gradual emphasis on green development, the academic circle mainly focuses on the green behavior of enterprise employees, but there is a lack of relevant research on teachers. Teachers not only play the role of school employees but also shoulder the important responsibility of educating students. Teachers' independent environmental awareness and actions not only play a vital role in the sustainable development of schools but also play a role model for students, which is worthy of further discussion. Taking teachers' green behavior as the result variable, this study verified the positive impact of responsible leadership on teachers' green behavior, which enriched relevant research on teachers' green behavior.

Secondly, the internal mechanism of responsible leadership affecting teachers' green behavior is discussed, and the mediating role of psychological capital is determined. This broadened the research scope of psychological capital and enriched the research of positive psychology. At the same time, psychological capital is an intermediary variable to explore the path of responsible leadership on teachers' green behavior, which is helpful to unlock the black box of the relationship between these two roles.

Thirdly, this study analyzes the relationship among responsible leadership, psychological capital, and teachers' green behavior in the Chinese context. Although China has experienced decades of modern civilization, the relationship with the leader is still the most important interpersonal relationship at work, which is considered to conform to the historical ruler-subject relationship (Wei et al., 2010). Therefore, the impact of leadership style on employee behavior becomes more important in the Chinese context.

5.3. Practical implications

First, responsible leadership can induce teachers' environmental awareness and environmental behavior. Therefore, to encourage teachers to show more green behaviors in their work and improve environmental performance, schools should cultivate more responsible leaders and enhance their sense of social responsibility through regular training. In order to effectively implement green initiatives, schools should provide green training to teachers to make them aware of the importance of green management and equip them with the skills and expertise needed to successfully fulfill their green responsibilities.

Second, schools should try to choose candidates with a strong sense of responsibility and environmental awareness when recruiting. Schools can examine teacher candidates' attitudes toward green environmental protection, their understanding of social responsibility, and their daily green behaviors.

Third, psychological capital plays an intermediary role between responsible leadership and teachers' green behavior. Therefore, in management practice, responsible leaders should actively participate in environmental activities, instill environmental concepts in teachers, and lead by example. At the same time, leaders should invest and develop

teachers' psychological capital in specific ways according to the characteristics of investment and profitability of psychological capital to tap the potential of teachers. Improve teachers' psychological capital, to increase teachers' initiative and enthusiasm in participating in environmental activities.

5.4. Limitations and prospects

Although this study has enriched the research on responsible leadership and teachers' green behavior, it still has some shortcomings. First, this study used cross-sectional data to confirm the causal relationship between variables, but the explanatory power is not as strong as that of longitudinal research, which can be used for further research in the future. Second, this study only examined the mediating role of psychological capital, and future studies can further explore other possible mediating mechanisms between responsible leadership and teachers' green behavior, as well as the changes in the relationship between the two in different situations. Finally, this study pays more attention to the green behaviors of employees in enterprises. Future studies can try to explore the influencing mechanism of green behaviors of employees in different industries.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Dhurakij Pundit University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

KZ designed the study, analyzed the data, and drafted the manuscript. XW and FK assisted in analyzing and interpreting the data. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Afsar, B., Maqsoom, A., Shahjehan, A., Afridi, S. A., Nawaz, A., and Fazliani, H. (2020). Responsible leadership and employee's proenvironmental behavior: the role of organizational commitment, green shared vision, and internal environmental locus of control. *Corp. Soc. Responsib. Environ. Manag.* 27, 297–312. doi: 10.1002/csr.1806
- Afshar Jahanshahi, A., Maghsoudi, T., and Shafighi, N. (2021). Employees' environmentally responsible behavior: the critical role of environmental justice perception. *Sustainability* 17, 1–14. doi: 10.1080/15487733.2020.1820701
- Aguinis, H., and Glavas, A. (2012). What we know and don't know about corporate social responsibility: a review and research agenda. *J. Manag.* 38, 932–968. doi: 10.1177/0149206311436079
- Ahmad, S., Islam, T., Sadiq, M., and Kaleem, A. (2021). Promoting green behavior through ethical leadership: a model of green human resource management and environmental knowledge. *Leadersh. Organ. Dev. J.* 42, 531–547. doi: 10.1108/loj-01-2020-0024
- Ahmed, E. A. R. E., Mahfouz, M. S., and Fdul, I. O. (2011). How to determine sample size: the design of sample size in health studies. *Gezira J. Health Sci.* 7, 79–98.
- Andersson, L., Jackson, S. E., and Russell, S. V. (2013). Greening organizational behavior: an introduction to the special issue. *J. Organ. Behav.* 34, 151–155. doi: 10.1002/job.1854
- Antunes, A., and Franco, M. (2016). How people in organizations make sense of responsible leadership practices multiple case studies. *Leadersh. Organ. Dev. J.* 37, 126–152. doi: 10.1108/loj-04-2014-0084
- Ardichvili, A. (2011). Invited reaction: meta-analysis of the impact of psychological capital on employee attitudes, behaviors, and performance. *Hum. Resour. Dev. Q.* 22, 153–156. doi: 10.1002/hrdq.20071
- Bak, H., Jin, M. H., and McDonald, B. D. (2022). Unpacking the transformational leadership-innovative work behavior relationship: the mediating role of psychological capital. *Public Perform. Manag. Rev.* 45, 80–105. doi: 10.1080/15309576.2021.1939737
- Bandura, A. (1986). *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Bandura, A. (1999). Self-efficacy: the exercise of control. *J. Cogn. Psychother.* 13, 158–166. doi: 10.1891/0889-8391.13.2.158
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *J. Manag.* 38, 9–44. doi: 10.1177/0149206311410606
- Bandura, A., and Walters, R. H., (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Englewood cliffs Prentice Hall.
- Banerjee, S. B., Iyer, E. S., and Kashyap, R. (2003). Corporate environmentalism: antecedents and influence of industry type. *J. Mark.* 67, 106–122. doi: 10.1509/jmk.67.2.106.18604
- Bouckennooghe, D., Zafar, A., and Raja, U. (2015). How ethical leadership shapes Employees' job performance: the mediating roles of goal congruence and psychological capital. *J. Bus. Ethics* 129, 251–264. doi: 10.1007/s10551-014-2162-3
- Cameron, K. (2011). "Responsible leadership as virtuous leadership" in *Responsible Leadership* (Dordrecht: Springer), 25–35.
- Chaudhary, R. (2020). Green human resource management and employee green behavior: an empirical analysis. *Corp. Soc. Responsib. Environ. Manag.* 27, 630–641. doi: 10.1002/csr.1827
- Colwell, S. R., and Joshi, A. W. (2013). Corporate ecological responsiveness: antecedent effects of institutional pressure and top management commitment and their impact on organizational performance. *Bus. Strateg. Environ.* 22, 73–91. doi: 10.1002/bse.732
- Dasborough, M. T., and Ashkanasy, N. M. (2002). Emotion and attribution of intentionality in leader-member relationships. *Leadersh. Q.* 13, 615–634. doi: 10.1016/S1048-9843(02)00147-9
- De Roeck, K., and Farooq, O. (2018). Corporate social responsibility and ethical leadership: investigating their interactive effect on Employees' socially responsible behaviors. *J. Bus. Ethics* 151, 923–939. doi: 10.1007/s10551-017-3656-6
- Decker, P. J. (1986). Social learning theory and leadership. *J. Manag. Dev.* 5, 46–58.
- Doh, J. P., and Quigley, N. R. (2014). Responsible leadership and stakeholder management: influence pathways and organizational outcomes. *Acad. Manag. Perspect.* 28, 255–274. doi: 10.5465/amp.2014.0013
- DuBois, C. L. Z., and Dubois, D. A. (2012). Strategic HRM as social design for environmental sustainability in organization. *Hum. Resour. Manag.* 51, 799–826. doi: 10.1002/hrm.21504
- Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., and Liden, R. C. (2019). Servant leadership: a systematic review and call for future research. *Leadersh. Q.* 30, 111–132. doi: 10.1016/j.leaqua.2018.07.004
- Evans, G. W. (2019). Projected behavioral impacts of global climate change. In: Fiske, S. T. ed. *Ann. Rev. Psychol.* 70, 449–474. doi: 10.1146/annurev-psych-010418-103023
- Froman, L. (2010). Positive psychology in the workplace. *J. Adult Dev.* 17, 59–69. doi: 10.1007/s10804-009-9080-0
- Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., and Walumbwa, F. (2005). "can you see the real me?" a self-based model of authentic leader and follower development. *Leadersh. Q.* 16, 343–372. doi: 10.1016/j.leaqua.2005.03.003
- Gooty, J., Gavin, M., Johnson, P. D., Frazier, M. L., and Snow, D. B. (2009). In the eyes of the beholder: transformational leadership, positive psychological capital, and performance. *J. Leadersh. Organ. Stud.* 15, 353–367. doi: 10.1177/1548051809332021
- Hameed, A. A., Anjum, Z. U. Z., and Waqas, M. (2022). Does ethical leadership enhance employee green behaviour? Examining the mediating influence of employee green commitment. *Middle East J. Manag.* 9, 127–145. doi: 10.1504/MEJM.2022.121391
- Han, Z., Wang, Q., and Yan, X. (2019). How responsible leadership motivates employees to engage in organizational citizenship behavior for the environment: a double-mediation model. *Sustainability* 11:605. doi: 10.3390/su11030605
- Higgins, M., Dobrow, S. R., and Roloff, K. S. (2010). Optimism and the boundaryless career: the role of developmental relationships. *J. Organ. Behav.* 31, 749–769. doi: 10.1002/job.693
- Inauen, J., Contzen, N., Frick, V., Kadel, P., Keller, J., Kollmann, J., et al. (2021). Environmental issues are health issues making a case and setting an agenda for environmental health psychology. *Eur. Psychol.* 26, 219–229. doi: 10.1027/1016-9040/a000438
- Korejan, M. M., and Shahbazi, H. (2016). An analysis of the transformational leadership theory. *J. Fundam. Appl. Sci.* 8, 452–461. doi: 10.4314/jfas.v8i3s.192
- Luthans, F. (2002). Positive organizational behavior: developing and managing psychological strengths. *Acad. Manag. Perspect.* 16, 57–72. doi: 10.5465/ame.2002.6640181
- Luthans, F., Avey, J. B., Avolio, B. J., and Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Hum. Resour. Dev. Q.* 21, 41–67. doi: 10.1002/hrdq.20034
- Luthans, F., Avolio, B. J., Avey, J. B., and Norman, S. M. (2007). Positive psychological capital: measurement and relationship with performance and satisfaction. *Pers. Psychol.* 60, 541–572. doi: 10.1111/j.1744-6570.2007.00083.x
- Luthans, F., and Youssef, C. M. (2007). Emerging positive organizational behavior. *J. Manag.* 33, 321–349. doi: 10.1177/0149206307300814
- Luthans, F., Youssef, C. M., and Avolio, B. (2006). *Psychological Capital: Developing the Human Competitive Edge*, Oxford: Oxford University Press.
- Maak, T., and Pless, N. M. (2006). Responsible leadership in a stakeholder society - a relational perspective. *J. Bus. Ethics* 66, 99–115. doi: 10.1007/s10551-006-9047-z
- Malik, N., and Dhar, R. L. (2017). Authentic leadership and its impact on extra role behaviour of nurses: the mediating role of psychological capital and the moderating role of autonomy. *Pers. Rev.* 46, 277–296. doi: 10.1108/PR-05-2015-0140
- Manz, C. C., and Sims, H. P. (1981). Vicarious learning: the influence of modeling on organizational behavior. *Acad. Manag. Rev.* 6, 105–113. doi: 10.2307/257144
- McCullough, L. B. (2012). An ethical framework for the responsible leadership of accountable care organizations. *Am. J. Med. Qual.* 27, 189–194. doi: 10.1177/1062860611421226
- Miao, Q., Newman, A., Schwarz, G., and Cooper, B. (2018). How leadership and public service motivation enhance innovative behavior. *Public Adm. Rev.* 78, 71–81. doi: 10.1111/puar.12839
- Newman, A., Ucbasaran, D., Zhu, F., and Hirst, G. (2014). Psychological capital: a review and synthesis. *J. Organ. Behav.* 35, S120–S138. doi: 10.1002/job.1916
- Norton, T. A., Parker, S. L., Zacher, H., and Ashkanasy, N. M. (2015). Employee green behavior: a theoretical framework, multilevel review, and future research agenda. *Organ. Environ.* 28, 103–125. doi: 10.1177/1086026615575773
- Ones, D. S., and Dilchert, S. (2012). Environmental sustainability at work: a call to action. *Ind. Organ. Psychol.* 5, 444–466. doi: 10.1111/j.1754-9434.2012.01478.x
- Oplatka, I. (2017). A call to adopt the concept of responsible leadership in our schools: some insights from the business literature. *Int. J. Leadersh. Educ.* 20, 517–524. doi: 10.1080/13603124.2016.1186846
- Özsungur, F. (2019). The impact of ethical leadership on service innovation behavior: the mediating role of psychological capital. *Asia Pacific J. Innov. Entrep.* 13, 73–88. doi: 10.1108/APJIE-12-2018-0073
- Pless, N. M., and Maak, T. (2011). Responsible leadership: pathways to the future. *J. Bus. Ethics* 98, 3–13. doi: 10.1007/s10551-011-1114-4
- Quarter, J. J., and Richmond, B. J. (2001). Accounting for social value in nonprofits and for-profits. *Nonprofit Manag. Leadersh.* 12, 75–85. doi: 10.1002/nml.12106
- Quick, K. S., and Feldman, M. S. (2014). Boundaries as junctures: collaborative boundary work for building efficient resilience. *J. Public Adm. Res. Theory* 24, 673–695. doi: 10.1093/jopart/mut085
- Ramalu, S. S., and Janadari, N. (2020). Authentic leadership and organizational citizenship behaviour: the role of psychological capital. *Int. J. Product. Perform. Manag.* 71, 365–385. doi: 10.1108/IJPPM-03-2020-0110
- Rego, A., Sousa, F., Marques, C., and Cunha, M. P. (2012). Authentic leadership promoting employees' psychological capital and creativity. *J. Bus. Res.* 65, 429–437. doi: 10.1016/j.jbusres.2011.10.003
- Robertson, J. L., and Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *J. Organ. Behav.* 34, 176–194. doi: 10.1002/job.1820
- Scheier, M. F., Carver, C. S., and Bridges, M. W. (2001). *Optimism, Pessimism, and Psychological Well-Being*. American Psychological Association, Washington, DC.

- Seo, M. G., and Ilies, R. (2009). The role of self-efficacy, goal, and affect in dynamic motivational self-regulation. *Organ. Behav. Hum. Decis. Process.* 109, 120–133. doi: 10.1016/j.obhdp.2009.03.001
- Shakeel, F., Kruiyen, P. M., and Van Thiel, S. (2019). Ethical leadership as process: a conceptual proposition. *Public Integrity* 21, 613–624. doi: 10.1080/10999922.2019.1606544
- Shi, Y., and Ye, M. (2016). Responsible leadership: review and prospects. *Am. J. Ind. Bus. Manag.* 6, 877–884. doi: 10.4236/ajibm.2016.68083
- Snyder, C. R., Simpson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., and Higgins, R. L. (1996). Development and validation of the state Hope scale. *J. Pers. Soc. Psychol.* 70, 321–335. doi: 10.1037/0022-3514.70.2.321
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociol. Methodol.* 13:290. doi: 10.2307/270723
- Stajkovic, A. D., and Luthans, F. (1998). Social cognitive theory and self-efficacy: Goin beyond traditional motivational and behavioral approaches. *Organ. Dyn.* 26, 62–74. doi: 10.1016/S0090-2616(98)90006-7
- Steg, L., and Vlek, C. (2009). Encouraging pro-environmental behaviour: an integrative review and research agenda. *J. Environ. Psychol.* 29, 309–317. doi: 10.1016/j.jenvp.2008.10.004
- Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *J. Soc. Issues* 56, 407–424. doi: 10.1111/0022-4537.00175
- Sweetman, D., Luthans, F., Avey, J. B., and Luthans, B. C. (2011). Relationship between positive psychological capital and creative performance. *Canadian J. Adm. Sci.* 28, 4–13. doi: 10.1002/cjas.175
- Tian, H., and Suo, D. (2021). The trickle-down effect of responsible leadership on employees pro-environmental behaviors: evidence from the hotel industry in China. *Int. J. Environ. Res. Public Health* 18:11677. doi: 10.3390/ijerph182111677
- Tian, H., Zhang, J., and Li, J. (2020). The relationship between pro-environmental attitude and employee green behavior: the role of motivational states and green work climate perceptions. *Environ. Sci. Pollut. Res.* 27, 7341–7352. doi: 10.1007/s11356-019-07393-z
- Tinsley, H. E. A., and Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *J. Couns. Psychol.* 34, 414–424. doi: 10.1037/0022-0167.34.4.414
- Unsworth, K. L., Davis, M. C., Russell, S. V., and Bretter, C. (2021). Employee green behaviour: how organizations can help the environment. *Curr. Opin. Psychol.* 42, 1–6. doi: 10.1016/j.copsyc.2020.12.006
- Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. *J. Bus. Ethics* 98, 57–73. doi: 10.1007/s10551-011-1020-9
- Voegtlin, C., Patzer, M., and Scherer, A. G. (2012). Responsible leadership in global business: a new approach to leadership and its multi-level outcomes. *J. Bus. Ethics* 105, 1–16. doi: 10.1007/s10551-011-0952-4
- Waldman, D. A., Siegel, D. S., and Stahl, G. K. (2019). Defining the socially responsible leader: revisiting issues in responsible leadership. *J. Leadersh. Organ. Stud.* 27, 20–25. doi: 10.1177/1548051819872201
- Wang, X., Zhou, K., and Liu, W. (2018). Value congruence: a study of green transformational leadership and employee green behavior. *Front. Psychol.* 9:1946. doi: 10.3389/fpsyg.2018.01946
- Wei, L. Q., Liu, J., Chen, Y. Y., and Wu, L. Z. (2010). Political skill, supervisor-subordinate guanxi and career prospects in Chinese firms. *J. Manag. Stud.* 47, 437–454. doi: 10.1111/j.1467-6486.2009.00871.x
- Whitehead, G. (2009). Adolescent leader ship development building a case for an authenticity framework. *Educ. Manag. Adm. Leadersh.* 37, 847–872. doi: 10.1177/1741143209345441
- Witt, M. A., and Stahl, G. K. (2016). Foundations of responsible leadership: Asian versus Western executive responsibility orientations toward key stakeholders. *J. Bus. Ethics* 136, 623–638. doi: 10.1007/s10551-014-2534-8
- Wolff, A., Gondran, N., and Brodhag, C. (2018). Integrating corporate social responsibility into conservation policy. The example of business commitments to contribute to the French National Biodiversity Strategy. *Environ. Sci. Pol.* 86, 106–114. doi: 10.1016/j.envsci.2018.05.007
- Xing, Y., and Starik, M. (2017). Taoist leadership and employee green behaviour: a cultural and philosophical microfoundation of sustainability. *J. Organ. Behav.* 38, 1302–1319. doi: 10.1002/job.2221
- Ying, M., Faraz, N. A., Ahmed, F., and Raza, A. (2020). How does servant leadership Foster Employees' voluntary green behavior? A sequential mediation model. *Int. J. Environ. Res. Public Health* 17:1792. doi: 10.3390/ijerph17051792
- Young, W., Davis, M., McNeill, I. M., Malhotra, B., Russell, S., Unsworth, K., et al. (2015). Changing behaviour: successful environmental programmes in the workplace. *Bus. Strateg. Environ.* 24, 689–703. doi: 10.1002/bse.1836
- Zhang, B., Yang, L., Cheng, X., and Chen, F. (2021). How does employee green behavior impact employee well-being? An empirical analysis. *Int. J. Environ. Res. Public Health* 18:1669. doi: 10.3390/ijerph18041669
- Zhen, C., Heng, L., and Wong, C. T. C. (2002). An application of bar-code system for reducing construction wastes. *Autom. Constr.* 11, 521–533. doi: 10.1016/S0926-5805(01)00063-2
- Zhu, K., Wang, X., and Jiang, M. (2022). The impact of organizational commitment on turnover intention of substitute teachers in public primary schools: taking psychological capital as a mediator. *Front. Psychol.* 13:1008142. doi: 10.3389/fpsyg.2022.1008142



OPEN ACCESS

EDITED BY

Muhammad Waheed Akhtar,
COMSATS University Islamabad,
Pakistan

REVIEWED BY

Eglantina Hysa,
Epoka University,
Albania
Jianjun Wang,
Changzhou University,
China

*CORRESPONDENCE

Wei Zhang
✉ weizhang@bjut.edu.cn

SPECIALTY SECTION

This article was submitted to
Organizational Psychology,
a section of the journal
Frontiers in Psychology

RECEIVED 27 December 2022

ACCEPTED 20 February 2023

PUBLISHED 13 March 2023

CITATION

Zhang W and Zhu C (2023) Institutional
presence: Toward a further developed
Community of Inquiry model integrating
institutional functions in online and blended
learning environment.
Front. Psychol. 14:1132204.
doi: 10.3389/fpsyg.2023.1132204

COPYRIGHT

© 2023 Zhang and Zhu. This is an open-access
article distributed under the terms of the
[Creative Commons Attribution License \(CC BY\)](#).
The use, distribution or reproduction in other
forums is permitted, provided the original
author(s) and the copyright owner(s) are
credited and that the original publication in this
journal is cited, in accordance with accepted
academic practice. No use, distribution or
reproduction is permitted which does not
comply with these terms.

Institutional presence: Toward a further developed Community of Inquiry model integrating institutional functions in online and blended learning environment

Wei Zhang^{1*} and Chang Zhu²

¹Higher Education Institute, Beijing University of Technology, Beijing, China, ²Educational Sciences Department, Vrije Universiteit Brussel, Brussels, Belgium

In this research we examine the Community of Inquiry model and further develop the model by integrating a complementary institutional presence. For this purpose, a questionnaire including five presences and 73 questions was designed. In total, a response of 762 questionnaires from five universities were collected. Correspondingly, statistical analysis like factor analysis and structural equation model were conducted. The present paper is, duly, a quantitative investigation of the correlations between institutional presence and other presences in the new model as well. Finally, a further developed Community of Inquiry model that integrates institutional presence is generated. With a relatively large sample, the results meet the applicable requirements, indicating that the generated model is acceptable and fits well with the data.

KEYWORDS

institutional presence, Community of Inquiry, model, blended learning, online learning

1. Introduction

In its simplest sense, blended learning refers to a combination of face-to-face and online learning. Despite the extensive research on online and blended learning conducted over the last decade, the development of theoretical models specific to these environments remains inadequate. Be that as it may, one of the most intriguing models that is worth pointing at as appealing enough is the Community of Inquiry (CoI) model developed by [Garrison et al. \(2000\)](#). [Shea and Bidjerano \(2010\)](#) then developed the CoI model by incorporating a learner presence. Albeit the CoI model provides a framework for the entire process of online or blended learning, some studies which tried to probe the implementation of CoI model also found that some institutional functions did hardly match the model well enough. Therefore, the authors believe that the model could be further developed and made more systematic by integrating an institutional presence to account for the institution's functions in the learning process. Added to this is [Crossan et al. \(1999\)](#) mentioned that to systematically develop learning, personal and group learning should be institutionalized, while [Parker's \(2008\)](#) assertion of the vital integrity of teaching and learning processes within institutions is worthwhile. Thus, the objective of this paper is to further develop the CoI model by incorporating a complementary institutional presence that accounts for institutional functions in the learning process. In doing so, it is hoped that CoI model could be optimized and preferably guide the online or blended learning process.

By virtue of the core rationale of the present paper, which lies in an accomplishment of a markedly systematic and constructively developed CoI model incorporating the

entirety of the features that renders it a Further Developed Community of Inquiry (FDCoI) model, a further relevantly underpinning theoretical framework has been intently formulated in the literature review section, whilst the utterly directing research questions, hypotheses, participants as well as instruments are being illustrated in the methodology section. By the same token, descriptive statistics, a normal test, exploratory factor analysis, confirmative factor analysis and a structural equation model were intricately performed and comprehensively elucidated in the findings section. As a grounded theory, then, the further developed CoI model is subsequently generated in the discussion section, without a minimum indifference and disregard as far as this paper broad limitations, which the conclusion highlights, are concerned.

The primary objective of this research is to examine the CoI model (Garrison et al., 2000) and the revised CoI model that adds learner presence (Shea and Bidjerano, 2010) and to further develop these models by incorporating a complementary institutional presence. The study seeks to address the following specific research questions:

- (1) Can institutional presence be integrated in the CoI model?

The classical CoI model has three presences (dimensions): teaching presence, social presence, and cognitive presence. Shea and Bidjerano (2010) has developed the model by adding a fourth dimension: learner presence. In this paper, we attempts to add a fifth dimension: institutional presence. To achieve this purpose and answer this research question, a questionnaire with five presences is generated and quantitatively analyzed by statistical methods like factor analysis and structural equation model to check whether the new model with five presences fits well with the data or not.

- (2) If so, how should institutional presence be integrated in the CoI model?

If the newly proposed five-presence model is deemed appropriate, an additional line of inquiry that warrants attention is how to incorporate institutional presence into the CoI model in a manner that accurately reflects its structural relationship with other CoI presences. Specifically, the investigation seeks to ascertain whether institutional presence exhibits moderate to strong standardized loadings and significant interactions with the other four presences by analyzing the results obtained from the structural equation model.

The hypothesis of this study is that the CoI model could be further developed by the addition of an institutional presence. This development is based on a model for institution employment of online and blended learning in universities (Graham et al., 2013). On the grounds of the CoI model and prior research, we contend that institutional presence exerts a substantial influence on cognitive presence and posits that it interacts with teaching, social and learner presence. To test this hypothesis and construct a novel model, descriptive statistics, a normal test, and exploratory factor analysis were conducted using SPSS21.0, followed by confirmative factor analysis and structural equation model using AMOS21.0.

2. Literature review

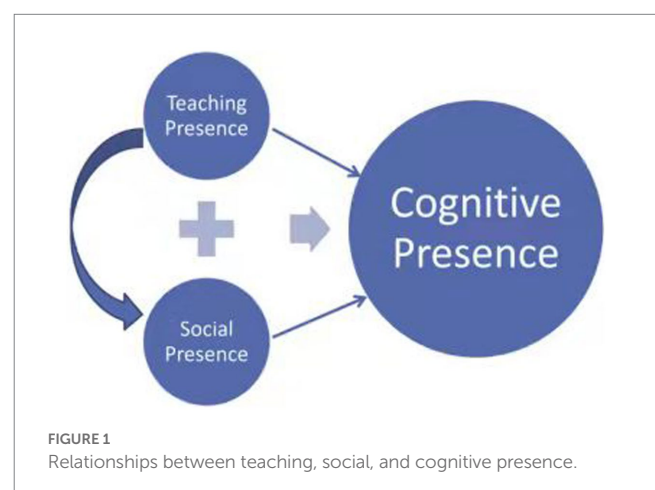
2.1. Community of Inquiry

Despite the plethora of available online and blended learning models, research on the quality of online and blended learning has placed considerable emphasis on the CoI model, first introduced by Garrison et al. (2000, 2010). The CoI model comprises three dimensions: cognitive presence, social presence, and teaching presence. A significant amount of research has been conducted on the interrelations among these presences (Garrison et al., 2010), with most results indicating substantial effects among the three presences. Notably, a considerable number of findings substantially revealed the existence of a noteworthy impact among teaching presence, cognitive presence and social presence, of which the Figure 1 below is a concise outline of the crucial linkage amongst these three presences. In essence, teaching presence exerts a substantial effect on social presence, and both teaching and social presences have a notable impact on cognitive presence.

In its notable peculiarities, cognitive presence is associated with the student's construction and confirmation of meaning, pertaining to course content, on the basis of sustained reflection and discourse within the CoI. Consequently, it has been a subject of research to a large extent by various scholars (Shea and Bidjerano, 2009), most of which asserted the that teaching and social presences significantly influence cognitive presence. Furthermore, recent studies have suggested that cognitive presence may be more explicitly demonstrated in deeper learning assignments beyond threaded discussions and chats, as asserted by Shea and Bidjerano (2009).

In terms of social presence, it refers to the learners' capacity to present themselves as genuine individuals, both socially and emotionally, within the CoI. This area has been the subject of extensive research (Turk et al., 2022), with results emphasizing the degree to which video communication is likely to exert larger impact on social presence. Consequently, social presence has received the most attention among the three presences and has been notably linked with learning outcomes and learner satisfaction (Garrison and Arbaugh, 2007).

What ought to be inferred, accordingly, is that Teaching presence focuses on the organization, design and facilitation of the cognitive and social components of a course with the aim of achieving the



sought-after educational outcomes. Additionally, a further noteworthy finding of research on social presence in the CoI model, which has expanded the realm of its exploration (Zhang et al., 2022), pertains to revealing the extent to which teaching presence is perceived in diverse groups. Moreover, a great deal of evidence suggests that teaching presence is closely associated with student satisfaction, perceived learning and a sense of community (Shea et al., 2006).

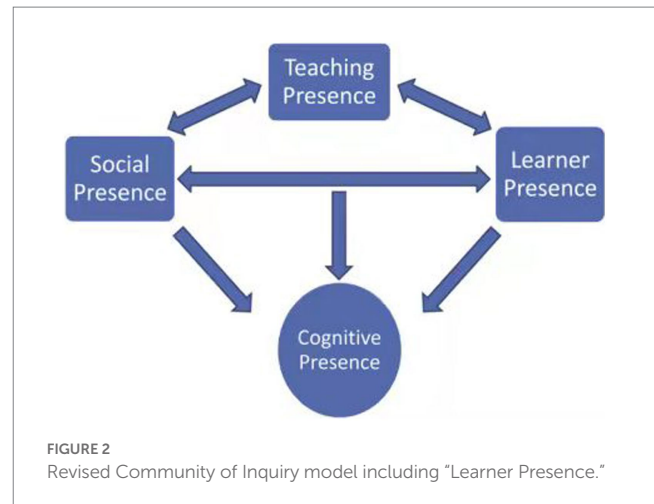
Despite the extensive body of studies have supported the CoI as a model of online and blended learning, further development of best practices that promote an educational community is warranted. For instance, Garrison and Arbaugh (2007) have suggested that further research should evaluate all three presences simultaneously using improved methodologies while advocating for the joint reconstruction of these concepts. Previous research has focused on one of the presences ignoring its interconnections with the other presences, and has often emphasized online learning more generally rather than specific disciplines. Nevertheless, Garrison and Arbaugh strongly recommend research that examines the implementation of the CoI model across multiple domains. Worth of note, Garrison et al. (2010) performed a systematic review of CoI model and found a need for further validation across populations and disciplines. The rapid development of online learning, as a result, provides an ideal environment for evaluating the CoI model. Further development of this model, as discussed in the following sessions, is imperative.

2.2. A revised CoI model

Acknowledging that the principal argument of this paper is the potential of a further development of the CoI model, it is crucial to highlight the endeavors of Shea and Bidjerano (2010) in expanding the CoI Framework through the incorporation of a new presence, i.e., Learner presence. Their research explored the CoI model and posited that the model could be promoted by adding more fully articulated functions of online students. They further developed the CoI model by adding another presence, known as Learner presence. Be that as it may, in light of Shea and Bidjerano (2010) view, what distinguishes the learner presence is its representation of elements, such as self-efficacy along with other cognitive, behavioral, and motivational constructs that support online learner self-regulations.

Nonetheless, previous research on learner presence has been limited, except for a notable study by Kang et al. (2009), which examined the impact of learner presence on interaction and achievement in web-based project learning. The study demonstrated a significant intersection between learner presence and learning outcomes, including achievement and satisfaction. In a related effort, Shea et al. (2013) extended and confirmed the revised CoI model using quantitative and structural analysis methods (Shea et al., 2013). Additionally, Wertz (2014) evaluated the revised model using confirmatory factor analysis and internal reliability analysis for the four presences, and found that the addition of learner presence improved the CoI model and offered potential for future research. Succinctly, the relationship between the learner presence and the original CoI Model presences is depicted in Figure 2. As shown in Figure 2, learner presence affects cognitive presence and interacts with teaching presence and social presence.

From another perspective, the necessity of incorporating 'learner presence' in the questionnaire entailed, as Shea and Bidjerano (2010)



carried out, the adoption of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1993). Equally worthy as it may, assessing the students' perceptions of their efficacy and effort demands the implementation of self-efficacy and effort regulation scales from MSLQ. For that reason of necessity, the present paper initially availed itself of the complete seven scales in the MSLQ and subsequently generated five scales following explorative factor analysis.

2.3. A model for institution employment of online and blended learning

This paper utilizes the model for institutional employment of online and blended learning in universities developed by Graham et al. (2013) as the theoretical framework for the institutional presence in FDCoI. Basically, the relevant findings of Graham et al. (2013) were composed of three main dimensions: strategy, structure, and support. In this paper, the three scales are integrated into a single scale following explorative factor analysis, and the resulting stages include exploration, adoption, and growth, which illustrate how institutions apply online and blended learning to enhance contribution. Therefore, we suggest that institutional presence represents institutional strategies, structures, and support systems, which facilitate the exploration and implementation of online and blended learning.

Although institutional presence is not directly associated with the learning process, it is inseparable from the process and can, therefore, be considered a component of the CoI model. In view of Crossan et al. (1999), personal and collaborative learning become institutionalized for the purpose of more systematic exploration of learning. It is necessary to consider the institutional factors for learning process because it is helpful for personal and collaborative learning (Crossan et al., 1999). Therefore, the addition of institutional presence into CoI model is both necessary and beneficial. Parker (2008) also emphasized the integration of the teaching and learning procedures in the institutions, the pertinent obligation which lies in expressing sustained commitment to the support of distance learners (Parker, 2008). Given that the administrative function institutions in online and blended learning is essential for students' satisfaction and learning design (Moisey and Hughes, 2008), institutional presence should be integrated into the CoI model in theory.

2.4. Relationship between institutional presence and the other presences

In light of previous research and the associated findings, there is high likelihood that institutional presence dwells in a close connection with teaching and learner presences. Hence, of paramount value to this study is the obvious support which teaching and learner presences benefit from institutional presence in several dimensions. Institutional presence offers support to teaching presence and learner presence in several ways. First and foremost, institutions provide instructional guidance and learning environments that cater to the teaching and learning process. Moreover, instruction criterias of institutions are employed for learning, offering students and teachers with flexible choices for their learning process (Thiessen and Ambrock, 2008). Second, institutions provide policies and regulations governing teaching and learning, including technological support for these processes (Parker, 2008). Administrative support from the institution for students is also critical, as students and institutions mutually benefit from institutional support (Kondra et al., 2008). Third, institutions provide assessments of teaching and learning in the sense that the institution and its teachers afford important evaluation functions that deal with the assessment of student learning (Anderson, 2008). Fourth, institutions support the teaching-learning process by providing students with improved service levels, such as timely academic assistance, significantly enhancing completion rates and student retention, which tangibly benefit both students and institution.

In turn, teaching presence and learner presence possess the potential to positively impact institutional presence and, whilst the institution equally benefits by means of further proactively managing the student relationships and reassuring that learning requirements are met in a timely manner (Kondra et al., 2008). As is shown in the research of Howell et al. (2012), students' satisfaction is vital for successful online learning, therefore, it is indispensable that institutions and teachers fulfill students' requirements to provide a satisfactory learning environment.

Consequently, enhancing interaction and reciprocity among institutional presence and learning and teaching presences, it is quite recommendable that learners are aware of services they can expect to receive from the institution and the manner they will be provided (Moisey and Hughes, 2008). On that premise, it is incumbent upon institutions to maintain ongoing communication with students, regardless of their physical location, and ensure that their needs and preferences are duly considered (Shin and Chan, 2004).

Previous studies suggest that institutional presence may closely relate to social and cognitive presence. Social presence is expected to be affected, at least to some extent, by institutional presence, given that institutions invariably govern people's behaviour and attitudes, and everyone seeks to accommodate each other's requests, responsibilities, and roles (Davis et al., 2008). Therefore, social presence implies the need for institutional strategies for interaction and supportive policies for building a community. With that in mind, creating an environment where online learning students perceive their institutions and teachers as a model for improving social presence and students' success (Baker and Edwards, 2011).

Concerning cognitive presence, it is highly probable that links between institutional presence and cognitive presence even exist in accordance with Shin and Chan (2004) who proposed that students active in the use of the online learning environment would report a stronger sense of institutional presence compared to the students moderately or weakly interested in gaining information from the

online learning environment. Students' involvement in the online learning environment was, hence, greatly connected to their perceived institutional presence. In other words, the more students engaged with online learning, the stronger their sense of institutional support and connection with their institutions (Shin and Chan, 2004).

2.5. Research gap and significance

Based on the preceding literature review, the CoI model has been extensively researched and has matured since its inception as a framework for the three classical presences. However, a research gap remains in the model's ability to integrate additional presences, such as learner and institutional presence. Although some studies have examined learner presence and its relationship with the original three presences, the gap persists when institutional factors are considered. As institutional factors are inextricably linked to the learning process, adding institutional presence to the CoI model is a promising approach to fill this gap. This paper aims to explore the extent to which institutional presence can be incorporated into the CoI model, given its comprehensive and extensive insights.

This paper's significance lies in three areas: (1) the CoI model's historical status and significant role in online and blended learning fields underscores the importance of its development; (2) the addition of institutional presence to the model is a substantial and transformative development, as it alters the model's structure significantly; and (3) the integration of institutional presence is both necessary and beneficial due to its inseparability from the learning process and its close relationship with the other presences.

3. Method

3.1. Participants

Data was collected by teachers in five Chinese universities in 2021. Because the goal of the research is to test and discern the relationships among five presences, the primary target was students involved in all the presences. To achieve this, the teachers asked their students to complete the designed questionnaire voluntarily. In total, 762 student participants answered the questionnaire. These participants were all universities students (freshmen, sophomore, and master students) from five Chinese universities (University of Chinese Academy of Sciences, Beijing Institute of Technology, People's Public Security University of China, Beijing Forest University, and Beijing Union University). The participants came from eleven faculties (Management, Information, Automation, Humanities and Social Sciences, Engineering, Art and Design, Landscape Architecture, The International Institute of Police Law Enforcement, Life Sciences, Resources and Environment, Mechatronic Faculty). Both male and female students were included. Demographic information could be found in Table 1. Although the participants came from different universities and faculties, they were all enrolled in College English and engaged in online and blended learning environments involving individual and group learning. The study design enabled the exploration of the relationships among the five presences within a consistent context.

TABLE 1 Demographic information of research data.

Demographic information (N=762)	
Characteristic	Statistic
<i>Gender</i>	
Male	43%
Female	54%
<i>University</i>	
University of Chinese Academy of Sciences	5%
Beijing Institute of Technology	16%
People's Public Security University of China	10%
Beijing Forest University	32%
Beijing Union University	36%
<i>Faculty</i>	
Management Faculty	24%
Information Faculty	6%
Automation Faculty	9%
Humanities and Social Sciences Faculty	4%
Engineering Faculty	9%
Art and Design Faculty	3%
Landscape Architecture Faculty	14%
The International Institute of Police Law Enforcement Faculty	10%
Life Sciences Faculty	3%
Resources and Environment Faculty	4%
Mechatronic Faculty	7%
<i>Grade</i>	
Master students	20%
Freshmen students	72%
Sophomore students	6%

3.2. Instrument

Drawing on the aforementioned theoretical frameworks, a survey instrument comprising five dimensions - Social Presence, Cognitive Presence, Teaching Presence, Learner Presence, and Institutional Presence - was designed. The CoI instrument (Arbaugh et al., 2008) was utilized for measuring the social presence, cognitive presence, and teaching presence, while the Motivated Strategies for Learning Questionnaire (Pintrich et al., 1993) was employed to measure learner presence. Ultimately, the institutional self-evaluation checklist instrument, based on the online and blended learning adoption framework, was used to measure institutional presence.

From this perspective, it is elucidating to accentuate that based on a CoI survey conducted by Garrison and Vaughan (2011), three of the aforementioned dimensions of a learning environments, teaching presence, social presence, and cognitive presence were evaluated (Garrison and Vaughan 2011). In line with the objective of the present study, the CoI Survey asked questions about three elements of learning communities that have been shown to have high internal consistency estimates of reliability: social ($\alpha=0.91$), cognitive ($\alpha=0.95$), and teaching presence ($\alpha=0.94$) (Arbaugh et al., 2008). Out of its intent to elaborate contextually on the CoI survey, this study took the initiative to further develop the said survey by means of an addendum of locally contextualized learner presence and institutional presence to the questionnaire and accordingly testing their relationships. In this questionnaire, there are several sub-dimensions, which are outlined in Table 2. Evidently, each dimension was assigned 3 questions the least. By this pattern, the total questionnaire contained 73 questions (teaching presence 13 questions, social presence 9 questions, cognitive presence 12 questions, learner presence 27 questions, and institutional presence 12 questions). Besides, the questionnaire used a 1–5 Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). All considered, the total of 762 questionnaire responses were collected, and duly, data was analysed by means of SPSS and AMOS.

TABLE 2 Dimensions and sub-dimensions of the questionnaire.

Dimensions	Sub-dimensions	Sub-dimensions after EFA and CFA
Teaching presence (TP)	Design and organization Facilitation Direct instruction	Design and organization (TPDO) Direct instruction (TPDI)
Social presence (SP)	Affective expression Open communication Group cohesion	Affective expression (SPAЕ) Open communication (SPOC)
Cognitive presence (CP)	Triggering event Exploration Integration Resolution	Exploration (CPE) Resolution (CPR)
Learner presence (LP)	Intrinsic motivation Extrinsic motivation Self-efficacy Effort regulation Peer learning Time management Student performance	Intrinsic motivation (LPIM) Extrinsic motivation (LPEM) Self-efficacy (LPSE) Peer learning (LPPL) Time management (LPTM)
Institutional presence (IP)	Strategy support	Support (IPSU)

4. Results

In this section, the results of descriptive statistics, a normal test, explorative and confirmative factor analysis, and a structural equation model are introduced and explained successively.

The descriptive statistics and Kolmogorov–Smirnov test were conducted with the research variables and questions in the questionnaire. The results, seen in Table 3, show that for the Kolmogorov–Smirnov test, all variables are significant ($p < 0.05$), informing that the data is not normally distributed.

Explorative factor analysis was conducted for five presences separately to reveal the underlying structure of the study's relatively substantial variables. The results of the explorative factor analysis are displayed in Table 4.

Table 4 presents a comprehensive analysis of the data collected, and the results of the explorative factor analysis indicate that the samples for all five presences are appropriate for

factor analysis, as demonstrated by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy being more significant than 0.7 ($p < 0.001$). The cognitive presence dimension yielded two factors with eigenvalues greater than 1, explaining 63.19% of the variance. The institutional presence dimension delivered a single factor with an eigenvalue greater than 1, explaining 67.852% of the variance. The learner presence dimension yielded five factors with eigenvalues greater than 1, explaining 58.256% of the variance. The social presence dimension also yielded two factors with eigenvalues greater than 1, explaining 65.903% of the variance. Finally, the teaching presence dimension yielded two factors with eigenvalues greater than 1, explaining 70.275% of the variance. The rotated factor matrix shows that each question has a high loading for only one factor, and the factor loading values exceed 0.5, indicating that the factor structures are sound. The validity of the scales is acceptable.

Confirmative factor analysis was then operated to test structural validity further. Eventually, as Table 5 below charts, the results of confirmatory factor analysis can be perceived as follows:

Because the data is not normally distributed, the Bootstrap method (2000 times) was used to perform parameter estimation. The model fit index after model correction was obtained. As noticeable in Table 5, the main fit index meets the fit requirements, showing the models are acceptable. The factor loadings in the model are higher than 0.5, which indicates that the results of confirmatory factor analysis, the factors' structure, and scale structure validity are all acceptable.

Finally, the SEM was conducted to test the relationship among TP, IP, LP, SP and CP. Because the data are a non-normal distribution, the bootstrap method (2000 times) was used to extract the parameters. Regarding the model construction, the latent variables TP, IP, LP, and SP were treated as independent variables, and the latent variable CP was treated as the dependent variable to explore the effects of the independent variables on the dependent variable and the relationships among the independent variables. By virtue of the excessive questions which the questionnaire incorporated, the balance method for packaging was alternatively implemented to simplify the model. That being the case, the questions in each scale were sorted into three packages according to their factor loadings. Finally, the model was generated as schematized in Figure 3. The results meet the applicable requirements, indicating that the model is acceptable

TABLE 3 Results of descriptive statistic and normal test.

	N	M	SD	Z	P
LP	762	3.403	0.534	1.780	0.004
LPSE	762	3.529	0.733	2.289	0.000
LPEM	762	3.527	0.793	3.068	0.000
LPIM	762	3.540	0.769	2.416	0.000
LPPL	762	3.249	0.770	3.536	0.000
LPTM	762	3.362	0.572	3.072	0.000
SP	762	3.521	0.678	1.792	0.003
SPOC	762	3.431	0.849	2.714	0.000
SPAE	762	3.567	0.743	3.316	0.000
CP	762	3.564	0.666	1.954	0.001
CPE	762	3.493	0.759	3.252	0.000
CPR	762	3.484	0.786	3.119	0.000
TP	762	3.816	0.706	2.247	0.000
TPDO	762	3.811	0.790	4.245	0.000
TPDI	762	3.811	0.789	4.386	0.000
IP	762	3.415	0.847	2.101	0.000
IPSU	762	3.415	0.847	2.101	0.000

TABLE 4 Main results of explorative factor analysis.

Parameters	Estimated value (CP)	Estimated value (IP)	Estimated value (LP)	Estimated value (SP)	Estimated value (TP)
KMO	0.923	0.958	0.917	0.877	0.954
Bartlett's test of sphericity (p value)	0.001	0.000	0.000	0.000	0.000
Factor 1 eigenvalues	6.424	8.142	8.600	4.646	8.048
Factor 2 eigenvalues	1.159		2.676	1.286	1.088
Factor 3 eigenvalues			1.727		
Factor 4 eigenvalues			1.446		
Factor 5 eigenvalues			1.281		
Cumulative total variance	63.190%	67.852%	58.256%	65.903%	70.275%

and fits well with the data ($\chi^2 = 243.165$, $df = 80$, $\chi^2/df = 3.040$, $TLI = 0.984$, $CFI = 0.987$, $RMSEA = 0.052$). Besides, according to the research of Wertz (2022), the original CoI model with four presences had reasonable model fit [$\chi^2 (513) = 900.5$, $p < 0.001$; $CMIN/DF = 2.25$; $GFI = 0.83$, $IFI = 0.92$, $TLI = 0.91$, $CFI = 0.92$; $RMSEA = 0.055$]. Our addition of the institutional presence proves a better optimized CoI model because the CFI value shows a higher degree of the fitting.

The main coefficients in the SEM are demonstrated in Table 6, in light of which the effect of TP on CP was significant ($\beta = 0.179$, $p < 0.01$). The effect of SP on CP was also significant ($\beta = 0.625$, $p < 0.01$), but the effect of IP on CP was not significant ($\beta = 0.048$, $p > 0.05$). The effect of LP on CP was significant ($\beta = 0.173$, $p < 0.01$). The correlation between TP and LP was significant ($r = 0.637$, $p < 0.01$). The correlation between TP and IP was significant ($r = 0.63$, $p < 0.01$). The correlation between TP and SP was significant ($r = 0.676$, $p < 0.01$). The correlation between SP and IP was significant ($r = 0.635$, $p < 0.01$). The correlation between LP and IP was significant ($r = 0.651$, $p < 0.01$). And the correlation between LP and SP was significant ($r = 0.858$, $p < 0.01$).

TABLE 5 Main results of confirmatory factor analysis (Bootstrap=2000).

Model	χ^2	df	χ^2/df	TLI	CFI	RMSEA
CP	234.333	51	4.595	0.954	0.964	0.069
IP	255.116	45	5.669	0.961	0.974	0.078
LP	1424.033	313	4.550	0.858	0.874	0.068
SP	128.797	24	5.367	0.954	0.969	0.076
TP	344.190	63	5.461	0.953	0.962	0.077

5. Discussion

If the dominant argument as well as core objective of the present quantitative study lies in its addendum of institutional presence to further develop the CoI Model, the achieved findings reflect the suitability of the model as long as it is relevant to the data. By the same token, institution presence has moderate to strong standardized loadings and significant interactions with teaching presence, social presence and learner presence. Therefore, our analysis of the first research question, which seeks to determine whether institutional presence can be integrated into the CoI model, confirms the positive integration of this construct into the CoI framework. Furthermore, the study's findings align with Crossan et al.'s (1999) assertion that institutionalized learning is crucial for building on past knowledge and Parker's (2008) emphasis on the importance of maintaining the integrity of teaching and learning processes within educational institutions. These findings are compelling and intriguing, as they corroborate existing literature and expand our understanding of the CoI model's potential to analyze institutional presence.

Concerning the second research question (how institutional presence should be integrated into the CoI model?), what ought to be inferred through path analysis and the realized findings is that teaching presence, social presence, and learner presence all significantly affect cognitive presence. In contrast, the effect of IP on CP was not significant ($\beta = 0.048$, $p > 0.05$). Equally significant, the correlations among IP and other presences (TP, SP, LP) were all significant ($p < 0.01$). On that premise, Figure 4 below is a graphic representation of the further developed FDCoI Model in utter conformity with the achieved results.

The present study examined the relationships among social presence, cognitive presence, teaching presence, and learner

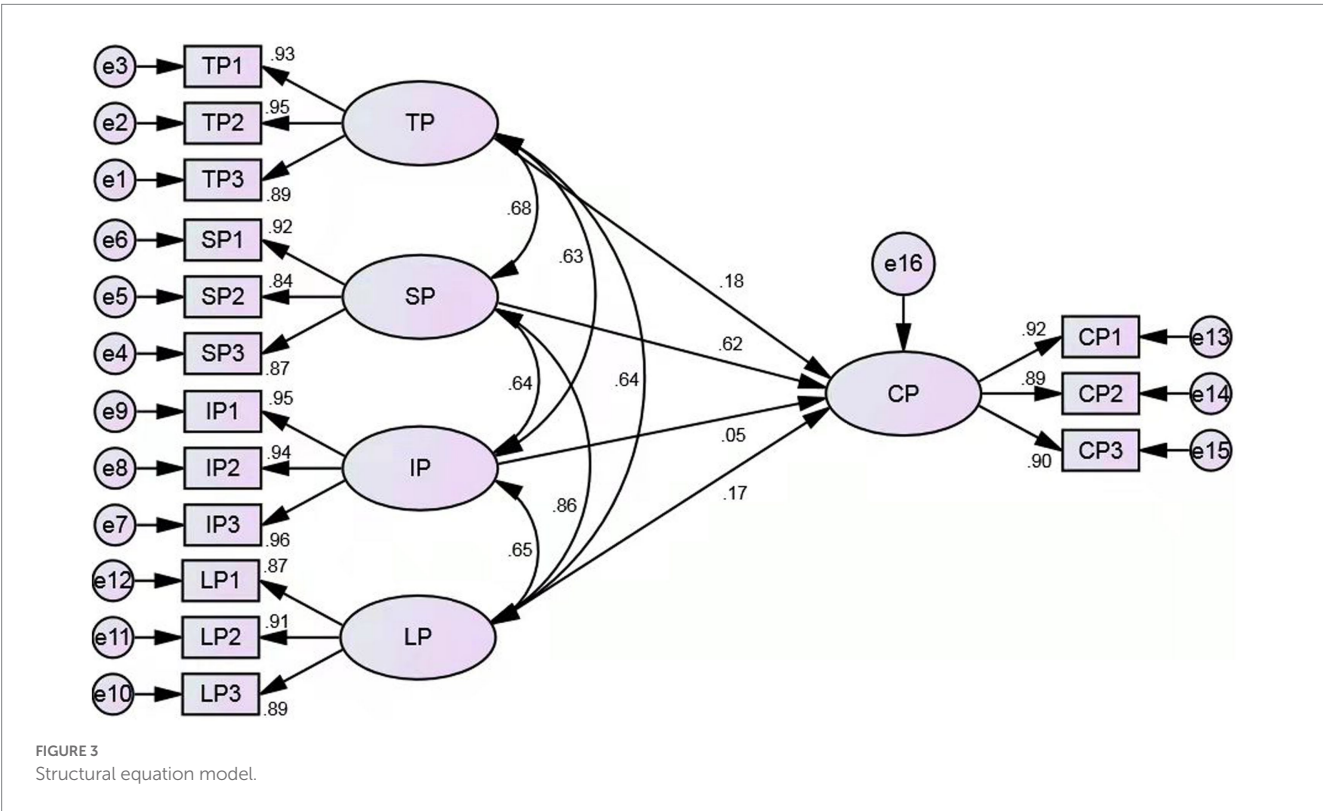
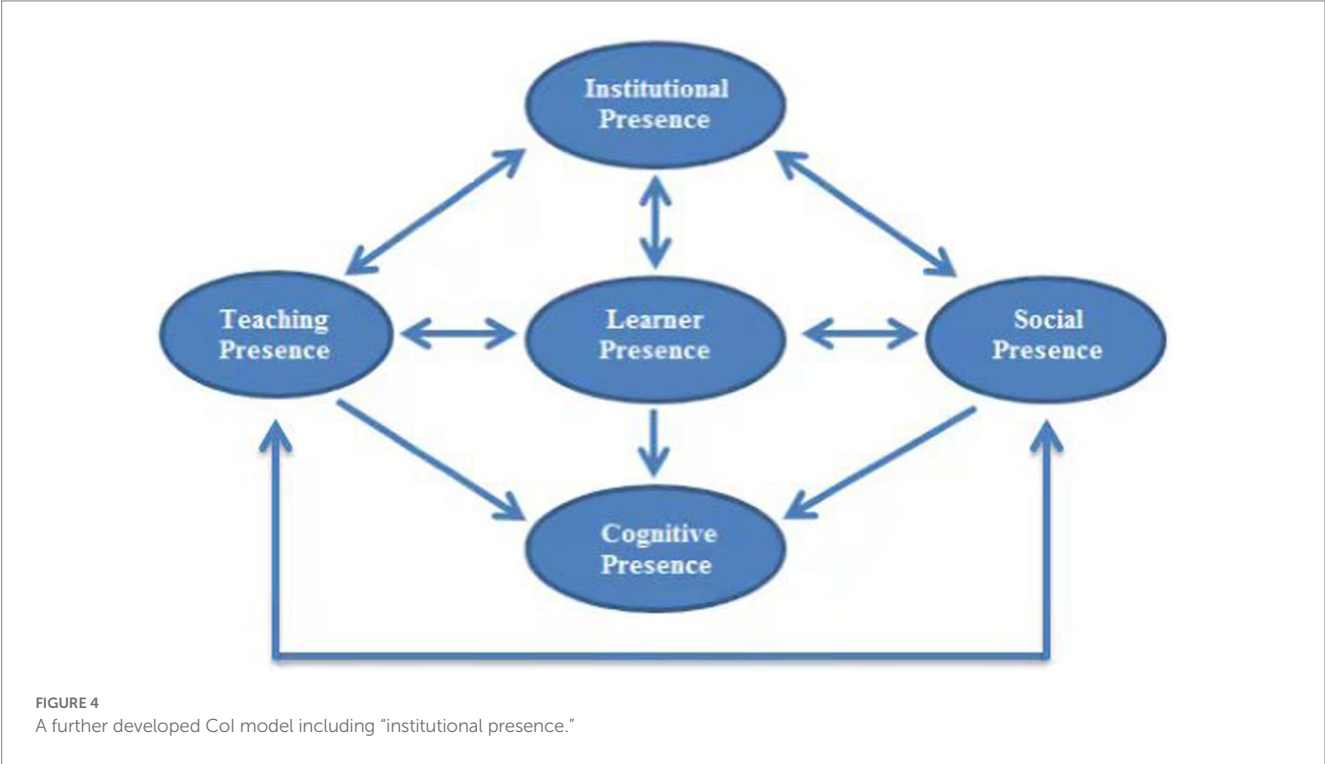


TABLE 6 Path coefficients and correlation coefficients in structural equation model (Bootstrap=2000).

			SE	SE-Bias	Estimate	Lower	Upper	P
CP	←	TP	0.037	0.001	0.179	0.108	0.254	0.001
CP	←	SP	0.062	0.001	0.625	0.513	0.748	0.001
CP	←	IP	0.031	0.001	0.048	−0.012	0.109	0.118
CP	←	LP	0.052	0.001	0.173	0.066	0.269	0.002
TP	↔	LP	0.035	0.001	0.637	0.563	0.704	0.001
TP	↔	IP	0.033	0.001	0.63	0.562	0.692	0.001
TP	↔	SP	0.033	0.001	0.676	0.605	0.737	0.001
SP	↔	IP	0.03	0.001	0.635	0.573	0.691	0.001
IP	↔	LP	0.029	0.001	0.651	0.59	0.705	0.001
SP	↔	LP	0.017	0	0.858	0.821	0.889	0.001



presence. The results were consistent with the original CoI model created by Garrison et al. (2000). In terms of the correlation among learner presence and the three presences in the original CoI model, the results of the study were in parallel consistency with the conclusions of Shea and Bidjerano (2010). In terms of institutional presence, while it did not significantly affect cognitive presence, it displayed significant interactions with all other presences (teaching presence, social presence, and learner presence). This suggests that institutional presence is an influential factor and context in the FDCoI model. This finding supports Peacock and Cowan’s (2016) argument that the presences have greater meaning and impact on learning when they are related in strategy to their effects on the learning experience, particularly in remarkable issues in online learning research. However, our research focused on the influential

function of the institutional presence and its integration into the CoI model, whereas Peacock and Cowan (2016) explored the interweaving of the presences, explicitly identifying the influence areas as “trusting,” “collaborative learning,” and “deepening understanding.” The perception of institutional presence as an influential factor and context is consistent with Vlachopoulos and Cowan’s (2010) suggestion that context is located outside a “ring fence.” Therefore, it is advisable to incorporate moderated online learning within an enclosed learning arena (ring-fence) that encompasses students’ activities with the e-moderator. Following confirming the influential context role of institutional presence in the FDCoI model, we further investigated our assumption that the FDCoI is learner-centered. To this end, we intentionally invited students, rather than teachers or institutions, who were involved in all presences, to

participate in the study. Given that learners should be inclusively at the center and connected to all the presences in FDCoI, it would be advantageous to grant them a challenging role in creating the learning environment and the social norms for the learning community, including assisting in online team building and ice-breaking activities (Johnson, 2001). Pedagogically worthwhile, this claim is utter congruence with Vlachopoulos and Cowan (2010)'s supposition that online and blended learning is student-centred and implicitly student-directed inputs and instruction do hardly feature within or without the learning arena on the ground that it is necessary to be located beyond the boundaries of this diagram, as sought out by the learners. However, Shea and Bidjerano (2010), who developed the CoI model by adding the learner presence, did not emphasize the student-centred element in their model. Therefore, the highlighting of the learner presence in this study as the center role in the FDCoI model represents a unique contribution to the CoI model. This underscores the importance of considering learners as active participants in the learning process and granting them a significant role in shaping the learning community's norms and practices.

6. Conclusion and limitation

In keeping with its research objective and methodological approach, this paper endeavors to extend the CoI model by incorporating institutional presence through factor analysis and Structural Equation Model. The quantitative findings of this study substantiate the degree to which institutional presence holds the potential to be incorporated in the CoI model by virtue of its excessive and comprehensive insights for proponent researchers and further elaborative investigation. This result accords with one of the hypotheses of this study, that is, the CoI model could be further developed by the addition of an institutional presence. However, the results does not satisfy with another hypothesis of this study, that is, institutional presence possesses significant effect on cognitive presence. According to the results of this study, the effect of institutional presence on cognitive presence was not significant. Nevertheless, as proposed in this paper, the CoI model, with an extension of institutional presence corroborates the parameters of its integration into CoI model and correlation to the other four presences. Besides, the research proves that institutional presence functions as an influential context factor and learner presence serves as the center and connection in the model. The results are in line with the study of Crossan et al. (1999), who argue that institutionalized learning supports and affects personal and collaborative learning. On the basis thereof, the findings can assist other researchers in investigating the systematic cycle of the CoI model and its internal structure. The results further explain and provide insights into the internal structure of the new CoI model and help to demonstrate and verify the new model.

Despite its endeavors to unearth a range of lines of Institutional Presence, this paper reasonably far exonerated from limitations, the most daunting of which resides in its rather confined data domains. By way of a plain and concise explanation,

though 762 questionnaires were collected and examined, they hardly sufficed for such a new model to be adequately tested in other domains. Therefore, further research using more extensive data from various countries, universities, knowledge domains, subjects, and grades is necessary. In addition, further research could explore the perceptions of other groups, such as teachers or institutions, to determine whether their views differ from those of students.

To the best of its attempts within the pertinent scope, this paper which has initiatively revisited the CoI model, in a more comprehensive and systematic way, to incorporate 'institutional presence' as a value-added element to its pedagogical efficacy. Throughout the various stages of the collected data analysis, institutional presence indicated its firm connection to the other four presences, namely, teaching presence, learner presence, social presence and cognitive presence, and, hence, proved its insightfulness to both instructors and students for advanced exploration.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

WZ and CZ: conceptualization, methodology, validation, and writing—review and editing. WZ: software, formal analysis, investigation, resources, data curation, writing—original draft preparation, visualization, project administration, and funding acquisition. CZ: supervision. All authors have read and agreed to the published version of the manuscript.

Funding

This paper was financed by the Humanities and Social Sciences Foundation Project of the Ministry of Education of the People's Republic of China "Research on the Reconstruction and Practice of Community of Inquiry Model in Blended Learning" (20YJC880123); Beijing Social Sciences Planning Project of Beijing Municipal Education Commission "Comparative Study on the Effectiveness of Online Learning and Traditional Learning in Municipal Universities" (SM202110005009); The Decision Consultation Project of the Beijing Social Sciences Foundation "Evaluation and Countermeasure Research for the Effectiveness of Engineering Blended Learning in Municipal Universities" (22JCC120).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated

organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Anderson, T. (2008). "Towards a theory of online learning" in *Theory and Practice in Online Learning*. ed. T. Anderson, Athabasca, AB: Athabasca University Press. 45–74.
- Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P., Richardson, J. C., et al. (2008). Developing a community of inquiry instrument: testing a measure of the community of inquiry framework using a multi-institutional sample. *Internet High. Educ.* 11, 133–136. doi: 10.1016/j.iheduc.2008.06.003
- Baker, C. T., and Edwards, J. T. (2011). A holistic approach for establishing social presence in online courses and programs. *Int. High. Educ. Teach. Learn. Rev.* 1, 44–52.
- Crossan, M. M., Lane, H. W., and Roderick, E. (1999). An organizational learning framework: from intuition to institution. *Acad. Manag. Rev.* 24, 522–537. doi: 10.2307/259140
- Davis, A., Little, P., and Stewart, B. (2008). "Developing an infrastructure for online learning" in *Theory and Practice in Online Learning*. ed. T. Anderson, Edmonton, AB: AU Press 45–74.
- Garrison, D. R., Anderson, T., and Archer, W. (2000). Critical inquiry in a text-based environment: computer conferencing in higher education. *Internet High. Educ.* 2, 87–105.
- Garrison, D. R., Anderson, T., and Archer, W. (2010). The first decade of the community of inquiry model: a retrospective. *Internet High. Educ.* 13, 5–9. doi: 10.1016/j.iheduc.2009.10.003
- Garrison, D. R., and Arbaugh, J. B. (2007). Researching the community of inquiry model: review, issues, and future directions. *Internet High. Educ.* 10, 157–172. doi: 10.1016/j.iheduc.2007.04.001
- Garrison, DR, and Vaughan, N. D. (2011). *Blended Learning in Higher Education: Framework, Principle, and Guideline*, Available at: <http://onlinelibrary.wiley.com/book/>
- Graham, C. R., Woodfield, W., and Harrison, J. B. (2013). A framework for institutional adoption and implementation of blended learning in higher education. *Internet High. Educ.* 18, 4–14. doi: 10.1016/j.iheduc.2012.09.003
- Howell, G. F., Jeffrey, M., and Buck, J. M. (2012). The adult student and course satisfaction: what matters most? *Innov. High. Educ.* 37, 215–226. doi: 10.1007/s10755-011-9201-0
- Johnson, C. M. (2001). A survey of current research on online communities of practice. *The Internet and Higher Education* 4, 45–60. doi: 10.1016/S1096-7516(01)00047-1
- Kang, M. H., Jung, J. Y., Park, M. S., and Park, H. J. (2009). Impact of learning presence on learner interaction and outcome in web-based project learning. Proceedings of the 9th International Conference on Computer Supported Collaborative Learning, 2, 62–64.
- Kondra, A. Z., Huber, C., Michalczuk, K., and Woudstra, A. (2008). "Call centres in distance education" in *Theory and Practice in Online Learning*. ed. T. Anderson, Edmonton, AB: AU Press. 367–396.
- Moisey, S. D., and Hughes, J. A. (2008). "Supporting the online learner" in *Theory and Practice in Online Learning*. ed. T. Anderson (Edmonton, AB: AU Press), 419–439.
- Parker, N. K. (2008). "The quality dilemma in online education revisited" in *Theory and Practice in Online Learning*. ed. T. Anderson (Athabasca, Canada: Athabasca University Press), 305–340.
- Peacock, S., and Cowan, J. (2016). Retreats for intramental thinking in collaborative online learning. *Reflective Pract.* 18, 1–13. doi: 10.1080/14623943.2016.1206876
- Pintrich, P. R., Smith, D. A., Garcia, T., and McKeachie, W. J. (1993). *A manual for the use of the motivated strategies for learning questionnaire (MSLQ)*. Ann Arbor: University of Michigan. National Center for Research to improve postsecondary teaching and learning.
- Shea, P., and Bidjerano, T. (2009). Cognitive presence and online learner engagement: a cluster analysis of the community of inquiry framework. *J. Comput. High. Educ.* 21, 199–217. doi: 10.1007/s12528-009-9024-5
- Shea, P., and Bidjerano, T. (2010). Learning presence: towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Comput. Educat.* 55, 1721–1731. doi: 10.1016/j.compedu.2010.07.017
- Shea, P., Chun, S. L., and Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *Internet High. Educ.* 9, 175–190. doi: 10.1016/j.iheduc.2006.06.005
- Shea, P., Hayes, S., Smith, S. U., Vickers, J., Bidjerano, T., Gozza-Cohen, M., et al. (2013). Online learner self-regulation: learning presence viewed through quantitative content- and social network analysis. *Int. Rev. Res. Open Distribut. Learn.* 14, 427–461. doi: 10.19173/irrodl.v14i3.1466
- Shin, N., and Chan, J. K. Y. (2004). Direct and indirect effects of online learning on distance education. *Br. J. Educ. Technol.* 35, 275–288. doi: 10.1111/j.0007-1013.2004.00389.x
- Thiessen, J., and Ambrock, V. (2008). "Value added—The editor in design and development of online courses" in *Theory and Practice in Online Learning*. ed. T. Anderson, Edmonton, AB: AU Press. 265–276.
- Turk, M., Heddy, B. C., and Danielson, R. W. (2022). Teaching and social presences supporting basic needs satisfaction in online learning environments: how can presences and basic needs happily meet online? *Comput. Educ.* 180:104432. doi: 10.1016/j.compedu.2022.104432
- Vlachopoulos, P., and Cowan, J. (2010). Reconceptualising moderation in asynchronous online discussions using grounded theory. *Distance Educ.* 31, 23–36. doi: 10.1080/01587911003724611
- Wertz, R. E. H. (2014). What is learning presence and what can it tell us about success in learning online? IEEE Frontiers in Education Conference (FIE) Proceedings, Madrid, Spain, 1–6. doi: 10.1109/FIE.2014.7044246
- Wertz, R. E. H. (2022). Learning presence within the Community of Inquiry framework: An alternative measurement survey for a four-factor model. *The Internet and Higher Education*, 52, 1–15. doi: 10.1016/j.iheduc.2021.100832
- Zhang, Y., Tian, Y., Yao, L., Duan, C., Sun, X., and Niu, G. (2022). Individual differences matter in the effect of teaching presence on perceived learning: from the social cognitive perspective of self-regulated learning. *Comput. Educ.* 179:104427. doi: 10.1016/j.compedu.2021.104427



OPEN ACCESS

EDITED BY

Ahsan Akbar,
South China University of Technology, China

REVIEWED BY

Rohit Mehta,
California State University, United States
Jason Powell,
University of Liverpool, United Kingdom

*CORRESPONDENCE

Patrick Allen Rose
✉ patrick.rose@bsl-lausanne.ch

RECEIVED 21 March 2023

ACCEPTED 07 June 2023

PUBLISHED 26 June 2023

CITATION

Rose PA (2023) Contradictory realities and competing perspectives: how discourses in education shape the teacher-self. *Front. Educ.* 8:1190551. doi: 10.3389/feduc.2023.1190551

COPYRIGHT

© 2023 Rose. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](#). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Contradictory realities and competing perspectives: how discourses in education shape the teacher-self

Patrick Allen Rose*

Business School Lausanne, Lausanne, Switzerland

This Foucauldian case study examines how dominant discourses in education operate to subtly constitute teachers as normalized subjects by producing knowledge and inducing techniques of power. The retellings of high school teachers are examined to demonstrate how they reconcile their own personal experiences and professional ethics with the static ideal images projected by competing political discourses. It is found in the localized context of a single American high school that public policy, technology, and teacher discourses represent teachers in certain ways and compel them to self-regulate themselves such that they internalize and reify imposed norms. However, teachers resist and alter these discourses to produce other possibilities for the critical teacher subject positions they actually occupy. A model is proposed to illustrate how different representations of the teacher-subject emerge from the collision, distribution, and legitimization of these discourses. This study brings into view the ways teachers powerfully question and resist the constraints placed upon their conduct and draw on their personal relationships with each other to constitute their own professional identities.

KEYWORDS

Foucault, education, public policy, identity, resistance, power, discourses, governmentality

1. Introduction

This study advances the findings of [Rose \(2022\)](#) that uncovered how public policy, technology, and teacher discourses in education compete to shape the norms that conduct the conduct of teachers. Foucault's concepts on techniques of power are used to characterize how the three aforementioned discourses discipline teachers to instill social cohesion and constitute them as normalized subjects.

[Foucault \(1980a\)](#) theorized that various forms of knowledge and power that manifest as modern technology individualize the subject on whom and through whom they operate (p. 98). Technology is situated and validated in a “field of power” that is located in the micropactices of individuals and “made up of the bits and pieces” of discourses that are “desperate sets of tools or methods” through which “limitations operate” on individuals ([Foucault and Sheridan, 1977](#), p. 26). From this perspective, technology creates a disciplinary apparatus used to define and enforce normalcy through boundaries, rules, procedures, and sanctions. He defined the strategies and tools that reinforce normalcy and govern human beings within society as “techniques of power,” which is the human dressage or management that regulate and discipline

the conduct of individuals to accomplish programmatic goals (Foucault and Kritzman, 1988a, p. 104).

The objectives of the present study are threefold. First, examine how discourses apply techniques of power to discipline high school teachers and compel them to self-regulate themselves such that they internalize and reify the norms that reinforce certain ideal subject positions. Second, describe how the high school teachers resist public policy and technology discourses either openly or by finding certain spaces left free in which to exercise agency and autonomy without directly challenging the rationality of the dominant discourse. Finally, show how the high school teachers modify discourses with their own knowledge to transform power relations and allow for alternative and unexpected constitutions of the teacher subject positions based on ideas of ethics, professionalism, and care for others.

The issue of resistance was central to Foucault's views on power relations. He defines the process of discourse formation as "a space of multiple dissensions; a set of different oppositions" (Foucault and Sheridan, 1977, p. 155). In his view, resistance is not a reaction to powerlessness, but instead the assumption of power used in the interest of forming contradictory discourses (Foucault, 1980b). Opposing power involves "detaching the power of truth from the forms of hegemony, social, economic, and cultural, within which it operates at the present time" (Foucault, 1980a, p. 131). Rose (1999) expands on this idea: "government through freedom multiplies the points at which a citizens play their part in the processes that govern them. And, in doing so, it also multiplies the points at which citizens are able to refuse, contest, and challenge those demands placed upon them" (p. xxiii). In short, dominant discourses shape individuals, but individuals also push back to transform discourses.

Techniques of power induce compliance not through intimidation, but by instilling within teachers an acceptance of certain values and norms to remake teachers into compliant subjects so that they self-regulate their thoughts and actions and do not rebel. It is believed that technology functions in schools as a "perpetual eye" on teachers that imposes "a normalizing process, or a disciplining, through which they lose the opportunity, capacity, and will to deviate" (Gilliom, 2008, p. 130). From a Foucauldian perspective, teachers resist these disciplinary techniques of power through counter strategies that center on deconstructing dominant discourses and exposing the irrational politics of truth behind them. By exposing fictions in the dominant discourse, teachers disrupt them and develop counter-discourses based on an opposing set of values, morals, and principles that are no longer faithful to the regime of truth, but rather to teachers' sense of professional ethics (Rose, 2022). It follows that teachers produce power through a network of relations, localized truths, and shared understandings that allow them to diverge from, confront, and disrupt dominant discourses. In this way, teacher discourses sanction resistance to governing and surveillance techniques that teachers associate with administrative practices aimed at controlling them and maintaining their compliance with imposed rules, norms, and measures of performance.

2. Materials and methods

The present study examines the told stories of a group of high school administrators and teachers to understand their interactions with public policy, technology, and teacher discourses.

It paints a unique and in-depth picture of how these three discourses mediate the practices, values, and realities of those who are affected. Its purpose is to uncover how discourses produce subjectivity by deconstructing both the techniques of power that discipline various aspects of the teacher-self within the situated context of one high school in the southern region of the United States.

Creswell (2007) views case studies as a methodology that involves an "in-depth understanding of a single case or an issue using a case as a specific illustration" (p. 97). For the present study, the case study method was melded with Foucauldian discourse analysis to uncover the contextual conditions that are believed to be relevant to the phenomenon under study in the real-life context in which it occurs. The setting and case for this study is a small city high school (grades 9–12) in the southern region of the United State with about 1,300 students and 90 teachers and staff.

The multiple phases of this study's theoretical framework blended Foucault's analytical method with qualitative inquiry research techniques that emphasizes description, reflection, and interpretation. The hybrid approach employed was exploratory and descriptive. Stories from research participants about their work shed light on how participants saw their situation. As described in the previous study (Rose, 2022), data collection comprised interviews with fourteen of the high school's administrators and teachers with diverse backgrounds, experience levels, and perspectives along with follow-up interviews, classroom observations and document collection. Interviews were audio recorded and transcribed. After each interview, changes were made to questions and the interview protocol. What was learned in early interviews influenced the protocol for succeeding interviews. Subsequent interviews focused on gaining more insight into what previous interviewees had shared.

For this study, Gore's (1995) and Bandeen's (2009) models are drawn on to serve as conceptual frameworks for defining primary constructs and interpreting data. Gore's (1995) typology of Foucault's major techniques of power serves as the conceptual framework for data analysis, and it is used to deductively identify themes for mapping power relations within the localized context of the case study. Gore's model normalizes and operationalizes Foucault's circulating techniques of power into a tidy typology of eight power tools: Surveillance, Distribution, Totalization, Individuation, Classification, Exclusion, Normalization, and Regulation. This applied framework makes Foucault's ideas more relevant to narrative in education research and to the analysis of lived realities and experiences.

Bandeen's (2009) qualitative study of elementary school teachers is used to conceptualize the different subject positions that are afforded teachers. Bandeen's grounded model proposes four possible teacher subject positions that surface from the collision between public policy and teacher discourses: (1) "silent-survival" (non-adherence to teacher norms; adherence to policy norms), (2) "vocal-leadership" (adherence to teacher norms; adherence to policy norms), (3) "silent-resistant" (adherence to teacher norms; non-adherence to policy norms), and (4) "vocal-resistance" (non-adherence to teacher norms; non-adherence to policy norms) (p. 190). The present study advances Bandeen's model by adding a third discourse, technology, as first presented in Rose (2022). This discourse represents its own unique set of truths and aims to define education from a different perspective that teachers generally oppose.

3. Results

3.1. Power tools of public policy discourses

According to Foucault and Sheridan (1977), discipline operates through distribution by separating the objects of power in space by classification or rank. Distribution by classification identifies individuals by their function and rank, and this separates individuals in relation to others. The “art of distribution” makes possible the “supervision of each individual and the simultaneous work of all,” which turns the space of the school into a “machine for supervising, hierarchizing, and rewarding” (Foucault and Sheridan, 1977, p. 145). Distribution tactics like grouping or connecting permit the effects of totalization, and distribution tactics such as isolation and enclosing operate to support the individualization of subjects.

The very architecture of a school operates to distribute teachers into organized and isolated spaces that allow for the easy observation and managing of their activities. For example, the layouts of the classrooms in Kim’s wing of the main building at the high school enables the inconspicuous observation of teachers by school administrators and their peers. All the classrooms are identically arranged, however, classrooms on opposite sides of the hall are the mirror image of each other. Regardless of which side of the hallway a classroom is located, the teacher’s smart board is always immediately adjacent to the entrance of the room, students’ desks are in the center facing the front of the classroom, and the teacher’s desk is opposite the entrance positioned up against the far wall. This has the effect of creating repetitiveness in the physical space in which teachers work with which that both teachers and students become very familiar.

Sitting at her desk, Kim can look out the open door of her classroom, through the open door of the classroom across the hall, to see another teacher sitting at her desk looking back. The arrangement of classrooms provides teachers with a view of each other, and it also enables passerby’s to easily peer into in every classroom with an open door to see what is going on. Anyone walking down the hall in a direction leaving the central courtyard, can see the students sitting at their desks and teachers giving their presentations. When they reach the end of the hall and turn around to walk back towards the courtyard, they can see what is displayed on the smart boards in every classroom.

As described above, the panoptic qualities of school’s architecture are evident in the arrangement of the classrooms. If an administrator or a department head wanted to assess whether Kim and her colleagues were all conducting the same learning activity as specified by their department’s common curriculum map, they could take an unassuming stroll down the hall to check. Teachers never know when someone of authority might use the architecture of the school to observe them unannounced. Sometimes, they may not even be aware that are being observed by someone outside the classroom. This makes the supervision of teachers invisible, which creates the sense that observation is constant – like living in fishbowl – and this leads to them to behaving as if they are being watched all the time.

In describing Foucault’s metaphor of a panopticon, Harland (1995) notes the effects of this power technique: “the exercise of continuous surveillance...means that those concerned also come to anticipate the response...to their actions past, present, and future and therefore come to discipline themselves” (p. 101). He also quotes Foucault and Sheridan’s (1977) observation that Distribution

techniques “arrange things so that the surveillance is permanent in its effects even if it is discontinuous in action” (p. 201). Because teachers do not know when they are being observed, they adjust their behavior perpetually. As Kourtney says: “I have gotten used to it now, you feel like they are watching you all the time.”

In addition to distributing teachers in physical space to make them observable to authorities, Bandeen (2009) notes that distribution “isolates teachers from one another – teachers are essentially trapped as going to the bathroom or walking down the hall for food would mean that students are left unsupervised” (p. 109). Ella also comments that she does not have time to do anything else besides supervise her students even when she is present in her classroom: “It is not like you can turn them loose. Even when they are working on their own, I cannot sit here and look up fun activities or alternate ways of teaching because I am constantly having to monitor what they are doing.”

Teachers are classified by the classes they teach, and pursuant to these classifications they are assigned workloads and regimented schedules that limit their opportunities to interact with each other. For example, Kourtney says that her free time is taken up by extracurricular activities that teachers are expected to do: “Not only are you teaching, but you are also coaching something. You do not just come in here and teach, I do fifty-thousand other things that I do not get paid for.” And, Halle explains that because planning blocks are scattered throughout the day, teachers never have the opportunity to talk: “Everybody’s planning block is different. You may be teaching algebra and never see the other algebra teachers.”

Resulting from their classification and rank, teachers are isolated from each other. Leah confirms the severe isolation that can occur: “I have been very isolated here. I do not need validation from others, and I do not mind eating lunch by myself, but just some days I would like to speak to someone over the age of 14.” Luke also describes how his rank among all teachers as belonging to a specific department isolates his group from the rest of the school: “We are very isolated on this hall. I do not know anyone else besides who is on this hall.” Kim reiterates how the distribution in teachers in the space of their individual classrooms produces an overall sense of separation: “We are all really in our classrooms all year. I can count on one hand how many times we are all in one place talking about something during a year.”

The isolating effects of distribution techniques characterize the physical or contextual ways in which a network of common standards, performative systems and quantitative measures trap teachers within the four walls of their classrooms and automates their work. Distribution is imposed through rigid time schedules, pacing guides, curriculum maps and other prescriptive procedures produced by these systems. Teachers are always playing catch-up with the strenuous and stressful expectations imposed by time schedules and their students, which leaves them no time to intermingle and form relationships. For example, Kourtney characterizes the demands placed on her by students: “The kids are demanding, and they think you should answer them immediately and you do not have anything else going on in your life.” Their overwhelming schedules operates in the favor of public policy discourses because it forces teachers make use of the ‘shortcuts’ to instruction that are readily available. Ella gives an example:

Most of the time we are teaching what we have at our fingertips because we do not have time to pull in other things. We teach what the book is, which is sad, but when you have to spend so

much time on other things, then you are just going off the textbook even though I know I am teaching other people's beliefs about how it should be taught and what should be taught.

The distribution of teachers in time compels them to follow public policy and give up their power to performative systems. It erases what they would normally do to personalize their instruction and replaces it with predetermined pedagogy that as Ella says above represents "other people's beliefs" and not the way they would choose to teach if they had adequate time to prepare.

Isolated from seeing what others are doing, teachers are left feeling fully responsible for their students' outcomes and become highly committed to improving their scores, which reinforces the power of accountability systems. Leah is an example of a teacher who is very much concerned about demonstrating her performance, as she says: "I am trying to do my job, trying not to complain, and not to make waves because I like my job. I want to keep it." She describes her first year as "sink or swim" with "professional deadlines" that were "very difficult to meet." Even though she says her first year of teaching was "horrible" and her first evaluation was a "nightmare," she believes she is "seeing improvement from last year in terms of teaching and management." She is determined to make herself into a high performer.

Teachers like Leah are more susceptible to rationales of policy discourse. They willingly check their own scores to see their distribution relative to other teachers in their department, school and nation who are also measured by the same common assessment technology. The data makes teachers responsible for their assigned rank and for taking steps to improve themselves within the confines of their classification (classroom) without actually knowing if how they teach is any different from their peers due to their isolation. The data regulates what teachers can do and thus what they can become – their subjectivity – without the need of physical boundaries.

Production and quantitative measure produce data that distributes teachers by rank based on criteria favored by public policy. Teachers are ranked against all other teachers based on their 'quality' as represented by the statistics that are attributed to their work. In the same way that the data may represent the learning difficulties of individual students, administrators use the data to pinpoint trends or markers that signify 'low' performing teachers and then determine what they need to do to improve, which may include redistributing them in some way to subject them to other disciplining techniques. Novice teachers are paired with veteran mentors on their first day on the job and Mary reveals that sometimes struggling teachers are relocated near high performing teachers with the intent of connecting with a new role model.

Conversely, teachers who are ranked as high performers by the data are held up as 'ideal' models of compliance with policy's expectations, and for this reason they may also be redistributed in relation to others. Halle, an administrator, uses the test scores to determine which teachers "you want explaining to the other teachers what they did." Sometimes, the "better" teachers (often veteran with seniority) get the more advanced AP classes with "easy going" high performing kids and the "worse" teachers (often the newest and youngest) are relegated to teaching the entry-level classes with a more "taxing" general population of students, thus reifying their rank within the school socially, geographically, and hierarchically. For example, the high school administrators privileged the flipped classroom model when they commended the success of Noah's use of the approach.

Noah says that his modeling of best practices and achieving improved test scores was awarded when he was "given honors classes" to teach.

At the high school, distribution circulates teachers "in a network of relations" (Foucault and Sheridan, 1977, p. 146). It categorizes teachers by the classes they teach and ranks them within their classification relative to others (p. 145). According to their category and rank, teachers are isolated in the geographic 'space' within the school and by rigid time schedules that burden them with demanding assignments and responsibilities. These systems and associated accountability technology isolate and trap teachers in their classrooms throughout the workday. Performance statistics are also used to separate high performing compliant teachers from low performing noncompliant teachers, which can lead to further refinements of their physical distribution and subjects the other disciplinary techniques of power like surveillance that produce self-regulating teacher-subjects.

The distribution techniques discussed above arrange teachers in space and time to enable their observation, supervision, and examination. In Gore's (1995) research, surveillance in schools is defined as "supervising, closely observing, watching, threatening to watch or expecting to be watched" (p. 169). Under the 'norms' of policy discourses, teachers are supervised to determine if they are behaving in ways that reflect performative models. As Bandeen (2009) notes: "surveillance elicits a performance to enact a semblance of compliance" with accountability goals (p. 105). Watching is closely linked to judging, correcting and praising teachers' conduct during which "teacher bodies become aligned with intuitional purposes" (Bandeen, 2009, p. 105).

At the high school, teachers are subject to both scheduled and unannounced classroom observations by administrators that are either formal evaluative visits lasting the entire span of a class or are brief 5- to 15 min check-in calls called "walkthroughs." Kim summarizes the observation schedule: "Your first year, they visit twice per semester – one time announced and one time unannounced. Your second and third year, they come twice a year. Once you are tenured, they come once every other year." Leah, a new teacher, discloses how many times she was observed over her first year: "Out of 180 days and having the kids 90 min a day, I have been observed twice for a full class and once for 15 min at the beginning of a class." John confirms that administrators will stay "bell-to-bell" during an official observation and that he undergoes extra observations from outside district-level administrators due to the nature of the type of class he teaches. Leah also mentions that as a new teacher she is subject to additional "peer observations" from her mentor and department head.

Based on the comments above, it appears that how much and how often a teacher is directly observed is contingent on their classification and rank and on how an individual administrator decides to apply surveillance tools. During an observation, administrators are looking for visible evidence that teachers are complying with the rules and expectations of the institution. Jane agrees that through classroom observations: "The administration knows who is doing what they are supposed to and who is not." Kim believes she knows what administrators want to see when they visit her class:

I have my agenda on the board every day. I have my state standards posted. All those things are stuff you have to do as a teacher. When the administrators come do walkthroughs; this is what they are looking for. They are looking to see that you have your word wall, that you are doing the vocab, and if you have a plan and you're

following the standards and stuff like that. That is the accountability part of it.

Luke describes an observation as a “walkthrough where they come into the classroom, sits there, and takes notes for my evaluation.” He continues by noting the administrators are watching for certain signifiers that represent performance standards: “Administrators like to see some sort of bell ringers. They are looking for certain specific things – basically did they see ‘x’, ‘y’, and ‘z’ or did they not see ‘x’, ‘y’, or ‘z’ – like did the teacher use essential questions.” Kourtney adds some of the other criteria that administrators assess during an observation:

They have this form they fill out and they are looking for you to have your common standards, integrate your technology, literacy standards, and you are differentiating your instruction for the kids that need it. They are just basically checking off a list that you are doing everything you need to. When I know I have an announced observation, then I will plan. If you have an announced observation and you want do not do well on it – that is when you want to put on your best show.

As Kim aptly points out above, through direct observations, administrators are gathering evidence about whether teachers are complying with public policy. And, through their knowledge of the criteria of surveillance, teachers can counter the scrutiny of school administrators and others by displaying behaviors that give the appearance of at least minimal conformity – what Kourtney refers to as a ‘show’ of professionalism. During observations, teachers behave as if they are being studied. In Kourtney’s earlier comment, she surmises that if a teacher understands the criteria, they can pass the examination by putting on a “show.” Rachel also compares her routine during an observation to a performance: “For the announced, what you do in a class does take planning and you need it to put on a dog-and-pony show.” Noah reveals that he thinks the essential questions are ridiculous, so he has developed an alternative solution: “To make an essential question, what I do is just put a question mark at the end of the objective. The way I game the system is to write it on the board. It will make them checkmark the box when they come in with that walkthrough form.” John describes in detail how he adjusts his lecture format when an administrator is watching:

I will pull up the pacing guide and I will say to the class: “Okay, today class we are going to cover this...” Next, I will pull my screen up and say: “In the course syllabus this will be standard number 5.” An administrator sitting there will see that and I will state it, and I also have it up visually so they can see it. Also, if you look up on my board, right there, are my essential questions.

What administrators see during an observation, even an unannounced observation, reflects what a teacher has planned ahead of time to visibly display as evidence of his or her compliance. Surveillance tools compel teachers to prepare a script for every class that they can pull out and “lay on administrators” to produce the appearance of meeting standards. On inspection, teachers must appear to administrators to have transformed themselves to become more like the ideal image of what a teacher is presumed to be like as measured by a series of checkboxes on a form. The checkboxes or

criteria represent certain irrefutable values and principles privileged by public policy.

The procedures of standardize curriculum combine with surveillance techniques to create a technological apparatus of systematic, continuous, and pervasive normalization, which eliminates the stress of getting caught doing anything ‘wrong’ because teachers are nearly always doing what is ‘right’. Some teachers appear to be at least partially educated to a ‘regime of truth’ and normalized such as they have become agents of their own subjectification under public policy discourses. For example, after a classroom observation, a teacher is given a copy of the official observation form that shows which criteria he or she has met or failed to meet.

Mary, an administrator, explains what the checkboxes on the form represent: “If you have a lot of checkmarks then you are doing a lot of the things they are looking for.” The observation systematically reduces teaching to a set of checkboxes that represent only what can be seen by an outside observer and allows for individualization and totalization of teachers based on predetermined, yet continuously shifting criteria defined by public policy discourses and based on overly simplified behaviorist notions of the human condition. With the surveillance tool, teachers are individually inspected or diagnosed as missing certain absolute qualities of performance and they are ranked or categorized relative to all teachers based on the total number of checkmarks they receive. Kourtney takes issue with the ‘short form’ surveillance tool when nothing is checked, and the form is returned to her blank and without any explanation:

They will come through the room and the way they come in is very authoritative – no smile, no nothing, like they are in charge. After the walkthrough, they will put a blank form in the box, and it is a slap in the face. I think it is done on purpose because it is like they are saying: “I did not see anything that I think is worth of checking.” It is perceived as a bad thing, and it hurts your feelings. You start second guessing yourself and having evil thoughts. You get mad and go run your mouth to someone else about it. It is a strange thing to do. Why come in if you cannot write something down to give feedback?

For Foucault, surveillance strategies were more about influencing an individual’s psychology rather than trying to directly control what they do or make decisions for a person. Surveillance “does not liberate man of his own being, it compels him to face the task of producing himself” (Foucault, 1984, p. 42). In Kourtney’s comment above, the blank observation form caused her to “second guess” herself and have “evil thoughts.” It was a “slap in a face” to how she sees herself, which triggers her to appeal for more explicit “feedback” so that she can know what she is doing wrong. The effect of the blank form compels Kourtney to privately self-examine her own identity.

Through Surveillance tools, administrators at the high school continuously confront teachers with imbued impartial ‘truths’ about themselves to compel them to confess their faults and self-correct their conduct. Halle says that administrators at the high school never tell teachers exactly what to do. Instead, the evaluation of teachers at the high school resembles a kind of counseling session. Mary, an administrator, describes the ritual of the debriefing session from an administrator’s viewpoint:

We meet with the teachers one-on-one during which their observations are read to them about what they did. Then, we have a conversation about of what is happening and how can they improve.

Mary sees her role as kind of helpful coach who aids teachers in their career. During the confessional debriefing session that Mary describes above, teachers are compelled to validate the ‘truth’ rendered by the observation and take responsibility for correcting their mistakes or deficits by speaking to how they are going to change themselves. Surveillance takes on the form of self-inspection or self-analysis. Foucault believed that “self-examination is tied to powerful systems of external control: sciences and pseudosciences, religious and moral doctrines” that underscore public discourses and are supported by a “cultural desire to know the truth about oneself,” which “prompts the telling of truth; in confession after confession to oneself and to others, this *mise en discours* has placed the individual in a network of relations of power with those who claim to be able to extract the truth of these confessions through their possession of the keys to interpretation” (Dreyfus and Rabinow, 1984, p. 174). The effect of an examination is not to oppress or silence teachers, but rather it is to create a connection or a relationship between school administrators and teachers – to make them visible and to define them in certain ways as individuals so that they can be talked about in an objective fashion, and they readily talk about the ‘truth’ of themselves in terms of their performance, professionalism, and pursuit of a career in education.

The ultimate example of confessional ‘truth’ telling comes at the end of school year when a teacher ‘sits-down’ with the principal for about 15 min to go over his or her official evaluation documents in typical bureaucratic form. Kim gives her take on the meeting:

They judged us on if we are meeting set of teacher standards like ethics or our repertoire. There is a list of things that they check ‘yes’ or ‘no’ on how you are doing these things and we get a copy. Then we talk about with the principal and hear if he feels we can improve on anything. We set goals at the beginning of the year and then another at the end of the year.

Based on Kim’s comment above, a teacher’s final yearly appraisal focuses on objectives in which the expertise of the ultimate authority in the school is used to counsel teachers to help maximize their productivity and avoid their early exit from the field. The evaluation is based on a participatory activity of mutually constructing a set of goals that a teacher will use to remake his or herself into a ‘better’ individual. By becoming complicit in their surveillance, teachers are at the same time disciplined and liberated – by accepting responsibility for changing themselves, they become their own supervisors and deflect the gaze of the authority. Leah recalls how she had a “tough time” during her first-year evaluation:

It was horrible. The principal did not come right and tell me I suck as a teacher, but he did say that there is a lot of work to be done and these are the two main areas I would focus on next year. He basically told me: “We are not going to fire you and the only way we will fire you is if you just refuse to do what we are asking you to do.”

Like a doctor kindly sharing the good news with his seriously ill patient that he has found a cure, the principal informs Leah that she still has a chance at a life as a teacher and she will overcome her challenges. Leah responds with a renewed determination to prove her worth, and she takes comfort in knowing administrators are available to “nurture” her through the process of becoming a professional teacher. Leah has agreed to work under constant self-surveillance, reinforcing what Foucault and Sheridan (1977) referred to as a circular relation between ‘truth’ of the need for performance that defines what is ‘right’ and the power of disciplining practice through self-regulation: “Knowledge, once used to regulate the conduct of others, entails constraint, regulation and the disciplining of practice. Thus, there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time, power relations” (p. 27).

In a neoliberal paradigm of organizational management, individuals are free, but they must be self-critical and self-regulate and they require leadership, objectives, values and programs to develop their skills. In discussing the “technologies of the self” that individuals use to transform their selves, Foucault (1988b) described these practices of self-development as: “...permitting individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being” (p. 18). The practice of ‘instructional audits’ at the high school is another such tool in which administrators help teachers into a new way of being. Halle describes the audit process: “Every few weeks we sit down with all the teachers. We have a printout of their grade book, so if one teachers class average is a 61 and their test score is a 79 and they all teach the same subject, we want to know what is happening, why are we having that.” Leah verifies Halle’s characterization of the audit process:

We use a curriculum map, which are our standards, and we write down what activities we use to teach those standards and the dates we teach those standards. We have turn them in at the beginning of the semester. They are supposed to be audits we are supposed to have with the administration and guidance about at-risk students, people who are failing and to make sure we are still on par with the curriculum map we turned.

Both Halle and Leah describe the audit process as kind of accountability in which teachers are measured by statistics and they must explain themselves. In this sense, audits appear to be another top-down form of surveillance like classrooms observations, but from Halle’s point of view, teachers should be self-disciplined so that administrators do not need to step in to correct problems. She believes that when teachers take responsibility for managing themselves according to the expectations and goals of the institution, they are liberated from her supervision. Kourtney confirms that she feels free if she stays within the limits set for her: “I have complete freedom as long as I am meeting the standards, I have to turn in my lesson plans every week – they are checked by two different people and the principal. So, they know what I am doing.”

In the modern school where teachers are ‘free’ subjects, surveillance manifests as the management practices of coaching, guiding, advising, training, and collaborating. Together, these disciplinary techniques “serve as an intermediary between” administrators and teachers; “...linking them together, extending

them, and above all...it assures an infinitesimal distribution of the powers relations" (Foucault, 1984, p. 153). The official classroom observation procedure is a pretext for a sit-down conversation or counseling session with teachers. Surveillance culminates in teachers self-regulating their own behavior to achieve collective education goals that are continuously reiterated by public policy discourses as statistics that report on common standards, learning outcomes, and key performance indicators.

3.2. High performer and conformist teacher-subject positions

The previous section identifies the techniques of power applied by public policy discourses to regulate what governmentality ascribes as the right mode of work and restrict the space in which teachers can operate. Statistics perpetually sort, rank, and classify teachers to exert pressure on them to self-discipline themselves. It was shown how distribution techniques facilitate the direct surveillance of teachers through unannounced walk-throughs, classroom observations, instructional audits and other forms of overt and covert data collection. Teachers were then confronted with data produced by surveillance during debriefing sessions with an individual presented as a friendly coach, counselor, advisor, or authority figure. During these sessions teachers are gently compelled to confess their faults and accept responsibility for self-regulating themselves into acceptable modes of thinking, speaking, and behaving.

Management of an institution like a school is a "calculated or rational activity... that seeks to shape conduct by working through [the] desires, aspirations, interests and beliefs [of individuals], for definite but shifting ends" (Dean, 1999, p. 11). From the public policy perspective, the 'ends' are preparing students with cutting-edge skills to be successful in the workforce and to meet wider economic interests. The 'means' are management practices based on performative models forged in the private sector that focus on common standards, outcome measures, and performative schemes. These common standards attempt to regulate what teachers can teach (curricula) and how they teach (pedagogy) (Rose, 2022). What is shown through the analysis of the teacher retellings is a romanticized narrative that denotes an ideal subject position, which is aligned with public policy discourses I call the 'high achiever' subject; someone that does not just adopt public policy reforms; he or she defends public policy goals and takes the initiative to see them accomplished without the need to be pressured into it by school administrators.

The high achiever subject is someone who looks to outcome statistics for validation of a job well done and thinks competition among teachers is productive; is self-critical, strives for excellence and continuously looks for ways to add value to themselves; prioritizes teaching from prearranged curricula over their own personal teaching style; dutifully documents their own work to make their activities visible to administrators and parents to ensure 'fairness' and transparency; and has a boundless positive attitude about and the will to try new teaching practices, technology and the latest trends. The high achiever is absorbed by public policy discourses and has no issue with limiting teacher freedom for the sake of improving outcomes.

The discursive statements of the high school teachers who have assumed the high achiever subject position reinforce the positive rationales that compose public policy discourses. As the title implies,

the ideal subject is someone who sees himself or herself as an agent, supporter or follower of progress – his or her primary mission is to contribute to a successful school however it is defined. A high achiever is someone who needs to succeed and wants the recognition as a 'top-performing teacher'. Typically, teachers who assume this subject position are new to their jobs and are thus vulnerable. They are concerned about being seen favorably by administrators and producing positive measures of their performance. Or, they are veteran teachers who are working towards graduate degrees in Educational Leadership and intend to eventually advance to administrative positions, and are thus modeling a managerial attitude.

The high achiever subject is a static and essential archetype that is legitimized by public policy discourses but is rarely fully grasped by teachers because it is counter to teacher discourses. Public policy discourses construct an ideal subject position that is mainly an impractical representation of a perfect teacher rather than an authentic account of a possible teacher subject. As such, the representation is an idealized subject that is in turn used in discourses as a prototype for what they should be, when teachers are faced with critical reviews of their conduct. Teachers are confronted with this improbable ideal, but what actually emerges are disrupted subject positions. Bandeen (2009) terms one of these alternative possibilities as 'silent-survival', and the analysis of the retellings of the high school teachers in the present study confirms that this reframing of the compliant teacher subject is more true-to-life. I rename this subject position as the 'conformist' teacher subject. Conformists believe that voicing their concerns is futile. The conformist adjusts to the demands of public policy discourses by succumbing – someone who drifts with the tide.

The conformist subject position is indicated by a "willingness to be a 'team player' for the support and endorsement of new policy" and "avoiding any discourses associated with negativity" (Bandeen, 2009, p. 115). Teachers may complain amongst themselves, but they show self-restraint and as Kim says, "they will just do it for the most part." Teachers operating in conformist mode will not vocalize their opposition to policy reforms – they want to stay, as Kourtney says, "under the radar" and "not stand out." Teachers become disillusioned by a recurring cycle of policy changes, and as a result disengage and do the minimum of what is expected in order to keep their jobs (Rose, 2022). The conformist subject is someone who grudgingly aligns themselves with new policy goals and has learned to "cope with policy discourses through silence" (Bandeen, 2009, p. 116). The ideal model for teacher compliance projected by public policy discourses contrast with a real one that emerges. The high achiever teacher is a vocal advocate for public policy reform, whereas the conformist subject is a begrudging follower.

3.3. Power tools of technology discourses

In Gore's (1995) typology of Foucault's major techniques of power, she defines individualization as: "Giving individual character to oneself or another" (p. 178). In contrast, totalization is the "specification of collectivities [and] giving collective character" (Gore, 1995, p. 179). Teachers are assigned individual character as belonging to certain classifications of groups based on how they measure up to collective or prescriptive ideal of what a teacher should be.

The totalizing effects to technology discourses can be seen in teachers' individual narratives. For example, David, an administrator,

says: “Students are digital natives compared to 20 years ago when I started teaching.” In his observation, he is applying collective character to students based on a principle spread by wider technology discourses. This illustrates how some teachers have internalized the knowledge or ‘truths’ that support technology discourses as a result of totalizing tactics – totalizing knowledge which they also apply to themselves and other teachers, not just students.

Some aspects of what it means to be a good or bad teacher are derived from wider technology discourses and are enacted through the relationships that teachers have with others in the context of their work. Administrators are compelled to measure teachers based on certain mandated technology competency standards, and they also totalize and individualize teachers based on technology discourses. For example, Mary, an administrator, attempts to totalize teachers by saying that “most teachers” do not use the technology that is freely available to them. Next, she individualizes teachers by attributing certain traits to this “non-user” group such as they may be reluctant to use or uncomfortable with technology:

I find that teachers do not use a lot of technology in the classroom, which is kind of surprising because they have a lot. I do not know if it is because they have taught for so long without technology that they choose not to use it because they feel like their teaching is good without it or if they are not comfortable with how to use the technology. I almost never ever see kids using technology in the classroom.

In her interview, Mary praises Noah as demonstrating the ideal way to use innovative technology to which all teachers should aspire. Noah’s belief in the value of standardized curricula and student-centered learning is supported by the aforementioned “net-generation” social imperative. In the following quote from Noah, he uses the rhetoric of technology discourses to, like Mary, paint a totalizing and individualizing image of other teachers by applying a hypothesis for why they are not matching his example:

I think people will have to let go of the traditional view of education and move toward what is best for students if that means not having as much control and not doing the same PowerPoint for another 5 or 10 years to have all the attention on them. We have to get away from that because the generation has changed and therefore culture has changed. If you are not teaching with culturally appropriate methods, then you are not serving so to speak.

In Noah’s comments above, he refers to the problem of doing the same things for “five or ten years” and Mary says, “they have taught for so long without technology that they choose not to.” These comments imply that they think age or experience is a factor correlated with technology competence. Later, Noah reveals how he believes his young age and the young age of one of his colleagues is a determining factor of their mutual success: “We’re both pretty young and pretty forward thinking.” Similarly, Kim believes that being young helps and she portrays one of senior teachers as being a barrier to fully implementing a new digital curriculum in her department:

Until now everyone has done their own thing, and this is a new concept of meeting together and discussing how you are going to

teach together. But, he does not sit down with us. He may think he does not have anyone to meet with or collaborate with because he is the only one who teaches his class.

However, she says this issue is about to resolve itself: “He is retiring, so he is moving out, and we will have a younger faculty in the department, especially now with him retiring.”

As revealed above, the practice of measuring teachers according to ‘objective’ levels of technology competence, enthusiasm and use, facilitates both totalizing and individualizing power techniques. In this process the conduct and character of teachers is normed against an exceptional local group of technology leaders in their school, official technology standards for teachers and schools, and the common rhetorical points of view supporting technology discourses in the public realm.

The image of the ideal technology-astute teacher is inscribed in the official texts of state’s policy in the form of technology competency standards. Teachers are required to demonstrate how they participate in “ongoing, intensive, high-quality professional development that addresses the integration of 21st Century technologies into the curriculum and instruction to create new learning environments” and how they “achieve acceptable performance on standards-based performance profiles of technology user skills” ([State Department of Education, 2015](#), p. 79). Schools measure teachers by their amount of involvement in professional development on technology topics, level of technology competency, positive attitudes towards technology, and use of technology in the classroom. Sometimes, this combination of criteria is referred to as technology self-efficacy, which is the idea that teachers believe in and take responsibility for their technology capabilities – actively seeking out professional development opportunities to improve their technology skills and then choosing to dutifully demonstrate their technology abilities in the classroom.

The all too familiar language that labels teachers as ‘techno-natives’ or ‘techno-immigrants’ is common rhetorical chorus in technology discourse ([Prensky, 2001](#)), but the connotations they carry is a source of agonism among teachers. Teachers who do not willingly hand over their classes to technology are seen as not being savvy enough to keep up with the future. Linked to the assumptions about performance is that older teachers are to blame for resisting the radicalization of education through technology.

Individualizing teachers by relating their age to their level of technology competence seems to have had an impact on the more experienced teachers in the localized context of the high school. Susan’s story is sort of the reverse of Noah, Rachel, John and other members on techno cutting edge. In their normalized view, she represents the typical “old” teacher that is holding education back. In introducing herself to me, Susan says that she has been teaching for 40 years and “if you ask any of the students here, they will tell you immediately that I am the old one who will not let them use a computer.” Susan describes herself as “very old fashioned,” which “has a place” in her class because she believes that students must learn how to do things “by themselves because that is the way I know they will know.” She is aware that she has been isolated by individualizing power tactics because of her differing views and conduct, but does not seem too concerned:

I realize I am in the minority with this view, but I want my students to know the subject. That is my basic goal. They can

confirm with all the wonderful technology tools that they have available now. That is fine with me, but they must know the subject. You miss the whole point when you do not see the patterns and see how things work together, and if you are just typing everything into a computer, then you will never see that.

The stories provided above reveal how the power tools of totalization and individualization subject teachers to the knowledge and 'ideals' of technology discourses – tactics that compare and characterize all teachers as not being techno-savvy relative to a minority of young hot shots who are. [Bandeem \(2009\)](#) believes that “through Foucauldian power tools of totalization and individuation, teachers learn that by acting in certain ways they will either be recognized (calcified) or be erased (excluded) through the reassignments of value” (p. 112). Under the current regime of truth supported by technology discourses, a subgroup of the high school teachers is recognized as representing progress, most other teachers are engaging in the process of recasting themselves according to shifting technology and performance expectations, and small number of teachers who are labeled as ‘oldies’ are being pushed to retire, excluded, marginalized, and slowly erased.

3.4. Innovator and technician teacher-subject positions

For Foucault, discourses privilege or marginalize particular beliefs, values or actions by referencing the value of imbued ‘truths’ as a body of knowledge ([Dreyfus and Rabinow, 1984](#), p. 187). Technology discourses establish the knowledge of subjects within their situated context. This knowledge is internalized by individuals and becomes a part of their identity. The aim of the previous section was to demonstrate how teachers have assumed different aspects of what technology discourses present as the ideal subject that I call the ‘innovator’ teacher subject.

Through the retellings of the high school teachers, it was revealed how technology discourses operate to characterize the innovator teacher by circulating the credos that present a picture of the ideal teacher. This subject position is presented as someone who is convinced that technology is the key to advancing education and solving society’s ills; feels responsible for teaching about technology in their class to spread technology literacy; willingly maintains their own technology competence by seeking out professional development opportunities; freely transforms their pedagogical practices to conform with technology-driven modes of learning, sees their role as that of a technology-enabled coach that takes a backseat to student self-directed learning; and is distinguished by their cutting-edge use of an online learning management systems ([Rose, 2022](#)). Ultimately, an innovator teacher is someone who readily relinquishes their power to technology-driven learning environments – he or she steps out of the way and lets technology take over for the good of students.

The snapshot of the ideal subject defined above is sketched within the limits set by technology discourses. This narrative embodies the imputed possibilities of technology is accepted without much criticism and questioning from teachers. Possibly, this verifies that the techniques and practices of technology discourses that are describe in the previous section are very productive at regulating and normalizing the high school teachers. The school is purposefully constructing a

positive school culture around technology. Teachers are enmeshed in an environment of cutting-edge technology that they are expected to leverage to enhance instruction. The high school employs an instructional technology coordinator to manage technology initiatives and coach teachers on how to integrate technology into the classroom. It has changed the curriculum to emphasize technology skills and employs four business-tech teachers. Finally, the high school’s teachers understand that the qualities of the innovator teacher are encoded into official public policy texts that show up on their evaluation forms at the end of every school year.

It is also described in the previous section how teachers are totalized and individualized based on what technology discourses construct as what it means to be normal. Teachers are measured against official technology competency standards and are observed for behavioral evidence of a positive attitude towards technology. Those teachers who do not measure up to the standards are diagnosed for their individual faults and are pressured to change themselves through coaching, training, and exclusion. The example of a select group of techno-savvy youngsters is held up for teachers to admire as a way to make the promises of technology discourses appear genuine in the local context. It is through these totalizing and individualizing tactics that the high school teachers come to conduct themselves and ultimately transforms themselves into the innovator teacher subject.

The snapshot of the innovator teacher represents how one possible subject position has coalesced and become available to teachers, but it is not the only option teachers have. Other counter-narratives can represent teachers in different ways. A few younger teachers from the digital generation are ecstatic about the self-directed learning possibilities of technology, but for most teachers at the high school, the notion of giving up their authority over the teaching process to a computer is a prospect that they are reluctant to accept. The language teachers use to describe technology is generally passive or conditional as well as positive. Their applied view of technology as neutral necessitates a detached position where technology itself is not as important as how it is used – the technology changes from year-to-year but teaching practices and class content are irreplaceable ([Rose, 2022](#)). From this perspective, technology tools are useful to some teachers because they make instruction more engaging, interactive, and entertaining, but they are not revolutionary.

The above depiction of the way teachers align themselves with technology discourses represents an alternative subject position that I call the ‘technician’ teacher subject. This subject is someone who is more practical and less animated about the possibilities of technology. The technician attempts to fit technology into their work, not rearrange their work around technology. They also believe that technology should empower relationships and interactions among teachers and students, not replace them with automated computer-mediated learning.

In the process of governing themselves, teachers choose to reinforce or reform power relations. [Foucault and Blasius \(1993\)](#) explains that “governing people is not a way to force people to do what the governor wants; it is always a versatile equilibrium, with complementarity and conflicts between techniques...through which the subject is constructed or modified by himself” (p. 203). Teachers are not entirely produced by technology discourses – they have other experiences and influences of competing rationalities defined by other discourses to reflect on. The reality of individual subjects is contingent upon complex social relationships that play a part in influencing

whether a teacher accepts some of the demands of the ideal innovator teacher subject position.

3.5. Power tools of teacher discourses

In mapping teacher discourses, it is not the aim of this article to validate the goals of teacher discourses as being more ‘right’ than the rationales produced by public policy or technology discourses. Teacher discourses are not merely reactive to public policy discourses – they work to condition teachers through complex relations to certain group norms that are equally regulating and normalizing, but in different ways and for different ends. [Bandeem \(2009\)](#) theorizes that teacher discourses apply classification and exclusion techniques of power within their social relations (p. 80). She posits that “as teachers create groups, they determine who is respected while also excluding others to create shifting patterns of informal memberships” ([Bandeem, 2009](#), p. 80).

[Gore \(1995\)](#) defines classification as “differentiating groups or individuals from one another, classifying them, classifying oneself” (p. 174). Classification is the way teachers individualize and totalize others and themselves according to the social group to which they belong. In teacher discourses, group membership is indicated by loyalty, bonds, and empathy that create a sense of solidarity. Groups normalize teachers into the ‘better’ ways of doing things from the perspective of teacher discourses. Sometimes groups can be cliquish or elitist, meaning that they exclude and divide teachers. [Gore \(1995\)](#) explains that exclusion is sort of the “reverse side” of normalization – it is “a technique for tracing the limits that will define difference, defining boundaries, setting zones” that label some behaviors as ‘wrong’ and construct some individuals as ‘others’ (p. 173).

Many the high school teachers understand their group memberships as an inherent aspect of their jobs. For example, Kim hypothesizes: “Initially, if you like each other as people, just like normal – it is just natural that we all get together to talk about school and our classes and things.” David makes a similar observation: “People meet and get together simply because of shared values.” Kourtney reiterates that “teachers will have a group of people they will naturally gravitate to,” and she expounds further: “I am going to hang out with people who are more like me because I would not want to say something to someone else because you do not want to hear what they have to say.” Kourtney feels that she can speak freely around her like-minded friends when she has something negative to say. Her social group allows her to take a resistant position on issues, to be pessimistic and to defend herself. In other words, her social group supports her activism.

Kim adds to her earlier comment that it is through groups that “things will get spread around.” Echoing Kim’s experience, other high school teachers also note that groups facilitate sharing knowledge. For example, Kourtney comments on the sense of comradery that exists: “The collaboration that we have is amazing – you could go to anyone here and they will help you. We are all really good friends.” Jane gives a specific example of how teachers support each other: “All the time, I will type an assignment out, the I will share it with my colleagues and ask them to tell me how I can tweak it.” Similarly, Luke says: “At this school, there is a lot of collaboration. Not only within my department, but with other fields. We share how we get stuff done.” By working collaboratively, teachers come to agree on which tools or practices are

better than others, and sometimes what they settle on as the right course of action does not always match what public policy discourses anticipate. Teachers are influenced by many factors that become intertwined with their views about public policy like their own interest in doing, as Jane says, “what is best for the students.”

School administrators often arrange social groups by assigning teachers to committees during which teachers are asked to take on leadership roles. For example, John talks about how he has assumed the responsibility to “head up” a new class that many teachers in his department will be delivering next year as part of a statewide initiative. After teaching the class himself for the first time, John plans to “compile all of my information and teachers will take it next year to use it.” John is acting on behalf of public policy discourses to leverage his social relations in support of a new program. In the context of the school, teachers serve as proxies for the agendas of public policy, technology, and teacher discourses.

Many the high school teachers mention that outside of their informal group of friends, other professional groups are convened for them by administrators to achieve collaborative goals. For example, teachers meet as a group at regular intervals throughout the school year to conduct instructional audits for the purpose of coordinating their instruction around a shared curriculum map. As Kim says, teachers meet to ensure everyone is “doing the same thing.” Public policy discourses attempt to turn group relations to their advantage by formalizing and structuring teacher groups in order to limit “possible fields of actions” ([Foucault, 1984](#), p. 221).

At the high school, collaboration is required. [Hargreaves \(1994\)](#) contends that collaboration is a controlling technique: “In contrived collegiality, collaboration among teachers is compulsory, not voluntary; bounded and fixed in time and space; implementation-rather than development-oriented; and meant to be predictable rather than unpredictable in its outcome” (p. 208). In these formal meetings, relations among teachers who would not normally associate with each other are imposed. As Jane explains, for teachers to “get on the same page” administrators and department heads have to get them to “play nicely with one another and put personalities aside. Teachers are people too and like in society, not all lawyers see eye to eye.” Jane suggests that these relationships are not natural – they force teachers who do not like each other to work together. Likewise, Kourtney reveals: “There are some people I have to collaborate with who I like more than others, but we have to be professional.” It is difficult for teachers to avoid or refuse to participate in these group debriefing sessions without feeling isolated socially by their colleagues.

Administrators and teachers in leadership roles attempt to force collegiality and collaboration among department groups to consolidate power. Luke observes how the widespread collaboration that is often initially labeled by teachers as supportive is actually controlling:

At my previous school, I was pretty much left up to my own devices – we were basically able to do what we wanted to do, but here it is more of a controlled environment. Administrators are more intertwined and proactive – a lot more observation and more hands on. It is a close-knit community, and everyone is a lot more involved.

Luke suggests that pervasiveness of what he positively characterizes as a caring, involved, and “close-knit” community that operates to improve teachers has another side. He believes that social

control is needed “because there are always a few teachers in every group that are a problem. The controlling does not affect the teachers that are doing what they are supposed to be doing.” The collaborative atmosphere at the high school subtly maintains and sometimes pushes the boundaries in which teachers freely operate, but it is also coercive in the way it can separate certain teachers.

Social relations can isolate and exclude teachers by subjecting them to group norms. For example, Ella reflects on how her department group attempts to impose their prescribed methods on her work:

The school system is pushing for instruction to be more systematic and coordinated. Our department tries for it to be that way. When I joined the school in January of last year, a lot of the lesson plans for one of my classes was already created. When I got here, it was like: “Here you go – this is what you teach.” I am the rogue who does not teach like everyone else because I have my own way and projects that I enjoy doing. Sometimes, I feel like I should be doing what they are doing rather than being the odd one out.

Ella feels isolated because she is not complying with the methods that her colleagues predetermined are correct. For doing things differently, she is seen by others, and she identified herself as an uncooperative “rogue” and she feels guilty about it.

When social groups begin to negatively differentiate, classify, rank and exclude others, the high school teachers often refer to them as “cliques.” Leah, characterizes her colleagues as “acting just like high school students with their gossiping and cliques.” She offers a quick review of the different cliques at the school:

The most exclusive group is the coaches. You have the group that I would consider to be the popular girls. Next, you have your science clique. Then you have those of us that are the ‘weird’ teachers and I consider myself to be in this group. We are people who are kind of socially awkward, who do not have a lot of good conversation. Some of the teachers in this group see the other groups as being mean.

Luke confirms that the coaches and the popular girl groups are the most exclusive and he has “no desire to be a part of them.” Instead, he says that he is “definitely belongs to the nerdy clique” and suggests that there is another group of “younger teachers” that he “hangs out with especially outside of work.” Kourtney identifies herself as belonging to the “popular girl” group, but she also has another group of close friends with “laid back” personalities and teaching styles from outside her department. Like Luke and Leah, Kourtney is not friends with coaches and avoids the “enforcer types” who are act like the “hall monitors” from when she was in high school. She says these teachers “take their jobs too seriously, are sticklers for rules and write kids up for everything.” She is also resentful towards some teachers who she characterizes as “super serious and hyper critical” and are always saying to her: “I would not have done it that way.” As evidenced above, teachers individualize and totalize others and themselves through membership with different groups, which has the effect of reifying the complex order of things, but also leads to conflict. Their told stories reveal a certain micropolitics that constructs local school culture.

As indicated by the comments above, teachers’ relations a very personal and emotional – they have close friends who they love and

enemies who they hate. Depending on which groups a teacher belongs to, their attitudes towards conformity and rebelliousness shift. As Leah astutely observes: “Some people gripe inside their own groups, but people in other groups are very vocal and will not hesitate to take a complaint to the top.” The complexity of relations in the school causes resistance and conflict to play out in unpredictable ways. Frequently, teachers are encouraged to stay silent by their peers. For example, Kourtney explains that “typically, when you see people speak up you wish they would shut up. I feel like they complain about things that are not going to change. I feel like they need to pick their battles.” She illustrates her point:

Because of AYP, we had to go through RTI training to improve reading scores. We were all told we had to start teaching reading skills every day in our classes and doing these reading quizzes. I remember this one guy who stood up and said: “I am not going to do that. I have enough to do already.” They just went round and round, and by the end he had to do it. All of us had to sit there and listen to it. That is a typical thing. Why did he bother saying anything in the first place? Where if you have somebody who stands up and says, “I understand what these organizers are having us do, and if you need help come see me.” So, you are going to like people like that who are leaders more than people who are just complaining.

In her comment above, Kourtney characterizes the teacher’s open protests as futile and wasting everyone else’s time. When a teacher is vocal in his or her opposition, this violates the norms that teachers impose on themselves to remain silent and avoid calling attention to themselves. Outward expressions of opposition are generally discouraged. As Ella says, “Sometimes directives are just not open to suggestions. So, other teachers tell me to be quiet and not to rock the boat.”

Teacher and public policy discourses intertwine to socially isolate and exclude both entrenched older teachers who resist change and overly obedient younger teachers who threaten the status quo within a department. For example, Ella, Kourtney, and Kim talk about different “bad” teachers in their departments who are allowed to operate outside the boundaries set for everyone else. Kim talks negatively about a teacher who does not want to participate in the new collaborative model that has been instituted in her department: “He is the only teacher who is still doing it the old way.” Likewise, Ella is frustrated that one of her colleagues will not use a new textbook that in her view is clearly better:

There is one teacher that does not use the new textbook that goes with the exam, but last semester I had more students that passed the exam than she did. She has been teaching for twenty years and is not going to give in. She is going to teach to what she thinks they need to know rather than what is on the certification exam.

Finally, Kourtney believes her rival “gets away with whatever he wants because he has been here forever.” She is expressing her frustration: “Students will skip my class and go to his class because he is not making it available any other time [and] if grades are due on a certain day, he is like: ‘I cannot do that, but I will get them to you when I can.’” Teachers come to resent members of their group who appear to operate according to a different set of rules than

everyone else, and they attempt to exclude them by labeling them as the ‘other’.

Sometimes, teachers will withdraw from their department groups to avoid the surveillance of teacher discourses. For example, Leah has an uncooperative rival as well who she characterizes as “very much a lecturer, multiple choice test kind of person who is not going to change anything.” She feels compelled to distance herself from this person and her the other veteran colleagues in her department who are pushing her to compromise her ethics by using shortcuts to instruction. As she says: “I am trying to do deeper learning rather than telling them what they need to know for the test.” She is defending herself against the negative influence of her tenured colleagues who she labels as “having no teaching philosophy” and are only doing the minimum of what “they need to do not get fired.” Basically, she labels most of her colleagues as belonging to the coaches’ group and explains that therefore they do not care about teaching – because they primarily focused on their sport. Her colleagues turn to lectures and multiple-choice tests because it allows them to teach faster, which gives them more time for coaching. Despite her objections, Leah is slowly conceding to the “easy way of teaching” because she does not “want to be known as the troublemaker.” After putting up a good fight in her first year, she confesses that in her second year she is “turning” to the shortcuts. Disappointed in herself, she concedes: “in all honesty, it is just easier.”

3.6. Professional, mediator, and rebel teacher-subject positions

From Foucault’s view, resistance is a struggle to be free from the process of subjectification. He wrote: “Maybe the target nowadays is not to discover what we are but to refuse what we are” (Foucault, 1984, p. 216). Teacher discourses disrupt and challenge public policy and technology discourses and offer teachers options to adopt divergent subject positions. Teacher discourses are more than just a reaction to public policy discourses, they present alternative understandings of relationship between how teachers are expected to serve public policy and technology interests and the possibility for them to create other modes of being.

In this process of interpreting public policy and technology, teachers can modify the official knowledge and implant their own values and principles into that apparatus, thus changing the goals of education. Ideally for teachers, education is based on their personal relationships with students – to adjust education to students’ needs and create learning environments where they are encouraged to seek, discover, and explore knowledge. Teachers find satisfaction in knowing they have made a difference in the lives of students, and they see their professional role as that of a life coach, mentor, or role model who truly cares about students (Rose, 2022). These passionate views stand in opposition to the absolute rationales of public policy and technology discourses. They are the relational ‘truths’ that teachers circulate to reshape power relations.

Teachers reinterpret the directions of public policy through their own experiences, beliefs, and relations with other teachers, which produces teaching practices that are different from what is expected. From teacher discourses emerges a snapshot of a subject position that is characterized by an outward opposition to public policy and technology and a loyalty to the learner- and teacher-centered

principles of the ‘professional’. Bandeen (2009) terms this subject position as ‘vocal-resistance’. The professional teacher-subject is typically a veteran tenured teacher who is not afraid to outwardly question public policy and passionately defends his or her power to determine instructional practices in the classroom. Bandeen (2009) describes teachers who assume this subject position as those who possess a “sense of obligation for doing the job well” through their “unique instructional methods” that reflect their personal style of teaching (p. 164).

However, the vocally resistant professional is a subject position that most teachers are not comfortable occupying for long. The continuous barrage of public policy dictates and technology expectations usually overwhelm teachers and have the effect of marginalizing their professional views and silencing their oppositional speech. To avoid being targeted by public policy and technology discourses, teachers take practical steps analogous to what Goffman (1961) calls “secondary adjustments,” which allows teachers to give the superficial appearance of compliance with public policy directives as they work in unauthorized ways (p. 54). Teachers put on a show for administrators when they are being watched, but behind the closed door of their classroom, they continue to apply their own style of instruction.

As indicated above, from the intersection of teacher and public policy discourses, another subject position emerges. Bandeen (2009) terms a pattern of behavior composed of covert acts of disobedience as the ‘silent-resistant’ subject position. She clarifies: “Teachers, within this subject position, used silence consistently as a means of gaining space to assert professional judgment...[it] indicates an avoidance of policy discourses and a use of silence in the presence of administrators” (p. 145). Alternatively, I call this unanticipated teacher subject position the ‘rebel’. This sensible individual has decided that is too risky to be outspoken. The rebel teacher-subject accepts that opposition to public policy discourses is futile, so they keep quiet, hide from surveillance and are externally conformist. It is not that teachers are resistant because they want to disobey; rather they feel compelled to demonstrate their compliance even when they believe the requirements are irrational or impractical. Projecting a positive image of a willingly compliant subject is a way for rebel teachers to resist and maintain their power in the classroom, however, it has the same effect as actual compliance – the behavior reifies the very apparatus of control that constrain their conduct; thus, it is not exactly empowering.

The retelling of the high school teachers shows how they leverage their collegial relationships with each other and with administrators, to effectively bend the rules in their favor – making public policy directives agreeable and creating a different atmosphere in the school where teacher and public policy discourses cooperate with each other (Rose, 2022). In this way, the values, principles and practices of administrators and teachers intertwine to creatively construct different meanings that are contrary to what is officially sanctioned but still produce the desired results. Administrators agree to allow teachers the autonomy and not act like the curriculum police in exchange for teachers agreeing as a group to shoulder the responsibility of achieving mainstream educational goals so that their local administrators and keep up appearances to the higher ups at the state level. Teachers are permitted to fine-tune and adjust public policy and technology in the local context to counter the rigidity of prescribed methods.

Based on the above-described arrangement to collaborate, public policy, technology, and teacher discourses intersect to make available

another subject position that is the opposite of the ‘rebel’ which [Bandeem \(2009\)](#) terms the ‘vocal-leader’ and I call the ‘mediator’. [Bandeem \(2009\)](#) defines the snapshot of the ‘vocal-leader’ as someone who “manages to maintain an active engagement with the discourses of policy and of teachers...that indicates an intricate understanding of the politics” of the school (p. 161). Living in both worlds, these teachers who occupy the mediator subject position feel they have a positive relationship with administrators and can openly express their concerns. They negotiate with administrators to minimize the negative effects of public policy with the understanding that will return the favor by leading the enactment of reforms from the bottom-up to overcome teacher resistance.

When teachers assume leadership positions, they attempt to moderate teachers’ resistance and limit the possibilities of different courses of action. They transform teacher discourses to pacify the professionals and rout the rebels. Through the tactics of contrived collegiality and forced collaboration, teachers subtly pressure each other to comply with prearranged modes of teaching. Depending on the situation, teacher discourses can encourage resistance, but they can be reshaped to negatively coerce rebel teachers to fall into place with administrative expectations, professional teachers to be quiet, and compliant teachers to withdraw from social connections. Teacher discourses operate to negatively classify and exclude teachers who are labeled as rebellious, but the definition of what constitutes a resistant act is shifting. In the context of the high school, sometimes opposing the norms of teacher discourses is considered defiance even when the norms are distance from the ideals that are upheld and honored. In Leah’s earlier narrative, for example, she is both trying to meet the demands of public policy while also fulfilling her own personal commitment to deeper learning. She has reconciled these competing interests but agonizes over the contradictory norms of teacher discourses that romanticize learner-centered practices while simultaneously compelling her to take shortcuts to instruction in order to fit in with the group.

Teacher discourses compose a “highly intricate mosaic” constructed by a complex and shifting network of relations encompassing the social lives of teachers at work ([Foucault, 1980b](#), p. 62). Most of the time teachers are silently opposing the intrusions of public policy and technology discourses. But at different points, teachers may occupy leadership roles and appear to be agents of public policy. Or, they may become outspoken in their resistance when they feel they can no longer endure certain aspects of reforms and technology’s mediation of their work. Out of this messiness emerges certain systems of thought, subject positions or resulting patterns of behavior that proliferate and become routine or normal to some but are labeled as pathological or deviant by others. The collection of stories that are presented demonstrates how teacher discourse positively supports them in caring for themselves and inspiring others even though they can also negatively discipline teachers into the right modes of conduct however they may be defined at the time by competing teacher interests.

4. Discussion

[Foucault \(1980a\)](#) emphasizes that regimes of truth operate to normalize, regulate and produce subjects who are both the targets of, and the vehicles through which power is exercised. It is through

the “prime effects of power that certain bodies, certain gestures, certain discourses, certain desires, come to be identified and constituted as individuals” (p. 98). The effects of power make a teacher-subject part of knowledge and power relationships that form dominant discourses in education. Teachers also put themselves into discursive positions of becoming that both reinforce and undermine these discourses. As both the effect and the vehicle of power, teachers produce and sustain the discourses that “come to be identified and constitute [them] as individuals” ([Foucault, 1980a](#), p. 97).

Through the retold stories of the high school administrators and teachers, the present study revealed how public policy and technology discourses construct ideal or archetypal subject positions for teachers to emulate. Public policy discourses are implicated in constructing the ‘high performer’ subject who defends performative practices and willingly participates in their own objectification and subjectification in terms of that object under accountability regimes. Technology discourses project the archetype of the ‘innovator’ subject position who believes that technology is the key to preparing students for success in the digital age, willingly engages in transforming their teaching practices through technology to affect new learning experiences and sees himself or herself and others in terms of standards of individual technology competence.

In the situated case of the high school, there is an agonism between how teachers compare themselves to the high performer and innovator ideal subject positions. The results of the present study showed how teachers themselves use circumstances in their context to alter discourses to produce other possibilities for the critical subject positions they actually occupy, which are constituted in relation to the universalities of regimes of power and in relation to the spaces left free for altering representations of truth.

[Figure 1](#) reconfigures and extends [Bandeem’s \(2009\)](#) model to depict how power is circulated to form the boundaries of public policy, technology, and teacher discourses that in turn create the space for critical subject positions to be constructed in opposition to the ideal positions. The dashed lines represent the overlapping space and intersections between discourses.

The model identifies two translated subject positions that are constituted in reaction to the ideal high-performer subject: ‘conformist’ and ‘rebel’. These two subject positions emerge from practical secondary adjustments that teachers make to mediate the controlling effects of regimes of power on their lives. In constructing these alternative subject positions, they rearrange the high performer position to fit their work instead of rearranging their work around the ideals projected by public policy discourses.

In addition to more common critical subject positions based on silence, some high school’s teachers take the outward paths of ‘mediator’ and ‘professional’. The mediator simultaneously acts as an agent of change while also defending the power of teachers to retain control over their classroom practices – they live in both worlds. Like rebels, teachers who occupy the mediator subject position are also trying to make things work by tweaking the system, but they do so openly instead of covertly. They can switch alliances depending on the audience to productively play the game of micropolitics that goes on in the school instead of withdrawing or hiding from it. In contrast, the ‘professional’ is a resistant teacher who is openly criticizes and challenges the truths of public policy discourses to passionately defend the autonomy of teachers.

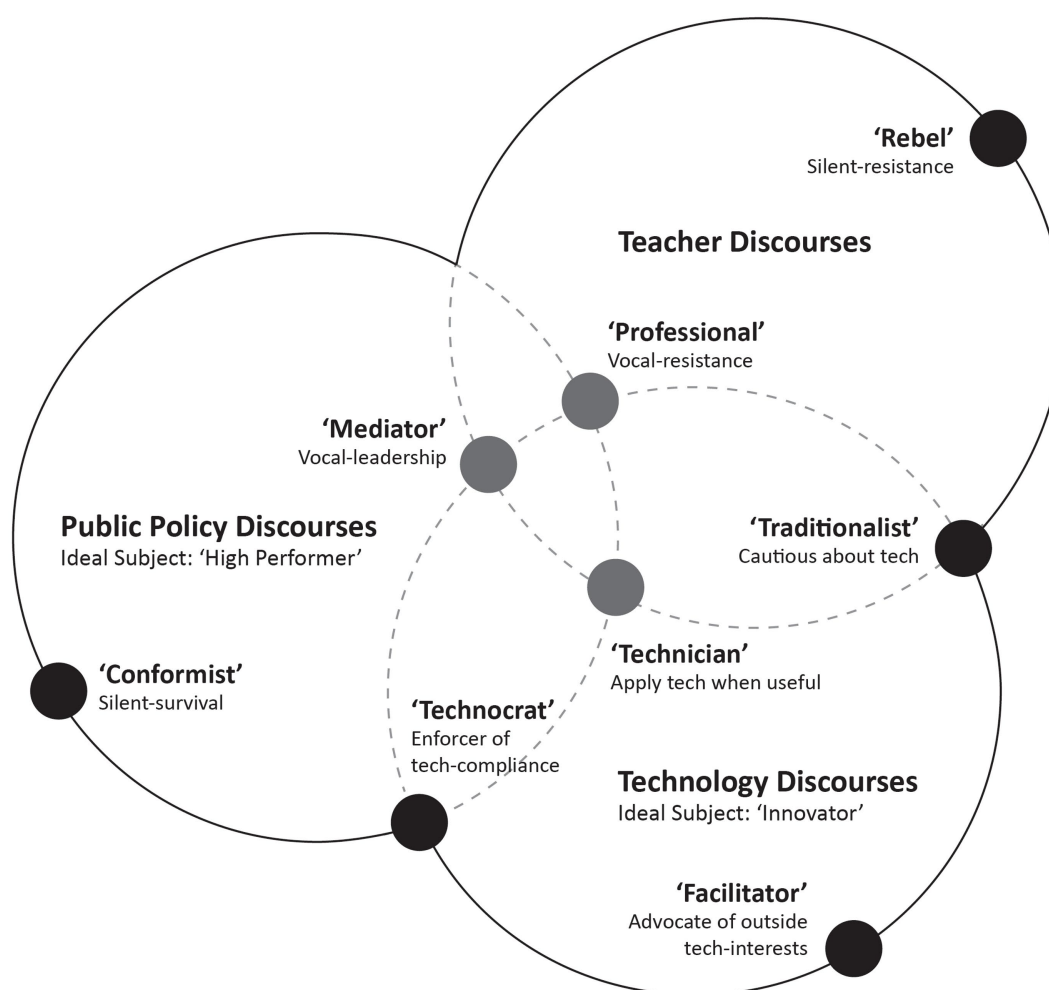


FIGURE 1

Overlapping discourses producing teacher-subject positions. Extending [Bande'en's \(2009\)](#) model, based on Foucault's theories, theorizing the emergency of teacher-subject positions at the intersections of discourses.

From the addition of technology discourses to [Bande'en's \(2009\)](#) models, what emerges are four other critical subject positions that teachers actually occupy: 'technocrat', 'technician', 'facilitator', and 'traditionalist'. The overlap of public policy and technology discourses produces the technocrat who believes effective technology integration is a mark of quality schools and teachers, and it is vital for bringing education into the digital age. Teachers who occupy the technocrat subject position talk about reengineering or reimagining education through technology-based education standards that reflect the wisdom to technology expects. The technocrat teacher subject asserts that technology-mediated learning offers new ways to diagnose and generate data on education that is helpful for tracking results and measuring performance.

Teachers who occupy the technician subject position generally buy into the values of technology discourses, but their acceptance comes with conditions. The technician teacher-subject is a realist that practically and cautiously applies technology for the purpose of enhancing their instruction and improving their results in the eyes of school administrators and others. The technician attempts to apply technology to both make themselves better performing teachers and to meet the technology literacy needs of students but engage with

technology only as far as it helps to make their lives easier and their instruction more engaging. They will not relinquish their freedom to technology completely. Instead, they attempt to minimize the influence of technology by altering how it works.

The facilitator teacher-subject is someone who takes a back seat to technology. Their class is completely automated, and students primarily learn through interaction with connected digital devices, often at a distance from direct contact with the teacher or other students. Like the earlier mentioned mediator who negotiates power relations between public policy and teacher discourses, the facilitator teacher subject frequently assumes a leadership role and is a technology change agent. He or she assists in reifying mainstream technology discourse by implanting into school culture the decontextualized reality of distant technology interests. As a go-between between technology and schools, having one foot in each world, teachers who assume the facilitator position can bridge the gap between technology interests and divergent teacher views to minimize the rigidity technology-mediated modes of teaching.

Teachers who occupy the traditionalist subject position are wary and critical of the automated aspects of teaching through technology. They are aware of the hidden effects of technology, its surveillance

functions, and how it intends to mediate their work. They are concerned that technology may impede their relationship with students, disempower their own teaching style, and compromise their ethics. The traditionalist teacher-subject often sees technology as just another complication that leads to disruptions in their classrooms. This anti-technology attitude is often negatively diagnosed by others as being unmotivated to change, lacking confidence or being incompetent, which are hypothesized as some of the reasons why traditionalists are slow to adopt technology and remain silent in their opposition.

5. Conclusion

The major finding of this study is that teachers can and do decide to constitute themselves in different ways than what is anticipated. This study differentiates itself from other studies by its unique focus on how teachers are influenced by discourses and how their psychology is affected, but they are not entirely controlled; other unexpected subject positions emerge from the shifting intersections and collisions of the public policy, technology, and teacher discourses. The major benefit of this study is in bringing into view the hidden ways technology is shaping the teacher-self and how teachers use certain advantages of the same technology to retain their autonomy and exercise power.

Teachers in the high school frequently shift between, combine, and transform the subject positions that are identified in their told stories. They do this to care for themselves and influence others in pursuit of their own personal objectives. Yet, it is through the appropriation of discourses that they interpret what it means to be a teacher. In their talk, the high school teachers often appear to be conflicted about what they believe because they feel compelled to simultaneously reflect the official position, assert their own position, and empathize with position of others.

Foucault's critical methods suggesting that in order to understand effects of what they are doing, teachers must grasp how the world of politics and the way they think about their profession are entwined and mutually reinforcing. By adopting Foucault's critical approach, the present study is significant in how it makes educators aware the effects of what they do to others and themselves as they try to live up to the ideals projected by different dominant discourses in education. The present study is beneficial in that it opens the door for changes to education that may allow greater possibilities for reflectivity, and thus encourage educators to begin to see themselves from outside. By

unraveling complex fields of power and making them visible, teachers are supported in governing themselves to a greater degree. This study is perhaps most significant to those who see themselves in the high school teachers' reactions to the discourses that were made visible through the Foucauldian analysis.

Data availability statement

The datasets presented in this article are not readily available for confidentiality reasons. Requests to access the datasets should be directed to patrick.rose@bsl-lausanne.ch.

Ethics statement

The studies involving human participants were reviewed and approved by the Institutional Review of Auburn University (AU) (Approval Number: 14071-991,403). The patients/participants provided their written informed consent to participate in this study.

Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

- Bandeem, H. M. (2009). Elusive practices of gender, power and silence: theorizing the power of elementary teachers in the policy epidemic *Doctoral dissertation* The Ohio State University. OhioLINK Electronic Theses and Dissertations Center. Available at: http://rave.ohiolink.edu/etdc/view?acc_num=osu1248292175
- Creswell, J. W. (2007). *Qualitative inquiry and research design: choosing among five approaches (2nd)*. Thousand Oaks, CA: Sage.
- Dean, M. (1999). *Governmentality: power and rule in modern society*. London: Sage Publications.
- Dreyfus, H. L., and Rabinow, P. (1984). *Michel Foucault: beyond structuralism and hermeneutics*. Chicago: Routledge. Available at: <https://press.uchicago>
- Foucault, M. (1980a). *Power/knowledge. A selected interviews and other writings 1972–1977*. New York: Pantheon Books.
- Foucault, M. (1980b). *The history of sexuality: an introduction (1)*. New York, NY: Vintage House.
- Foucault, M. (1984). "The subject and power" in *Michel Foucault: beyond structuralism and hermeneutics*. eds. H. L. Dreyfus, P. Rabinow and M. Foucault (Chicago: University of Chicago Press)
- Foucault, M. (1988b). "Truth, power, self" in *Technologies of the self: a seminar with Michel Foucault*. eds. L. H. Martin, H. Gutman and P. H. Hutton (Mass: Amherst)
- Foucault, M., and Blasius, M. (1993). About the beginning of the hermeneutics of the self: two lectures at Dartmouth. *Political Theory* 21, 198–227. doi: 10.1177/0090591793021002004

- Foucault, M., and Kritzman, L. D. (1988a). *Politics, philosophy, culture: interviews and other writings, 1977–1984*. New York: Routledge.
- Foucault, M., and Sheridan, A. (1977). *Discipline and punish: the birth of the prison*. London: Penguin Books.
- Gilliom, J. (2008). Surveillance and educational testing: no child left behind and the remaking of American schools, M. Deflem (Ed.). *Surveillance and governance: crime control and beyond* (305–326). Bingley, UK: Emerald Group
- Goffman, E. (1961). *Encounters: two studies in the sociology of interaction*. Indianapolis, IN: Bobbs-Merrill.
- Gore, J. M. (1995). On the continuity of power relations in pedagogy. *Int. Stud. Sociol. Educ.* 5, 165–188. doi: 10.1080/0962021950050203
- Hargreaves, A. (1994). *Changing teachers, changing times: teachers' work and culture in the postmodern age*. London: Cassell.
- Harland, C. M. (1995). The Dynamics of Customer Dissatisfaction in Supply Chains. *Production Planning and Control, Special Issue on Supply Chain Management*, 6, 209–217. doi: 10.1080/09537289508930273
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *Horizon* 9, 1–6. doi: 10.1108/10748120110424816
- Rose, N. S. (1999). *Powers of freedom: reframing political thought*. Cambridge, United Kingdom: Cambridge University Press
- Rose, P. A. (2022). The tug-of-war over truth: a Foucauldian case study on the interplay of competing discourses in education. *Front. Educ.* 7:840403. doi: 10.3389/feduc.2022.840403
- State Department of Education (2015). Compliance monitoring manual self-assessment. Available at: <https://www.alsde.edu/sec/cm/SelfAssessment/Self-AssessmentManualfor2015-2016.pdf>

Frontiers in Psychology

Paving the way for a greater understanding of human behavior

The most cited journal in its field, exploring psychological sciences - from clinical research to cognitive science, from imaging studies to human factors, and from animal cognition to social psychology.

Discover the latest Research Topics

[See more →](#)

Frontiers

Avenue du Tribunal-Fédéral 34
1005 Lausanne, Switzerland
frontiersin.org

Contact us

+41 (0)21 510 17 00
frontiersin.org/about/contact

