NEW PROFESSIONALISM AND THE FUTURE OF WORK: INTERDISCIPLINARY PERSPECTIVES ON TRANSFORMATIONS IN BUSINESS-HEALTH RELATIONSHIPS

EDITED BY: Gabriele Giorgi, Nicola Mucci, Annamaria Di Fabio and Antonio Ariza-Montes

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NEW PROFESSIONALISM AND THE FUTURE OF WORK: INTERDISCIPLINARY PERSPECTIVES ON TRANSFORMATIONS IN BUSINESS-HEALTH RELATIONSHIPS

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Editorial on the Research Topic

New Professionalism and the Future of Work: Interdisciplinary Perspectives on Transformations in Business-Health Relationships

INTRODUCTION

This special issue provides new perspectives into the future of work and it focuses on how innovation, entrepreneurship, and the evolution of digital robotics could influence health and productivity of individuals and enterprises. The world of work is changing rapidly, especially in terms of increasing digitalization and robotic innovation. Such a scenario may represent an opportunity for workers who adapt themselves, but also a potential source of stress and poor well-being for those subjects less inclined to change (e.g., Salanova and Llorens, 2013; Berg-Beckhoff et al., 2017; Richardson, 2017; Leso et al., 2018).

The concept of the classic workplace is also deeply changing, due to the possibility of working anytime and everywhere using portable devices connected to the Internet. All these aspects have led to the development of new skills and the growth of opportunities for digital workers However, not all of the workforce is ready to face these changes. For these reasons, the complex relationships between a changing way of working and the consequent reactions of workers and companies, are worthy to be investigated with an empirical approach. Several scientific reports are aimed at deepening the understanding of these issues and suggesting proactive strategies to manage the complex and newsworthy challenges of the "future of work."

The majority of the 11 manuscripts published in this special issue are empirical contributions, coming from different geographical regions, such as Eastern-Europe, South Europe, Africa, and India, and involving multiple research areas (organizational psychology, occupational medicine, management, technology, social sciences). These research areas offer a variety of perspectives on the consequences of an imbalance between the new job demands related to the future work and the coping strategies devised by workers. Moreover, these research areas contribute to the promotion of an interdisciplinary approach aimed at improving workers' general well-being, self-efficacy, satisfaction, and productivity.

The manuscripts, when considered together, bring out three relevant aspects. First, new technologies and digitalization have a significant impact on workers' performance and well-being. By virtue of the fact that both new skills and a great adaptability are required, not everyone is able to follow this epochal progress. Second, academic education and vocational trainings seem to be crucial to provide workers with high self-perceived

employability, self-efficacy, and satisfaction. These training programs should be provided to both new generation and elderly workers, who are often less prone to change. Third, the existence of a good work climate, the promotion of a supportive work environment and the development of strong social relationships, can moderate the side effects of the future work on the overall workforce.

OVERVIEW OF ARTICLES IN THIS RESEARCH TOPIC

The 11 manuscripts published in the special issue investigated and discussed several crucial aspects of the future world of work.

Following the setting of this Research Topic, three manuscripts treat the consequences of new ways of organizing work, such as time-spatial flexibility, work-related smartphone use, and technological changes.

The use of portable devices constantly connected to the Internet is deeply changing the way work is performed, with putative effects on psychological well-being, work organization and performance. The article of Van Laethem et al., through a diary study conducted in a sample of 115 employees, investigated daily smartphone use after and during work and its association with psychological detachment and work engagement. Results suggest that an intensive smartphone use after work hampers employees' psychological detachment. Conversely, intensive smartphone use during work undermines their work engagement, but only when employees experience high workplace telepressure as well.

The study conducted by Wessels et al. considers the theoretical model of time-spatial job crafting, discussing its components and antecedents and explaining how time-spatial job crafting is related to positive work outcomes through a time/spatial-demands fit. Starting from some individual and organizational antecedents through the time-spatial job crafting, it could be possible to develop some positive outcomes at an individual and organizational level, such as work engagement, performance and work-life balance, personal job fit, and organizational commitment. The time-spatial flexibility seems to contribute to a better organization of work and social life, also influencing performance and well-being.

The paper by Ghislieri et al., through a short review, discussed two important open issues of the industry 4.0. In detail, they focused primarily on the relationship between workers and technological changes in the era of intense expansion of automation in the workplace, and how this can affect workers' well-being, employment and equality. Secondly, they pointed out how job transformation could influence knowledge and skills requirements in the work of the future. An interesting aspect is the crucial role of trainers, educators, and policymakers in preventing skill obsolescence and fostering the continuous development and update of the expertise required by the future of work.

Three articles are focused on the relationship between personal resources and individual outcomes.

In the first article, Dražić et al. investigated the relationship among self-perceived employability, ambition and locus of control, which is intended as where a person situates the causation of various life events. The study was conducted in a sample of undergraduate psychology students. The results show that career ambition plays a mediating role in the relationship between the locus of control and employability. Furthermore, students perceived personal capabilities and ambition as internal strengths and lack of ambition as a major internal weakness. In other terms, developing and sustaining career ambition could lead to students' perception of better employability, especially in some regions with high unemployment rates, and where the global economic crisis has been more intense.

In the second article, Atitsogbe et al. investigated, through a multi-group path analysis, the relationship between personal resources (in terms of career adaptability and general self-efficacy) and career outcomes (in terms of self-perceived employability and entrepreneurial intentions) in an overall sample of 550 subjects of a West African country. The results showed that career adaptability and general self-efficacy were positively related to self-perceived employability, while only general self-efficacy was related to entrepreneurial intentions. By engaging an activation of resources, career adaptability seems to be particularly relevant for employability. Considering the high unemployment rates in the region where the study was conducted, these results might provide insights into the occupational integration challenges in such contexts.

In the third article, Pedrazza et al. investigated job satisfaction and perceived self-efficacy within the context of residential child-care. They found that attachment style and length of service are antecedents of both work-related self-efficacy and job satisfaction. Moreover, the relational issues seem to play a role in shaping the educators' satisfaction at work.

Five studies explored the possible consequences of work climate on workers' outcomes.

The main objective of the study performed by Benevene et al. was to investigate how job satisfaction could mediate the relationship between physical and mental health, and happiness and self-esteem in a sample of 300 Indian teachers. Results of the multiple linear regression showed that job satisfaction fully mediates between both happiness and self-esteem, and health. These results suggest the importance of developing policies to promote job satisfaction among teachers, and the need to deepen the mechanisms of job dissatisfaction.

On the other hand, as reported in the study by Di Marco et al., a work climate characterized by a discriminatory environment can affect workers well-being, and this effect is partially mediated by job autonomy. Experiencing a discriminatory work environment can undermine workers' psychological well-being. Some job resources, such as job autonomy and social support, might reduce its negative effects. Anyhow, resources based interventions need to be tailored to workers' needs in order to obtain the best results.

The aim of the study conducted by Boštjančič et al. was to investigate the relationship between corporate volunteering programs and job characteristics, connected with work engagement. The results indicate that employees whose employers have implemented volunteering programs are more engaged and report higher levels of both autonomy

and support from their co-workers and supervisors. As well as being more social responsible, companies that promote corporate volunteering climate could improve engagement and performance of workers.

Managing human resources to increase productivity and workers' outcomes is a main challenge for companies that want to excel in an increasingly competitive world of work. As reported in the article by Boštjančič and Slana, companies may use various approaches and activities to attract and develop talented employees in the so-called "war for talent." With an exploratory approach and using the method of semi-structured interviews, the Authors collected information about 21 Slovenian professionals. They found that the majority of enrolled resources are annually evaluated in terms of achieved goals and provided performances. On average 7% of employees are recognized as talented, and the largest number of companies try to attract talented employees through various activities and the planned development of the employer's brand. Moreover, the majority of companies are transparent in their communications with talented employees, but the biggest challenge remains how to attract talented employees and how to position the organization as a desirable employer.

The study conducted by Van der Heijde et al. investigated the role of age in the relationship between perceptions of learning climate and self-rated and supervisor-rated employability in seven European countries (Germany, Greece, Italy, the Netherlands, Norway, Poland, and the United Kingdom). The results confirmed that the relationship between age and perceptions of learning climate is negative, the model also showed a strong positive relationship between learning climate and self-rated and supervisor-rated employability. Furthermore, perceptions of learning climate appeared important for employability irrespective of life or career stage This finding suggests the need to improve lifelong employability by means of a supportive and learning climate.

CONCLUSIONS

Overall, the manuscripts included in this special issue reported findings from a cumulative sample of over 3,200 workers,

and perspectives from 50 authors. This scenario suggest that the continuous transformations in the workplace represent a big challenge for both companies and workers. In particular, companies have a strong need to develop new strategies to improve both well-being and performance of workers, and to sustain employability of new generation of workers. On the other hand, elderly workers, who often have more difficulty managing new technologies, should be supported both with a specific learning climate and tailored training courses.

We believe that the changes in the world of work should be managed by offering adequate organizational strategies aimed to improve both satisfaction and well-being of workers, and to guide companies in the forthcoming "fourth industrial revolution."

Considering the close link between human and organizational resources, simultaneously affected by the same work transformations, we would like to mention the *motto* of the Business@Health Laboratory of the European University of Rome (www.uerbusinesshealth.com): *"business doesn't exist without workers' health and workers' health is business."* Our hope is that the manuscripts contained in this special issue can guide stakeholders in the improvement of organizational practices for all the professionals involved in this epochal changes, in the promotion of workers' well-being through a supportive work environment, in the design of increasingly effective training programs, and in the development of inclusive social and economic policies (e.g., Aronsson et al., 2017; Paganelli et al., 2018).

AUTHOR CONTRIBUTIONS

GG, NM, AD, and AA-M equally contributed to all the following issues of the Editorial: conception of the work, acquisition, analysis, or interpretation of data from the contributions, drafting the work and critically revising it, final approval of the version to be published, agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Be Friendly, Stay Well: The Effects of Job Resources on Well-Being in a Discriminatory Work Environment

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Many studies have focused on the negative effects of discrimination on workers' well-being. However, discrimination does not affect just victims but also those people who witness discriminatory acts or who perceived they are working in a discriminatory work environment. Although perceiving a discriminatory work environment might be a stressor, the presence of job resources might counteract its negative effects, as suggested by the Job Demand-Resources model. The goal of this study is to test the effect of perceiving a discriminatory work environment on workers' psychological well-being when job autonomy and co-workers and supervisor support act as mediator and moderators respectively. To test the moderated mediation model data were gathered with a sample of Italian 114 truckers. Results demonstrated that job autonomy partially mediates the relationship between perceiving a discriminatory work environment and workers' well-being. Main interactional effects have been observed when co-workers support is introduced in the model as moderator, while no main interactional effects exist when supervisor support is introduced. Theoretical and practical implications are discussed.

Keywords: discriminatory work environment, workers' well-being, job resources, job autonomy, social support, occupational medicine

INTRODUCTION

It is well-known that current societies and workplaces are becoming more diverse, due to several reasons, such as the shortening of geographical distances and the free movement of people (Arenas et al., 2017). Even in those countries that have developed a legislative framework which protects people who belong to vulnerable groups, discrimination is still a contemporary issue to solve. According to the last report on Discrimination in European Union (EU) (European Commission, 2015), European people think that discrimination on the grounds of ethnic origins is widespread in EU (64%), followed by sexual orientation (58%), gender identity (56%), religion beliefs (50%), and disabilities (50%). And the list might continue. Data about equal opportunities in employment are not better, being elder people (56%), people who belong to an ethnic minority (46%), and people with disabilities (46%) those are perceived as the most discriminated against during the recruitment process (European Commission, 2015).

The negative effect of discrimination is not suffered only by victims. Past research has shown that witnessing discriminatory behaviors or perceiving a discriminatory work environment might have negative effects on workers' well-being (Trau, 2015; Di Marco et al., 2016). In fact, workers might perceive the work context as hostile and be afraid about being the next victim.

Although perceiving a discriminatory work environment might constitute a stressor, organizations can provide instrumental or affective resources (e.g., job autonomy, social support, etc.) able to alter its adverse effects.

The goal of this article is trying to discover the role of job autonomy (as mediator) and social support (as moderator) in the relationship between perceiving a discriminatory work environment and workers' well-being. In order to validate the role of such job resources a moderated-mediation model will be tested. Such relationships will be analyzed with a specific group of workers: truck drivers. Although much research has focused on people employed in this occupation, most of it analyzed truck drivers' health in terms of sleeping problems (Braeckman et al., 2011), health knowledge (Versteeg et al., 2018), fatigue (Meng et al., 2016), food habits (Hamilton and Hagger, 2018), etc. However, to our knowledge, there are not studies that analyzed the effect of perceiving a discriminatory work environment on well-being. In fact, although most of the time truck drivers do not share a physical work environment with other co-workers, they maintain contact with supervisors or colleagues at the head office; moreover, they are constantly in contact with customers (Occupational Information Network, 2018).

This article offers three main contributions: firstly, it allows advancing in the field of discriminatory behaviors at work, explaining some mechanisms and factors that might alter the negative effects of discrimination on workers' well-being. Secondly, it sheds light on the effectiveness of the resources based interventions, showing that not all types of resources are useful to counteract specific demands. Finally, it offers to human resource managers tools to counteract the prejudicial effects of discrimination at work.

Affected by a Discriminatory Work Environment: The Prejudicial Effects on Well-Being

The negative effects of discrimination on victims' well-being have been explored by several studies (Pascoe and Smart Richman, 2009; Volpone and Avery, 2013; Ek et al., 2014; Di Marco et al., 2015; Welbourne et al., 2015; Halim et al., 2017; Medina and Gamero, 2017). Discrimination is a stressor which reduces physical and psychological health, produce chronic pain, reduce self-esteem, decreases job satisfaction, and increases job tension (Ensher et al., 2001; Paradies, 2006; McGonagle and Hamblin, 2014).

Research on discrimination distinguishes between overt and covert (subtle) forms of discrimination (Hebl et al., 2002; Chao and Willaby, 2007; Jones et al., 2016). Given the widespread undesirability of discriminatory behaviors, specially in those countries where vulnerable groups are protected at a legislative level, people try to behave in an egalitarian way (Cortina, 2008),

particularly when internally motivated by beliefs about equality (Butz and Plant, 2009). However, even those people who believe in equality, might still hold prejudice and negative stereotypes at an unconscious level. Thus, negative attitudes against some groups might be expressed by means of subtle discriminatory acts (Dovidio, 2001; Cortina, 2008). Recently, a multidimensional framework for explaining discrimination recognizes three different continuums that entail subtlety, formality, and intentionality (Jones et al., 2017). Discriminatory behaviors might be subtle vs. overt; formal (work-related) vs. informal (interpersonal); and with a clear vs. ambiguous intention to harm the victim.

Discrimination is a stressor for victims, but also for bystanders. Past research has shown that witnessing discrimination or perceiving a discriminatory work environment might be prejudicial for workers' well-being (Schmader et al., 2012; Di Marco et al., 2016). Even those people who do not belong to any protected groups might feel threatened by such behaviors, perceiving an unsafe work environment. Therefore, according to previous research, perceiving a discriminatory work environment is also considered a stressor (Di Marco et al., 2016), a demand which affects negatively workers' well-being.

However, the negative effects of perceiving a discriminatory work environment might be counteracted by organizations by offering other resources able to eliminate or mitigate the effects of such stressor. Such process might be understood through the lens of the Job Demand-Resources (JD-R) Model (Demerouti et al., 2001), a theoretical framework which categorizes organizational factors in two wide groups: demands and resources. Demands are those factors which entail an emotional or cognitive effort and produce consequences at a physical or psychological level. For instance, workload, work pressure, and role ambiguity are considered demanding factors. As stated before, perceiving a discriminatory work environment is also a demand. However, according to the JD-R Model, the negative effects of high demands might be counteracted by the presence of resources, which constitutes a set of emotional or physical factors that help workers to achieve their goal, reduce the costs associated to organizational demands, and motivate people to personal development (Bakker and Demerouti, 2006). Might job resources be useful when workers perceiving a discriminatory work environment?

The Role of Job Resources in a Discriminatory Work Environment

Job resources are useful to counteract the negative effects of high job demands (Bal et al., 2017), but they are also important *per se*. For instance, co-workers' and supervisors' support, or instrumental resources are considered job resources (Demerouti et al., 2001). Therefore, job demands and job resources interact. Although job demands and job resources covary, in a recent work Bakker and Demerouti (2017) remember that the sign of the correlation between them is a research question for future studies. It depends on several factors, such as the work sector, the hierarchical position, etc. For instance, people in a managerial position might face more demands but they would also have more

resources available to cope with them (Bakker and Demerouti, 2017). Moreover, it might depend on the type of demands that workers have to face. In the following sections we are going to examine two types of resources that might counteract the negative effects of perceiving a discriminatory work environment.

The Mediating Role of Job Autonomy

Job autonomy, in terms of workers' degree of decisional power about how and when develop their tasks (Parker, 2014), is considered as a job resource. The concept of job autonomy entails several dimensions, given that it is possible to have autonomy in terms of when, how and with which means developing a task (Morgeson and Humphrey, 2006). Several studies have demonstrated the positive outcomes of job autonomy: it improves well-being, job satisfaction, and motivation; it also diminishes job exhaustion, turnover intentions and work-family conflict (Spector, 1986; Clark, 2002; Kossek et al., 2006; Fernet et al., 2012; Park and Searcy, 2012; Gaille, 2013; Kubicek et al., 2017).

However, perceiving a discriminatory work environment might inhibit people from using job autonomy or might have detrimental effect on the perception of job autonomy. For instance, past studies on sexism showed that women who perceive workplace sexism also perceive less job autonomy (Manuel et al., 2017). Therefore, if discrimination might reduce the perception of job autonomy, it also might decrease the positive effects of such job resource.

Moreover, past studies have considered the mediating role of job autonomy. Previous research (Fernet et al., 2012) has demonstrated that job autonomy mediates the relationships between work overload and emotional exhaustion, between social support and emotional exhaustion, and between job control and emotional exhaustion. When workers perceive a high level of job autonomy, they might feel free to avoid those situations that are perceived as more discriminatory, given the flexibility they have in terms of how, when, and where develop their task. Therefore, a high perception of job autonomy might contribute to eliminate the negative effects of perceiving a discriminatory work environment on workers' well-being:

Hypothesis 1: Workers' perception of job autonomy will mediate the relationship between perceiving a discriminatory work environment and workers' well-being.

The Buffering Effect of Social Support

Another job resource traditionally studied is social support, a multidimensional construct that entails several facets (Bowling et al., 2004). It refers to psychological and material resources that people receive from their network in order to overcome stressful situations (Cohen, 2004). People might perceive emotional support, instrumental, and informational support. At the workplace, such types of support are conveyed by the feeling that colleagues and supervisors care for one (emotional support); that the others are open to help one in development of his/her tasks (instrumental support); and that the others can provide important information to cope with stressful situations (informational support) (Viswesvaran et al., 1999; Cohen, 2004).

As well as job autonomy, social support is considered a job resource (Bakker and Demerouti, 2006). Several studies have analyzed the effect of social support on workers' well-being (Cohen, 2004; Kossek et al., 2011). In line with such studies, perceiving social support is important in reducing the negative effects of stressful situations, by diminishing the level of threat perceived by a person. Perceiving support diminishes job strain, moderates the effect of stress on psychological well-being, and increases job satisfaction (Kawachi and Berkman, 2001; Cohen, 2004; Caesens et al., 2014; Blanch, 2016).

Social support, at organizations but also in the daily life, is a resource that might counteract the prejudicial effects of being victim of discrimination (Brondolo et al., 2009; Ajrouch et al., 2010; O'Brien et al., 2016). A study developed with African–American mothers demonstrated that perceiving everyday discrimination produce psychological distress that might be buffered by emotional support (Ajrouch et al., 2010). Social support has also been studied as a coping strategy applied by those people who are victim of discrimination (Brondolo et al., 2009).

Given the buffering effect of social support on workers' well-being when they are victims of discrimination, we hypothesize that social support will also reduce the negative effects of perceiving a discriminatory work environment on well-being.

Two specific sources of social support at the workplace are co-workers and supervisors, support. Several studies have shown the buffering effect of supervisor support on the relationship between being victim of discrimination and well-being (e.g., O'Brien et al., 2016) but less it is known about the buffering role of co-workers support. However, the role of bystanders has been recognized as important in other types of mistreatment, such as bullying: witnesses might offer a valid support, although they are not always able to intervene (D'Cruz and Noronha, 2011; Mulder et al., 2014).

For this reason, we are going to test separately the buffering effect of supervisors and co-workers support:

Hypothesis 2a: Co-workers' support will moderate the relationship between perceiving a discriminatory work environment and workers' well-being: the more people receive co-workers support, the less perceiving a discriminatory work environment will affect workers' well-being.

Hypothesis 2b: Supervisor support will moderate the relationship between perceiving a discriminatory work environment and workers' well-being: the more people receive supervisor support, the less perceiving a discriminatory work environment will affect workers' well-being.

MATERIALS AND METHODS

Participants and Procedure

Participants were 114 Italian truckers. The survey was carefully administered by a psychologist, ensuring anonymity, and privacy rules as well as helping the full comprehensions of items. The time required to administer the test to each individual was 30 min. Administration was carried out by common agreement at the end of the working day in groups that did not exceed 4/5 units.

It is not surprising that all participants were men, given that truck industry is a sector prevalently male dominated (Lichtenstein et al., 2008). Only a minor group (3.5%) holds a permanent contract, while the majority (95.5%) had temporary contract. 65.8% of participants have worked at the organization less than 15 years, while 34.2% have worked for a longer period.

Data were collected through a self-reported questionnaire and participants were informed about the anonymity and confidentiality of the survey.

Measures

Discriminatory Environment ($\alpha = 0.79$)

Participants answered the subscale of the Stress Questionnaire (SQ) developed by Giorgi et al. (2013). The subscale comprises seven items which measure to what extent people think that their organization discriminate on the bases of race, age, sexual orientation, religion, disabilities, or ideology. Responses were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of item is "People in this organization may be exposed to stress or risks to a greater extent because of their sexual orientation."

Psychological Well-Being ($\alpha = 0.70$)

The 12-item Goldberg's (1972) General Health Questionnaire, developed by Fraccaroli et al. (1991), was used. The scale comprises 12 items which measure perceptions about participants' psychological well-being in the last weeks. Items were rated according to a four-point scale, from 0 (less than usual) to 3 (much more than usual). Higher score evidences a higher degree of psychological distress; therefore, participants' final results in this scale may oscillate between a minimum of 0 points and a maximum of 36 points. An example of an item is "You feel unhappy and depressed."

Supervisor Support ($\alpha = 0.76$)

A subscale of the SQ developed by Giorgi et al. (2013) was used. The subscale comprises four items which measure to what extent workers receive help and support from their supervisors. Responses were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of item is "I can count on my supervisor when I have a problem at work."

Co-workers Support ($\alpha = 0.67$)

Participants answered a subscale of the SQ developed by Giorgi et al. (2013). The original subscale comprises five items which measure the level of co-workers support perceived by participants. Since the reliability is higher if the item "It is difficult to receive the help of my colleagues in a difficult moment" is eliminated, we only use four items. Responses were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of item is "I receive the help and support I need from my co-workers."

Job Autonomy ($\alpha = 0.70$)

A subscale of the SQ developed by Giorgi et al. (2013) was used. The original subscale comprises five items which measure to what extent workers perceive autonomy when they carry out their work. Since the reliability is higher if the item "I can decide when having a break" is eliminated, we only use four items. Responses were scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example of item is "I can plan and program my work."

Sociodemographic Data

Participants also reported sex (female or male), seniority (less than 15 years or more than 15 years), and type of contract (permanent or temporary).

Analyses

Pearson correlation analyses were carried out to explore the association between variables included in the study. In order to test the mediational power of the job autonomy in the relationship between perceiving a discriminatory work environment and health (H1), we use PROCESS macro for SPSS (model 4) (Hayes, 2013). To test the buffering effect of co-workers support and supervisor support on the third path (perceiving a discriminatory work environment – psychological well-being) of the mediation model above described, we performed the model 5 of the PROCESS macro for SPSS.

RESULTS

Table 1 presents means, standard deviations and correlations of all the variables considered in our model.

As stated before, higher rates of psychological well-being mean psychological distress. For this reason, the relationship between experiencing a discriminatory work environment and psychological well-being is positive, and also significant. Moreover, perceiving a discriminatory work environment is significantly related with the job resources involved in this study: job autonomy, co-workers support, and supervisor support. In these cases, the relationship is negative. Truckers' psychological well-being correlates negatively with all the job resources present in the study. Thus higher rates of psychological distress are associated with lower rates of job autonomy, co-workers support, and supervisors support.

To test our hypotheses, the model 4 of PROCESS macro for SPSS (Hayes, 2013) was used. Firstly, the mediation hypothesis was tested (H1) and it resulted partially confirmed. In fact, results show that perceiving a discriminatory work environment is negatively and significantly related with job autonomy ($p < 0.01$; $R^2 = 0.06$). Job autonomy is also significantly and negatively related with psychological well-being ($p < 0.01$; $R^2 = 0.25$). Therefore, people with higher rates of job autonomy will report less psychological distress. On the contrary, perceiving a discriminatory work environment is related positively and significantly with workers' psychological well-being, enhancing their psychological distress ($p < 0.01$; $R^2 = 0.18$). However, when job autonomy is introduced as mediator the effect of perceiving a discriminatory work environment on psychological well-being is reduced ($p < 0.01$; $R^2 = 0.06$) but still significant (see **Table 2**). For this reason, H1 is partially confirmed.

	M	SD	1	2	3	4	5
(1) Discriminatory work environment	2.18	0.79	–				
(2) Psychological well-being	19.66	3.70	0.42**	–			
(3) Supervisor support	4.01	0.85	−0.39**	−0.23*	–		
(4) Co-workers support	3.60	0.73	−0.30**	−0.37**	0.15	–	
(5) Job autonomy	3.84	0.64	−0.24**	−0.36**	0.21*	0.38**	–

N = 114; *p < 0.05; **p < 0.01.

TABLE 2 | Regression results for mediation.

Variable	b	SE	t	P	LLCI	ULCI
Direct and total effects						
JA regressed on D (a)	−0.19	0.07	−2.62	0.009	−0.34	−0.05
PWB regressed on JA, controlling D (b)	−1.58	0.49	−3.22	0.001	−2.55	−0.61
PWB regressed on D, controlling JA (c)	1.97	0.40	4.93	0.000	1.18	2.77
PWB regressed on D (c′)	1.66	0.40	4.21	0.001	0.88	2.45
	Value	**SE**	**z**	**P**		
Indirect effect and significance using normal distribution						
Sobel	0.31	0.15	1.98	0.047		
	M	**SE**	**LLCI**	**ULCI**		
Bootstrap results for indirect effect						
Effect	0.31	0.21	0.02	0.89		

N = 114. D, discriminatory work environment; JA, job autonomy; PWB, psychological well-being; LL, lower limit; UL, upper limit; CI, confidence interval. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000.

The resampling procedure (10,000 bootstrap samples) indicates a significant indirect effect, since the confidence interval at 95% does not include the value zero (k^2 = 0.07; bootstrapped 95% CIs of 0.01–0.17) (Preacher and Hayes, 2008). Our mediation model explains 25% of employees' psychological well-being variance [$F(2,111)$ = 18.37; $p < 0.01$].

To test the buffering effect of the co-workers (H2a) and supervisor support (H2b) on the relationship between perceiving a discriminatory work environment and psychological well-being, mediated by job autonomy, we performed the model 5 of PROCESS macro for SPSS (Hayes, 2013). Results partially supported H2a. However, although experiencing a discriminatory work environment has an indirect effect on workers' psychological well-being through job autonomy, bootstrap CIs showed that this effect does not exist with higher level of co-workers support (see **Table 3**).

Results do not support H2b since main interaction effects were not found ($B = -0.49$, $SE = 0.50$, $p = 0.335$). Therefore, supervisor support does not buffer the relationship between perceiving a discriminatory work environment and psychological well-being.

DISCUSSION

This study aimed to understand the role of job resources when a discriminatory work environment is perceived by workers. In line with previous studies, we confirm that job

autonomy is an important resource connected with psychological well-being (Park and Searcy, 2012). Results also showed that job autonomy partially mediates the relationships between perceiving a discriminatory work environment and workers' psychological well-being. Therefore, people who can decide how, when and where developing their tasks might feel less affected at psychological level by a discriminatory work environment, since they can avoid it.

Moreover, this study explores the buffering effect of social support (from co-workers and supervisor) in the relationship between discriminatory work environment and psychological well-being, mediated by job autonomy. Our results showed that a main interaction exists when co-workers support is taken into account, but it does not in the case of supervisor support. Thus, co-workers help in coping with the negative effects of a discriminatory work environment when workers also experiment job autonomy.

Although a negative correlation exist between supervisor support and perceiving a discriminatory work environment, this specific job resource is not helpful when workers perceive a discriminatory work environment. This result was unexpected, given the role of supervisor support in buffering the relationship between discrimination and well-being (O'Brien et al., 2016). However, we have to consider that our sample is composed by truckers, people who might spend the majority of their time traveling and who might maintain few contacts with their supervisors. Therefore, in this specific job, co-workers

TABLE 3 | Moderated mediation analysis for discriminatory work environment, job autonomy, psychological well-being, and co-workers support.

Predictor	b	SE	t	p	LLCI	ULCI
Job autonomy						
Constant	3.83	0.06	64.74	0.000	3.72	3.95
D	−0.19	0.09	−2.05	0.427	−0.38	−0.01
Psychological well-being						
Constant	23.33	1.95	11.97	0.000	19.47	27.19
JA	−1.03	0.48	−2.13	0.035	−1.20	−0.07
D	1.17	0.34	3.38	0.001	0.48	1.85
CWS	−0.77	0.38	−2.05	0.042	−1.52	−0.03
D × CWS	−1.78	0.74	−2.41	0.017	−3.25	−0.32

Values[a]	Conditional indirect effect at values of JA				
Co-worker support	Boot indirect effect	Boot SE	p	LLCI	ULCI
−0.73	2.47	0.69	0.000	1.10	3.84
0.00	1.17	0.34	0.001	0.48	1.85
0.73	−0.13	0.59	0.823	−1.29	1.03

N = 114. [a]Range of values of the output provided by the macro. D, discriminatory work environment; CWS, co-workers support; JA, job autonomy; PWB, psychological well-being; LL, lower limit; UL, upper limit; CI, confidence interval. Unstandardized regression coefficients are reported. Bootstrap sample size = 10,000.

support might be more powerful in coping with a discriminatory work environment than supervisors support. Moreover, truck drivers might have more autonomy than workers in other occupations. According to that, it is also possible that people who share a physical work environment with other colleagues might be more affected by the perception of a discriminatory work environment. Thus, future studies should reply this moderated mediation model with workers of other sectors.

We have also seen that higher levels of co-workers support do not work as moderator. Thus higher levels of co-workers support, in a model where job autonomy is also present, might have a non-linear effect on workers psychological well-being. Future studies should explore this possibility and longitudinal studies should be carry out (Boyd et al., 2011).

Resources based interventions are useful tools to improve people's work experience. However, as other researchers have highlighted (Baumeister and Alghamdi, 2015), this kind of interventions need to be adjusted to a specific target. Therefore, although we have seen that supervisor support does not moderate the mediation model we tested with truckers, it represents a powerful resource that might contribute to the well-being of workers of others sectors/job positions. Moreover, the effects of resources need to be understood within the JD-R Model. As stated above, job demands and resources covary (Bakker and Demerouti, 2017), but the sign of their relationship depends by many factors (e.g., hierarchical position, sector, etc.). Therefore, higher levels of job resources do not mean working under lower demands and *vice versa*. This might explain why higher levels of co-workers support are not useful to buffer the relationship between perceiving a discriminatory work environment and workers' psychological well-being.

This study makes several contributions. At theoretical level, it improves our understanding about how job resources counteract the negative effects of perceiving a discriminatory

work environment. It also showed that the mere presence of job resources is not enough to obtain the best recipe to limit the negative effects of a discriminatory work environment. Resources based interventions might produce the best results only if tailored to workers' needs.

At a practical level, this study shows that manifesting support is important but not enough for counteracting a discriminatory work environment. People need to perceive a friendly and supporting environment but also they need to perceive that in their organization there is no room for discrimination (Di Marco et al., 2017). In terms of practical implications, job crafting might be a solution to adjust some aspects of the job to workers needs, reducing the levels of demands and/or increasing resources (Tims et al., 2013; van Wingerden and Poell, 2017). For instance, people might craft their interpersonal relationships at work in order to reinforce ties with those people they consider more supportive. Managers should be aware of the positive effects of these interventions, encouraging and facilitating relationship even for those workers who spend time alone due to the nature of their job, as in the case of truck drivers.

Some limitations have to be discussed. Firstly, the cross-sectional design does not allow establishing the causality of mediation (Zapf et al., 1996). Moreover, the low number of sociodemographic variables collected limits the possibility to explore how the moderated mediation model works with different groups of people.

CONCLUSION

Experiencing a discriminatory work environment can undermine workers' psychological well-being. Some job resources, such as job autonomy and social support might reduce its negative effects, but resources based interventions need to be tailored to workers' needs in order to obtain the best results.

ETHICS STATEMENT

All procedures performed in studies involving human participants were in accordance with the standards of the national law of data treatment followed by the University of Florence (Italy).

AUTHOR CONTRIBUTIONS

DDM, AA, GG, GA, and NM equally contributed to all the following issues of the research: conception and design of the work; acquisition, analysis, or interpretation of data for the work; drafting the work and critically revising it;

final approval of the version to be published; agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Self-Esteem and Happiness as Predictors of School Teachers' Health: The Mediating Role of Job Satisfaction

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Background: A wealth of cross-sectional studies show consistent positive relationships between teachers' happiness and self-esteem on one hand, and health, on the other, which calls for additional research in order to disentangle cause and effect between the two, and to find potential mediators.

Aims: To investigate the mediating role played by job satisfaction between teachers' happiness and self-esteem and their physical and mental health.

Methods: A questionnaire was administered, containing questions about participants' background information and the following scales: the Job Satisfaction Survey, the Rosenberg Self-Esteem Scale, the Physical and Mental Health Scales (SF12), and the Ivens Scale in the Adapted Version for Teachers: School Children's Happiness Inventory (SCHI). The participants were 300 primary and middle school teachers from the Indian State of Kerala.

Results: Job satisfaction fully mediates between both happiness and self-esteem, and health in teachers.

Conclusion: Work is a relevant domain to promote teachers' happiness and self-esteem, and their health, through job satisfaction.

Keywords: subjective well-being, happiness, health, teachers, job satisfaction, self-esteem

INTRODUCTION

Happiness may be seen as the overall appreciation of one's life-as-a-whole and several studies have proven that happiness promotes health; in fact, happiness has an effect on longevity, comparable to the effect of not smoking (Veenhoven, 2008). Unlikely the traditional clinical approach, the focus of happiness is on the individual's own perspective, therefore happiness is commonly understood as a synonym of subjective well-being (SWB). SWB thus reflects the experience of a high level of positive affect, a low level of negative affect, and a high degree of satisfaction with one's own life (Deci and Ryan, 2008). According to Diener et al. (1999) SWB is a multidimensional construct, involving both a cognitive component and an affective component. The relevance of observing narrower aspects of SWB lies in the fact that deepening the understanding of SWB in particular domains may suggest ways of improving the general level of individuals' SWB, intervening on specific conditions that promote SWB in a specific sphere of activity. In such a sense, SWB can be observed either as a general satisfaction with one's own life or as individual satisfaction in a specific domain, as the work domain.

Subjective well-being in the work experience can be therefore studied in relation to both the self or personality disposition and the affective components represented by self-esteem (Diener et al., 1999).

This latter is the affective response to one's evaluation of self-worthiness, while job satisfaction is the psychological response of individuals to the value judgment of their job (Spector, 1997; Manuti and De Palma, 2017). Many studies have proven the relevant role played by self-esteem and job satisfaction in generating happiness (Bowling et al., 2010). In addition, self-esteem has proven to be strongly connected with job satisfaction (Schimmack and Diener, 2003).

Happiness or SWB is a key construct of the positive psychology, which aims at identifying the factors which promote and maximize individual wellness (Seligman and Csikszentmihalyi, 2000).

In particular, wellness and happiness of teachers may deserve scientific attention, being proved as able of impacting on students wellbeing and learning (Skaalvik and Skaalvik, 2011). Several studies during the last decades showed high rate of teachers' attrition and ill-being, among Western and non-Western countries, in spite of the relevant differences among the educational systems and the relative paucity of studies carried out in countries outside European Union and United States (Hong, 2010).

Teachers' happiness, along this vein, is a well-deserved matter of study, also because it refers on long-term states: in fact, several researches have proved that SWB have a degree of stability across years (Diener et al., 1997).

In terms of existing literature on teachers' happiness or SWB, much attention has been devoted either to the issue of its relationship with burnout and work-related stress (Borrelli et al., 2014; Benevene and Fiorilli, 2015), or on the effects of stress and burnout on teachers' health. On the contrary, to the authors' knowledge, no previous studies have focused on the mediation role played by job satisfaction and self-esteem in the relationship between teacher's happiness and their health.

Shedding a light on this mediation may deepen the understanding of the role played by dispositional and environment/contextual factors between happiness and health among teachers. It may also offer indications on how to promote teachers' health in more efficient and effective ways, thus offering relevant information on which domains intervene to best promote SWB and health among teachers.

The present study is focused on the mediation role played by job satisfaction and self-esteem between happiness and general health among a group of schoolteachers from the Indian State of Kerala. We chose Kerala because of the paucity of studies on teachers' well-being in India and, more in general, in Asian and non-Western countries. On the other hand, findings emerged till now confirmed the validity of the conceptualization of happiness, in spite of the differences due to the cultures and level of economic development (Diener and Tov, 2012). Findings from this study, in fact, might offer indication on future research carried out in other cultural contexts.

In this respect, it has to be underlined that SWB has emerged as an effective instrument to (a) overcome the limitations of the knowledge based on psychological studies, referred mainly to negative and pathological states; (b) to set up effective policies dealing with public health (Ryan and Deci, 2001).

Therefore the following hypothesis were tested:

> Hypothesis 1: Happiness positively affects health of schoolteachers.

The first hypothesis, actually, lies on a long tradition within psychology literature (see, for example, Lyubomirsky et al., 2005), with recent findings concerning work and organizational psychology, where, with different methodologies and tools, ranging form very complex data collection based, for example on the Minnesota Satisfaction Questionnaire (Weiss et al., 1967) to single-item scale studies (among others, see Cortini, 2016), happiness seems to positively affect workers' health.

> Hypothesis 2: Self-esteem positively influences health of schoolteachers.

The relationship between self-esteem and health has actually been widely studied, especially within adolescence literature (see, for example, Trzesniewski et al., 2006).

> Hypothesis 3: Job satisfaction mediates the relationship between happiness and health for schoolteachers.

Happiness and life satisfaction have been already found to be related to health, especially within the positive psychology literature (see, for example, Youssef and Luthans, 2007) that we explicitly followed. Here our concern is with a specific population, Indian teachers, up to now under-studied.

> Hypothesis 4: Job satisfaction mediates the relationship between self-esteem and health for schoolteachers.

Finally, following the results of an interesting review on stress prevention (Lambert and Lambert, 2001), we tested a model of mediation where job satisfaction impacts on the relationship between self-esteem and health for schoolteachers.

MATERIALS AND METHODS

Participants

A total of 300 teachers were randomly selected to freely participate in the study; 92% ($N = 276$) were female. All participants were full-time school members.

A stratified proportionate random sampling model was adopted. Three non-overlapping strata were considered: type of school (state and private schools), level of school (primary, middle, and high schools), and the teaching experience (0–5 years, 5–10 years, more than 10 years).

Instrument and Measures

An anonymous questionnaire was administered, following the principal's permission of the 10 schools involved, ranging from primary to high school. The questionnaire contained a cover letter, explaining the purpose of the study and the essence of each scale; all participants were assured about the confidentiality

of their responses. Further information was given prior the administration of the questionnaire, to present and fully explain the aim of the study; each participant gave informed consent prior to being included in the study.

The questionnaire was administered individually. The first part of the questionnaire contained questions about participant's socio-demographic information that is: sex, age, years of teaching, type of school where participant worked; the second part contained the following scales: the Job Satisfaction Survey (JSS) (Spector, 1985), the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965), the Physical and Mental Health Scales (SF12) (Ware et al., 1996), and the Ivens Scale in the adapted version for teachers: School Children's Happiness Inventory (SCHI) (Ivens, 2007).

The JSS measures respondent's satisfaction about his/her job situation. It comprises 36 items, divided among nine facets or sub-scales: pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, co-workers, nature of work, and communication. Items were rated using a six-point Likert scale, ranging from: 1 = "I disagree very strongly" to 6 = "I agree very strongly." Total job satisfaction is expressed as a total score ranging from 36 (low job satisfaction) to 216 (high job satisfaction).

The RSES comprises 10 items and is commonly used as an empirical measure of a person's overall self-esteem. Items were rated using a 4-point Likert scale, ranging from 1 = I strongly disagree, to 4 = I strongly agree. The higher the score, the higher the self-esteem. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem.

Physical and Mental Health Scales SF12

The SF12 is a multipurpose short form survey with 12 questions, all selected from the SF-36 Health Survey (Ware et al., 1996). The scale contains several sub-scales: one sub-scale using a 3-point Likert scale to assess limitations in physical activity and physical role functioning; two sub-scales using a 5-point Likert scale assessing, respectively, pain and overall health; a sub scale using 6-point Likert scale, assessesing mental health, vitality, and social functioning; the scale contains also questions with yes/no answers, to assess limitations in role functioning as a result of physical and emotional health. The Physical and the Mental Health Composite Scores (PCS and MCS) are computed using the scores of the 12 questions. The possible score range from 0 to 100, where higher scores represent better health.

All instruments showed satisfactory reliability, with an Alpha of Cronbach ranging from 0.63 to 0.89.

Local academic rules do not require ethical approval for studies on non-clinical populations. However, the study was approved by the schools' management, following the ethical code of the Italian Association of Psychology.

Data Analysis

Preliminary analyses were performed to ensure there was no violation of the assumption of normality, linearity, and multicollinearity in the dataset, resulting in good distributive qualities.

The associations between the study variables were analyzed by a multiple linear regression, and a significant regression equation was found [$F_{(2.297)} = 56.08$; $p < 0.001$], with an $R^2 = 0.46$, showing that happiness and self-esteem were significant predictors of schoolteachers' health, with, respectively, the following β values: 0.359*** and 0.469***.

A mediation analysis was then performed, using the SPSS macro PROCESS, to verify the indirect effects of the predictor on the dependent variable. Bootstrap confidence intervals were used in consideration to the limited sample size.

All variables were mean centered before running the analysis, to minimize the risk of multicollinearity.

RESULTS

Results show that that job satisfaction fully mediates the relation between happiness and health (**Figure 1**) [indirect effect = 0.368, $SE = 0.052$, 95% CI (0.2744, 0.4811)]; in fact, zero is not in the 95% confidence interval, and the indirect effect is significantly different from zero at $p < 0.05$.

The mediator could account for the majority of the effect; PM = 0.90; Sobel $z = 7,55$ [$p < 0.001$; $k^2 = 0.29$, CI (0.2285, 0.3578)].

Results show also that job satisfaction significantly mediated the relation between self-esteem and health (**Figure 2**) [indirect effect = 0.247, $SE = 0.039$, 95% CI (0.174, 0.332)]: zero is not in

FIGURE 1 | Indirect effect of happiness on health through job satisfaction; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

FIGURE 2 | Indirect effect of self-esteem on health through job satisfaction; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
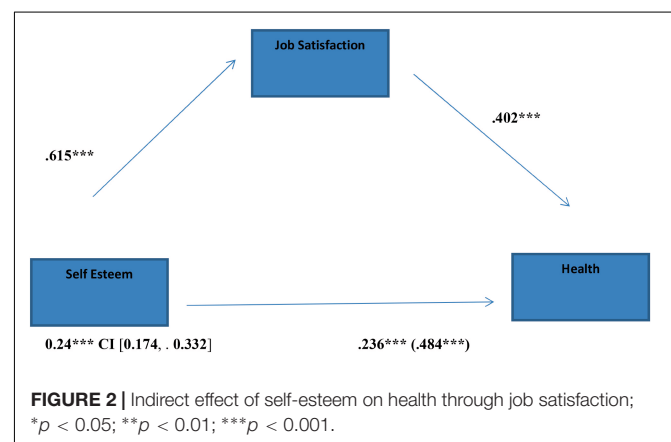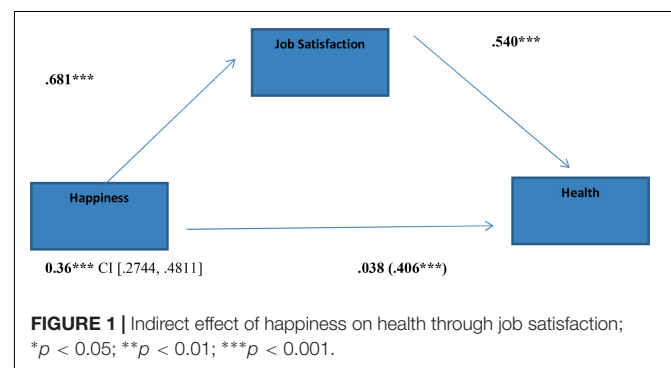
the 95% confidence interval, therefore it can be concluded that the indirect effect is significantly different from zero at $p < 0.05$.

The mediator could account for almost half of the effect; PM = 0.51; Sobel $z = 6,22$ [$p < 0.001$; $k^2 = 0.23$, CI (0.1789, 0.3055)].

DISCUSSION

To the authors' knowledge, the mediation role played by job satisfaction has not been addressed before in conjunction with teachers' happiness and their health. Results show that job satisfaction fully mediates the relationship between teachers' happiness and health, as well as the relationship between their self-esteem and health. These findings confirm the relationship between happiness and health, as well as the relevant role played by job satisfaction and self-esteem in this regard. However, from no previous study emerged that self-esteem – that is a dispositional trait – emerged as mediated by job satisfaction – that is a focal domain satisfaction and the cognitive components of happiness – in determining teachers' health.

Findings suggest that dispositional traits of SWB have an impact on teachers' health but, at the same time, cognitive, and environment factors play a role not only on health, but also on dispositional traits which, in turn, impact on health.

These results suggest the relevance of developing policies aimed at promoting job satisfaction among schoolteachers, intervening on their work condition, in order to promote their health. In addition, our results call for a deepened understanding of schoolteachers' job unsatisfaction, which could be investigated with qualitative research.

More in general, evidences emerged from this study confirmed the consequences of happiness on health, in spite of the differences due to the cultures and level of economic development (Diener and Tov, 2012).

On the one hand, the study addressed the paucity of studies on teachers' well-being in Asian and non-Western countries; on the other, our findings confirm the relationship between happiness and health, as well as the relevant role played by job satisfaction and self-esteem on happiness. There is strong evidence in literature, to whom our results make an echo, that schoolteachers are suffering from psychological, mental, and physical problems, among both Western and non-Western countries, despite the differences between the educational systems (Skaalvik and Skaalvik, 2011).

Though promising, our findings cannot be generalized, since the group reached is not a statistically representative sample and is limited to India. In the future, it would be interesting to administrate the questionnaire reaching a statistically representative sample and comparing the findings at a cross-cultural level. Further analysis could investigate the relationships in question with a longitudinal perspective. This could correct potential bias due to the cross-sectional design, and to shine light on the role played by aging, which has recently been found to be a very important variable in the teaching domain (Avanzi et al., 2012; Converso et al., 2018).

In addition, it seems to us mandatory to study the role played by organizational support that can have a severe impact on job satisfaction and health, resulting in an additional mediator, as we have shown elsewhere (Cortini et al., 2016).

Last but not least, it would be interesting to investigate the role of job crafting in the variables relationship under analysis, following a very promising line of research in W/O psychology (see, for example, the recent paper by Ingusci et al., 2016), along with the role played by new technologies (Manuti and De Palma, 2017).

AUTHOR CONTRIBUTIONS

MI administered the questionnaire and prepared the data set for the analysis. MC analyzed the data and wrote the Sections "Materials and Materials" and "Results." PB was in charge of the research design and wrote the Sections "Introduction" and "Conclusion."

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The Role of Talent Management Comparing Medium-Sized and Large Companies – Major Challenges in Attracting and Retaining Talented Employees

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In order for companies to realize their organizational visions, they need staff who are high-potential and looking toward the future. Due to the demographic, social and economic situation in Europe, the labor market is already reflecting a lack of high-quality human resources (HR), which inspires research into and planned management of high-potential, i.e., talented, employees. Companies are aware that only those organizations that recognize this area as crucial and invest resources into it will be successful in the "war for talent." The purpose of the study was to research the field of talent management from the perspective of the definition of what the talent management process means for companies, how to attract and recognize talented employees, what development activities to provide them with and how to measure their performance and progress. We employed an exploratory approach, using the method of semi-structured interviews to gather information from 21 HR professionals who work at medium-sized and large Slovenian companies. We found that these organizations use various approaches and activities to attract and develop talented employees. At two thirds of the companies, performance is measured using annual evaluation interviews, by measuring the meeting of targets and evaluations by superiors. The biggest challenges in the field are attracting talented employees and positioning the organization as a desirable employer. The study is useful primarily as an overview of the field and of best practices, which companies can use to argument their existing processes.

Keywords: talent management, attracting talent, retaining talent, practices, medium-sized companies, large companies

INTRODUCTION

Human resources (HR) management professionals say that talent management, defined as the process through which organizations meet their needs for talent in strategic jobs (Cappelli and Keller, 2014), is one of the biggest challenges that organizations will face in the 21st century (cf. Ashton and Morton, 2005). Analyses indicate that talented employees make up from 3 to 5% of all employees within an organization (cf. Berger and Berger, 2004; Nikravan, 2011). In view of its

current popularity and the relatively large amount of past research one might expect the field to be well defined and supported by a wide range of research and praxis. However, numerous writers and researchers believe that the field currently lacks a clear definition, framework and general objectives (Lewis and Heckman, 2006; Cappelli and Keller, 2014), a stable theoretical basis (Thunnissen, 2016) and empirical research (Collings and Mellahi, 2009; Cappelli and Keller, 2014). Gallardo-Gallardo and Thunnissen (2016) found that the largest amount of empirical research on talent management is conducted in the United States, Great Britain, Australia, Netherlands and Ireland. This has led to a noticeable Anglo-Saxon influence and a focus on researching the process of talent management in the private sector and in multinationals (Thunnissen et al., 2013). As a result, the concepts and practices based on this literature can not be fully transferable to other types of organizations, such as medium-sized and large (non-multinational) companies, or to other cultures.

In addition to growing interest in research in the field of talent management, the labor market has also changed considerably in the last 10 years (Mucci et al., 2016) due to different social and economic changes (Giorgi et al., 2015). The global economic crisis that engulfed Slovenia in 2008 and only began to recede in 2015 (Kohont and Stanojević, 2017) had a major impact on the Slovenian economy and consequently on the labor market and HR management – through layoffs, by a reduction in hiring or increased use of flexible types of labor (Todorović Jemec and Vodopivec, 2016). Along with Cappelli and Keller's literature review (2014) we will try to analyze basic challenges associated with selecting and managing talents in modern labor market. Therefore for purposes of the present paper we were interested in how medium-sized and large enterprises in Slovenia approach the talent management process. The first aim of this research is an overview of how Slovenian companies describe talent management, and the second aim is drawing parallels and differences in the process between medium and large sized companies. The answers to the given questions and an initial review of the literature will represent the starting point for a better understanding of the talent management process in the Slovenian and the broader European context.

Lack of Clear Definition – What Is Talent Management and What Does Talent Even Mean

The majority of definitions define talent management as a comprehensive, well-planned and systematic process that includes attracting, identifying, selecting, developing, and assessing talented employees, in order to increase efficiency of operations (cf. Automatic Data Processing Inc [ADP], 2011). In comparison to HR management, practitioners say that talent management covers more narrow scope, that it emphasizes segmentation rather than egalitarianism, that it focuses on people rather on function and stresses the capture and retention of talents (Iles et al., 2010).

Some definitions mention an inclusive approach – the development of all employees so that they achieve their highest

potentials (cf. Ashton and Morton, 2005), where some experts (Ariss et al., 2014; Cappelli and Keller, 2014) describe talent management as the development and posting of employees or jobs who are critical to the success of the company – the exclusive approach or the strengths-based approach. Inclusive approaches have been developed more recently, as well as workplace regulations requiring equal treatment of employees.

The definitions also vary with respect to how many areas they include under the concept of talent management; they can be divided into three groups – the first sees talent management merely as human resource management, predicting demand and personnel planning (cf. Cappelli, 2008), which on a practical level is merely a different formulation of the activities usually performed by HR. The second group of definitions refers to succession planning and creating a flow among jobs within the organization (cf. Warg, 2008), while the third is entirely focused on attracting, recognizing and retaining talented employees, the identification of key strategic positions and the creation of a pool of talented employees to fill them. There is still opened question about the borders between HR management and talent management.The definition of the concept of talent is also unclear – is it just a new name for an already known construct or group of constructs (e.g., HR; Cappelli and Keller, 2014), or is it something else? A common understanding is that talent refers to those employees who are identified as having the potential to reach high levels of achievement (Tansley, 2011). The word talented could be compared with its synonyms – e.g., gifted (cf. Chamorro-Premuzic and Furnham, 2010), highly capable, genius, extraordinary, exceptional, above average, etc., All of these descriptions of talent can be divided into four subcategories – aptitude, creative thinking, social intelligence and task orientation. Research on the definition of talent has also focused on the specific skills needed to guide and manage talented employees, as they are oriented toward recognizing potential in employees so that they will be able to take key strategic (often leadership) positions within the company. Claussen et al. (2014) identified the characteristics required for effective management into four areas: experience, expertise, social capital, and social network. Today an increasing number of organizations define talent based on the competence model that the company uses to define the important skills for an individual position (Reilly, 2008). There are also more organizations that are putting organizational values at the forefront, and in recognizing talented employees focus on the level of fit between the employee and the organization. This raises the question of whether employees who are recognized as talented in one organization can succeed at another, despite the fact that the skills or values might be different.

Attracting and Retaining Talent

One of the most important concepts relating to attracting and retaining talented employees is the corporate brand, as its qualities and popularity increase the perception of its value (Wallace et al., 2012). Job selection contains a high level of risk, which motivates potential job candidates to invest their time and energy into searching for information about their potential employer. Signal theory (Vickrey, 1961) says that in order to

avoid making bad decisions, people rely on signals which make it easier for us to form opinions about quality, so organizations have to use their corporate brand to communicate appropriate signals and thus increase the possibility that candidates will attribute a competitive advantage to it.

Many companies when planning talent management think first of all about attracting talented individuals from the labor market, but pay less attention to using scientifically proven methods and approaches to recognizing talent (Pulakos, 2005). A study conducted in Germany (Benit et al., 2014) indicated that when selecting employees companies seldomly employ quality-oriented methods such as annual evaluation discussions, psychometric testing or evaluation centers. Some organizations use a 9-box grid to identify "high-potentials," who are described as competent, engaged and striving to become leaders, and "high-performers," who have already demonstrated such skills, viewpoints and behaviors.

Human Resources personnel frequently question the rationality of whether or not to notify employees about being classified as talented. Ready et al. (2010) find that 85% of organizations communicate this transparently. A study conducted by Church et al. (2015) supplements this data, finding that only 34% formally provide information about the status of their employees regarding classification as talented, but that individuals who are informed about their talented status are more loyal to the organization – just 14% seek opportunities elsewhere.

Retaining Talented Employees Is Closely Linked to Talent Development

During economic booms companies face increased fluctuation, which brings to the fore the question of how to create conditions so that the best employees are retained. One of the possible answers is to provide education and training and skills development opportunities for talented employees. The challenge is to connect all of the important parts in a systematic manner that allows the development of the individual's competences and at the same time indicates their performance. First the individual has to be analyzed – their experience, knowledge, skills and qualities – and then a work plan can be developed based on their strengths and weaknesses and the desired competences for a specific position or generally within the organization. It is important to stick to the plan, create an optimal environment for learning, create feedback loops from both sides, etc., (Berger and Berger, 2004). Organizations use numerous methods to develop talent, e.g.: coaching, job rotation, problem-solving meetings, assuming leadership in emergencies or replacing absent staff, participation in project groups or working on special projects, corporate universities, workshops and training courses, guided reading and guided discussions, extracurricular activities, mentorship, e-learning, and job shadowing.

Another activity carried out within talent management is *succession planning* – developing a pool of individuals whose advancement is planned (Rothwell, 2011). Succession planning is a process in which needs are identified at various levels, key positions are identified and talent pools are created for each

level. For each individual, in addition to their individual plan it is necessary to think about how much time it will take to develop their skills to a certain level – i.e., how much time they will need to progress and actually assume a higher position. A study conducted in 2006 (Fegley, 2006) indicated that just 6% of organizations are "extremely prepared" to fill their leadership positions, 53% described their situation as "prepared," 37% as "unprepared" and 4% as "extremely unprepared."

Performance Appraisal – How to Measure the Effectiveness of Talented Employees

A review of the literature does not indicate any particular differences in the measuring of effectiveness between employees and high-potentials, i.e., talented employees. In practice, organizations usually measure the effectiveness of high-potentials through performance appraisal interviews – superiors assess various aspects of the employees' performance and offer them feedback on their performance evaluations (DeNisi and Murphy, 2017). When measuring work effectiveness, the majority of organizations focus on the reaching of performance goals, which they assess using key performance indicators (KPIs). This approach is associated with management by objectives, in which superiors and subordinates agree on work duties and responsibilities for a certain period, define the specific targets, measure those targets and set out a time frame (Gladisa and Susanty, 2018). Trends are moving toward identification of competencies as part as the performance management. Development appraisal could be incorporated in the performance appraisal, but literature review shows that many firms are not appraising competencies in the performance appraisal process (e.g., Abraham et al., 2001).

Comparing TM Practices in Medium-Sized and Large Companies

In Slovenia, organizations with 50 to 249 employees are considered medium-sized, while those with over 250 employees are considered large (Uradni List Republike Slovenije, 2006). In addition to the number of employees, these companies also differ with regard to other institutional, economic and structural characteristics which are reflected in the talent management process.

The majority of studies have focused on large multinational enterprises, and the concepts and practices from that environment are frequently uncritically transferred to medium-sized enterprises. Medium-sized enterprises more seldomly focus on the recognition of key positions, as these change as the organization grows, while the identification of key employees who are effective and flexible and who can take on various roles as the organization grows plays an important role (Krishnan and Scullion, 2017). Growth causes increased unpredictability, and the organization has to maintain a certain level of flexibility to counter this, which makes it more difficult to implement planned and systematic staffing processes. Medium-sized enterprises are also characterized by a higher level of informality, which is usually associated with a more personal management style –

thus talent management practices are often carried out on a more unplanned, unsystematic, intuitive level. Other companies practice talent management and carry out activities that are generally found within that process, but do not label them as talent management (Valverde et al., 2013).

The size, duties and functions of the HR department also depend on the size of the company. The HR departments in medium-sized enterprises are usually small, with individual employees covering several areas, and they sometimes have a more operative rather than a strategic function. The average number of employees in medium-sized enterprises is 100 (EU data), which is also the size at which companies start thinking about introducing specialized HR positions (Valverde et al., 2013).

Studies (e.g., Ready et al., 2010; Krishnan and Scullion, 2017) indicate that the exclusive approach predominates at large companies (recognition of handfuls of high-potential/key employees and targeted management of them), while medium-sized enterprises usually use an inclusive approach, in which talent management activities are targeted toward all employees. A German study (Festing et al., 2013) found that 54% of small and medium-sized enterprises include all employees in the talent management process, 29% focus on technical experts as the most important group, 10% direct activities toward experienced managers and the board of directors, and 8% to high-potential employees.

In view of the above findings, we decided to conduct exploratory research with semi-structured interviews in order to obtain an insight into the practice of talent management in medium-sized and large enterprises (with respect to the number of employees). We wished to analyze how organizations in Slovenia define the talent management process, how the process itself proceeds (attraction, recognition and development of talented employees), how effectiveness is measured, and the future development guidelines in this area. We foresaw that we would obtain the largest amount of information on this from the HR professionals who represented our participants. Through a review of the literature and practices we want to contribute to the understanding of the talent management process in Slovenia and in the broader European context.

MATERIALS AND METHODS

Participants and Procedure

The study included 21 employees who work in the field of talent management in medium-sized and large enterprises in Slovenia. They included 16 heads of HR departments, two personnel development specialists, a regional HR generalist, an HR specialist and a psychologist. The sample included 13 large companies with over 250 employees, and eight medium-sized companies with 50 to 250 employees (in 2016 there were 339 large companies and 2027 medium-sized companies registered in Slovenia). The largest number of the companies in our sample work in the processing industries ($N = 11$), followed by the financial and insurance industry ($N = 4$), the information and communications industry ($N = 3$), motor vehicle sales,

maintenance and repair ($N = 2$) and electrical, gas and steam power generation ($N = 1$).

We conducted semi-structured interviews lasting from 22 to 67 min. We made audio recordings of all of the interviews so that they could be transcribed and analyzed at a later time. The participants first signed informed consent forms for participation in the study, in which they were notified of the responsible persons (contact data), the purpose of the research, a description of the duties and requirements of the participants, the duration of their participation, any compensation, dangers and benefits, the voluntary nature of participation and protection of privacy. The interviews were conducted by a psychologist who guaranteed the anonymity of the participants. Sampling was conducted using the snowball method, as the researchers posted the invitation to participate on social and corporate networks, via their own social networks and electronic mailing lists. Only one restriction was included in the invitation, as we wished to restrict the sample only to employees of medium-sized and large Slovenian enterprises. We contacted a total of 50 organizations, of which nine refused the invitation, stating that they did not wish to participate because of time constraints ($N = 6$), they do not engage in personnel development or talent management processes ($N = 2$) or they do not see any advantage of participating in the study for their own organization ($N = 1$), while 20 organizations did not respond to the original invitation. We also decided to stop sampling after 21 participants, as we reached the theoretical saturation point (informational redundancy), meaning that the responses from later interviews became more predictable and no longer created added value (Fusch and Ness, 2015).

Methods and Analyses

In view of the lack of research into talent management in Slovenia, particularly in the case of medium-sized and large enterprises, we selected an exploratory approach. We used the qualitative method for collecting data in the form of individual semi-structured interviews, in which the emphasis was placed on an in-depth understanding, explanation and description of the talent management process, and not on determining frequencies, quantities or qualities. This approach is inductive and interpretive, since the goal is to research the process and the formation of concepts.

We drew up eight initial questions within five areas, on the definition of the talent management process, the definition of the concept of talent, attracting talent, recognizing talent, transparency of communication, the development of talented employees, measuring the effectiveness of talented employees and the challenges in this area in the future.

The audio recordings were transcribed into literal transcriptions of the interviews. We used two basic qualitative techniques for the further analysis of the data from the transcriptions: coding and categorization. In coding we assigned a keyword to a certain part of the text for later identification of that part of the text. Later we used simultaneous coding, if two or more codes carried single information. Only for question on how they define talent management, we used structural coding, because we already predicted different groups of definitions (e.g., exclusive/inclusive) based on literature review. The next

step was categorization, in which we placed the codes into a hierarchical structure, i.e., categories. Finally we conducted a comparative analysis in which company size was selected as the basis of comparison and the processes at medium-sized and large enterprises were compared. We also employed interpretation, where we attempted to place the phenomena into a broader context (Saldaña, 2016).

RESULTS

Definition of Talented Employees and the Talent Management Process

Definition of talent, gathered from answers of our participants (**Table 1**), consists of acting in line with organization's values, positive personality features, above average job performance and results, positive work related behaviors and intellectual capacity. More detailed revision of the answers is stated below.

In comparison, participants from one large and two medium-sized companies believe that personal qualities such as knowledge are more important, while participants from two large companies emphasized experience and expertise.

To the question of how companies define the talent management process and how they define the concept of talent, 13 participants (62%) defined talent management as an exclusive approach. Head of HR, large company: *"We have three groups of employees: key staff, high-potentials and young high-potentials."* However, the remaining eight participants (38%) defined the process as inclusive: *"…we manage all of our employees in the*

same way – all of them have talents that they can develop." The head of HR at a medium-sized company used a new expression. *"Instead of* talent management *we call the field* giving perspective."

With regard to the three streams of thought relating to talent management (Lewis and Heckman, 2006), the majority of the definitions we collected ($N = 10$) are associated with the stream which is entirely focused on the management of talented employees. Thus the head of HR at a large company defines talent management as *"… a series of activities that starts with attracting and continues with identification and development of talented employees. Nowadays retaining staff is becoming increasingly important…"* Participants from seven organizations emphasize succession planning, which can be summarized with the definition *"Talented employees are our key staff and their potential replacements."* The lowest number of companies ($N = 4$) equated talent management with human resource management, with the head of HR at a medium-sized company stating that: *"Part of the duties of the HR department is to ensure the development of its employees."* If we view the talent management process through the lens of employees at medium-sized and large companies we find that nine large companies understand the process as exclusive and four as inclusive, while this ratio is even among medium-sized companies ($N_{excl} = 4$, $N_{incl} = 4$).

During the interviews we also asked the participants additional initial subordinate questions about the number of recognized talented employees, the duration of planned talent management activities at the company and any obstacles to working in this field. The percentage of talented employees within the organizations is difficult to define, as some companies include key staff (management and professionals) in this group. In contrast, some companies cannot supply this data since they manage talent inclusively and do not separate employees into talent brackets. At companies that had data available, 7% of employees on average are recognized as talented (*Max* = 20%, *Min* = 1%). When comparing medium-sized and large companies, medium-sized companies have a higher average number of recognized talented individuals (*M* = 11%) than large companies (*M* = 4%).

The participants from six companies stated that they began the planned development of the field of talent management in 2017, despite the fact that the initial stages of the process go back several years. At that time they started focusing on the field more intensively and in a more planned manner, and also started communicating about it more. Five companies began introducing talent management and a succession system between 2010 and 2014, while one large company reported a longer period of involvement reaching back to a project in 2008. Some ($N = 3$) participants were unable to respond to the question, as they joined their companies later and did not know exactly when their company had initiated the talent management process.

Among limitations to the selection of talented employees, some participants noted that they seek talented employees via internal job listings with prior exclusion, in which the most frequently mentioned categories are age (e.g., up to 40 or 50), education level (e.g., at least high-school, others post-secondary or university education) or seniority within the company (e.g., at

TABLE 1 | Definition of talent by categories of participants' answers.

Categories	Subcategories	Pct.
Acting in line with organization's values		43
Personality features	Willingness to learn	33
	Rapid acquisition of new knowledge	33
	Motivation	33
	Desire for development	33
	Healthy ambition	29
	Self-initiative	29
	Proactiveness	29
	Curiosity	29
	Willingness to share knowledge	14
	Team orientation	14
	Cooperation	14
Above average job performance and results		29
Positive work-related behavior	Makes proposals	19
	Makes suggestions for improvements	19
	Is capable to implement improvements	19
	Puts additional effort in order to do the work (i.e., go extra mile)	19
Intellectual capacity		14

least 1 year or at least 2 years). Other companies have defined various groups of talented employees (e.g., talented managers, talented professionals and talented young employees), which includes the group of high-potentials with an age limit of up to 33 or 35. Some also see young employees who are hired immediately out of college as talented employees.

Attracting, Recognizing, and Communicating About Talented Employees

The largest number of companies (48%, $N = 10$) attract talented employees through scholarships, for both college and high-school students, planned brand management and cooperation with universities (e.g., employees occasionally lecture at universities, professors recommend students). They attend job fairs (38%, $N = 8$), and allow students to gain experience during their school years through traineeships and apprenticeships (33%, $N = 7$), work with high schools (27%, $N = 6$), update job listings in order to increase the company's attractiveness (24%, $N = 5$) and hold company open houses (19%, $N = 4$). Less common practices (14%, $N = 3$) include joining the BusinessClass program, mentorship for Bachelor's and Master's theses, the organization of business hackathon (event that brings people from different sectors together to tackle challenges) and working with career development centers. The participants also mentioned (10%, $N = 2$) occasional support for professional field trips for students, summer schools or extended educational programs for students. Six companies also mentioned special projects designed to attract specific groups of talented employees.

In order to recognize talented employees, the largest number of companies (38%, $N = 8$) use developmental interviews led by HR (at which the employee's wishes and plans are discussed), and two companies encourage their employees to visit the HR department or a psychologist and recognize their talents collectively. The participants also mentioned taking into account the suggestions of managers (38%, $N = 8$) who identify talented employees in their departments and the information that they collect through the annual evaluation interviews (with respect to their job performance and performance over a longer period of time). Frequently, companies identify talented employees using the technique of calibration between management and HR (24%, $N = 5$), followed by calibration with the board of directors (19%, $N = 4$). A full 29% (6) of companies use psychological testing to identify talented employees, and 14% (3) also use employee evaluation centers. Nearly one fifth of companies (19%, $N = 4$) use workplace observation (observation during projects, teamwork, at meetings) and project evaluations (14%, $N = 3$). Some companies (14%, $N = 3$) organize the talent recognition process through applications which are open to all employees who meet the criteria, followed by a further selection process. Similarly, 14% (3) of companies recognize talented employees based on skills evaluation (using various versions of the 360-degree method). Other approaches, which are used by only a few companies, include: employee evaluations by managers (evaluation of skills or behavior in relation to corporate values), design and implementation of independent projects (more under Discussion), employee evaluation during the onboarding process, and an information system that collects data on employees and then makes talent appraisals (e.g., age, education, job performance, evaluations by superiors in various surveys, psychological tests, etc.).

After the identification of talented employees, the selected employees must be notified. Two thirds of participants (67%, $N = 14$) reported that they communicate transparently, 19% ($N = 4$) do not share such information with employees, 14% ($N = 3$) share only a part of such information (the employees are briefed on development plans and invited to participate in development activities, but their status is not communicated publicly or to other employees). If we compare large and medium-sized enterprises, 85% ($N = 11$) of large companies communicate the recognition of talented employees transparently, while only 38% ($N = 3$) of medium-sized companies do so.

Development of Talented Employees

In the next section we were interested in the ways that companies **develop** talented employees. They selected the most commonly used methods and approaches from a list, and were required to give specific examples from their organizations.

In addition to the aforementioned methods and approaches (**Table 2**), talented employees are also afforded additional opportunities such as training abroad, mobility, inclusion in interdisciplinary teams, knowledge-sharing with other employees, inclusion in various external programs, connections to start-ups, meetings with members of the board of directors, and internal personal development programs.

We were also interested in whether they have established succession plans and whether talented employees were included in them. Just under half of the companies (47.6%, $N = 10$) have a succession plan which includes talented employees. In the majority of cases the talent pools and the successor pools overlap, but not entirely. The other companies do not have succession plans, but say that it proceeds on a more intuitive level and non-systematically (38.1%, $N = 8$), or that they are planning in implementing one in the near future (14.3%, $N = 3$). A comparison of medium-sized and large companies indicates that a larger number of large companies have systematically determined succession ($N = 7$) than those that do not ($N = 6$), while only three medium-sized companies have planned succession, and five determine successors on an intuitive basis.

Assessment of the Effectiveness of the Work of Talented Employees

The data indicate that two thirds of companies (66.7%, $N = 14$) measure employee effectiveness through annual evaluation interviews. The largest number of companies (42.9%, $N = 9$) use KPIs (quantitative or qualitative) to measure performance on a monthly, quarterly or annual basis. The same number of companies (42.9%, $N = 9$) measure job performance through the development of the individual's skills, using the 360-degree method, evaluation centers or other tools. Targeted

management is used at 38.1% of companies ($N = 8$), where the achievement of goals is checked periodically. One fourth of companies (23.8%, $N = 5$) entrust the assessments to managers who evaluate employee performance using various tools – questionnaires, scales or descriptive evaluations. Some companies check effectiveness via project evaluations (23.8%, $N = 5$), and at one of them this assessment is made by the heads of the various project groups, who each check certain targets. The following approaches are used less frequently: acting

TABLE 2 | Methods for developing talented employees in the workplace.

Methods, approaches	Pct. (N)	Applications
Workshops and training courses	100 (21)	Leadership skills; Soft skills; Professional training
Working in project groups	91 (19)	Frequent inclusion of high-potentials in interesting projects; Invitations to apply on their own for inclusion in new projects
Problem-solving meetings	81 (17)	Use of the "design thinking" method; Implementation of quality teams; Meetings designed to evaluate solutions
Working on special projects	81 (17)	Employees themselves propose projects or solutions, and can implement them if appropriate; Final projects at corporate universities
Coaching	81 (17)	Mainly for management positions; Internal coaching for sales areas
Assuming leadership roles in emergencies and frequent replacement of managers	76 (16)	High-potentials replace managers during maternity leave; Assume work duties during managers' vacation times
Job rotation	68 (14)	Encouraging internal mobility; Onboarding
Extracurricular activities	62 (13)	Co-funding of membership fees; Participation in expert committees; Charitable causes; Sports and arts and cultural societies
Mentorship	62 (13)	Professional/leadership mentoring; Education of mentor or mentee
E-learning	62 (13)	Access to global educational websites; Both technical content and soft skills
Succession planning	48 (10)	Planed inclusion of talented employees, or pool of successors and talented employees partially overlap
Job shadowing	24 (5)	Not just shadowing but also inclusion in work, mentoring
Corporate university	24 (5)	Working in modules; Cooperation with external educational institutions
Guided reading and guided discussions	14 (3)	Reading of professional literature and discussion at meetings

in accordance with values (superiors grade employees on a scale of behavioral descriptions of values), evaluation of effectiveness via proposals for promotion or actual promotions in a certain time period, informal opinions (co-workers, collaborators on projects, project leaders), self-evaluations, performance scores with respect to the performance of the company as a whole, performance scores with respect to the performance of the individual department as a group, number of proposals or ideas that the individual makes or has in a certain time period.

Future of the Field of Talent Management

Human resources professionals see the greatest future challenges in the area of attracting personnel ($N = 14$), followed by retaining personnel (key staff, young high-potentials) ($N = 6$) and maintaining staff in organizations in which there is no possibility of advancement. They also listed challenges in the area of managing expectations ($N = 2$) and transparency in communicating the succession plan and talent pool system ($N = 2$). Individual participants see potential difficulties in the area of the objective recognition of potentials, the creation of a good model for developing potentials, measuring the effectiveness of the talent management process and personnel planning. They wonder how to balance the complexity of the talent management process and the time that has to be invested in it by managers and HR departments and for development activities for recognized employees.

DISCUSSION

In this study we have attempted to analyze the current situation in the area of talent management in medium-sized and large enterprises in Slovenia. We found a disparity among the various definitions of talent management in our sample, as more than half of the participants focused on the development of a specific group of people who are crucial to the success of the company (exclusive approach), while others emphasize the development of the strengths of all employees (inclusive approach). The results indicate a similar trend to the research of other authors (e.g., Ready et al., 2010; Cappelli and Keller, 2014; Krishnan and Scullion, 2017), since large companies more often employ the exclusive approach while medium-sized companies use both approaches equally. We estimate that the situation in Slovenia will change in the near future based on the obligatory implementation of regulations requiring equal treatment opportunities for all employees. With regard to the three different sets of concepts (Lewis and Heckman, 2006) the largest number of definitions focus on comprehensive management of talented employees (attracting, recognizing, and retaining), followed by those which prioritize succession planning, while some companies believe that talent management is merely a different formulation of the basic duties of the HR department – human resource management. Despite the belief of certain authors that talent is transferable between organizations (e.g., Chamorro-Premuzic and Furnham, 2010), the results indicate that in identifying talented employees, most companies prioritize corresponding to company values – talented

employees are therefore those whose values correspond to the organizational culture. We can then describe the construct using a list of the qualities highlighted by HR professionals, at the top of which are: willingness to learn, rapid acquisition of new knowledge, motivation, a desire to develop, ambition, self-initiative, proactiveness, and curiosity. The majority of the participants agree that what is required is a combination of embodying the values, personal characteristics and above-average job performance over a certain time period.

The majority of the participating companies initiated a more planned and intensive approach to the talent management process after 2015, which also corresponds to the period of the abatement of the economic crisis (Kohont and Stanojevič, 2017). An HR specialist at a medium-sized company stated that the reason for this is that "... *in the time after the crisis talent management became a competitive advantage for companies that are fighting to attract talented employees.*" Furthermore, during this period some companies created more specialized development positions within their HR departments. The organizations have differing perspectives on age, educational and other limits when selecting talented employees. Large companies on average recognized 4% of their employees as talented, which is in line with the results of other studies (e.g., Berger and Berger, 2004; Nikravan, 2011). In our study the percentage of employees recognized as talented was higher at medium-sized companies (11%), which can be attributed to a broader definition of talented employees, which often include other groups, e.g., key employees.

The most common activities that companies reported in relation to **attracting talented employees** from the market were scholarships and cooperation with universities. Nearly half also employ planned development of the employer's brand and thereby increase the possibility that candidates will see them as interesting and desirable – they adapt their selection process in order to make it more interesting, share stories of their employees' successes, actively participate in professional events within their spheres and offer employees attractive packages (flexible work arrangements, additional benefits). The **recognition of talented current employees** is most often based on managers' proposals and the expression of a desire to develop in interviews conducted by HR. Similar to the German study (Benit et al., 2014), a little less than one third of the participating companies use psychometric testing to identify talent, and even fewer use evaluation centers. Medium-sized companies report the use of a 9-box grid matrix, but the use is probably more appropriate at companies with fewer employees, as it could be extremely time-consuming at large companies. In general, medium-sized companies frequently mention that the recognition of talented employees is more informal, since they know their employees well, have a lot of contact with them, are able to observe them in various work situations and projects, and they are able to onboard in a less systematic, more informal manner. 82% of the companies communicate about the recognition of talented employees transparently, which correlates with the findings of Ready et al. (2010), who give a figure of 85%. Complete transparency includes giving feedback about the reasons for their (non-)inclusion in the talent pool, familiarization with the development plan and the presentation

of talented employees at internal events. Companies that do not communicate this message to recognized employees state that the reason for this is that they do not wish to create expectations that they will not be able to meet in the future. At medium-sized companies the communication is usually less direct, and the underlying reasons for this are usually less systematic, more informal processes within which the detailed planning of career paths is more difficult. Regardless of the size of the company, it is above all important that this communication be carefully considered, since its effect can either be motivating or demotivating.

Development activities are another important factor in retaining key employees. Companies offer the majority of the abovementioned activities to all employees, while talented employees are involved in them more often and more intensively. More specific corporate practices also include training abroad, involvement in the work and activities of subsidiaries and the development of mobility through working at various organizational units. They also include talented employees in interdisciplinary teams so that they can obtain broader knowledge, and promote internal mobility so that people can develop their talents in the right positions. The companies state that retaining staff is important in order to broaden their positions and become more interdisciplinary. Around half of the companies also have a systematic succession plan, which is slightly lower than indicated in an American study (Fegley, 2006). Companies that do not plan succession as transparently argue that in a fast-changing business environment it does not make sense to predict the future and to promise positions. Succession planning at medium-sized companies is carried out on an intuitive level, which can be connected to the growth of the company and the changes to the organizational structure, whereby it is more important to recognize effective and flexible employees who could take on various roles.

In the majority of companies the measurement of the effectiveness of talented employees does not substantially differ from the measurement of the effectiveness of all employees. Annual performance appraisal interviews are used by two thirds of the companies in our sample. Companies usually use KPIs, skills evaluation using the 360-degree method and targeted management, while the majority of the assessments are based on the evaluations of superiors or self-evaluations. The head of the HR department at a large company noted that "*evaluation requires a combination – a matrix of job performance and a matrix of skills,*" while an HR specialist at a medium-sized company listed job performance (measurement based on achieving targets) and conduct in accordance with values as the most important factors.

The participants see the greatest challenges in attracting personnel, particularly from the point of view of positioning on the market as a desirable employer, attracting young candidates, staffing deficiencies and attracting people who are committed and passionate about their work and who work in accordance with company values. They feel it is important to present the corporate culture, work methods and organizational values as accurately as possible during the selection process, and for managers to internalize how important it is to engage with people. With regard to retaining personnel, a HR professional

at a large company noted that the most important factor is *"getting the right people into the right positions at the right time."*

The results of the study present another bridge between academic interest and practice (e.g., Cascio and Aguinis, 2008; Cappelli and Keller, 2014). A systematic review of the individual areas (attracting, recognizing, developing, and measuring effectiveness) can be applied comprehensively to the upgrading of existing processes within companies. The sharing of best practices can increase employee motivation and commitment, lower fluctuations and help companies design the process in a way that supports their vision and increases company performance. Similarly, cooperation between organizations in times of high fluctuation and brain-drains is also crucial for national development, so that Slovenia can position itself as a desirable country for people seeking employment.

One of the limitations of our study was the small sample size, which is difficult to extrapolate to all medium-sized and large companies. The sample also seems to be made up of companies that are perhaps not completely representative of the situation, as the study was proactively participated in by HR professionals at organizations with well-formed processes and which would like to share these practices with others. The results could also be affected by the participants' subjective reporting, as we were not able to monitor the disparity between the projects the companies would like to implement and those that they actually have implemented, and the quality thereof. Additionally, Slovenia does have cultural and economic specificities, so a reader has to consider that when applying conclusions to other contexts.

In view of the fact that the participants in our study were Slovenian companies whose talent management activities are conducted mainly in a planned manner, it would also be valuable to analyze those companies that believe they do not engage in talent management and that decided not to participate in the study. In order to improve the research, the entire evaluation of the talent management process could be supported by a questionnaire that would be filled out by both talented employees, HR departments, senior management and the boards of directors. This would give us more reliable data on talent management in various areas and from various perspectives. Since our study focused on an analysis at the organizational level, in future research it would also be worthwhile to focus on the individual level, on the perspective of the talented employees, through a comparative analysis of the content planned by HR professionals, which is then implemented by talented employees and used for their own development.

CONCLUSION

In this analysis we obtained an insight into the scope of the field of talent management at medium-sized and large companies in the period after the end of the recession. The results indicate that we are still unable to provide a uniform definition of the talent management process, as neither uniform definitions nor uniform practices exist. The concept of talent is defined as a combination of a fit with organizational values, personal qualities and job performance. The majority of companies have only been involved in the planned implementation of the talent management process for the last 3 years, which coincides with the end of the economic crisis. On average, 7% of employees are recognized as talented. Organizations attract talented employees through various activities and the planned development of the employer's brand. Recognition is most often based on management proposals and through interviews, whereby medium-sized companies operate more informally in this respect. The majority of the companies are transparent in their communications with talented employees. They develop talented employees using various activities in which those employees are more intensively involved. Half of the companies have a systematic succession plan, whereby medium-sized companies carry out the planning at a more intuitive level due to the changing organizational structure occasioned by growth. Effectiveness is measured using annual discussions at two thirds of the companies, by measuring the achievement of targets and evaluations by superiors. HR professionals see the greatest challenges in attracting personnel and in positioning the company as a desirable employer.

The research involved cooperation of the Slovenian organizations, in which employers provide researchers access to detailed data in return for help generating a systematic review of the current areas and uncovered a number of unresolved issues. The findings can be used by HR professionals to upgrade their existing talent management processes, and offer opportunities for further research for professionals in the fields of psychology, economics, HR management and other areas.

ETHICS STATEMENT

The administration adhered to the requirements of privacy and informed consent in the Slovene Law (Personal Data Protection Act 2004-01-3836 and subsequent amendments) and the ethical standards for research of the Declaration of Helsinki revised in Fortaleza (World Medical Association [WMA], 2013), followed and approved by the Department of Psychology of the University of Ljubljana (Slovenia). The administration adhered to the requirements of privacy in Slovenia law and informed consent was collected for each participant.

AUTHOR CONTRIBUTIONS

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

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Career Ambition as a Way of Understanding the Relation Between Locus of Control and Self-Perceived Employability Among Psychology Students

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Employability is one of the core concepts for the future career. Students' self-perceived employability is the concept that connects students' present context of education with their future professional engagement. Students' self-perceived employability is defined as the capacity to gain and keep employment in line with their future qualification level. Locus of control is a concept that explains where the person situates the causation of various life events. It is found that internal locus of control was related to different aspects of career success. Career ambition is regarded as a proxy for students' future career success. Both internal locus of control and ambition lead to proactive behaviors that are relevant for employability and consequently result in securing a sustainable job. The aim of this mixed-method study was to investigate the relations among locus of control, ambition and students' self-perceived employability. Firstly, we tested mediating role of career ambition in relation of internal locus of control and students' self-perceived employability, then we turned to qualitative analysis of students' career self-SWOT analyses in order to deepen and enrich quantitative findings. The sample consisted of 124 undergraduate psychology students that filled out Levenson's Internality subscale from IPC locus of control scale, Rothwell et al.'s (2008) Ambition subscale, and three items extracted from the Self-perceived employability subscale. Majority of the survey participants (N = 100) filled out personal career SWOT analysis. The mediation analysis showed that career ambition had a mediating role in the relation between the locus of control and employability. Students perceived personal capabilities and ambition as internal strengths and lack of ambition as a major internal weakness. As external opportunities students perceived various chances for developing professional skills, whereas as external threats they perceived limited opportunities in job market. In order to support university students to develop employability and future career success, university curricula should support developing future work skills that, in addition to functional competences and personal resources, entail career ambition, ways of utilizing external opportunities and dealing with job market threats.

Keywords: students' self-perceived employability, locus of control, career ambition, Serbia, psychology students, future work skills

INTRODUCTION

In the fast changing socio-economical context traditional career has been gradually leaving the stage and letting the place to modern, dynamic, flexible, fragmented, boundaryless and jobless career (Petrović and Čizmić, 2015). In this context employability has been attracting the attention from scientific and research perspective that partly lead to policy making, and partly to practical interventions (Bernston, 2008; Vanhercke et al., 2014). At its simplest, employability deals with the ability to be employed (e.g., Hillage and Pollard, 1998; Vanhercke et al., 2014). From the scientific literature based on the number of conceptualizations and operationalizations, it is evident that approach to employability differs across disciplines (Forrier and Sels, 2003).

In psychological approach, employability is mainly defined as set of competences or as a set of dispositions (De Cuyper et al., 2012). The competence-based approach to employability deals with persons' perception of abilities, capacities and skills that are the bases of employment (Van der Heijde and Van der Heijden, 2006). Employability as a competence could be regarded as the first step toward employment as such. It is of a particular interest for students on one side, and educational institutions or providers of education for labor market needs, on the other (Hillage and Pollard, 1998; Harvey, 2001; Knight and Yorke, 2004). Dispositional approach focuses on the perception of person's proactive attitudes related to the career and work in general. This approach was particularly developed by Fugate and Kinicki (2008, p. 504) who conceptualized employability as "a constellation of individual differences that predispose employees to (pro)actively adapt to their work and career environments."

In the overall context of constant change of labor market conditions, one's perceptions of his/her personal employability became increasingly important (Bernston, 2008). Perception of employability as personal appraisal of possibilities of getting the first or new employment is significant because it affects persons' overall well-being (Bernston, 2008; Vanhercke et al., 2014; Giorgi et al., 2015). Even though the concept of perceived employability is of high interest for those who work, it is also important to investigate employability among those who enter the job market, i.e., students. It is widely recognized that youth un/employment, moreover graduate un/employment, is among the pressing issues of youth well-being (International Labour Office, 2017). Strikingly enough, there are only a few research studies directly dealing with students' employability (e.g., Rothwell et al., 2008; Dacre Pool et al., 2014). Although there are no studies of students' employability, there are certain studies that deal with different forms of career behaviors as well as personal characteristics that could be related to the employability. For instance, Kuijpers et al. (2011) and Kuijpers and Meijers (2012) point out the importance of career learning in education, which aims to develop career competences. Career competences may develop through four-factor model of career competences that includes career reflection, work exploration, career action and networking. Developing these competences among students may consequently enhance students' employability. Further, findings from the study of Zellweger et al. (2011), indirectly indicate that entrepreneurial career, as a one of the ways of getting the job in accordance with personal interests, may also improve students' employability.

In support of the fact that students' employability is an important issue, statistics show that in EU in 2016 more than 6.3 million young people aged 15–24 years were neither employed nor in the process of educating or training (European Commission, 2018). The situation is similar in Serbia. After the last three decades of struggling with long-lasting socioeconomic crisis, firstly influenced by political instability in 1990s, and then by the global financial crisis (Petrović et al., 2017), low economic activity in Serbia is characterized by high unemployment rate of 14.1% among population aged 15–64 and among those of 15–24 years of age that percentage rises up to 31.9% (Statistical Office of the Republic of Serbia, 2017).

Psychology education in Serbia is marked by the Law on Higher Education (Zakon o visokom obrazovanju, 2017) that regulates adhering of higher education institutions to the Bologna process and joining European Higher Education Area (EHEA) on one side, and regulation of psychology profession and European Diploma in Psychology (Lunt et al., 2015), on the other. All accredited psychology university programs in Serbia give opportunities to students to go out of the university to get employment after having 180, 240, or 300 ECTS. However, for the professional practice of all fields of psychology it is necessary to complete psychology master program equivalent to 300 ECTS. Based on previous research about students' career related needs, psychology programs were modified to better answer the changing needs of students in preparing them for the job market and transition to work not just by securing better employability, but also by equipping them for more successful behavior on the job market (Petrovic et al., 2010, 2011).

Locus of control (LOC) is a concept that explains where the person situates the causation of various life events (Rotter, 1966). Persons with internal LOC believe that they have control over their lives, whereas those with external locus believe that their lives are largely controlled by external outside factors. Researchers found that internal LOC was related to better college adjustment (Aspelmeier et al., 2012), as well as to different aspects of career success. LOC was found to be associated with job-related behaviors such as job satisfaction (Judge and Bono, 2001), performance, greater effort at work, self-efficacy and career success (e.g., Ng et al., 2006). Research in Serbia has shown that work LOC (beliefs about the source of control at the workplace) was positively related with proactive job search (Petrović et al., 2009). Theoretically speaking, different authors suggest the connection between internal LOC and behaviors such as need for achievement, perceptions of opportunities at work and work motivation that could be explained by person's beliefs about the existence of link between efforts and outcomes (Patton et al., 2004; Ng et al., 2006). Thus, exerting greater effort that stems from the internal LOC can be perceived as a source of striving for achievement.

H1: Locus of control relates positively to employability.

Ambition could be regarded as an underlying mechanism that puts values on outcomes, connecting beliefs about personal

efforts that stem from internal LOC to career success (Rothwell et al., 2009). Based on the research of Rothwell et al. (2009), we state that in population of students ambition could be regarded as twofold mechanism – on one side it is a more general indicator of future professional success, and on the other side, exerting effort in successful studying closely advances employability. Undoubtedly, all three concepts shed light on dealing effectively with situations that lead to successful employment. Based on the following we state next three hypotheses.

H2: Locus of control relates positively to career ambition.
H3: Career ambition relates positively to employability.
H4: Relationship between locus of control and students' self-perceived employability is mediated by their career ambition.

In a nutshell, the aim of this study was to investigate the relations among LOC, ambition and students' self-perceived employability. Firstly, we tested mediating role of career ambition in relation of internal LOC and students' self-perceived employability, then we turned to qualitative analysis of students' career self-SWOT analyses in order to deepen quantitative findings.

Career self-SWOT analysis is the application of SWOT analysis in the career planning process. SWOT analysis is a widely used business tool for situation analysis in the process of organizational strategy planning (Ghazinoory et al., 2011). Acronym stands for assessing organization's strengths, weaknesses, opportunities, and threats (e.g., Kotler and Armstrong, 2017). Organizational strengths include internal capabilities and resources that may support the organization in achieving its strategic aims and goals, whereas weaknesses are organization's internal limitations that may obstruct realizing its aims and goals. Opportunities and threats are considerations, conditions, trends or aspects of organization's external environment that could be advantageous or unsupportive of organization's performance.

Initially developed for securing the success of corporate planning (Chapman, 2004; Friesner, 2018), due to its usefulness and "ability to flow" (Røvik, 2002), SWOT analysis spread easily beyond companies to not for profit business, countries and industries (Helms and Nixon, 2010) and project planning in general. Career planning is one of the areas where we can find promising application of SWOT analysis (e.g., Addams and Allfred, 2013). It comes as a natural step in the process of learning and practicing application of business tools by students that take some of the business courses (e.g., McCorkle et al., 2003), but it can equally well be applied in career preparation of students from other fields. Just as it was developed to secure the success of companies' strategic planning, it can be expected to support students' career development and success.

Even though the graduate unemployment is an acknowledged international problem (International Labour Office, 2017), there is not enough research about students' perceptions of their own employability in general, as well as those that explore underlying mechanisms that could explain perceived employability and lead to sustainable intervention. The study could be of a particular importance for exploring and understanding the psychological

dynamic of students' perceived employability. Both LOC and career ambition are interesting in the field of intervention, particularly in economies and labor markets that are strongly affected by instability and global economic crisis (Mucci et al., 2016; Lopez-Valcarcel and Barber, 2017). Under these circumstances personal beliefs about the source of the control over life along with career ambition can be essential for finding, sustaining or creating job opportunities. Since the concept of perceived employability among students has not been extensively investigated, both quantitative and qualitative approach were chosen for securing more thoroughly founded results.

MATERIALS AND METHODS

Participants
This mix-method study is based on two kinds of data initially collected for educational purposes. Quantitative data were based on a survey that covered a sample of 124 psychology students (89.1% female) from the third and fourth year of 4-year undergraduate studies from a university in Serbia. Majority of participants were younger than 23 years (73.2%). Participation in the survey was anonymous, voluntary and not compensated. The study was carried out in accordance with the Code of Ethics of the Serbian Psychological Society, and approved by the Committee on Ethical Issues of the Society of Psychologists of Serbia Ethics Commission at the Department of Psychology, Faculty of Philosophy, University of Belgrade, with written informed consent from all participants. Materials for the qualitative analysis consisted of students' personal career SWOT analyses in which they analyzed career related strengths, weaknesses, opportunities, and threats on the labor market. This was the personal reflection assignment for the Career management course. There were 100 students that both participated in the survey and handed in SWOT analyses. Even though students personally handed their SWOT analyses as the course activity, assignments were anonymized for this research.

Instruments and Procedure
Career Self-SWOT Analysis
Career self-SWOT analysis as the application of SWOT analysis in the career planning process was a self-reflection assignment in which students had to analyze and assess their personal strengths and weaknesses; opportunities and threats from the external environment, all in relation to career. Students were firstly informed about the technique, and it was stressed that they have the full freedom to fill the SWOT grid according to their personal evaluation of their overall career situation. The students were encouraged to list at least three features in each of the SWOT fields and majority of students listed exactly the required number of features in every SWOT field.

Career Ambition
Career ambition was assessed by the *Ambition subscale* from the *Self-perceived employability scale* (Rothwell et al., 2008). The career ambition subscale consists of 6-items that are rated on 5-point Likert scale between 1, indicating complete disagreement

and 5, indicating complete agreement. The examples of items are: "*I have clear goals for what I want to achieve in life*" and "*I feel it is urgent that I get on with my career development.*" Rothwell et al. (2008) reported Cronbach's alpha of 0.66. In this research, Cronbach's alpha for Ambition subscale was 0.60. Alpha if item deleted analysis showed that the item 6 significantly decreased reliability in our sample ("*What I do in the future is not really important*"). All three authors agreed that there was an issue with the content validity of this item since it was not clearly related to ambition. After excluding this item from the subscale, the reliability of the Cronbach's alpha raised to 0.76. Thus, we have used five items instead of original six items in further analyses.

Locus of Control

Locus of control was assessed by the *Internality subscale* from the *Levenson's IPC Scale* (Levenson, 1973). The examples of items are: "*When I make plans, I am almost certain to make them work*"; "*When I get what I want, it is usually because I worked hard for it.*" The Levenson's subscale consists of eight items that are rated on a 4-point Likert scale from 1, indicating complete disagreement, to 4, indicating complete agreement. Since the results of the reliability analysis of the Serbian adaptation of the subscale administered in this research showed that two items (items 4 "*Whether or not I get in to a car accident depends mostly on how good of a driver I am*" and 9 "*How many friends I have depends on how nice a person I am*") decreased reliability (Cronbach's alpha for the whole subscale was 0.58, and Cronbach's alpha without these two items was 0.70), in further analyses we used the Levenson's subscale without these two items, i.e., with six items.

Self-Perceived Employability

Self-perceived employability was assessed by the three items from the *Internal employability subscale* from the *Self-perceived employability scale* (Rothwell et al., 2008). The three chosen items were: "*The skills and abilities that I possess are what employers are looking for*"; "*I am generally confident of success in job Interviews and selection events*"; "*I feel I could get any job so long as my skills and experience are reasonably relevant.*" The reliability of these three items measured by the Cronbach's alpha was 0.79. Each item was rated on a 5-point Likert scale from 1, indicating complete disagreement, to 5, indicating complete agreement.

All of the subscales used in the present study were translated to Serbian through the committee technique and translations were checked applying back translation (Brislin et al., 1973). Committee translation was carried out in two iterations (independent parallel translation and collaborative developing of consensus-based Serbian versions of subscales). Authors of the paper were committee members. Translated subscales were back translated into English by an independent bilingual researcher. Back translations were checked for consistency with the originating English versions by the committee and independent researcher that did back translation. After confirming the Serbian translation adequacy, we included the translated subscales in the questionnaire.

RESULTS

Before the main mediation analysis, we previously tested whether a single factor explained the majority of covariance among the instruments applied in this study. The results of the Herman's single factor test using one factor un-rotated factor analysis showed that 34.6% of a total variance was explained. This means that the common method variance could not explain the larger part of the covariance between items from the applied instruments.

In order to explore whether each item loaded accurately on the supposed component, we performed additional factor analysis. Further analysis has shown that each item loaded accurately on assumed component, all loadings were higher than 0.50, except for the two items from Internality subscale from the Levenson's IPC Scale (Levenson, 1973), that were a little lower, i.e., 0.46 and 0.43, but positioned on the presumed component ("*When I get what I want, it is usually because I worked hard for it,*" "*When I make plans, I am almost certain to make them work*"). Since these items did not decrease the reliability of the Internality subscale, we retained them and further analyses were done with six items.

The means, standard deviations, skewness and kurtosis values, and correlations among internal LOC, ambition and employability are presented in **Table 1**. As it can be seen from the **Table 1**, LOC, ambition and employability are positively and moderately correlated. The values of skewness and kurtosis for the Ambition subscale point to the fact that in this sample we have negatively skewed, leptokurtic distribution. It is reasonable to expect such distribution as the sample comprised of successful students that had already passed 2 or 3 years of a demanding undergraduate program.

In order to test presented hypotheses, we have performed mediation analysis. Mediation analysis (see **Figure 1**) has shown that there was a significant indirect effect (Sobel test, $z = 3.82$, $p = 0.00$) of internal LOC on employability through the career ambition ($b = 0.20$, BCa CI [0.11, 0.31]). In addition, it is worth mentioning that multiple regression analysis has shown that two predictors explained 32% of the variance [$R^2 = 0.32$, $F(2,118) = 28.28$]. It is also of importance to note that the

TABLE 1 | Means, standard deviations, skewness, kurtosis and correlations among internal locus of control, ambition and employability.

	M	SD	Skewness (SE)	Kurtosis (SE)	Ambition	Employability
Internal locus of control	20.12	2.23	0.020 (0.220)	−0.726 (0.437)	0.517**	0.438**
Ambition	21.94	2.62	−1.365 (0.218)	2.382 (0.433)		0.538**
Employability	11.35	2.03	−0.146 (0.217)	−0.102 (0.431)		

**Correlation is significant at the 0.01 level.

FIGURE 1 | Model of internal locus of control as a predictor of employability mediated by career ambition.
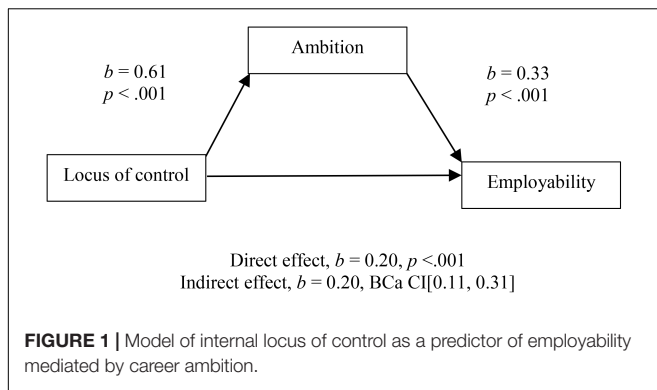
multicollinearity assumption has not been violated, as can be seen from the VIF = 1.36 and Tolerance = 0.73 (**Figure 1**).

The career self-SWOT analysis features that students listed as their personal strengths and weaknesses, and external opportunities and threats are presented in **Table 2**. Qualitative analysis is based on career self-SWOT analyses developed by 100 students. It should be noted that students had a problem to list more features than the required minimum of three that led to a more simple SWOT than could have been expected. We organized listed features into categories that are also presented in **Table 2**. Abilities were listed only as a personal strength. As initially SWOT analysis covers organization's internal and external environment, career self-SWOT analysis, perceived in the context of the LOC, covers personal strengths and weaknesses as connected with internal locus and opportunities and threats as related with the external locus.

However, it should be noted that features related with ambition have been rather richly presented, both as a personal strength and as a personal weakness. There is more diversity in listed strengths than weaknesses. Altogether, listed personal strengths and weaknesses clearly point that students perceive work performance features that could be subsumed under the concept of ambition as important for their future career. As for the external factors of students' future career, it could be noted that opportunities are more tied with "important others" (mainly university professors and internship mentors), whereas threats are more tied with more distant market and economy conditions in the country (such as high unemployment rate, low economic activity). It is interesting to note that these findings are in the line with the previous research findings from Serbia in which initial factor of external control from the Spector's Work locus of control scale (Spector, 1988) was divided in two factors – external locus defined by the social domain, labeled as "powerful others" (Blakely et al., 2005), and external locus defined by luck and external circumstances that corresponded to factor of luck from the Blakely et al.'s (2005) research.

DISCUSSION

It is recognized in the literature that employability plays an important role in securing actual employment of people with previous work experience (King, 2004). In the population of

TABLE 2 | Career self-SWOT analysis: factors organized by categories and their frequencies.

Strengths	Weaknesses
Abilities	
Intelligence (21)*	
Creativity (21)	
Readiness to learn (15)	
Motivation and other characteristics	
Proactivity (36)	Lack of motivation (36)
Ambitiousness (33)	Lack of self-confidence (36)
Perseverance (30)	Low efficiency (33)
Responsibility (27)	Procrastination (33)
Initiative (18)	Lack of determination (27)
Commitment (15)	Lack of self-discipline (21)
Resourcefulness (15)	Lack of organization (21)
Adaptability (12)	Laziness (21)
Thoughtfulness (12)	Too much relying on authorities (15)
Opportunities	**Threats**
Professional networking	*Weaker position of the faculty and university*
Developing contacts with psychologists from the practice (18)	Prejudices about private universities (33)
Developing contacts in the academic community (18)	
Collaborating with university teachers (15)	
Opportunities for employment	
Growing number of organizations that employ psychologists (27)	Lack of job openings (57)
Contemporary society's needs for psychological services (24)	Instability of economy (36)
Private psychotherapy practice (24)	Limited employment in the public sector (21)
Development and better opportunities for the funding of civil service organizations (18)	
Growing social and economic support for entrepreneurship (18)	
Developing of professional competencies and practical experience	*Job market competition*
Internship (39)	Growing numbers of graduated psychologists (57)
Skills training (36)	Higher unemployment rate among young people (12)
Professional volunteering (21)	
	Irregularities in hiring
	Nepotism (21)
	Hiring based on connections (12)

The number of students who listed the feature.

students it is yet needed to explore the concept of employability in depth, the ways it is connected with various students' job search and work-related outcomes, as well as the way of its operationalizing. For university students, it is particularly important to get to know personal resources (Fugate et al., 2004), characteristics and competences that lead to better self-perceived employability as well as to actual employment. LOC is one of these personal resources that had been recognized as a significant

correlate of job-related behaviors and career success (Judge and Bono, 2001; Petrović et al., 2009). Internal LOC, besides being a good predictor of academic success and college adjustment (Aspelmeier et al., 2012), may also lead to the consideration of self-employment and entrepreneurial career (Zellweger et al., 2011) which could be connected with better employability of students. The core of LOC is the perception of control over the significant life events which is firmly connected with the determination to achieve success. Even though this connection could be regarded as obvious and intuitive, research that explored and explicated the nature of the connection between LOC and career success obviously lacks.

Studying relationships of LOC, ambition and self-perceived employability in the sample of third and fourth year students of 4-year undergraduate psychology program, applying the mediation analysis we found that career ambition had a mediating role in the relation between LOC and employability. LOC is strongly and positively correlated with ambition and employability, while ambition is strongly and positively related to employability (see **Figure 1**). This research has shown that, in the population of university students, career ambition could be regarded as an underlying mechanism that connects LOC and employability. In the population of students at different levels of education, in which researchers cannot use widely known measures of career success, ambition could be observed as a proxy for future career success. This research also supports the idea that students' ambition can be regarded as the glue that connects career-related dispositions and future career-related achievements.

Digging deeper into the relationships among students' dispositions and their perceptions of various personal and contextual aspects of career success, we turned to analyzing their personal career-related SWOT reflections. Based on the students' personal career-SWOT analyses, it is evident that attributes that could be considered as the indicators of the lack of ambition were mostly considered as personal weaknesses (**Table 2**). Within weaknesses part of the grid the attributes such as –low self-efficacy, procrastination, low self-confidence, low self-esteem, could be found. On the other hand, leading strengths are ambition, proactivity, flexibility, perseverance, and alike. Opportunities and threats usually come from the broader social context which could be only partially be addressed by personal strengths and career ambition. Still, it is evident from the career-SWOT grid that external features were elaborated more thoroughly than internal. It was evident that some potential, generally expected, internal strengths, as well as weaknesses, such as competences, skills, personality traits, knowledge were missing. It is questionable why students do not perceive these aspects as important for employability and future career. Presented findings clearly point out the importance of working with students on career related issues either through university course activities (functional competencies) or mentorship (career management competencies).

Although there are no directly comparable studies, results of the present study could be perceived as being in line with findings from studies which indirectly investigated students' employability (e.g., Aspelmeier et al., 2012; Kuijpers and Meijers, 2012). Features obtained in SWOT analyses support the four-factor model of career competencies proposed by Kuijpers et al. (2011). In addition, results highlighted the importance of LOC for future career success which is in accord with findings from the study of Aspelmeier et al. (2012). The results of the present study are in agreement with the findings from the studies which emphasize the importance of learning environment and career dialog between students and important others (e.g., teachers, career counselors) for developing career related competencies (Kuijpers and Meijers, 2012), that could indirectly lead to improving students' employability.

Limitations and Implications for Future Research

Longitudinal study would have certainly been better suited for exploring students' employability. Cross-sectional study in the case of students of final 2 years of 4-year undergraduate studies limits the generalizability of findings as studies itself lead to changes in self-evaluation in general, and self-perceived employability, in particular. At this point it is important to consider the limitations that stem from the sample size and its specificities. Choosing the psychology students of the final years, moreover from one university, could raise the question about obtained distributions of all three variables. However, the similar distributions can always be expected when exploring university students of final years of any study program. Even tough it would be valuable to explore employability of students of different professional fields, it was practically impossible to carry out mixed-method study as the present one due to lack of career related courses, even lack of interest for career related issues, different possibilities of getting a job at the labor market and alike. If such a sample was attainable it would have been extremely demanding to control all the relevant sources of variation to enable valid comparisons. Under such conditions, we opted for a coherent sample of two subsequent generations of psychology students that had Career management as one of the courses and had the same objective chances of getting employment after graduating in the near future.

As demonstrated with the reliability coefficients of applied subscales that were translated and adapted for use in Serbian, that were better than the reliabilities of the original subscales, but not 'perfect,' further work on refining the instruments and possibly developing better, more comprehensive, valid and reliable measures of all three concepts, i.e., career ambition, LOC and self-perceived employability is highly warranted. In addition, it should be noted that all the measures come from the same source. Adding external assessments of applied measures could significantly enhance the validity of the overall model. Teachers' evaluations and longitudinal following of students' employability on the course of their studies could enrich our understanding of employability in the population of students. The same goes for the ambition, where it would be helpful to correlate it with the objective behavioral indicators of students' present ambition as well as with objective behavioral measures of future work performance that could be secured in a longitudinal research design. Last, but certainly not the least, it is widely acknowledged that researchers have not yet come up with a

satisfactory measure of LOC. It is one of the concepts about which there is a high level of agreement about its importance, based on relevant consequences and outcomes. Despite of numerous attempts, there is still lack of widely accepted valid measure of LOC.

The applied mixed-method approach to exploring perceived employability among students enabled developing of a more rounded insight into the concept that could further open some new research routes. Presented findings call for further exploration of other personal resources that are connected with career success, as well as other career success indicators. Personal resources as self-esteem, self-confidence, and self-efficacy could further be considered (Dacre Pool and Sewell, 2007). Also, when it comes to future career success, other indicators such as career engagement could be taken into the consideration.

On the practical level, this study is of a particular importance in the context of exploring and understanding the psychological dynamic of students' perceived employability that could be the inspiration for developing practical guidelines, mostly for those who work with students. One of the interesting practical findings come from the mismatch of perceived career ambition and competencies in the SWOT grids on one side, and negatively skewed distributions of scores on LOC, career ambition and self-perceived employability, on the other. Based on this kind of findings, all those that work with university students (such as teachers, career counselors, internship mentors), can develop interventions in their appropriate fields that would support students' in developing competences, and, thus their self-perceived employability, as well as their career ambition.

CONCLUSION

The unique finding that came from the presented research was that students' career ambition had a mediating role in the relation between the LOC and self-perceived employability. Bearing in mind the scarce research literature on students' self-perceived employability, this finding is even more valuable as it calls for

attention to psychological dynamics of students' employability. Students perceived personal capabilities and ambition as internal strengths and lack of ambition as a major internal weakness. As external opportunities students perceived various prospects for developing professional skills; as external threats they perceived limited opportunities in the job market. This research implies that developing and sustaining career ambition, as well as perceived control over career events, could lead to students' perception of better employability.

As research comes from Serbia, country with a relatively high unemployment rate, it should be noted that some labor market circumstances limit considerably job search behaviors. Personal ambition and internal LOC are not omnipotent in the context of restricted job market opportunities. Likewise, we can expect that the global economic crisis can add a layer of understanding in the dynamics of perception of employability by students. The actuality and importance of the explored topic resonates far beyond the borders of Serbia, the country in which the research took place. The overall context of global economic crisis makes the issue of employability in general, and self-perceived employability, in particular, highly relevant for policy makers and all those who take part in creating economic conditions that enable higher employment rates and new jobs on the market.

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MĆD, IP, and MV contributed equally to the research design and writing of this paper.

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Daily Fluctuations in Smartphone Use, Psychological Detachment, and Work Engagement: The Role of Workplace Telepressure

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Today's work environment is shaped by the electronic age. Smartphones are important tools that allow employees to work anywhere and anytime. The aim of this diary study was to examine daily smartphone use after and during work and their association with psychological detachment (in the home domain) and work engagement (in the work domain), respectively. We explored whether workplace telepressure, which is a strong urge to respond to work-related messages and a preoccupation with quick response times, promotes smartphone use. Furthermore, we hypothesized that employees experiencing high workplace telepressure would have more trouble letting go of the workday during the evening and feel less engaged during their workday to the extent that they use their smartphone more intensively across domains. A total of 116 employees using their smartphones for work-related purposes completed diary questionnaires on five workdays ($N = 476$ data points) assessing their work-related smartphone use, psychological detachment after work, and engagement during work. Workplace telepressure was measured as a between-individual variable and only assessed at the beginning of the study, as well as relevant control variables such as participants' workload and segmentation preference (a preference for work and home domains to be as segmented as possible). Multilevel path analyses revealed that work-related smartphone use after work was negatively related to psychological detachment irrespective of employees' experienced workplace telepressure, and daily smartphone use during work was unrelated to work engagement. Supporting our hypothesis, employees who reported high telepressure experienced less work engagement on days that they used their smartphone more intensively during work. Altogether, intensive smartphone use after work hampers employees' psychological detachment, whereas intensive smartphone use during work undermines their work engagement only when employees experience high workplace telepressure as well. Theoretical and practical implications of these findings are discussed.

Keywords: workplace telepressure, smartphone use, psychological detachment, work engagement, day-level relations

INTRODUCTION

Communication technology has an ubiquitous role in our daily working lives: many employees cannot perform their job without using computer facilities. Smartphones serve as small computers and include a variety of functions such as phone calls, digital calendars, internet and social media access, and most importantly sending and receiving e-mails (Middleton, 2007). For example, 97% of Dutch employees have a smartphone with internet access and 94% use their smartphone daily for internet activities (CBS, 2018). In the past 5 years, internet access via smartphones has increased by approximately 25%.

Communication technology devices have enabled employees to bring work tasks into the home domain thereby facilitating work flexibility, with the blurring of boundaries between work and home domains as a side effect (Demerouti et al., 2014). The following scenario may sound very familiar to many of us: imagine sitting in your living room in the evening watching television and relaxing after a busy day at work when you suddenly receive an urgent e-mail from your boss on your smartphone. What will you do: answer the e-mail right away or wait until the next day? Some of us would respond to the urgent e-mail, whereas others would not or would not have seen the e-mail anyway.

Employees who feel a strong urge to respond to work-related messages while wanting to respond quickly (i.e., the ones who would respond to their boss in the described scenario) experience high workplace telepressure (Barber and Santuzzi, 2015). Workplace telepressure is a relatively new concept in a rapidly developing modern working world and a timely topic to study. It is thus essential to develop theory on how workplace telepressure may impact employees' involvement in work activities after and during work.

In this study, we first expect that workplace telepressure will motivate employees to use their smartphone on a daily basis for work-related purposes during off-job hours. However, high work involvement in the form of spending time on work activities while being at home could have its price for individuals. That is, work-related smartphone use after work may impede employees to detach and recover from their work during the following evening, which could ultimately harm their (mental) health (Derks et al., 2014). It is possible, however, that employees have particularly difficulties with psychologically detaching from their work (i.e., mentally switching off work) when they feel pressured to stay 'online,' thus when they experience high workplace telepressure. Besides using their smartphone more frequently, these employees stay mentally occupied because of their constant alertness to incoming messages. In this study, we propose that high workplace telepressure will strengthen the negative relationship between work-related smartphone use and psychological detachment at home.

Additionally, we expect that workplace telepressure will motivate employees to use their smartphone frequently when being at work (Barber and Santuzzi, 2015; Grawitch et al., 2017). However, frequent smartphone use at work may undermine high involvement at work, referred to as work engagement (Bakker

FIGURE 1 | Visualization of the research model.
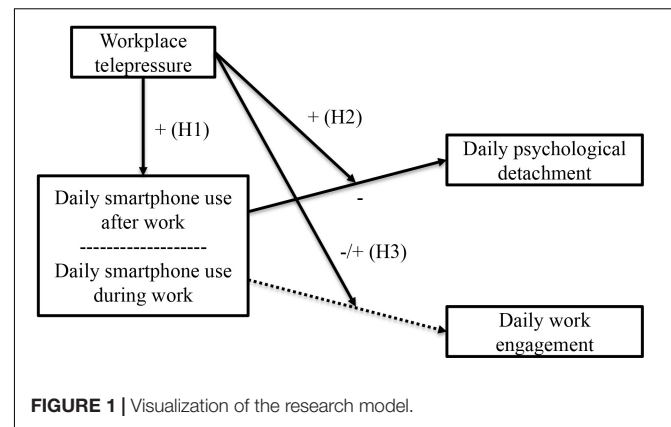
et al., 2008), particularly if employees feel pressured to use their smartphone and thus may view their frequent smartphone use as a burden. In contrast, if employees feel no such pressure and rather perceive their smartphone as a resource that increases their autonomy, flexibility and functioning, frequent smartphone use at work may relate to higher work engagement.

In this study we propose that the relationship between smartphone use and work engagement will be negative when experienced workplace telepressure is high whereas this relationship will be positive when experienced workplace telepressure is low. See **Figure 1** for a visualization of the research model.

Although workplace telepressure and the use of smartphones for work-related purposes have become important topics for employees and employers alike, research on these topics is yet relatively sparse (Richardson, 2017). This study aims to fill this void and consequently contributes to theory and practice. Moreover, the few prior studies on work-related smartphone use have mainly focused on work-related smartphone use during off-job hours (Schlachter et al., 2017). The present study aims to add to this line of research by simultaneously examining daily work-related smartphone use during off-job hours and during work hours. Employees who feel pressured to frequently use their smartphone at work may experience less control over their work, which may undermine rather than promote their work engagement (MacCormick et al., 2012). This is the first study that test this proposition.

Investigating the correlates of workplace telepressure and frequent smartphone use off and during work is important for developing theory on human adaptation to technological devices. In addition, this investigation is extremely relevant for society and organizations, because more knowledge is needed about the possible detrimental or beneficial outcomes of employees' cognitions pertaining to the use of smartphones for work-related activities and employees' actual use of these devices. This knowledge may help to develop evidence-based interventions of how employees can deal with devices so that these devices do not cause them stress but rather help them to stay engaged.

Because work-related smartphone use, psychological detachment, and work engagement are prone to fluctuate from

day to day, we test our propositions using a daily diary design, allowing us to examine relationships across multiple time points (i.e., during several days), and capture "life as it is lived" (Bolger et al., 2003, p. 597). A diary approach allows us to closely follow an employee's behavior during work and off-job time and is essential in studying short-term processes like work-related smartphone use (Ohly et al., 2010).

Workplace Telepressure and Work-Related Smartphone Use

We have already established that almost every employee in Western societies has a smartphone with access to (work) e-mail (CBS, 2018; Statista, 2018). Many of them use their smartphone for work purposes while being off work. To be precise, 44% of American employees admit to checking their work e-mail during vacation and 54% do so while being sick at home (American Psychological Association, 2013). Apparently, these employees are in one way or another motivated to use their smartphone for work in their private time.

Barber and Santuzzi (2015) coined the term workplace telepressure and defined it as a preoccupation with and urge to respond promptly to work-related messages. These authors further showed that workplace telepressure was primarily a function of external pressures that employees experience, such as prescriptive norms in the organization. Other researchers (Grawitch et al., 2017), however, found that also personal pressures, such as neuroticism, workaholism, and low self-control, contributed to the experience of workplace telepressure, all personality variables that are conceived of as detrimental for employees' well-being and health.

Employees who experience workplace telepressure, whether this is from external or internal pressures, might be more likely to give in to their urges and use their smartphone for work-related purposes in their spare time more often than employees who do not experience this pressure. Experienced pressures are difficult to resist, even if one realizes that the behavioral response to the pressure is unnecessary or could be harmful (Baumeister et al., 2007). Indeed, prior research found that employees who experienced high workplace telepressure also reported increased e-mail responding (Barber and Santuzzi, 2015; Grawitch et al., 2017).

Extant research on workplace telepressure and work-related smartphone use mostly focused on work-related smartphone use *during off-job time* (see Schlachter et al., 2017, for a review). As smartphones have become a constant companion in our daily working lives it is also important to examine work-related smartphone use *during work hours* and how this relates to beneficial work outcomes. Many employees own a smartphone that they use during work hours. For instance, a recent survey by Steelcase showed that 47% of Dutch employees are equipped with mobile phones by their employers (Steelcase, 2016). Based on prior research showing a positive relationship between workplace telepressure and work-related smartphone use *after* work (Barber and Santuzzi, 2015), it is plausible to expect a relationship between workplace telepressure and

work-related smartphone use *during* work. Since we examine smartphone use at the day-level (rather than in general), we propose:

Hypothesis 1: *Workplace telepressure is positively related to day-level work-related smartphone use after work (a) and during work (b).*

Work-Related Smartphone Use After Work and Psychological Detachment

Previous studies on work-related smartphone use during off-job time have examined and found support for psychological detachment as a direct consequence of work-related smartphone use and as a mechanism linking smartphone use to recovery and well-being as well as work-family conflict (Park et al., 2011; Derks et al., 2012, 2014; Barber and Jenkins, 2014; Lanaj et al., 2014; Ohly and Latour, 2014; Schlachter et al., 2017). Psychological detachment refers to being able to mentally disengage from work during off-job time (Sonnentag and Fritz, 2007). Employees who psychologically detach from work do not think of their work during free time. According to Effort-Recovery theory (Meijman and Mulder, 1998) and Allostatic Load theory (McEwen, 1998), recovery during non-work hours is crucial for allowing stress-related psycho-physiological reactions to return to baseline or pre-demand levels. Thus, being preoccupied with responding to work-related messages when at home, on vacation, or while being sick may hamper psychological unwinding, which may have negative consequences for recovery and well-being, and ultimately work performance.

Although research has shown that employees tend to have more trouble detaching form work when they use their smartphone for work during off-job hours (Derks et al., 2014), it is possible that especially employees who experience high workplace telepressure are unable to mentally switch of work when intensively using their smartphone after work. These employees are not only actually involved in work activities when using their smartphone but they are also constantly alert to receiving and responding to other work-related emails that might arrive. In addition, they may perceive lower vigilance and non-response to emails (i.e., detachment) as failure or improper work behavior. Their frequent smartphone use in combination with a state of mental alertness keep them attached to work (e.g., Walsh et al., 2010; Vorderer et al., 2016; Sonnentag, 2017). Conversely, employees who use their smartphone (occasionally) frequently but without experiencing workplace telepressure will detach from this work-related activity as soon as they have finished using their smartphone. These employees are less preoccupied with the possible arrival of work-related messages than their pressured counterparts and are thus able to switch off their work as soon as they can. We hypothesize the following:

Hypothesis 2: *Workplace telepressure moderates the negative relationship between daily work-related smartphone use during off-job hours and daily psychological detachment in such a way that experiencing high workplace telepressure strengthens*

the negative relationship (a) and experiencing low workplace telepressure weakens the negative relationship (b).

Work-Related Smartphone Use During Work and Work Engagement

Above, we argued that workplace telepressure not only promotes work-related smartphone use after work but also smartphone use at work. Here we discuss how smartphone use at work may relate to employees' work engagement and whether this relationship depends on employees' experienced workplace telepressure. Work engagement is "a positive, fulfilling, affective-motivational state of work-related well-being that is characterized by vigor, dedication, and absorption" (Bakker et al., 2008, p. 187). Employee work engagement is regarded vital for both employees and organizations (Bakker et al., 2008; Gruman and Saks, 2011). Employees who are strongly engaged with their work feel dedicated and energetic and are intrinsically motivated to develop themselves and to perform to the best of their abilities, which in turn, make them an asset for the productivity and performance of the organization. In addition, although employee work engagement has been studied as a trait characteristic, diary studies have shown that it can fluctuate over time as caused by day-level job demands and resources (e.g., Xanthopoulou et al., 2009; Sonnentag et al., 2010; Breevaart et al., 2012).

Building on the Job Demands-Resources (J-DR) model (e.g., Bakker et al., 2014), we expect that the combination of daily work-related smartphone use and workplace telepressure will relate to daily work engagement. The JD-R model categorizes job characteristics as job demands or job resources, with job demands being relatively stronger predictors of burnout (the health impairment process) and job resources being relatively stronger predictors of work engagement (the motivational process) (Llorens et al., 2006; Schaufeli and Taris, 2014).

Smartphone use at work can be either seen as a job demand or a job resource (Day et al., 2010). Employees may experience access to a smartphone as a job demand when they associate it with increased workload and longer working hours (Peters et al., 2009; Demerouti et al., 2014). Although job demands tend to be relatively less strongly associated with work engagement, frequent smartphone use may nonetheless hamper employee work engagement when perceived as a demand. Conversely, employees may experience access to a smartphone as a job resource when they associate it with flexibility and increased autonomy over work tasks (Day et al., 2010). If this is the case, frequent work-related smartphone use may relate to increased work engaement.

Whether employees experience smartphone use at work as a job demand or job resource may depend on the extent to which they experience workplace telepressure. Employees who experience high workplace telepressure may perceive their smartphone as a hindering job demand, whereas employees who do not experience this pressure may perceive their smartphone as a helpful device (i.e., a job resource). As outlined above, high workplace telepressure can stem from external pressures (e.g., prescriptive norms) or disadvantageous internal pressures (neuroticism, workaholism, low self-control). These pressures

reflect job and personal demands, respectively, rather than resources and will thus negatively impact the relationship between employee smartphone use and work engagement. Intensive smartphone use combined with high workplace telepressure will reduce work engagement, whereas intensive smartphone use combined with low workplace telepressure will increase it. We hypothesize:

> **Hypothesis 3**: *Daily work-related smartphone use during work is negatively related to daily work engagement for individuals experiencing high workplace telepressure (a) and positively related to day-level work engagement for individuals experiencing low workplace telepressure (b).*

MATERIALS AND METHODS

Procedure and Participants

Participants were recruited via e-mail, phone, LinkedIn, or other social media outlets, resulting in a heterogeneous convenience sample of Dutch employees. To be included in the study, potential participants had to work at least 3 days a week within the same organization and had to use their smartphone for work-related purposes. In-depth information about the data collection as well as anonymity and confidentiality of responses was provided in an e-mail and the informed consent at the beginning of the study. This study was carried out in accordance with the guidelines formulated by the Ethics Review Board of the Faculty of Social and Behavioral Sciences, University of Amsterdam, and has been approved by the aforementioned Ethics Review Board (reference number 2017-WOP-8035). All subjects gave written informed consent in accordance with the Declaration of Helsinki. Participation was entirely voluntary and could be stopped at any time. Participants had the chance to win one of four gift certificates each worth €25. Their chance of winning was dependent on the amount of completed questionnaires. This approach was chosen to minimize participant dropout.

All data were collected through online questionnaires. Participants provided their responses by using a computer, tablet or smartphone. At the beginning of the study, participants filled out a general questionnaire measuring between-individual variables such as workplace telepressure, segmentation preference, workload, and demographics. Next, participants received five short daily questionnaires on the days they had specified as working days. As some participants worked part-time, working days did not have to be consecutive. In these short questionnaires, day-level (state) variables were assessed (i.e., smartphone use during and after work, work engagement during work, psychological detachment after work). Daily questionnaires were always sent in the evening at 20:00. If participants had not responded until 22:30 they received a reminder. The link to the questionnaire expired the following morning at 04:00 to prevent participants from responding during the next working day. In the case that participants had filled out less than three daily questionnaires, they were invited twice more to fill out an additional questionnaire.

Of the 192 employees who completed the general questionnaire, 116 participated in the daily diary study and filled out at least three daily questionnaires. Of the 580 distributed daily questionnaires (116 participants × 5 days) 82% were completed, resulting in 476 data points at the within-person level. Mean age of participants (55.2% females) was 38.1 (*SD* = 12.7). Most participants had received higher professional or university education (88.8%) and worked fulltime (56.9%). Professional backgrounds were diverse, such as teaching (22.4%), healthcare (15.5%), and ICT (11.2%). All participants indicated to use their smartphone for work-related purposes during work and had access to their work after working hours.

Measures

Between-Individual Measures
The between-individual measures at the start of the study were: workplace telepressure, segmentation preference, workload, and demographics.

Workplace telepressure was measured with the six-item scale developed by Barber and Santuzzi (2015). The items were preceded by an introductory statement: "When responding to the following statements, think about how you use technology to communicate with people in your workplace. Specifically think about message-based technologies that allow you to control when you respond (email, text messages, voicemail, etc.). Please rate how much you agree or disagree with the statements. When using message-based technology for work purposes . . ." A sample item is "I can concentrate better on other tasks once I've responded to my messages". All items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the scale was 0.92.

Control Variables
Workload is a variable that potentially may act as a confounding variable when examining work-related smartphone use and was thus included in this research. Workload was measured with a three-item scale (Bakker et al., 2003). A sample item is "I have to work extra hard to finish things." All items were rated on a five-point scale ranging from 1 (*never*) to 5 (*very often*). Cronbach's alpha for the scale was 0.87.

Employees may also vastly differ in how they prefer to handle their work and home domains (Park et al., 2011; Derks et al., 2016). Therefore, *segmentation preference* may potentially act as a confounding variable when examining work-related smartphone use and detachment. Segmentation preference was assessed with the four-item subscale segmentation preference from Kreiner (2006). An example item is "I like to be able to leave work behind when I go home" and the response categories ranged from 1 (*totally disagree*) to 5 (*totally agree*). A higher score indicated a preference for keeping work and home domains separate. Cronbach's alpha was 0.82.

Demographics included gender, age, and educational level.

Within-Individual Measures
The within-individual measures included in the five daily questionnaires were: smartphone use during work, smartphone use after work, work engagement during work, and psychological detachment after work. Factor analyses confirmed that all scales measured different constructs.

Smartphone use during work was assessed with the smartphone use scale from Derks and Bakker (2014). The four items were adjusted for daily measurement and referred to smartphone use during work. The items were preceded by a short introductory statement: "The following statements concern your smartphone use for work-related purposes during working hours." A sample item is "Today, I used my smartphone intensively during work hours." All items were rated on a five-point scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Cronbach's alpha coefficients varied from 0.74 to 0.86 with an average of 0.82 across the different days.

Smartphone use after work was assessed in a similar way as smartphone use during work. The same four-item scale from Derks and Bakker (2014) was used, which now referred to smartphone use after work. Cronbach's alpha coefficients varied from 0.79 to 0.86 with an average of 0.83 across the different days.

Work engagement during work was measured with the nine-item State Work Engagement Scale (Breevaart et al., 2012). An example item is "Today, my job inspired me" and responses were provided on a seven-point scale ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). Cronbach's alpha coefficients ranged from 0.89 to 0.93 with an average of 0.91 across all measurement days.

Psychological detachment after work was measured with the four-item psychological detachment subscale of the Recovery Experiences Questionnaire (Sonnentag and Fritz, 2007), which was adjusted for daily measurement. An example item is "In my free time after work I forgot about work today" and the response categories ranged from 1 (*totally disagree*) to 5 (*totally agree*). Cronbach's alpha coefficients ranged from 0.81 to 0.92 with an average of 0.88 across all measurement days.

Statistical Analyses
Repeated daily measurements were nested within individuals. Intra-class correlations indicated that 36% of the variance in work-related smartphone use during work and 31% of the variance in smartphone use after work was on the day-level (within-individual). Moreover, 57% of the variance in work engagement and 53% of the variance in psychological detachment could be attributed to day-level variations. Thus, we concluded that using a multilevel approach was justified.

Day-level variables were modeled as level-1 variables (*N* = 476 daily measurements) and individuals as level-2 variables (*N* = 116 participants). Following the recommendations by Aguinis et al. (2013), we grand mean centered workplace telepressure because this variable was the only predictor in our model (see **Figure 2**) and modeled at the between-level. We also grand-mean centered our control variables age, workload and segmentation preference. We performed multilevel path analysis with ML estimation in Mplus 7.4 (Muthén and Muthén, 2015) to examine day-level relations between work-related smartphone use during and after work, work engagement, and psychological detachment, and workplace telepressure as cross-level predictor. All variables were entered in the same model: work-related smartphone use during and after work, work engagement, and psychological detachment were modeled at the within level. Workplace

FIGURE 2 | Multilevel model including all significant results. For clarity, insignificant pathways and control variables are not depicted. *$p < 0.05$.
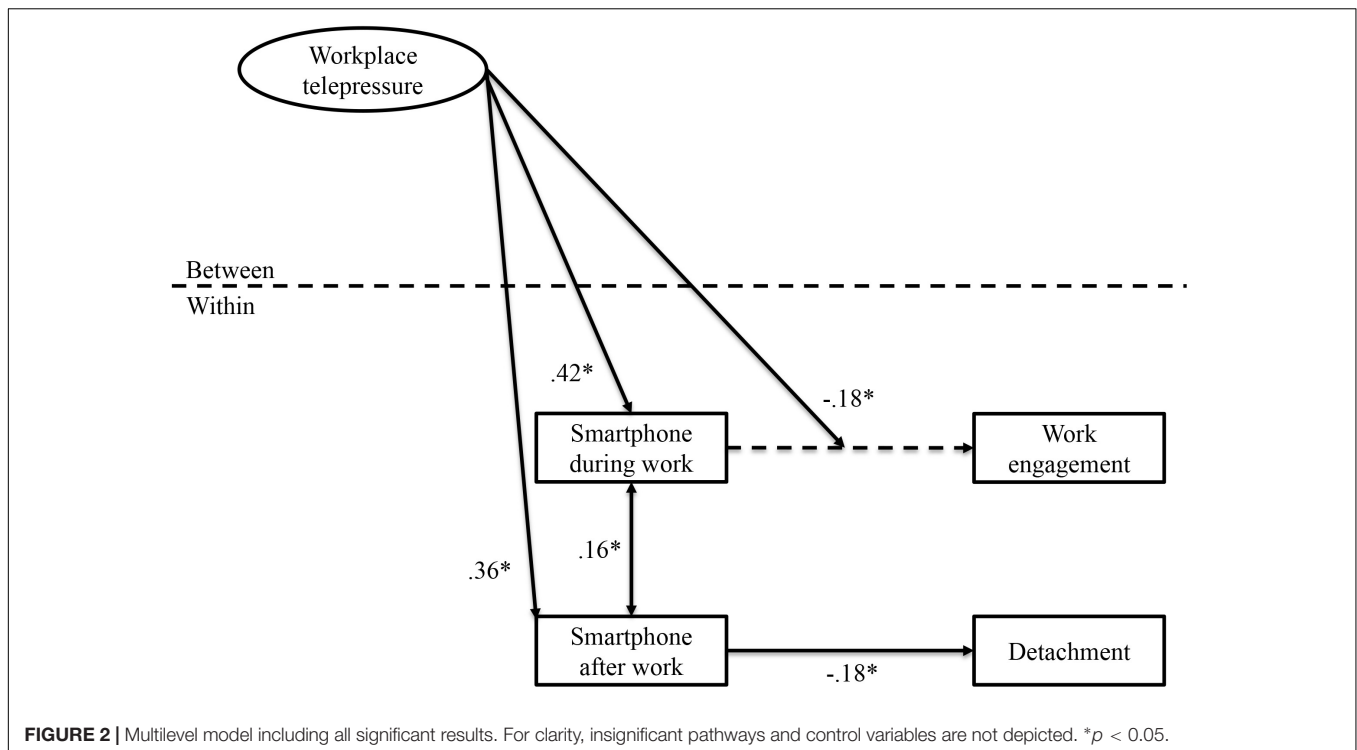
telepressure and control variables were modeled at the between level.

RESULTS

Table 1 presents descriptive statistics and between-level correlations among the study variables. Work-related smartphone use during work was positively related to work-related smartphone use after work ($r = 0.40$, $p < 0.01$). When participants used their smartphone for work-related purposes during work, they also engaged more often in work-related smartphone use after work.

Demographic variables were unrelated to smartphone use, psychological detachment, and work engagement. The control variable workload was significantly negatively related to psychological detachment ($r = -0.40$, $p < 0.01$), meaning that participants who experienced higher workload reported lower psychological detachment than participants who experienced a relatively lower workload. Segmentation preference was positively related to workplace telepressure ($r = 0.22$, $p < 0.05$) and psychological detachment ($r = 0.27$, $p < 0.01$), but negatively to work-related smartphone use during work ($r = -0.18$, $p < 0.05$) and work engagement ($r = -0.38$, $p < 0.01$). Participants who had a preference for keeping the work and home domains as separate as possible reported higher levels of workplace telepressure, but were able to better mentally detach from work during free time. In addition, participants who had a preference for keeping the work and home domains separate used their smartphones less often for work-related purposes during work and were less

engaged during work. Multilevel path analysis confirmed these relations and showed that workload and segmentation preference were potential confounders. Thus, in the further analyses we controlled for workload and segmentation preference as level-2 variables.

Hypothesis Testing

Following recommendations of Hu and Bentler (1999), the multilevel model including all hypothesized paths fitted the data well, $\chi^2 = 2.88$, $df = 2$, RMSEA = 0.03, CFI = 0.99, SRMR$_{within}$ = 0.03, SRMR$_{between}$ = 0.01. A second model only including significant hypothesized paths did not fit the data better than the initial model ($\chi^2 = 6.72$, $df = 6$, RMSEA = 0.02, CFI = 0.99, SRMR$_{within}$ = 0.04, SRMR$_{between}$ = 0.03). Therefore and for completeness, the initial model was kept. Hereafter, the results of this multilevel model are presented (see **Figure 2**).

Supporting hypothesis 1, workplace telepressure related positively to work-related smartphone use during work ($\gamma = 0.42$, $SE = 0.09$, $p < 0.001$) and work-related smartphone use after work ($\gamma = 0.36$, $SE = 0.09$, $p < 0.001$). Participants reporting high workplace telepressure were more likely to engage in work-related smartphone use during and after work than participants reporting lower workplace telepressure. Workplace telepressure was not related to work engagement during work hours ($\gamma = -0.06$, $SE = 0.10$, $p = ns$) nor psychological detachment from work during free time ($\gamma = -0.12$, $SE = 0.10$, $p = ns$).

Hypotheses 2a and 2b proposed that the negative relationship between day-level work-related smartphone use after work and day-level psychological detachment would be moderated by workplace telepressure. As expected, daily work-related

TABLE 1 | Means, standard deviations, and intercorrelations among all study variables.

	M	*SD*	ICC	1	2	3	4	5	6	7	8	9
(1) Gender (% male)	44.8%											
(2) Age	38.14	12.71		0.08								
(3) Educational level[a] (1–5)	4.34	0.75		0.13	−0.07							
(4) Workload (1–5)	3.95	0.85		0.12	0.13	0.05						
(5) Segmentation preference (1–5)	3.21	0.83		0.07	−0.21*	−0.06	−0.17					
(6) Workplace telepressure (1–5)	2.95	0.86		0.10	−0.18	0.18*	−0.01	0.22*				
(7) Smartphone use after work (1–5)	2.72	0.86	0.69	0.09	0.03	0.03	0.16	−0.12	0.30**			
(8) Smartphone use during work (1–5)	2.90	0.82	0.64	−0.09	0.07	0.18	0.16	−0.18*	0.33**	0.40**		
(9) Psychological detachment (1–5)	3.30	0.72	0.47	−0.01	−0.07	−0.07	−0.40**	0.27**	−0.05	−0.26**	−0.15	
(10) Work engagement (0–6)	4.73	0.79	0.43	−0.08	0.10	−0.09	−0.09	−0.38**	−0.15	−0.01	0.12	0.10

$*p < 0.05$, $**p < 0.01$. [a]categories: 1 = primary education, 2 = high school education, 3 = secondary vocational education, 4 = higher professional education, 5 = university education N = 116 individuals, N = 476 data points. Correlations between day-level variables are average scores across all five measurement days. M, mean; SD, standard deviation; ICC, intra-class correlation. Means, standard deviations, and correlations were calculated with the statistical program JASP (JASP Team, 2018).

smartphone use after work was negatively related to psychological detachment from work during free time ($\gamma = -0.18$, $SE = 0.05$, $p < 0.001$). However, results did not reveal a moderating effect of workplace telepressure on the relation between work-related smartphone use after work and psychological detachment from work during free time ($\gamma = -0.02$, $SE = 0.08$, $p = ns$). Hence, hypotheses 2a and 2b had to be rejected. Rather, daily work-related smartphone use after work seems to impede psychological detachment from work during free time anyway, irrespective of an individual's experienced telepressure.

Hypotheses 3a and 3b proposed that the relationship between day-level work-related smartphone use during work and day-level work engagement would be moderated by workplace telepressure. Daily work-related smartphone use during work was unrelated to experienced work engagement the same day ($\gamma = -0.03$, $SE = 0.05$, $p = ns$). As proposed, workplace telepressure moderated the relationship between work-related smartphone use during work and work engagement ($\gamma = -0.18$, $SE = 0.09$, $p < 0.05$). Simple slopes tests indicated that for participants who experienced high levels of workplace telepressure, work-related smartphone use during work was negatively related to work engagement, but only for participants who reported very high levels of workplace telepressure (+1SD: $\gamma = -0.18$, $SE = 0.11$, $p = ns$; +2SD: $\gamma = -0.34$, $SE = 0.17$, $p < 0.05$). However, for participants who experienced low levels of workplace telepressure, work-related smartphone use during work was unrelated to work engagement ($\gamma = 0.13$, $SE = 0.12$, $p = ns$). These results largely support hypothesis 3a but do not support hypothesis 3b. See **Figure 3** for a visualization of the moderation effect.

DISCUSSION

Using a diary approach, we aimed to explore daily smartphone use after and during work and their association with psychological detachment (in the home domain) and work engagement (in the work domain), respectively. Our results contribute to theory and practice by showing that workplace telepressure promotes smartphone use after and during work.

In addition, we demonstrated that employees who use their smartphone for work during off-job hours have more trouble letting go of the workday during the evening regardless of whether they experience workplace telepressure. Lastly, we found that employees experiencing high workplace telepressure and use their smartphone intensively during work hours feel less engaged during their workday. These results are largely in line with our hypotheses.

Workplace Telepressure and Work-Related Smartphone Use

Workplace telepressure predicted work-related smartphone use during off-job hours, but also intensive smartphone use during work. Employees who experienced high workplace telepressure engaged in work-related smartphone use after and during work more often than employees who experienced lower workplace telepressure. Workplace telepressure and work-related smartphone use seem to be closely and positively related as indicated by large effect sizes. These findings are in line with our expectations and support the little research that has been done on workplace telepressure and smartphone use. Employees who experience workplace telepressure, which is driven by both external (e.g., prescriptive norms) and internal pressures (e.g., neuroticism), seem to be more likely to give in to these pressures and the urge to use their smartphones for work. Previous studies have found that high workplace telepressure was related to increased e-mail responding (Barber and Santuzzi, 2015; Grawitch et al., 2017), which fits nicely with our findings as smartphones are predominantly used to send and receive e-mails (Middleton, 2007).

This study extends previous research by showing that workplace telepressure not only impacts work-related smartphone use *during off-job time*, but also *during work hours*. Nowadays, employers frequently equip their employees with smartphones to use during work hours (e.g., to foster flexibility; Steelcase, 2016). Thus, it seems plausible that workplace telepressure also relates strongly to work-related smartphone use during work, which is supported by the findings of this study.
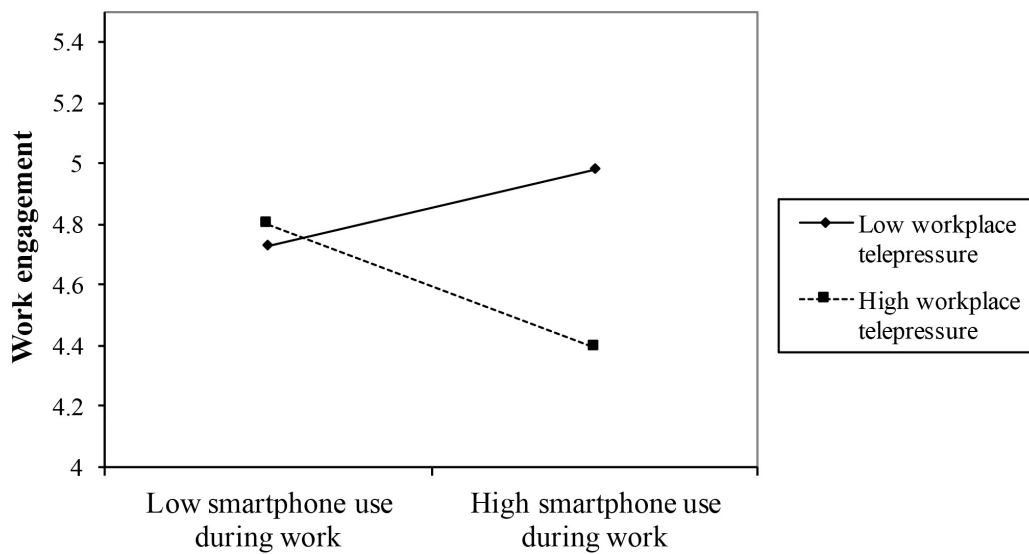
FIGURE 3 | Moderation effect of workplace telepressure (±2 SD) on the relationship between daily work-related smartphone use during work and work engagement.

Work-Related Smartphone Use After Work Hours and Psychological Detachment

Most prior research has focused on psychological detachment as an adverse consequence of work-related smartphone use (e.g., Derks et al., 2012, 2014; Barber and Jenkins, 2014; Schlachter et al., 2017). Corroborating prior findings, daily work-related smartphone use during off-job hours was also negatively related to psychological detachment in our diary study. When employees were using their smartphone intensively for work-related purposes during their free time they were less able to mentally disengage from work. The negative relationship between daily work-related smartphone use after work and psychological detachment also provides support for Effort-Recovery theory (Meijman and Mulder, 1998) and Allostatic Load theory (McEwen, 1998). By frequently using one's smartphone during non-work hours, psychological unwinding and crucial recovery processes (i.e., allowing stress-related psycho-physiological reactions to return to baseline or pre-demand levels) are hampered. Impeded recovery may deteriorate worker well-being and work performance in the long run (McEwen, 1998; Meijman and Mulder, 1998).

However, contrary to our expectations, the negative relationship between work-related smartphone use and psychological detachment existed irrespective of employees' experienced workplace telepressure. Experiencing high workplace telepressure did not strengthen the negative relationship, nor did low workplace telepressure weaken the negative relationship. Importantly, this study adds to the body of research on work-related smartphone use during off-job time by showing that smartphone use after work is not favorable for employee detachment and recovery, regardless of workplace telepressure. However, there may be other factors that impact the smartphone-detachment relationship. For example, Derks

et al. (2014) have shown that organizational norms regarding separating the work and home domains (i.e., segmentation norm) moderated the relationship between work-related smartphone use and psychological detachment (Derks et al., 2014). Employees reporting a high segmentation norm at work had more trouble to psychologically detach from work when using their smartphone more intensively.

It seems to be especially relevant to further examine what drives an employee's motivation and alertness to receiving and responding to work-related emails. Some employees can easily switch off their smartphones when at home, while others cannot (see also Derks et al., 2016). Future research may examine whether individual differences (e.g., personality characteristics) and, for example, a conscious handling of devices and greater awareness of health-related risks significantly impact the smartphone-detachment relationship.

Work-Related Smartphone Use During Work and Work Engagement

This study demonstrated that workplace telepressure not only promotes work-related smartphone use after work but also smartphone use during work hours. We were particularly interested to study the possible effects of intensive smartphone use at work and employee work engagement. Positive psychology researchers regard work engagement as not only vital for employees, but also for organizations because it reflects a positive affective-motivational state of work-related well-being (Bakker et al., 2008; Gruman and Saks, 2011). Engaged employees are dedicated and energetic during work and are intrinsically motivated to perform as well as they can. We reasoned that work-related smartphone use during work would not necessarily relate to work engagement, but that this relationship would depend on workplace telepressure. In particular, building on the Job Demands-Resources framework, we argued that employees could

see their smartphones as a demand or a resource (Bakker and Demerouti, 2017; Sonnentag, 2017). Experienced telepressure may elicit experiences of work demands rather than resources. As expected, our study showed that daily smartphone use during work was unrelated to work engagement. Moreover, we found that employees who reported high workplace telepressure experienced less work engagement on days that they used their smartphone more intensively during work. Future research could confirm this preliminary finding and test whether employees under high workplace telepressure perceive their smartphone as a burden and associate it with increased workload and longer working hours (Peters et al., 2009; Demerouti et al., 2014).

Contrary to our expectations, the combination of low workplace telepressure and work-related smartphone use was not related to increased work engagement. Employees did not seem to experience their smartphone as a job resource and may not have associated it with flexibility and increased autonomy over work tasks (Day et al., 2010). Note that employees in our sample did not benefit from using a smartphone intensively for work-related purposes during work hours. Work engagement was rather high in our sample ($M = 4.73$, $SD = 0.79$ on a scale ranging from 0 to 6), which might explain the absence of a smartphone-engagement relationship when workplace telepressure was low. As employees already experienced rather high work engagement, low workplace telepressure in combination with work-related smartphone could not further foster work engagement. Future studies could attempt to collect a more heterogenous sample with regard to work engagement and further explore the possibility that employees experiencing low telepressure may view their smartphone as a resource.

Limitations and Future Directions

One of the strengths of the current study is that next to the relatively new concept of workplace telepressure, relevant control variables were included. This contributed to knowledge building around the telepressure concept by showing that telepressure explained unique variance in smartphone use over two domains (work and home) above and beyond workload and segmentation preference. Additionally, we learned that where telepressure is detrimental for work engagement during the day, it does not seem to affect psychological detachment in the evening. It is interesting to realize that not the psychological concept of telepressure is related to—lack of—psychological detachment, but only the behavior—work-related smartphone use—itself. A final strength is that both domains (work and home) are represented in one study, which illustrated the differential impact of telepressure across domains. Next to its strengths, the present study has some limitations that should be acknowledged and addressed in future research. One possible limitation of this study is the use of self-reports to assess the constructs. Solely using self-report measures could have led to common-method bias and social desirability biases, possibly inflating actual effects. However, most of the measured variables (e.g., workplace telepressure, work engagement) concern introspective insights that are by definition perceptual and are therefore best measured with self-report questionnaires. Thus, common-method bias should not have been a large issue in the present study (see Spector, 2006;

Chan, 2009). Future studies could, however, aim to assess work-related smartphone use in a more objective manner to provide a more valid estimate of work-related smartphone use and its content. This could be achieved by designing and employing an automated smartphone app that registers all smartphone behaviors during the study period. In addition, instead of employing one questionnaire per day, multiple measurement points during the workday and during off-job time could be incorporated in a daily diary design to separate measurements and thereby reduce the possibility of common-method bias.

Another limitation is the inability to determine causality. Although the study design was longitudinal, measuring within-individual relationships and thus excluding time-invariant unobserved individual differences we cannot determine directional effects as in experimental studies. Also, our findings represent synchronous effects because all questionnaires were sent at the same time in the evening. Hence, the temporal order of the variables could not be established within our design. Contrary to what we hypothesized, it could be that employees who use their smartphones more often for work-related purposes during off-job hours, but also during work, are more inclined to experience high workplace telepressure. A lagged and/or experimental design could clarify this issue and assist in shedding some light on causality. Herein, temporally separating measurements of workday and evening variables could be beneficial. Moreover, future studies may follow and compare a group of employees experiencing high workplace telepressure with a group experiencing low workplace telepressure with the aim to examine whether the high telepressure group indeed reports increased work-related smartphone use. In another study, one could attempt to increase or decrease workplace telepressure in a laboratory situation (e.g., by clearly instructing participants to respond to messages right away or after finishing a certain task) and examine whether participants deal differently with their smartphones and as a consequence respond differently to their smartphone use. These future studies should shed more light on causality between workplace telepressure, work-related smartphone use, and affective and behavioral responses.

A final limitation of this study might be the fact that almost all employees held higher education degrees. It could be that highly educated employees deal differently with workplace telepressure and engage more or less in work-related smartphone use as compared to other samples. Thus, the results of this study can only be generalized to higher educated populations and should be replicated in other, more heterogenous samples.

Despite these limitations, the findings of this study show that workplace telepressure relates to work-related smartphone use after and during work. Moreover, work-related smartphone use hampers psychological detachment regardless of workplace telepressure, whereas work-related smartphone use during work only undermines employees' work engagement when they experience high workplace telepressure. Given the advances in technology in our modern working world, further investigations of workplace telepressure and its precise impact on smartphone use and health and performance related outcomes seem crucial to expand our understanding of the effects of technology use.

Theoretical and Practical Implications

This study has several implications for theory and practice. Regarding its theoretical contribution, our findings extend the relatively new area of research on workplace telepressure and work-related smartphone use during work by showing that these concepts are closely related. Adaptation to technologies may be enforced by the social environment. The omnipresence of technological devices and their frequent use by others in the work environment may set the expectation that each individual employee should frequently use these devices as well (MacCormick et al., 2012). In this way, employees may feel that they are being lived rather than having autonomy over their work, which in turn may harm their well-being, and work pleasure and engagement (e.g., Thompson and Prottas, 2006). Future studies should more often include work-related smartphone use both during and after work and test their simultaneous effects. Furthermore, future studies need to account for workplace telepressure when examining these effects. In addition, this study extends the Job Demands-Resources model by framing high workplace telepressure and subsequent intensive smartphone use as job demands and low workplace telepressure combined with intensive smartphone use as a resource. Even though smartphone use as such but also the interaction of low workplace telepressure and intensive smartphone use were unrelated to work engagement in our study, this avenue of research needs to be continued and our findings should be replicated in other samples before drawing stronger conclusions about smartphone use as a possible resource in the Job Demands-Resources model.

Further, our findings show that telepressure explains unique variance in smartphone use both during and after work after controlling for the segmentation preference of employees. On the general level, segmentation preference and telepressure are positively related, which implies that employees who prefer to have a rather impermeable boundary between work and home domains experience higher telepressure. However, apparently employees are quite successful in segmenting since segmentation preference is positively related to daily psychological detachment ($r = 0.27$, $p < 0.01$). Although we did not include the segmentation norm in this study, please note that this finding is comparable to earlier findings on the relation between segmentation norm and daily psychological detachment ($r = 0.26$, $p < 0.01$; Derks et al., 2014).

Next to these theoretical contributions, this study has also several implications for practice. It is important for employers to acknowledge that high workplace telepressure can be unfavorable for employees as the urge to respond quickly to work-related messages is highly related to work-related smartphone use after work. This may ultimately hamper psychological detachment

from work. Thus, we advise that employers communicate clearly about expectations regarding responding to work-related messages and encourage employees to set clear boundaries (Barber and Jenkins, 2014; Mellner, 2016). Employers could set a good example by not contacting their employees during the evenings or at the least clearly communicate that a response is not necessary until the next workday. Generally, it is important that organizations communicate openly about organizational norms regarding working after work hours. Overtime work hours should only be voluntary, employees should not feel pressured to work during their free time (Beckers et al., 2008).

Employees can also take action themselves if they notice that they suffer from high workplace telepressure and their intensive smartphone use. They could try to resist this pressure and refrain from using their smartphone during the evenings (for work) as to experience more psychological detachment and better recovery from work.

CONCLUSION

This diary study aimed to explore relevant correlates of work-related smartphone use after and during work. Our findings suggest that workplace telepressure is strongly associated with work-related smartphone use after and during work hours. Moreover, intensive smartphone use after work hampers psychological detachment regardless of experienced workplace telepressure, whereas work-related smartphone use during work can undermine work engagement, but only when there is high workplace telepressure.

DATA AVAILABILITY

The raw data supporting the conclusions of this manuscript will be made available by the authors, without undue reservation, to any qualified researcher.

AUTHOR CONTRIBUTIONS

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Corporate Volunteering: Relationship to Job Resources and Work Engagement

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Employers are increasingly including volunteer activities in their social responsibility programs. At companies at which this is done in a planned manner, we can speak of the development of a corporate volunteering, which correlates with numerous positive psychological outcomes at both the individual and the organizational level. The aim of the study was to investigate the relationship between the corporate volunteering programs and job characteristics, connected with work engagement. In our study we were interested in identifying the role of the corporate volunteering in the evaluation of job resources and work engagement. The study included 274 employees from 15 Slovenian companies, of whom 62% participate in their organizations' volunteer activities. They filled out the Job demands and resources questionnaire, the Utrecht Work Engagement Scale (UWES-17) and a scale for measuring the corporate volunteering climate. The results indicate that the carrying out of volunteer activities correlates with the perception of the corporate volunteering climate. Employees whose employers implement volunteering programs are more engaged and report higher levels of both autonomy and support from their co-workers and supervisors. Theoretical and practical implications are discussed.

Keywords: employee volunteering, corporate volunteering climate, job resources, work engagement, social responsibility

INTRODUCTION

Today, volunteers play an important role in addressing numerous social problems, from poverty and hunger to assisting victims of natural disasters, and political issues, such as migrants in recent times. Approximately 140 million people around the world engage in volunteering and thereby contribute 400 billion US dollars to the global economy annually (Wu, 2011). Volunteering is done in employees' free time, but recently it has also been introduced at work, with some employers including volunteer activities as part of their social responsibility programs. After the end of the global economic crisis in 2015 (Kohont and Stanojević, 2017), the labor market has also changed considerably (Mucci et al., 2016) due to different social and economic changes (Giorgi et al., 2015). The economic capacity and consequent power

of organizations have increased and made a place for various benefit programs devoted to broader society also. At that step it is important to identify various advantages and disadvantages of the organizations' form and how it is utilized in practice. Corporate volunteering has attracted the growing interest of researchers, particularly in the area of organizational psychology.

The advantages that both employers and employees can gain from volunteering motivated us to research the role of the corporate volunteering. The aim of this study was to investigate the relationship between the corporate volunteering programs and job characteristics, as a potential source of advocacy for voluntarism, and with work engagement, a construct that has also played a significant role in the organizational environment recently. Thus our research can contribute to encouraging companies to introduce their own volunteer programs as a form of corporate social responsibility.

Definition of Corporate Volunteering

The Joint Report on Volunteering in Slovenia (Ministry of Public Administration, 2017) indicates that the number of volunteers is growing, from 96.822 in 2015 to 307.262 in 2016, which is associated with a large number of volunteer organizations were entered in the companies register in 2016. Although there is no data available for Slovenia regarding how many of these individuals are employed full-time, the available sources indicate that encouraging employees to engage in volunteer work is a form of corporate social responsibility that has appeared within organizations throughout the world in recent years. Today, both the corporate world and society as a whole are promoting the notion that employers are not only responsible for creating jobs and profits, but should also be thinking about how their organizations affect society and the general public. Many companies have already introduced corporate volunteering programs, and others are planning to do so (Rodell et al., 2017), which has led to a growing need for research in this area (Rodell et al., 2017).

After addressing and discussing various aspects of voluntarism, the majority of researchers had accepted the behavioral definition of corporate volunteering as "giving time or skills during a planned activity for a volunteer group or organization (e.g., a charity or a non-profit organization)" (Rodell, 2013, p. 1274). Rodell (2013) defines three significant components of voluntarism. The first is donating time instead of just money, which is a passive form of support (Wilson, 2000) – some volunteers assist by donating their skills and professional knowledge, while others do things that are outside of their professional fields (Rodell et al., 2016). The second is that volunteering is a planned activity that requires fast decision-making with regard to the measures taken (Wilson, 2000). Thus e.g., employees who sign up for volunteer work at homes for the elderly are volunteers, while one who 1 day spontaneously decides to help by delivering food to an elderly woman is not. The third component is the volunteer organizations in which the culture of voluntarism develops. This is a formalized and public activity in which the volunteers usually do not know the recipients of their help beforehand (Wilson, 2000; Rodell, 2013; Rodell et al., 2016).

There are several viewpoints regarding corporate volunteering. Some authors (e.g., Wilson, 2000), who define it in terms of its social aspect, believe that employees decide to engage in volunteering voluntarily, i.e., they are not instructed to do so. Other authors avoid including motives when defining voluntarism, particularly in the context of corporate volunteering, as the debates about this are still ongoing and thus make it more difficult to form an operational construct (cf. Rodell, 2013; Rodell et al., 2016; Breitsohl and Ehrig, 2016). Motivations for volunteering range from the personification of one's own values by socializing with others to escaping from one's personal problems. Other motives appear in corporate volunteering, such as recognition of supervisors, making an impression on supervisors or co-workers, or improving one's career opportunities (Booth et al., 2009). Time is also one of the factors that affect defining corporate volunteering – some authors define it as an activity that full-time employees engage in only in their spare time, others as an activity that they participate in due to the initiative of their employer, while still others include both options in their research (Booth et al., 2009; Rodell, 2013). One question that remains open to debate is to what extent the individuals who participate in their employers' volunteer programs are in fact volunteers if they volunteer only during work time and are therefore paid for their work (Rodell et al., 2016). In view of the fact that the concept of corporate volunteering is still relatively unknown in Slovenia, in our research we will define corporate volunteering as an activity in which employees participate both during their free time and their work hours.

Organizations that engage in volunteering implement "formal and informal practices and policies in order to support their employees and allow them to spend time doing volunteer activities" (Rodell et al., 2017). The most common practices are time-related benefits such as flexible work time and paid leave, financial benefits such as reimbursement of costs, various gifts, event tickets, purchase of the necessary materials, and logistical support, such as use of the employer's buildings and equipment, and transport at company expense (Booth et al., 2009; Rodell et al., 2017). Employers can enter into pre-planned formal agreements with volunteer organizations, or more informal and flexible arrangements. In formal agreements, companies cooperate with specific volunteer organizations and create volunteer programs that correspond with or are part of their business vision. In informal arrangements, employees have greater autonomy in choosing what volunteer organization they are going to join, and there are fewer rules and administrative formalities (Booth et al., 2009).

Corporate volunteering may develop and spread quickly, since it can be considered a form of corporate social responsibility (Grant, 2012) – "companies can become socially responsible by integrating social, environmental, ethical, consumer and human rights concerns into their business strategy and operations" (European Commission, 2018). It has been shown that employees value volunteering as a form of corporate social responsibility more highly than other forms of philanthropic contributions, specifically due to the more personal engagement with the community at large (JA WorldWide, 2009).

Corporate Volunteering Climate

The corporate volunteering climate (Rodell et al., 2017) is a perception or belief shared by employees with regard to the employees' participation in their employer's volunteer program. This climate reflects a sense within the organization that volunteering behavior is "something that people do here" (Rodell et al., 2017).

The results of a study by Rodell et al. (2017), in which they used a modified version of the scale for measuring volunteering (Rodell, 2013) to measure the corporate volunteering climate, indicated the appearance of a corporate volunteering climate at a company is the result of both a bottom-up and a top–down process, which can complement each other. This climate is created by both employees who express interest in and are passionate about volunteering, and by the employer through the development and implementation of volunteer programs. And when a corporate volunteering climate is created, individual employees don't have to participate in the volunteer programs to perceive it. In our research we were therefore interested in how the corporate volunteering climate is perceived at companies both by those who actively participate in them and by those who do not.

> Hypothesis 1: Employee participation in corporate volunteering increases the perception of the corporate volunteering climate.

Job Demands-Resources Model

Numerous studies indicate that job characteristics have a major influence on employees' wellbeing, i.e., they can be indicators of burnout or engagement with the job, and therefore also of the success of the organization. The model that describes this relationship is the Job Demands-Resources (JD-R) model (Demerouti et al., 2001; Bakker and Demerouti, 2007, 2017), which is based on the assumption that every job has certain risk factors associated with it, which can be classified as job demands and resources (Bakker and Demerouti, 2007).

Job demands refer to the physical, psychological, social, and organizational aspects of work that demand sustained physical and/or psychological effort and that can eventually lead to physiological and/or psychological damage. Job demands are not necessarily negative, but they can become job stressors if they exceed the employee's ability to adapt to them. Examples of job demands include high pressure at work, an unhealthy physical environment, and heavy workloads or difficult interactions with customers. If they are too high, it can lead to exhaustion and medical issues (Bakker et al., 2003; Bakker and Demerouti, 2007).

Job resources are the physical, psychological, social, and organizational aspects of work that promote the achieving of targets and reduce job demands, and therefore physiological or psychological damage, and promote personal growth, learning and development (Bakker et al., 2003; Bakker and Demerouti, 2007). Resources at the organizational level include wages, career opportunities and job safety; at the interpersonal level they include support from co-workers, supervisors and the work environment; at the work organization level they include clearly defined roles and participation in decision-making; and at the

level of job duties they include feedback, autonomy and the importance of one's job (Bakker et al., 2003). A lack of job resources makes it impossible to reach targets, which can lead to failure and frustration, which can consequently lead to decreased motivation and absenteeism. If employees do not have sufficient job resources in their work environment, they are unable to reduce the potential negative influences of a high level of job demands and are thus unable to reach the set targets (Bakker et al., 2003; Bakker and Demerouti, 2007).

The JD-R model assumes that job resources have motivational potential and lead to high levels of engagement and dedication to the organization, and consequently high rates of success. They can play either an internal motivational role, as they promote employee growth, learning and development, or an external motivational role, since they are crucial to the achieving of targets. Therefore work environments that have an abundance of job resources encourage employees to focus their efforts and their skills on their work duties (Bakker and Demerouti, 2007), as well as on volunteer activities that are carried out as part of their regular jobs.

> Hypothesis 2: Job resources are positively correlated with the corporate volunteering.

Factors in the Work Environment Have an Influence on Employee Engagement

Employee engagement is increasingly attracting the interest of both researchers and practitioners, as it significantly contributes to various positive individual and organizational outcomes. This is no surprise, since in recent years an increasing number of companies are looking for employees who are proactive, energetic and dedicated self-starters. In order for modern organizations to compete effectively, they have to have employees who are not just talented in their fields, but are also psychologically connected to their work and fully committed to their work and to achieving high standards of quality. The most sought-after employees are those who are engaged with their work (Bakker and Leiter, 2010).

Employee engagement is most often defined as a positive, fulfilling work-oriented state of mind, which is conditioned by vigor, dedication and absorption (Schaufeli et al., 2002). The vigor component describes work as stimulating and energy-giving, something that employees enjoy spending their time and effort on, the dedication component describes it as something important and meaningful, and the absorption component as something that employees focus their interest and attention on (Bakker et al., 2008). Work engagement is in fact a specific construct, different from constructs such as loyalty to the organization or work inclusion, with which it is occasionally conflated in practice (Bakker and Leiter, 2010). It is positively associated with constructs such as work performance, productivity (Harter et al., 2013), organizational commitment (Kim et al., 2017), organizational identification, job satisfaction (Karanika-Murray et al., 2014).

According to Saks (2006), the degree of employee engagement varies in response to the amount of resources (i.e., performance feedback, social support, and supervisory coaching; Schaufeli and Bakker, 2004) provided by the organization. In addition,

studies have shown weak positive correlations between employee engagement and job demands that are stressful but at the same time foster employees' curiosity, competence, and thoroughness (i.e., job challenges such as responsibility, workload, and cognitive demands) (Crawford et al., 2010). Research findings have also indicated that job resources are most beneficial and may become more salient for work engagement when job demands are high (Hakanen et al., 2005; Bakker et al., 2007). Altogether, challenging jobs characterized by abundant job resources were shown to promote work engagement.

At the individual level, employee self-evaluations play an important role, as they are associated with the individual's sense of control and effective influence on his environment (e.g., optimism, self-initiative, self-respect) (Crawford et al., 2010) and indicate the degree of work motivation, the achieving of set targets, ambitions, success and work and life satisfaction. People with large amounts of personal resources (i.e., "psychological capital") have more internal motivation to reach their personal goals and consequently are more successful and satisfied (Bakker and Demerouti, 2008). Xanthopoulou et al. (2007) found that in addition to job resources, personal resources such as self-initiative, organizational self-image and optimism contribute to explaining the variances in employee engagement over time. Engaged individuals are energetic and feel connected to their work, and see themselves as capable of handling their workloads (Schaufeli and Bakker, 2003, Unpublished). They have high levels of energy and self-efficacy and a positive attitude toward their work, and are very active in it (Bakker et al., 2011). They experience positive emotions more often, which might correlate with their productivity – happy people are more open to new opportunities at work, help their co-workers more, are self-confident and optimistic, and as such are also better able to increase their psychological capital (Bakker and Demerouti, 2008). They are capable of creating their own resources, which might also correlate with their higher rates of success in comparison with non-engaged individuals. Job and personal resources promote employee engagement, and at the same time engaged people generate more resources, which further promotes their continued engagement.

Job resources affect people's engagement in the future, and trigger a motivational process through which employees satisfy their personal needs, such as the need for autonomy, competence and relatedness (Bakker and Leiter, 2010). It has been shown that engaged employees spread their optimism, positive viewpoints and proactive behavior to their co-workers, create a positive climate and thus also affect their work, owing to which the entire team is more successful (Bakker and Demerouti, 2008). Due to all of the positive impacts that job resources have on employees, working teams and the organization as a whole, below we investigate how the corporate volunteering could affect the development of employee engagement.

The Effects of Corporate Volunteering at the Employee and Organizational Level

Past studies (e.g., Grant, 2012; Rodell, 2013) have researched what job characteristics are associated with employee volunteering

and/or what effects they have on it. It turned out that individuals who see their jobs as important and meaningful – they do work that has a significant and lasting effect on others, see the big picture, i.e., finish entire projects from start to finish, have autonomy in decision-making and receive positive feedback on their performance (Grant, 2012) – join their employers' volunteer programs due to a sense of belonging and as an expression of gratitude. In contrast, those who do not have a sense that their work is meaningful and do not see it as important try to compensate for these deficiencies through engaging in volunteer activities (Grant, 2012; Rodell, 2013). Employees choose to participate in corporate volunteering activities for a number of reasons, e.g., because they are directly asked to, due to feeling pressured by co-workers or supervisors, or due to loyalty to the organization, or because of paid vacations, various incentives, donations and other benefits that increase the desirability of participating in their organization's volunteer programs (Grant, 2012). However, due to their daily close interactions and their effects on people's emotions and experiences at work, supervisors and co-workers can also represent social models that motivate employees to participate in volunteer activities (Hu et al., 2016), rather than solely being agents of social pressure.

Previous research (e.g., Rodell et al., 2016) has shown that employees' participation in their employers' volunteer programs has positive outcomes at both the individual (personal outcomes) and organizational levels (job performance, external recognition of the organization, etc.). Corporate volunteering allows employees to connect with others and experience a sense of belonging and purpose in life (Rodell, 2013; Brockner et al., 2014), and they report having experiences that allowed them to grow and develop (Booth et al., 2009). Voluntarism is also associated with employees' wellbeing through the satisfaction of psychological needs; it has been shown that participating in volunteer activities improves one's emotional state and correlates positively with the expression of more positive and fewer negative emotions at the workplace (Mojza et al., 2011).

The effects of volunteering are also felt at the organizational level (cf. Harter et al., 2013; Karanika-Murray et al., 2014; Kim et al., 2017), since employed volunteers show better performance results and remain at their companies for longer periods of time (Rodell et al., 2016), feel a higher sense of belonging to the organization (Breitsohl and Ehrig, 2016), are more loyal to the organization and have higher levels of job satisfaction (Caudron, 1994). In addition, they identify with their companies more (Rodell et al., 2017) and possess better work-related skills such as communication, interpersonal skills, dedication, creativity and active listening.

Employees nowadays often expect their employers to express concern for the community at large and consequently to include volunteer programs as part of their regular activities. It was shown that employees who participate in volunteer programs and thereby satisfy their own personal needs are also more engaged in their work (Allen, 2013). However, there is relatively little other evidence of the connection between employee engagement and corporate volunteering.

Corporate volunteering has positive effects not only on behavior within the organization, but also on its image among

members of the public such as customers, potential job candidates or investors. Studies have shown that companies that offer or run volunteer programs are more attractive to job seekers, particularly for members of Generation Y, who are able to recognize socially responsible employers on the job market (Deloitte, 2011; Rodell et al., 2016).

Hypothesis 3: Corporate volunteering positively correlates with employee engagement.

MATERIALS AND METHODS

Participants

The questionnaire was sent to every employee in 44 organizations in various professional fields. A total of 347 employees answered the questionnaire, resulting in a response rate of 16.2%. Complete data were available for 318 employees working at 43 organizations. The minimum number of respondents per organization was one and the maximum was 78 respondents. As the respondents were nested within the organizations, mixed linear regression models were used to test the hypotheses. Due to sample size requirements on both levels of the analysis, only organizations with at least 8 participating employees were included in the analysis. The organizations analyzed (N = 15) were mostly Slovenian-owned (71.4%), and came from various fields (processing activities, education, information and communications, supply of electricity, gas and steam, arts and culture, entertainment and recreation, energy, public administration and defense).

The final sample size therefore consisted of 274 respondents working at 15 companies. The mean age of the respondents was 40.1 years (SD = 9.8). The sample included 156 (56.9%) women and 143 (52.2%) respondents with at least a Master's degree. 170 (62%) of the employees are employed in companies that implement corporate volunteering programs.

Measures
Job Characteristics
In line with the JD-R model (Bakker and Demerouti, 2007), Job demands and resources questionnaire – JDRQ (Tement et al., 2010) is based on Perceived work demand scale (PWD; Boyar et al., 2007) and Job content questionnaire (JCQ; Karasek et al., 1998). Authors report no validation results (Tement et al., 2010). JDRQ includes five different job characteristics measured using 18 items on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Work variety was measured using two items. Ex.: "My job requires learning new things." Cronbach's alpha in this section was 0.73. Perceived workload was measured using five items. Ex.: "I feel like I have a lot of job demands." Cronbach's α was 0.88. Autonomy, the degree of decision-making freedom at work, was measured using three items. Ex.: "My job allows me to make decisions on my own." Cronbach's alpha was 0.80. Workplace support was measured using an eight-item scale that included co-workers' and supervisors' instrumental and socio-emotional support.

Ex.: "My co-workers are willing to listen to my problems." Cronbach's alpha was 0.86 for co-workers' support and 0.91 for supervisors' support.

Work Engagement
The Utrecht Work Engagement Scale (UWES-17) (Schaufeli and Bakker, 2003, Unpublished) was applied in our study as a single-factor construct measured using 17 items measured on a seven-point Likert scale ranging from 0 (never) to 6 (always). In Slovene was translated by Zager Kocjan (2016). It included vigor, dedication and absorption. The *vigor* category includes six items (ex.: "I feel strong and full of energy at work."), the *dedication* category includes five (ex.: "I believe that the work I do has sense and purpose."), and the *absorption* category includes six (ex.: "When I am at work, I forget about everything around me."). Cronbach's alpha was 0.95.

Corporate Volunteering Climate
The *corporate volunteering climate* was measured using a scale for measuring the corporate volunteering climate (Rodell et al., 2017). We used the established systematic approach of a familiarity- and recognizability-driven adaptation of a questionnaire (Malda et al., 2008) when translating it to Slovene. The translation process was done according to expert recommendations (e.g., Hambleton and De Jong, 2003) and thus included translation and back translation. The scale included five items measured on a five-point Likert scale ranging from 1 (almost never) to 5 (very often). Employees responded to matter-of-fact statements such as "Employees at my organization participate in volunteering activities." Cronbach's alpha was 0.95.

Corporate Volunteering
A yes or no question was asked whether the employees participate in their organizations' volunteering activities and whether the companies implement corporate volunteering programs.

Control Variables
Gender, age and education were included as control variables in regression models.

Procedure
We contacted the organizations based on data indicating that their employees participate in volunteer activities. Slovenska Filantropija (Slovenian Philanthropy), a non-profit that works with companies to promote volunteering, also participated in the sampling. We sent invitations to participate in the survey to the e-mail addresses of the companies' directors or heads of HR. We presented the purpose and the design of the study, how their data would be used, ethical consideration and on the value of the research for their organizations.

To avoid the reliability problems with question of single-item measures (Kenny, 1979; Hinkin, 1995) we checked the involvement in volunteer programs for each participant twice – based on his/her response on the single-item question *Do you participate in your organizations' volunteering activities?* and on HR manager's or director's answer on *Is your organization*

involved in volunteering? There were four possible combinations of answers to those questions:

- Yes, I participate + Yes, my organization is involved = yes
- Yes, I participate + No, my organization is not involved = yes (31% answers. We checked the background of these participants, and they all work in educational sector (schools), where volunteering is an essential activity included on weekly basis of their programs (e.g., collecting old paper, collecting old clothes, helping vulnerable groups of pupils...). So, these participants do volunteer activities at their workplace.
- No, I do not participate + Yes, my organization is involved = yes (6.2% answers; based or research by Rodell et al. (2017) these participants can perceive the corporate volunteering climate, without having to actively participate in volunteering programs. This was concluded from the answers of the employees of the same company. They all answered their organization implements volunteering activities, but some answered they actively participate, while others don't.)
- No, I do not participate + No, my organization is not involved = no

The online self-reported survey battery was sent to all of the employees of the individual organizations, while their participation was anonymous and voluntary. The survey battery was administered in line with the Slovene Law (Personal Data Protection Act 2004-01-3836 and subsequent amendments) and the ethical standards for research approved by the Ethical Committee at the Faculty of Arts, University of Ljubljana (Slovenia). The study and protocol were reviewed and approved by the Ethical Committee at the Faculty of Arts, University of Ljubljana (Slovenia). The consent of the participants was obtained by virtue of survey completion. The participants were told also that they could withdraw from the study at any time and that there would be no payment for participating.

The data was collected in the spring of 2018, and was analyzed using the computer program SPSS.

RESULTS

The first step of the analysis was testing validity of the used measurement scales. A multilevel confirmatory factor analysis was run for this purpose. The measurement model was complex and the sample size at the company level was relatively low, therefore a model within and between groups was constrained to equal measurement errors, covariances and variances. Only indicator loadings were estimated freely. The fit indices are within the specifications (Hair et al., 2006), with a RMSEA of 0.077 (specification <0.08). Due to the large sample size the chi square test was statistically significant (χ^2 = 2814.7; p < 0.001), but the χ^2/df ratio at a value of 1.87 indicated a good model fit (specification < 2.0 or < 3.0). The validity of the model was also tested using a pooled-within cluster covariance matrix as suggested by Hox (2002). In this instance the analysis explained variation within organizations taking into account the nested nature of the data. The analysis was therefore performed only

at the level of employees, where the sample size is sufficiently large. The fit indices suggest an acceptable fit of the model as follows: RMSEA = 0.07, χ^2 = 1606.1 (p < 0.001), χ^2/df = 2.2, SRMR = 0.07. SRMR values as high as 0.08 are deemed acceptable (Hu and Bentler, 1999).

After establishing adequate measurement validity and reliability (Cronbach's α > 0.70 for all scales), composite (mean) scores for all scales were calculated. Means, standard deviations and correlations for respondents' age, gender and composite variables are summarized in **Table 1**. Corporate volunteering is positively and statistically significantly associated with the corporate volunteering climate, work engagement, autonomy, co-workers, and supervisors support. Items measuring variety are reverse coded and higher values mean higher monotony of work. This explains the mainly negative associations with other variables.

In order to test the hypothesis about the relationship between the participation in corporate volunteering and the corporate volunteering climate, we employed a mixed linear regression analysis with random intercept (**Table 2**). The fixed effects in the model were gender, age, education, and corporate volunteering. The dependent variable was the corporate volunteering climate. The results suggest there is a statistically significant and positive relationship between the participation in corporate volunteering and the perceived corporate volunteering climate when controlling for gender, age, and education of respondents.

To test the hypothesis about the relationship between corporate volunteering and job characteristics, a mixed linear regression analysis with random intercept was performed. The fixed effects in the model were the same as in the previous analysis. Several regression models were built with each job characteristic as a dependent variable (**Table 3**). When controlling for gender, age and education, corporate volunteering is positively and statistically significantly associated with autonomy and co-worker support. The differences in the reporting of the variability of work duties and supervisor support did not appear as statistically significant and therefore we only partially confirmed our hypothesis.

A multilevel linear regression model with random intercept was built to test the hypothesis that corporate volunteering is associated with work engagement (**Table 4**). When controlling for gender, age and education, corporate volunteering is positively and statistically significantly associated with work engagement. Participants whose employers implement corporate volunteering programs are more enthusiastic about their work and tend to work with higher vigor, dedication, and absorption.

DISCUSSION

After the findings that corporate volunteering offers numerous benefits to employees, employers and the community at large, increasing numbers of companies began to introduce their own volunteer programs, through which they motivate their employees to participate in their corporate volunteering activities. On the other hand, young job seekers increasingly report corporate social responsibility as an important factor of the employer's brand. In this study we wished to analyze the

TABLE 1 | Descriptive statistics and correlations between factors.

	M	SD	Male	Age	HE	VC	CVC	WE	V	A	CS	SS	PWD
Male	0.43	0.50	1										
Age	40.9	9.76	−0.02	1									
HE	0.52	0.50	−0.20**	0.10	1								
VC	0.62	0.49	−0.08	0.05	0.09	1							
CVC	3.08	0.91	−0.18**	0.13*	0.16**	0.30**	1						
WE	5.20	0.99	−0.01	0.23**	0.17**	0.22**	0.32**	1					
V	1.72	0.72	−0.06	−0.21**	−0.12	0.02	−0.14*	−0.51**	1				
A	3.59	0.84	0.04	−0.02	0.16**	0.19**	0.21**	0.45**	−0.41**	1			
CS	3.83	0.83	−0.04	−0.09	0.01	0.24**	0.22**	0.26**	−0.05	0.23**	1		
SS	3.51	1.05	−0.14	−0.10	0.10	0.21**	0.22**	0.37**	−0.06	0.29**	0.54**	1	
PWD	4.10	0.67	0.06	0.21**	−0.01	−0.09	0.00	0.26**	−0.45**	0.15**	−0.07	−0.12*	1

*CVC = corporate volunteering climate; WE = work engagement; PWD = perceived work demand; SS = supervisor support; CS = co-worker support; A = autonomy; V = variety; HE = high education, second level university education or more; VC = corporate volunteering. *p < 0.05; **p < 0.01.*

TABLE 2 | Influence of corporate volunteering on the perception of the corporate volunteering climate (results of multiple linear mixed regression).

	Est. (*p*-value)
Fixed eff.	
Intercept	2.19 (<0.001)
Female	0.1 (0.407)
Age	0.01 (0.092)
Higher education	0.16 (0.15)
VC	0.63 (<0.001)
Random eff.	Est. (95% CI)
Intercept	0.10 (0.03−0.36)

High education = second level university education or more; VC = corporate volunteering.

role of corporate volunteering programs in the perception of job resources and in the development of employee engagement. We are first who, following Rodell et al. (2017), measured the corporate volunteering climate at companies regardless of whether their employees actively participated in corporate volunteering or not. The research in question (Rodell et al., 2017) showed that the corporate volunteering climate influences employees' affective commitment to their employer and increases the motivation of non-volunteer employees to participate in volunteering activities. In view of the fact that the corporate volunteering climate can be developed both by employees who express interest in volunteer activities and through volunteer programs initiated by the companies themselves (Rodell et al., 2017), we were able to measure it at the level of each individual and also observe its relationship to incentives from the work environment (e.g., autonomy, supervisor support).

The results showed that actively participating in volunteer activities significantly correlates with employees' perception of the corporate volunteering climate at their company. Thus we were able to confirm the first hypothesis, as it was shown that employees who do not actively participate in volunteer activities perceive the corporate volunteering climate to a significantly lesser degree than those who do actively participate in volunteer activities. This finding does not agree with the results of Rodell et al. (2017), that when a corporate volunteering climate is created, individual employees don't necessarily have to participate in volunteer activities to perceive it. However, the corporate volunteering climate can lead to non-volunteers becoming more willing to participate in various volunteer activities offered by their employer (Rodell et al., 2017), which could consequently raise the corporate volunteering climate among those who currently do not actively participate in volunteer activities.

We tested the connection between corporate volunteering and work engagement and job resources using two hypotheses. We assumed that employees who are employed in organizations that implement the corporate volunteering programs would report higher levels of job resources in their work environment than those whose employers don't carry out volunteering programs. The results showed that carrying out a volunteering program within an organization positively correlates with the perception of certain job resources. Those whose employers implement volunteering programs report more autonomy and support from their co-workers at the workplace than those whose employers do not implement such activities. This corresponds with past findings, as employees who participate in corporate volunteering have more contacts with others, both their own co-workers and with other participants in the volunteer activities, which gives them a sense of belonging (cf. Brockner et al., 2014), allows them to develop interpersonal skills, communication and active listening (Booth et al., 2009), and to experience more positive emotions than negative ones (Mojza et al., 2011). All of this can lead to the easier development of positive attitudes at the workplace, which results in an increased perception of support from co-workers. Due to the time that employees have to dedicate to volunteering while at work, they also require a certain amount of autonomy, both in planning and organizing and also in decision-making, which consequently gives them more opportunities to learn new techniques and leadership and management skills (Booth et al., 2009) and thus also leads to better job performance (Rodell et al., 2016). Since volunteer activities at the workplace constitute an additional task (i.e., workload) that requires the use of various skills, employees might not try to increase the level of diversity of their basic employment duties, which is also supported by our research.

TABLE 3 | Influence of corporate volunteering on job characteristics (results of multiple linear mixed regression).

	Variety	Autonomy	Co-worker support	Supervisor support	Perceived work demand
	Est. (*p*-value)	Est. (*p*-value)	Est. (*p*-value)	Est. (*p*-value)	Est. (*p*-value)
Fixed eff.					
Intercept	2.45 (<0.001)	3.32 (<0.001)	3.86 (<0.001)	3.68 (<0.001)	3.46 (<0.001)
Female	0.09 (0.397)	−0.16 (0.18)	−0.02 (0.89)	0.11 (0.463)	−0.04 (0.652)
Age	−0.02 (<0.001)	0 (0.973)	0 (0.556)	−0.01 (0.169)	0.02 (<0.001)
High education	−0.2 (0.025)	0.34 (<0.001)	−0.06 (0.567)	0.12 (0.362)	0.04 (0.619)
VC	−0.05 (0.624)	0.33 (0.003)	0.28 (0.011)	0.25 (0.075)	−0.08 (0.391)
Random eff.	**Est. (95% CI)**	**Est. (95% CI)**	**Est. (95% CI)**	**Est. (95% CI)**	**Est. (95% CI)**
Intercept	0.07 (0.02–0.22)	010 (0.03–0.30)	0.11 (0.03–0.34)	0.13 (0.04–0.45)	0.04 (0.01–0.15)

High education = second level university education or more; VC = corporate volunteering.

TABLE 4 | Influence of corporate volunteering on work engagement (results of multiple linear mixed regression).

	Work engagement
	Est. (*p*-value)
Fixed eff.	
Intercept	4.08 (<0.001)
Female	−0.2 (0.131)
Age	0.02 (<0.001)
High education	0.26 (0.026)
VC	0.4 (0.002)
Random eff.	Est. (95% CI)
Intercept	0.15 (0.05–0.45)

High education = second level university education or more; VC = corporate volunteering.

We were able to confirm the hypothesis that corporate volunteering correlates positively with work engagement, as employees whose employers carry out volunteer activities are more engaged in comparison with employees whose employers do not. Thus implementing volunteer activities gives employees more energy and stamina for doing their work, makes them more engaged in their work, and gives them more of a sense of the meaningfulness and importance of their work. These results are consistent with Allen's (2013) finding that the indirect satisfaction of employees' needs through volunteering could serve as a basis for a positive correlation between these two constructs. However, some authors (e.g., Caudron, 1994; Booth et al., 2009; Breitsohl and Ehrig, 2016; Rodell et al., 2016, 2017) have reported a positive effect of corporate volunteering on other organizational behaviors (productivity, job satisfaction, sense of belonging, performance), which are positively correlated with work engagement (Harter et al., 2013; Karanika-Murray et al., 2014; Kim et al., 2017).

Implications for Practice

Companies employ several strategies in order to be more socially responsible. One of them, which is attracting increasing interest and which is being employed increasingly frequently around the world, is corporate volunteering,

i.e., the planning and implementation of formal volunteer programs and participation in volunteer activities within the organization. In view of the fact that this activity is becoming increasingly popular and that it has the ability to affect several significant social issues, it is important to understand how it can influence the viewpoints and behavior of employees whose employers carry out corporate volunteering programs.

The research results provide useful findings not only in social but also in organizational psychology. The results of the current study could also motivate employers who are not engaged in corporate volunteering to develop their own volunteering programs, through which they could provide additional motivation for a larger number of employees. Although there are still some open questions regarding the added value of corporate volunteering, in the future it could become one of the key activities of corporate social responsibility through which companies with adequate (employee-friendly) volunteer programs could improve various job resources, work engagement, the employees' sense of belonging and finally also their performance.

Our study indicates that companies require better communication about volunteer activities – both about their added value for each individual and for all employees, particularly with regard to programs that companies are already operating, but which non-volunteers either do not know about or do not recognize their benefits.

Limits to the Study and Guidelines for Further Research

When interpreting the results of our research, it is important to understand its limitations, particularly with regard to the data collection process. First, the respondents filled out online questionnaires, meaning that only people with internet access at work could participate. Second, since the questionnaires were first sent to directors and the heads of HR departments, the number of completed questionnaires could also be dependent on the methods used to motivate their employees to complete them. Third, when communicating with the management of certain companies we noticed that some people were not familiar with the concept of corporate volunteering, even though they had

already participated in various volunteer activities in cooperation with Slovenska Filantropija. Therefore we recommend that in future research the participants should be familiarized with the term corporate volunteering in advance, since it is a fairly new phenomenon. Fourth, the single item scale was used to evaluate the nature of the corporate volunteering participation. Information about the duration, specificity, level of inclusion to the specific volunteering program are missing in our study.

Future research will have to include accurate data on the forms of corporate volunteering (i.e., whether participation is mandatory or non-mandatory, during or outside of work time, its frequency and other circumstances relating to volunteer activities). The question of the role of corporate volunteering in the development of the employer's brand, i.e., what affect such an organizational culture has on job seekers, customers or investors, remains open, since organizations that engage in volunteer activities are allegedly more attractive on the job market (cf. Booth et al., 2009; Rodell et al., 2016). However, it will clearly be necessary to shift from the individual to the corporate level, at which it will be possible to compare the organizations that conduct volunteer programs with those that do not.

CONCLUSION

Our study makes several contributions. At the theoretical level we presented the connections between various individual factors that can affect the development of the corporate volunteering climate,

and discussed the transfer of findings to the organizational level. We used a questionnaire for measuring the corporate volunteering climate, which served as a concise, practical and reliable tool. We confirmed that the volunteer activities organized or conducted by employers correlates positively with engagement and the perception of job resources (autonomy and support from co-workers), which is undoubtedly significant for both the company as a whole and for its management. We observed that in order to improve the perception of the corporate volunteering climate it is necessary to invite all employees within an organization to actively participate. This topic has therefore revealed several new research challenges, which will be surmountable only with the support of employers, through the continued introduction, development, implementation, and valuation of volunteer activities in the work environment.

AUTHOR CONTRIBUTIONS

All authors were involved in the conceptualization of the research problem, research design, interpretation of data, and the final writing process.

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The Changing Educators' Work Environment in Contemporary Society

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In this paper, we are going to address job satisfaction and perceived self-efficacy withinthe context of residential child-care. A joint report from the European Foundation for the Improvement on Living and Working Conditions and the European Agency for Safety and Health at Work revealed that managers in the field of health and education were the most concerned about the psychosocial risk of their employees, although concern is not automatically translated into tools to face the risk and to manage it. So, measuring and improving employees' job satisfaction and self-efficacy can be an important means for organizations to prevent the outcomes of psychosocial risk, and supporting high quality performance of workers. But profound changes are affecting the nature of work at large, and specifically social educator's in the field of residential care with minors. Globalization, radical technological and communication developments, as well as the pressure to frame care as a commodity, are quickly changing procedures and praxis at work, and even the meaning of job itself. All these changes are highly demanding for this category of professionals, as much as the fact that the organizational setting is vanishing as a resource to sustain their professional attitudes and behaviors. Under these circumstances, job satisfaction and self-efficacy can be hard to experience, and isolating their precursors is essential to develop healthy and effective work environments. This paper means to highlight the process of supporting self-efficacy and job satisfaction in the educational work in residential youth care that is still underrepresented in research. It presents data emerging from two studies, study 1 involving 268 educators and study 2 involving 472 educators belonging to different Italian residential child-care services. Study 1 consists of a quantitative study including the following measures: attachment style, job satisfaction, work-related self-efficacy, and length of service. Study 2 consist of a qualitative exploration deepening the sources of educators' work-satisfaction. Quantitative data support the identification of attachment style and length of service as antecedents of work-related self-efficacy and job satisfaction. Qualitative data show the importance of relational issues in shaping the educators' satisfaction at work.

Keywords: educator's work environment, transformations in educational work environment, social educator, attachment style, self-efficacy, job satisfaction

INTRODUCTION

Job satisfaction and perceived self-efficacy are two main components supporting the more general sense of fulfillment and well-being at work, negatively correlated with psychosocial risk. Fostering positive conditions at work is considered by the European Union crucial in containing the psychosocial risk of workers, making it a pivotal prerequisite to accomplish within the 2020 Agenda goals on employment. Improving work conditions, and job satisfaction among them, is a guarantee of keeping workers involved in the labor market (Eurofound and Eu-Osha, 2014).

In 2014, a joint report from the European Foundation for the Improvement on Living and Working Conditions and the European Agency for Safety and Health at Work revealed that managers in the field of health, social work and education were the most concerned about the psychosocial risk of their employees, although concern is not automatically translated into tools to face the risk and manage it (Eurofound and Eu-Osha, 2014). So, measuring and improving employees' job satisfaction and self-efficacy can be an important means for organizations to prevent the outcomes of psychosocial risk, and supporting high quality performance of workers (Singhai et al., 2016).

In this paper, we are going to address job satisfaction and perceived self-efficacy within the context of care work in child and youth care. Indeed, a better understanding of the impact of the work of care on employees' fulfillment puts professionals working in the abovementioned areas in a better position compared to managers and professionals belonging to different sectors. Nonetheless, profound changes are affecting the nature of job at large, and specifically social educator's in the field of residential care with minors. Globalization, radical technological and communication developments, as well as the pressure to frame care as a commodity, are quickly changing procedures and praxis at work, and even the meaning of job itself. All these changes are highly demanding for this category of professionals, as much as the fact that the organizational setting is vanishing as a resource to sustain their professional attitudes and behaviors. Under these circumstances, job satisfaction and perceived self-efficacy can be hard to experience, and isolating their precursors is essential to develop healthy and effective work environments.

The sample choice has been deliberately strong in methodologically terms, since it refers to a group of workers in a high stress (Pedrazza and Berlanda, 2016), high demand field undergoing an unusual situation adding to this already difficult field (Pedrazza and Berlanda, 2016). We deemed that studying these psychological phenomenon (attachment, job satisfaction, self-efficacy) with a group under greater than normal stress could help us to determine the interaction among factors in a more clear way.

Job's Structural Changes and the Phenomenon of Unaccompanied and Separated Children

Research focusing on variables that facilitate or, conversely, hinder positive experience at work is massive (Lambert et al.,

2002; Lee and Cummings, 2008; Judge et al., 2010) and nowadays we are aware that an array of factors affects work satisfaction. Although intrinsic job qualities (security, career, contract) have a direct impact in determining it, for most people the meaning of work goes far beyond, and there is evidence that the relational work environment as well as individual characteristics play a significant role too (Manisera et al., 2005; Eurofound, 2012).

However, contemporary society is in the middle of an epoch-making turn bringing about shifts in the models of production and consumption, and in the social structure and organization (Bauman, 2002; Appadurai, 2013). In such scenario, work is in the front line: job insecurity, poor contract terms, optimization, delayering, ever-changing working conditions and related skill-building, high level of turnover, short term goals, technological innovation, represent some of the issues for the workers to be mastered. In some cases, it means potential opportunities for self-fulfillment and job satisfaction or, more often, the origin of emotional and psychological distress (Sennett, 1998; Eurofound, 2015).

The literature suggests that massive organizational changes challenge workers to maintain a good sense of identity going through such transformations (Woods, 2008); in doing so, trust seems to play a role in mediating the perception of the self in relation to the organization (Sloyan and Ludema, 2010). Wherever the case, the way change is implemented and especially, the organization's capabilities in reducing stress levels and assisting workers in coping with increased demands, are key factors in predicting successful adjustment to organizational change (Tvedt et al., 2009).

One very specific feature shaping the direction of change characterizing contemporary Western society is migrations, that continue to represent a significant challenge across Europe. Data updated to 2015 report that in Italy 48% of minor population in residential care is of non-Italian (Autorità Garante per l'Infanzia e l'Adolescenza, 2017). Another relevant phenomenon within this group is the number of unaccompanied and separated children (UASC). Twenty thousand of these children reached Europe in 2017 and four out of five got to Italy, where 86% of children of foreign origin arriving every year are UASC. Italy offered international protection to 16,309 unaccompanied children in 2017, in youth residential care units (UNHCR, 2017). Although the trend of arrivals is decreasing as a consequence of the drop in the number of people crossing the Mediterranean, such proportions in youth population in residential care units are stable. For unaccompanied refugee children, Italy is both the main target for the disembarkation (others are Spain, Greece, and Bulgaria) and for settlement (others being Germany, France, and Greece) (UNHCR, 2017).

We lingered over the phenomenon of unaccompanied children to highlight how much it affects the work of social educators in youth residential care. For a long time, it has been representing a very challenging field of employment because of the difficult nature of the work and the high demands and expectations placed on workers (Annie E. Casey Foundation, 2003). These children hold multiple needs, requiring specific strategies in taking charge and proposing interventions. And, generally speaking, multiple, and complex reasons lead children (both of Italian and foreign

origins) to have access to these structures (Autorità Garante per l'Infanzia e l'Adolescenza, 2017). Education workers in these contexts are therefore presented with a set of unique tasks that require the constant management of a wide degree of diversity and the capacity to operate primarily in unpredictable and emergent situations rather than planned settings. Consequently, there have been calls from a number of directions for specialized training and the development of innovative competences that can be deployed in the face of recent social transformations and the need for different ways of working, partly to increase the quality of the educational intervention itself, but also to reduce the level of burnout among these workers (Servizio centrale del Sistema di protezione per richiedenti asilo e rifugiati, 2015).

The Work of Social Educators

If these claims regard work conditions at large, we want to focus now on the peculiarity of the social educator's work in the field of child and youth care. The professional knowledge establishing the social educational practice has been defined by various sciences such as developmental and social psychology, ethics, anthropology, sociology. The methods are multidimensional and include: care, education, intervention, treatment, development of non-exclusive life space treatment.

Drawing on previous attempts by different national associations of social educators to arrive at an agreed definition of the common traits that define the work of the social educator, we can identify one of the most salient aspects in the role of "the relationship" as professional tool, whereby making the educator's own body and mind provide the core of his or her professional resources. This specificity demands commitment: without this premise, no relationship can be achieved (European Bureau of the International Association of Social Educators [AIEJI], 2006).

Social educators work is therefore based on "being in action," in the relationship, using themselves to support the child development. Such actions are rooted in conscious deliberations converted into a planned and target-oriented process. Social educational action is devoted to the adult life, (the mentally disordered, alcohol or drug abusers, homeless people, etc.) although it originates with children and young people (European Bureau of the International Association of Social Educators [AIEJI], 2006).

The centrality of relationship exposes social educators to the children's needs as they are responsible for responding to them in order to support the development of their personal skills. In doing so, social educators are the frontline staff, the first to cope with children's crises, anger, aggression, and interpersonal conflict resolution (Zerach, 2013). But they are also the frontline staff in face of the social changes. As we have seen with the example of migrations, educational work is at the foremost for detecting movements and transformation in the society. Because of this very peculiar position, educational professionals working with minors in residential care have to be continuously innovative in their practice.

Another core skill in child and youth residential care regards the capacity to deal with intense and possibly disturbing emotional issues (Shinn et al., 1993; Shapiro et al., 1996; Williamson, 1996; Smith, 2005; Smith and Shields, 2013). This

competence demands the professional to find a balance between – on the one hand – their closeness to, and empathy toward the child's experience, and – on the other – their awareness that they, the educator, are "someone else," a separate person with their own needs and feelings (Golia and Pedrazza, 2014; Golia et al., 2017; Berlanda et al., 2018). The centrality of the relationship as well as the engagement with the job can be the basis of the experience of job satisfaction and perceived self-efficacy. However, such emotional labor is highly energy consuming and sometimes the organizational, interpersonal and intrinsic characteristics of the work environment can fail to sustain the employee. The result can be disruptive for the individual, ending up with job stress, burnout, and intent to leave (Cetrano et al., 2017).

Furthermore, current changes in both the working culture of the organization and the specific role of the worker, of the sort we have already mentioned, can lead the educator to find this relational aspect of the job intimidating. Yet, most of the workers find intrinsic value in their work, experience job satisfaction and continue in their perception of self-efficacy (Smith and Shields, 2013). Faced with this ambivalent data, our hypothesis is that in the absence of the structures once provided by the organization, and lacking any form of mediator, educators are left feeling exposed and isolated in having to form and manage the educational relationship, and that it is therefore worthwhile investigating which other resources are available.

Traditionally, the concept of burnout (Maslach, 1976, 1982) has been applied to care work to account for the role (and the failure) of the organizational variables in mediating the effect of job stressors on the individual, as well as in fostering job satisfaction and perceived self-efficacy. According to this theoretical model, organizational variables can be extremely powerful in positively mediating the personal resources involved in experiences of work and, conversely, their ineffectiveness is a major cause for burnout. It is a fact that the organizational features that were considered risk factors in Maslach's theoretical model of burnout (Leiter and Maslach, 1988), have come to characterize a large number of today's work environments (Gallie et al., 2012; Gosetti and La Rosa, 2014). This can certainly be considered the case with the risk of overexposure to disturbing emotional issues that characterize the helping professions.

A different frame is offered by the compassion satisfaction/fatigue model (Figley, 1995, 2002). In this case, the same stimulus (exposure to the client's heavy psychological sufferance) can provoke compassion fatigue, and the consequent negative effects on the professional (anxiety, depressive symptoms, avoidance, relational problems, cognitive shifts); or, on the contrary, the professional's experience can be described in terms of compassion satisfaction, that means perceived as extremely challenging and rewarding by the professional. This alternation between compassion fatigue and compassion satisfaction suggests that the key variable in determining the shift from fatigue to reactivity and self-efficacy is the worker's own personality.

Through the following research data, we aim to shed light on the process of supporting self-efficacy and job satisfaction in the educational work in residential child-care, that, despite its

Job Satisfaction and Self-Efficacy at Work

Satisfied and happy workers are more productive (O'Keeffe et al., 2015; Richards et al., 2017; Semachew et al., 2017). In other words, employees who are satisfied with their jobs have better performance (Singhai et al., 2016). Given that job satisfaction is a crucial concept, it is connected with a large number of important organizational phenomena. The concept of job satisfaction is complex (Coomber and Barriball, 2007) and has a variety of definitions and related issues (Misener et al., 1996).

Job satisfaction is related to a positive attitude toward the job, and there is no universal measure for this attribute. Job satisfaction can be defined as a discrepancy between what people want in a job and what they have in a job (Locke, 1969) or as a feeling of fulfillment or pleasure associated with one's work (Del Valle et al., 2007; Singhai et al., 2016). Job satisfaction is the extent to which employees like their jobs (Zangaro and Soeken, 2007), and whether they find them enjoyable and interesting (Kacel et al., 2005). Job satisfaction has been associated with professional, personal, interpersonal, and organizational variables (Adams and Bond, 2000; Ruggiero, 2005; Cicolini et al., 2014). Job satisfaction is considered as a multi-dimensional concept (Caricati et al., 2014; Gkolia et al., 2014; Singhai et al., 2016; Mangaleswarasharma, 2017), with each dimension having some importance (McGlynn et al., 2012). Researchers have studied different components of job satisfaction, for example Weiss and Brief (2002) have highlighted the importance of affect at work.

Job satisfaction is a central component of a person's general well-being. Attachment theory also suggests that the attachment style significantly contributes to general subjective well-being and life satisfaction (Reizer, 2015).

Little attention has been paid to the social educators' experience of job satisfaction. There is evidence of residential child-care workers' job satisfaction positively impacting the experiences and emotions of the children and adolescents for whom they are responsible (Fein, 2014). Therefore, it is crucial to address the question of which factors contribute to educators' job satisfaction.

According to Bandura (1977) self-efficacy is defined as a set of beliefs about the one's ability to perform well at work, in specific settings and situations. Self-efficacy is not a general trait manifesting uniformly across the various domains of activity. Performance and outcomes are influenced by perceived self-efficacy in multiple ways (Bandura, 2012). Actually, efficacy perceptions guide human behavior through cognitive, motivational, affective and decisional processes. In the field of social education self-efficacy is the professional's confidence in the ability to contribute to the wellbeing of children and fulfilling their needs (Chen and Scannapieco, 2010). A higher level of self-efficacy is related to lower emotional exhaustion, and to low occurrence of the intent to leave the work among professionals (Chen and Scannapieco, 2010).

Due to the importance of job satisfaction and self-efficacy, it is interesting to explore which factors influence them.

Attachment Style and Length of Service

The first and foremost relational nature of the educators' work enables us to ground the perspective from which we look at educators into "a relational based theory" (Reizer, 2015) such as the attachment theory (Ainsworth, 1978). Secure subjects score lower on neuroticism and higher on extroversion than both insecure groups. In addition, they score higher than avoidant subjects on agreeableness. Furthermore, in planning behavior within relationships, secure adults tend to integrate emotional and cognitive stances; avoidant adults tend to over rely on cognitive considerations, usually ignoring or denying emotional responses. Anxious adults tend to focus mainly on emotions issues and coping (Feeney and Noller, 1996). The personal attachment system entails internal working models of the self, of others and, last but not least, of how relationships typically work and develop based on the individual's own primary relationships in early life. Over time, it therefore impacts and shapes our perception of every issue concerning the way we act, re-act, and interact in each interpersonal domain. Personal style attachment is relatively stable over time because of its effectiveness in shaping our expectations. Attachment style exerts its impact on interpersonal processes according to both threats' severity and closeness of the relational bond (Ronen and Zuroff, 2017). Professionals' secure attachment has been shown to have a positive impact on patient's health outcomes in the long term (Mimura and Norman, 2018). Jallalmanesh et al. (2015) research results show a positive and significant relationship between attachment insecurity, burnout and occupational stress. Providing adequate caregiving and effective social support are adult behaviors, strongly depending on attachment security, that is, on the evaluation of oneself as effective and able to recognize others' needs and on the evaluation of others as deserving help and support (Mikulincer and Shaver, 2007). Secure attached professionals are flexible and responsive in meeting others' needs; they tend to develop empathic compassion rather than personal distress in facing suffering and vulnerable others. Attachment security has been shown to be a protective factor against emotional exhaustion and burnout (Golia et al., 2017).

Attachment security, which supports effective caregiving practices, is strengthened by both intra – and interpersonal regulation (Rholes et al., 2001; Henninghayusen and Lyons-Ruth, 2005; Vogel and Wei, 2005). In addition, adequate caregiving requires the ability to synchronize and coordinate one's own caregiving and care seeking behaviors in order to cope with, and solve any problem at hand (Collins et al., 2006). Although differing from the typical caregiving behavior, instrumental helping, as a form of mere task – oriented interpersonal behavior (Bowler and Brass, 2006; Pedrazza et al., 2015b), also depends on the personal attachment style (Geller and Bamberger, 2009). Securely attached professionals are perceived by their co-workers as offering the highest frequency of instrumental help. Compared to insecure individuals, secure ones report a larger number of collaborative, and pro-social behaviors (Ronen and Zuroff, 2017). Moreover, according to the dependency paradox

(Feeney, 2007) when leaders, supervisors, or co-workers respond appropriately during times of stress, professionals are more likely to explore, and to engage in autonomous behavior. According to Harms (2011)' review there is a strong relationship between attachment style and a certain number of outcomes such as job satisfaction, work-family spillover, citizenship behaviors and job performance (Yip et al., 2018). Burnout and compassion fatigue are known to be high risks associated to any type of helping profession (Figley, 2002; Stamm, 2010; Pedrazza et al., 2015a). Despite differences, both concepts relate to various negative psychological outcomes associated with the provision of help and care to at-risk or vulnerable populations. Furthermore, literature shows that whereas attachment anxiety is strongly related to workplace incivility, emotional exhaustion and cynicism, attachment avoidance is negatively related to civility, psychological safety, and trust (Leiter et al., 2015).

One further important characteristic more consistently associated with job satisfaction and self-efficacy is the length of service. As workers get older they acquire greater security, they interiorize pivotal elements of the organizational knowledge acquiring tools and techniques and feeling thereby less vulnerable to job stress (Del Valle et al., 2007). Younger workers suffering from burnout may have not developed the coping skills to deal with the high levels of stress associated with child protection work (Leiter, 1990; Boyas et al., 2012). Younger workers recognize in older ones the expertise to deal with critical situations (Cloutier et al., 2012).

MATERIALS AND METHODS

Two self-report on-line questionnaires were administered to two convenience samples of educators, working in residential child-care in Northeast Italy. Because of the relevance of Italy in the current context of the migrations' flows, it is worthwhile to examine the features and characteristics of the educators' ever-changing working experience at the present moment. In Italy, an educator is a specific professional who helps others to acquire knowledge, competences and/or values. Educators in residential child-care are "front-line" workers, that interact with children who are placed out of their homes, and away from their families of origin. Residential child-care workers cooperate closely with social workers and teachers, child welfare officers and administrators, nurses and psychiatrists, therapists, and special educators. Educators' work is vital because they take on the role of "surrogate parents" (Whittaker and Maluccio, 2002; Del Valle et al., 2007), and they are more likely to influence children's behavioral development than other professionals. Educators' role is difficult and involves multiple stressors. They have to cope with children's crises, states of anger, frustration, aggression, and interpersonal conflict resolution. They are expected to be flexible by providing each youth with a unique relationship that provides children with nurturance and acceptance, but also need to provide them with very clear limits and boundaries (Pazaratz, 2000; Hanson, 2015).

Email addresses to hand out the questionnaires were provided by communities' management. Ethical approval was obtained by the Human Sciences Department's Ethics Committee (University of Verona). Questionnaires included a section that explained the nature and the purpose of the study and a consent form. Written informed consent was obtained from each participant, who voluntarily participated in the study. Participants were informed about their right to withdraw or refuse to give information at any time without incurring in any penalty. We protected the privacy and anonymity of individuals' answers involved in our research.

The research was articulated into two studies. The studies were carried out in two different contexts and periods. The first consists of a quantitative inquiry, that was carried out in January 2017. We explored the impact of attachment insecurity and length of service on job satisfaction, we also explored the mediating effect of perceived work self-efficacy. Our aim was to identify the antecedents of job satisfaction, that latter is a sufficiently studied and analyzed concept, there are in fact a great number of measures in order to assess this variable, we therefore did not need its in-depth exploration. As we identified the antecedents we realized that the experience of satisfaction at work was in some measure predictable. We decided therefore to further explore not so much the concept of satisfaction but its sources, in order to provide educators with useful information to be implemented in their intervention on the work context and in their continuous training programs. The second, the qualitative study was carried out in April 2017.

Study 1: A Model of Work-Related Self-Efficacy

Aim of Study 1 is to test the mediating effect of work-related self-efficacy in the relationship between length of service, attachment style, and job satisfaction.

As above mentioned, we start with the assumption that, as matters currently stand, there is a lack of organizational support available for educators, thus we assume the pivotal role of both variables of individual difference and personal characteristics in predicting job satisfaction.

H1 = There is a positive and significant correlation between length of service and job satisfaction;

H2 = There is a negative and significant correlation between attachment avoidance and job satisfaction;

H3 = Personal self-efficacy mediates the relationship between the independent variables such as attachment style and length of service, and job satisfaction (dependent variable).

Participants and Procedure

The questionnaire included job satisfaction, work-related self-efficacy, attachment style, and some questions on demographic and occupational characteristics (gender, age, and length of service).

The sample was composed of 268 residential child care workers. Participants were in a large majority female (186, 69.4%), 77 were males (28.7%), and 5 participants have not indicated the gender (1.9%). The mean age was 35.68 years ($SD = 10.02$; $range = 20–63$; 1 missing data, 0.4%), and the mean length of service was 9.42 years ($SD = 7.94$; $range = 1–39$; 3 missing data, 1.1%).

Measures

Job Satisfaction

Job satisfaction was measured with one item ("I am satisfied with my job"). Responses were given on a 7-point Likert scale ranging from 1 (complete disagreement) to 7 (complete agreement).

Work-Related Self-Efficacy (Barbaranelli and Capanna, 2001)

Self-efficacy was assessed by the Perceived Personal Efficacy for members of volunteering associations. This instrument includes 18 items, assessing the extent to which members of associations feel capable of facing different situations, critical events and challenges occurring during their everyday activity (e.g., "I am able to handle the stress of my job," "I am able to cooperate with my colleagues"). Responses were given on a 7-point Likert scale ranging from 1 (complete disagreement) to 7 (complete agreement). The reliability of the scale was α = 0.909.

Experiences in Close Relationship Scale (ECR)-Short Form (Wei et al., 2007)

Six items measured Anxious attachment (e.g., "My desire to be very close sometimes scares people away," "I need a lot of reassurance that I am loved by my partner"), and 6 items measured Avoidant attachment (e.g., "I want to get close to my partner, but I keep pulling back," "I try to avoid getting too close to my partner"). Responses were given on a 7-point Likert scale ranging from 1 (complete disagreement) to 7 (complete agreement). Cronbach's alphas were 864 (Anxious attachment) and 887 (Avoidant attachment).

Data Analysis

In order to test the mediation effect of self-efficacy, the bootstrapping procedure (Hayes, 2013) was used. Following this procedure, three regression analyses were conducted. First, the mediator (self-efficacy) was regressed on the independent variables (length of service, anxious attachment, and avoidant attachment). Second, the dependent variable (job satisfaction) was regressed on the independent variables. Finally, the dependent variable was regressed simultaneously on both the mediator and the independent variables. All regressions were carried out on 5,000 resamples. The indirect effect was the product between the regression coefficient obtained in the first regression and the regression coefficient linking the dependent variable with the mediator (third regression). The indirect effect is significant, if zero is not included in the confidence interval (Hayes, 2009). The direct effect is estimated by the third regression equation. The total effect (i.e., the sum of the direct and indirect effects) of independent variables on dependent variables is estimated by the second regression equation.

Study 2: Sources of Educators' Job Satisfaction

Aim of the Study 2 is exploring residential child-care workers' subjective sources of satisfaction at work.

Participants and Procedure

The sample was composed of 472 educators. Participants were in a large majority female (331, 76.1%), 136 were males (28.8%), and 5 participants have not indicated the gender (1.1%). The mean age was 36.73 years (SD = 10.16; range = 20–65; 5 missing data, 1.1%), and the mean length of service was 10.01 years (SD = 8.35; range = 1–40; 8 missing data, 1.7%).

The questionnaire included one open-ended question about sources of satisfaction at work ("What is your first source of satisfaction at work?"). The maximum length of the participants' answer was 140 characters (spaces included). The questionnaire included also some questions on demographic and occupational characteristics (gender, age, and length of service).

Data Analysis

Qualitative analysis was performed with NVivo 11. Two researchers have independently coded and analyzed 472 sources of satisfaction at work using thematic analysis (Braun and Clarke, 2006; Clarke and Braun, 2013; Vaismoradi et al., 2013; Maguire and Delahunt, 2017). Unit of meaning was the whole answer of the respondents. Thematic analysis is a flexible and useful research tool to identify and analyze patterns in qualitative data (Clarke and Braun, 2013), which allows to capture something important about data, and "represents some level of patterned response or meaning within the data set" (Braun and Clarke, 2006: 82).

We used a semantic approach. We identified the themes within the explicit meanings of the data, and our analysis was not looking for anything beyond what a participant had written. We adopted an essentialist/realist approach, assuming that language reflects the experience of participants. We identified themes in an inductive or bottom up way (e.g., see Pedrazza and Berlanda, 2014). An inductive approach is a process of coding the data without trying to fit it into a pre-existing coding frame, and therefore this thematic analysis is essentially data driven (Braun and Clarke, 2006). We adopted a recursive process (Maguire and Delahunt, 2017). First, researchers read data in an active way searching for meanings, and then they produced initial codes. Afterward, independent judges sorted and collated units of meaning into categories generated ad hoc for each theme (key words or abbreviations). At this point, researchers reviewed the categories considering internal homogeneity and external heterogeneity (Patton, 2015). Researchers compared their results only when they had finished their work, in order to exclude the possibility of their influencing each other. We used Cohen's kappa to measure intercoder reliability. We controlled intercoder reliability for 100 analyzing units (21.19%). Cohen's kappa was calculated, using SPSS program, by comparing judgements of researcher 1 and researcher 2. In our study, moderate agreement (the lower level) is shown by the code "Achieve the children's well-being" (κ = 0.56), and substantial to almost perfect agreement (the higher level) is shown by "Interaction with colleagues and supervisors (κ = 0.83).

RESULTS

Study 1: Descriptive Statistics

The means, standard deviations, and intercorrelations between constructs are reported in **Table 1**. Regarding the relations

TABLE 1 | Descriptive statistics and intercorrelations (N = 268).

		Mean	SD	1	2	3	4	5
1	Length of service	9.42	7.94	1				
2	Anxious attachment	3.09	1.07	0.083 [−0.029, 0.197]	1			
3	Avoidant attachment	2.74	1.11	0.029 [−0.115, 0.172]	0.235*** [0.102, 0.355]	1		
4	Job satisfaction	5.35	1.26	0.125* [−0.007, 0.249]	0.002 [−0.127, 0.124]	−0.114 [−0.260, 0.033]	1	
5	Self-Efficacy	4.99	0.97	0.234*** [0.102, 0.351]	−0.037 [−0.160, 0.080]	−0.184** [−0.319, −0.061]	0.599*** [0.502, 0.684]	1

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

between variables, results indicated that self-efficacy at work was positively correlated with job satisfaction, and negatively with avoidant attachment. Whereas length of service was positively correlated with self-efficacy at work and job satisfaction.

Study 1: Regression Analysis

Table 2 detail the estimates and the 95% bias corrected confidence intervals. Results showed that self-efficacy was negatively related to avoidant attachment, and positively related to length of service. Regarding job satisfaction results showed that its relation with length of service was positive, whereas its relation with avoidant attachment was negative. The total effect of anxious attachment was not significant. With regard to self-efficacy, results indicated that it was positively related with job satisfaction. As for the indirect effects, results showed that self-efficacy mediated the effects of avoidant attachment; indeed, zero is not included in the confidence interval. Avoidant educators have a low level of job satisfaction, and this would be explained by their perceived work-related self-efficacy.

Study 2: Thematic Analysis

The thematic analysis identifies the pivotal sources of job satisfaction, which are consolidated under three overarching themes: Interactions (46.82%), Competence and Care (29.24%),

and Personal Values (23.94%). Themes and sub-themes are presented in the thematic map of our data (**Figure 1**).

The theme *Social Interactions at Work* is composed by three sub-themes: Interactions with users and their families (59.73%; e.g., "I love working with children"), Interactions with Colleagues and Supervisors (28.05%; e.g., "I enjoy the relationships with my colleagues"), and Recognition and Appreciation by users and their families (12.22%; e.g., "children parents are often thankful and appreciated my work"). Relational factors that educators have identified as sources of job satisfaction are, for example, support from management and leadership, colleagues' supportive behavior, children's collaborative behavior, collaboration with parents and families, and perceived respect from children and their families.

The theme *Competence and Care* is composed by two sub-themes: Perceptions of Work Ability (58.70%; e.g., "The frequent social interaction at work it is a clear indication of my social ability"), and Achieve the Children's Well-being (41.30%; e.g., "My first aim is to guarantee the children's well-being and when I achieve this goal I feel fulfilled"). In these sub-themes educators have identified as sources of job satisfaction the perceived ability to deliver effective care, the feeling of "making a difference" in children's lives, and the wellbeing of the children.

TABLE 2 | Mediation effects of job satisfaction on self-efficacy (N = 268).

		Self-efficacy	Job satisfaction		Indirect effect	Bias correct 95% confidence interval	
		β (SE)	β (SE)	β (SE)	β (SE)	Lower	Upper
1	Length of service	0.030*** (0.007)	0.020* (0.010)	−0.003 (0.008)	0.023	0.013	0.046
2	Anxious attachment	−0.012 (0.056)	0.024 (0.074)	0.033 (0.060)	−0.009	−0.120	0.102
3	Avoidant attachment	−0.165** (0.053)	−0.137* (0.071)	−0.010 (0.058)	−0.128	−0.294	−0.050
4	Self-Efficacy			0.773*** (0.067)			
	R^2	0.092	0.030	0.360			
	F	8.773***	2.672*	36.611***			
	df	3,264	3,264	4,264			

β, unstandardized coefficient; 5,000 resamples. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

FIGURE 1 | Sources of job satisfaction.
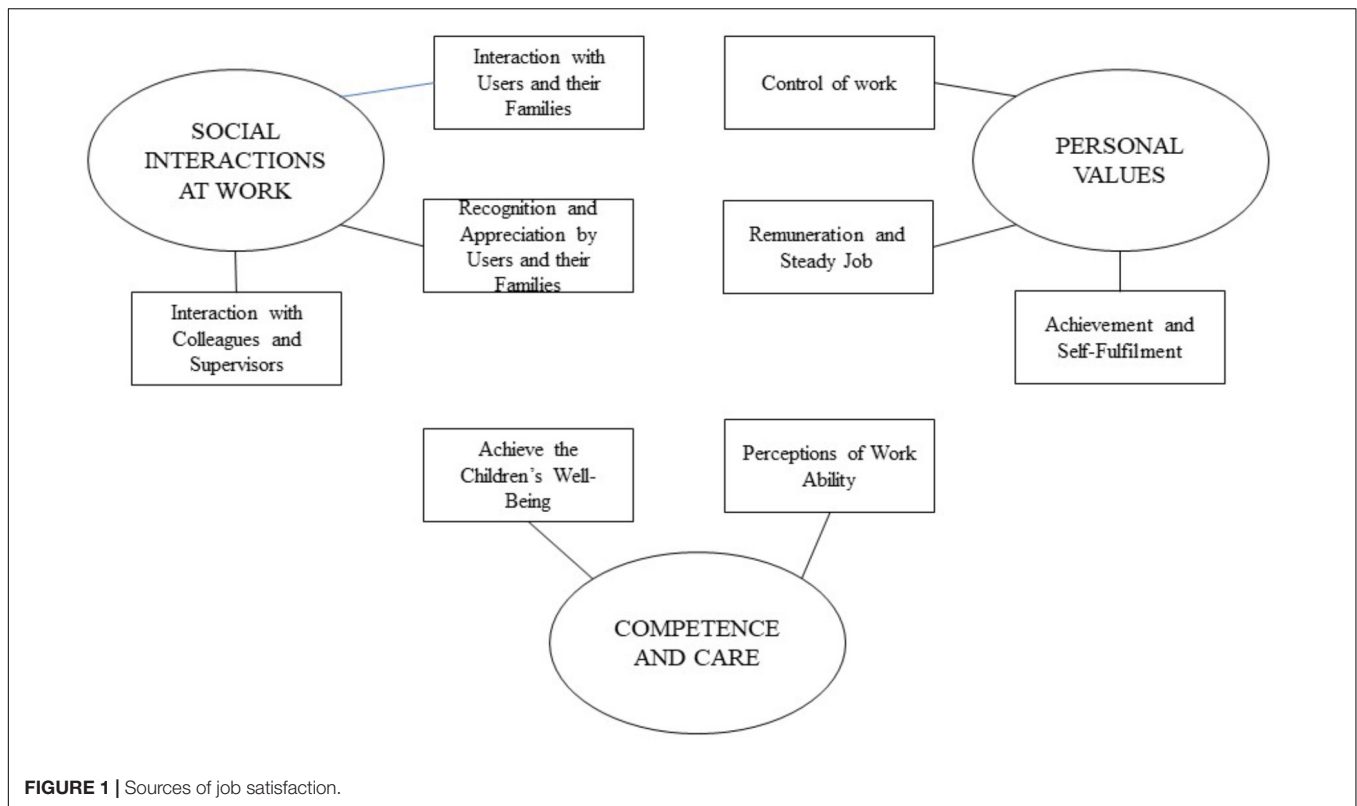
The theme *Personal Values* is composed by three sub-themes: Achievement and Self-Fulfillment (67.26%; e.g., "Working in education is fulfilling"), Remuneration and Steady Job (17.70%; e.g., "The steady work gives me a lot of security"), and Control of Work (15.04%; e.g., "I can organize autonomously my work-time schedule"). In these sub-themes educators have identified as sources of job satisfaction: self-fulfillment and self-actualization, creativity and opportunities to personally contribute to the decisions making process, salary and benefits.

DISCUSSION

In study 1 we tested the effects of self-efficacy, length of service, and attachment style on job satisfaction. Our results suggest that job satisfaction is predicted by both length of service and attachment avoidance: greater length of service is associated to perceived higher job satisfaction; higher scores in attachment avoidance correspond to lower levels of job satisfaction.

We then tested the mediating role of self-efficacy: results show that there is no mediating effect in the relationship between length of service and job satisfaction; conversely, self-efficacy mediates the relationship between attachment avoidance and job satisfaction.

According to literature (Mikulincer and Shaver, 2007) avoidant subjects do not seek relational proximity because they are afraid of closeness and intimacy. In addition, they tend to adopt distancing-based relational strategies. According to Mikulincer and Shaver (2007), and to Gillath et al. (2005) there

is a negative association between avoidant attachment, caregiving and pro-social orientation. It appears therefore rather unlikely that avoidant people gain a sense of achievement in taking care of others. Nevertheless, results of the present study suggest that under the same attachment related conditions (avoidance), avoidant people who score much higher in work-related self-efficacy are more satisfied with their job. We hypothesize that the sense of efficacy regarding their work and performance may confirm and further support the positive image of themselves (Internal Working Model), which in turn allows them to feel more satisfied (higher levels of job satisfaction) even in handling with vulnerable and needy others. The present study indicates a rather affordable resource for supporting avoidant educators to enhance their work-related self-efficacy and job satisfaction. It is now quite clear that sources and core perceived components of job satisfaction have to be explored in order to support the development of both professionals' and educative third-sector organizations.

There is no effect of attachment anxiety on educators' self-efficacy and job satisfaction. Being the relational domain the topos where the educators' professionalism may manifest itself, the absence of any effect may be due to the fact that anxious subjects typically feel threatened by any relational concern or problem. Nevertheless, their fear of rejection also forces them to be hyper-vigilant and thereby to disengage from work-based relationships in order to quickly solve problems and to cope with low self-esteem (Geller and Bamberger, 2009). In addition, the recurrent preoccupation for others may hinder anxious people to acknowledge any positive result and outcome.

The second aim of our study was to explore the sources of satisfaction at work. Promoting job satisfaction is important for educators and for the provision of optimal quality care in health and social services (Corr et al., 2014). Job satisfaction plays a crucial role in educators' work achievement, motivation to work, health and quality of life, both at an individual and organizational level (Malinen and Savolainen, 2016; Pikò and Mihàlka, 2017). In addition, as previously mentioned, job satisfaction is crucial in order to support avoidant educators to feel effective and able to cope with their recurrent work issues.

The synthesis (Contini, 2014) of the two studies offers an original contribution to a quite unexplored field and seeks to provide an initial response to the following question: how is it possible to provide training and support to avoidant professionals in order to enhance their work-related self-efficacy in the context of a helping profession? In study 2 we carried out a qualitative examination of educators' positive perceptions and satisfying work experiences. Using thematic analysis, we identified the core themes of educators' job satisfaction.

The first theme is named *Social Interactions at Work*. Several studies highlight that the interpersonal cooperative and supporting relationships with co-workers and supervisors are important factors potentially increasing job satisfaction (Belias and Koustelios, 2014; Gkolia et al., 2014). The relationship with users is essential for youth-care workers (Fein, 2014; Frøyland, 2018).

The user/professional relationships provide educators with internal rewards and gives meaning to their work (O'Keeffe et al., 2015; McCallum et al., 2017), they are fulfilling (Berlanda et al., 2017) supporting thereby workers' high intrinsic job satisfaction (Cameron, 2003; Collins, 2008). Working with clients is often source of a sense of self-actualization (Papadaki and Papadaki, 2006). In child welfare, especially within residential home services, educators operate more closely and engage more frequently with the children. These relationships represent the context in which people-changing activities take place, requiring educators' professional understanding and social skills (Graham and Fulcher, 2017). When working conditions become increasingly challenging, the support of colleagues and supervisors becomes an aspect that can help overcome crises affecting performance and job satisfaction (Del Valle et al., 2007). Relation with colleagues and supervisors is based on how employees perceive their specific work-related interactions (Lizano and Mor Barak, 2012). The quality of relationships differs from one institution to another because it is largely determined by the management/leadership style. Supportive and caring leaders and the authentic leader-follower relationship (Hinojosa et al., 2014) typically increase employees' satisfaction and performance (Chen and Scannapieco, 2010). Support from coworkers improves job satisfaction (Papadaki and Papadaki, 2006; McFadden et al., 2015) and, a fortiori, positive messages delivered by supervisors improve worker's self-esteem and self-efficacy (Gibbs, 2001).

The second theme is *Competence and Care*. Residential child-care workers engage on a daily basis in relationships with the children (Zerach, 2013). They are considered the "front-line" professionals in residential child-care (Seti, 2008) since they have the most direct and recurrent interaction with the children (Fein, 2014). Helping users is an important source of pleasure and satisfaction in social services (Ayele, 2017), in these contexts educators are often key support givers for children (Frøyland, 2018) responding to their psychological, emotional and functional needs (Zerach, 2013). The last theme is *Personal Values*. The positive emotional and caring attention for children seems to be the core element of this theme. Educators point out a sense of gratification and fulfillment rooted in the awareness that they are able to develop closeness and a positive warm connection to children. According to Moses (2000) the majority of educators consider their job as a sort of personal fulfillment, as a way of giving and receiving intangible rewards. Their responses reflect a high degree of ideological and psychological motivations to work in residential child care. According to Colton and Roberts (2007), and Rycraft (1994), a sense of personal "mission" represents a key factor of educators' satisfaction at work.

Findings of study 2 suggest three areas in which managers could intervene to develop, support and monitor strategies and interventions in line with the professionals' need to increase job satisfaction. The most prominent one represents issues and themes related to satisfying cooperative co-working experiences and supportive supervision practices. A better work experience is helpful for the educators and for the children they care for.

According to literature, both dispositional and contextually activated attachment avoidance lead to inhibition or interference with any type of communal or cooperative orientation (Mikulincer and Shaver, 2007). Moreover, attachment avoidance seems to reduce responsiveness to others' needs. In line with these findings our results show that attachment avoidance is a precursor of low self-efficacy. Nevertheless, we also demonstrated that a personal experience of job satisfaction allows avoidant professionals to perceive higher levels of work-related self-efficacy. Supervisors and third sector service-management could implement our results in their adult and continuous-training activities for educators, in order to enhance their supportive and cooperative perspectives, competences and behaviors at work, thereby empowering them toward higher levels of job satisfaction in the most prominent identified area.

We recognize some limitations of our studies. Firstly, the cross-sectional nature of our research. In addition, ours is a sample of convenience, and deliberately focusing on a group of workers under greater than normal stress. Moreover, we rely exclusively on self-reports, and participants may not necessarily be aware of their perceptions and thoughts or may respond in a socially desirable way. Another limitation of study 1 is its correlational nature. Study 2 was carried out with a qualitative methodology and this surely affects the generalizability of our results.

Further studies should aim to analyze applying a quantitative methodology the extent to which avoidant and anxious

professionals share/or differ in their evaluation of/the three identified sources of educators' satisfaction at work. Also, additional studies should focus on different samples of professionals not exposed to extremely high level of stress.

AUTHOR CONTRIBUTIONS

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

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Work and Organizational Psychology Looks at the Fourth Industrial Revolution: How to Support Workers and Organizations?

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With rapid advances in technology in several fields of human life, we are entering the Fourth Industrial Revolution (FIR), which is changing the way businesses create value, people do their work and individuals interact and communicate with each other. In this framework, many questions have arisen about how these transformations affect workers, organizations and societies, and Work and Organizational Psychology (WOP) has been called upon to address some of these open issues. In particular, this article focuses on two aspects of the FIR. The first considers the expansion of automation in the workplace and raises questions such as: how is the relationship between workers and technology changing? How is it affecting people's well-being? How can we expect it to affect employment and equality in the future? The second is related to how job transformation will influence requirements for knowledge and skills; the main question is: which competence profile, considering hard and soft skills, is required and expected in the work of the future? The aim of the present paper is to improve the understanding of some of the major issues that workers and organizations are, or will be, asked to face, by providing information that will be useful to facilitate debate, research and interventions. In the conclusion section, research, and practical implications at organizational, political and institutional levels are discussed.

Keywords: fourth industrial revolution, Industry 4.0, future of work, working conditions, human-robot interaction, artificial intelligence, future work skills, employment

INTRODUCTION

In the current era, technology is bringing about many changes: the way in which businesses create and capture value, when, where and how people do their work and the ways in which individuals interact and communicate with each other (Schwab, 2016). Together with trends like globalization, an aging population and urbanization, these changes may affect the future of employment and people's economic, psychological and physical well-being (Bonekamp and Sure, 2015; Bakhshi et al., 2017). In this framework, several compelling questions have arisen about how such changes are altering the dynamics of jobs, workers and organizations, questions that are still open and need to be clarified before they can be answered.

Cloud and mobile computing, big data and machine learning, sensors and intelligent manufacturing, and advanced robotics are among the main types of technology that are leading this

transformation. Together these innovations are moving us toward the Fourth Industrial Revolution (FIR) (Schwab, 2016). Industrial revolutions have always been characterized by technological leaps, ever since the very beginning of industrialization: the First dates back to the end of the 18th century with the advent of mechanization based on water and steam; the Second occurred at the beginning of the 20th century with the intensive use of electrical energy to enable mass production; after World War II, the Third Industrial Revolution introduced electronics and information technology to automate production. The FIR is mainly characterized by the advent of Cyber-Physical Systems (CPS) the blending of hardware and software that can interact with humans to complete work), artificial intelligence and machine learning (Baldassari and Roux, 2017). In literature, the term Industry 4.0 (originally Industrie 4.0, introduced in 2011 in Germany to describe a Government sponsored industrial initiative) is also used to refer to the FIR (e.g., Lasi et al., 2014; Vogel-Heuser and Hess, 2016). Schwab (2016) identified three features that distinguish this Revolution from the previous ones: (1) velocity, since this Revolution is evolving at an exponential rather than a linear pace; (2) scope, it is disrupting nearly all industries; and (3) system impact, as it involves changes capable of transforming production, management, and governance.

The existing literature on the FIR focuses mainly on technology and innovations, application fields, disruption, new opportunities and challenges (Lasi et al., 2014; Vogel-Heuser and Hess, 2016; Liao et al., 2017). However, there is little research on the human-psychological aspects associated with this shift and its influence on work systems, organizations and workers' preparation and well-being (Barley, 2015). Contributions in this field are, in most cases, for or against the technological revolution, aimed at defining optimistic or worrying scenarios for the future of workers and organizations. To date, few studies have contributed to defining and monitoring the current situation in a structured way and those that are available are mainly qualitative studies summarizing the views of opinion leaders (e.g., Bonekamp and Sure, 2015). Thus, the present paper contributes to the literature showing how research and the practical contribution of Work and Organizational Psychology (WOP) is needed to address potential issues associated with the FIR and to support workers and organizations. As a mini review, the paper does not represent a systematic literature review but tries to offer a short overview of the main questions that may arise from a WOP perspective, referring particularly to the most relevant publications in scientific databases, such as Scopus or Web of Science, regarding the possible implications of the FIR for workers. In doing so, this mini review aims to call for more research and interventions in the WOP field. In the paper, first we describe how the innovations of the FIR are changing workers and technology interaction and affecting people's work, life and health. Moreover, we discuss how these transformations may be helpful or harmful to workers, and whether they can cause fear among employees that may be detrimental to their well-being and to organizational productivity. In the second part, we introduce skill development and learning processes, highlighting how organizations can prepare themselves and their workers to face this Revolution without disruption or harm. Finally, we summarize an agenda for future research and interventions in the WOP field to better support and collaborate with organizations in this transitional phase.

THE ADVENT OF AUTOMATION: NEW WAYS OF WORKING AND NEW KINDS OF WORKERS

The idea that industrial robots can take the role of cooperative and supportive tools is part of the FIR paradigm (Weiss et al., 2016). On the one hand, the use of robots in workplaces carries some benefits, such as lower costs, higher quality, improved safety, and environmental protection; the reduction of high-risk jobs is considered an important aspect at a time when fatal accidents at work are still an extremely significant problem. Moreover, people can participate in defining, creating, and maintaining automated systems (Roblek et al., 2016). Nevertheless, from the psychological perspective, some issues have emerged.

How Is the Interaction Between Workers and Technology Changing?

Since robots and automated machines are now integrated into workplaces, they have become social actors within that very system; social acceptance has therefore become a critical aspect in their design and implementation (Redden et al., 2014). For robots to become team members, individuals must accept them, communicate effectively with them and, most importantly, trust them (Lewis et al., 2018). The allocation of functions to both humans and robots is an area that needs substantial attention. Among the human-robot interaction issues, Cascio and Montealegre (2016) indicated "decreased situation awareness, distrust of automation, misuse, abuse, and disuse, complacency, decrements in vigilance, and negative effects on other facets of human performance" (p. 358).

On the other side, the increasingly widespread use of different kinds of technology to complete work activities and share information may lead to a reduction in human relationships within the workplace, with potential negative consequences in terms of informal learning, organizational commitment, motivation and well-being. In the literature, several studies using the job-demands resources theory have demonstrated the positive role of co-workers' informal support as a resource capable of reducing costs associated with job demands, supporting the achievement of goals, and stimulating learning and development (Bakker and Demerouti, 2017). Thus, it seems important to identify and promote new opportunities for human interactions within the changing working conditions.

How Do New Kinds of Technology Affect People's Well-Being?

Apart from human-robot interaction, the relationship between individuals and technology is changing in several fields, with potential consequences for people's well-being. In recent years,

advances in telecommunications have changed the ways people experience and organize their work and personal life. Several research have highlighted the negative impact of the use of technology (e.g., laptops or smartphones) during leisure time in terms of well-being and work-life integration (e.g., Derks et al., 2014; Ghislieri et al., 2017). Moreover, the risks of addiction to work-related technology for workers and their family well-being have been demonstrated (e.g., Turel et al., 2011; Quinones et al., 2016). The main issue here seems to be how employers and organizations are contributing to this phenomenon by fostering the "always on" approach that requires workers to be always online and available.

Moreover, it has been suggested that the introduction of innovative systems in the workplace could lead to a lack of autonomy and skills that, in turn, can produce stress, demotivation, and counterproductive work behaviors (Cascio and Montealegre, 2016). Furthermore, workers might have an increased feeling of being controlled and a greater sense of oppression, which would foster dissatisfaction, demotivation and ill-being in the long term. In this regard, a study carried out in Germany, involving opinion leaders, emphasized that the demand for greater transparency and visibility of individuals' performance and an ever-increasing request for data about employees' work activities and results, collected through digitized processes, raise additional issues relating to personal data protection (Bonekamp and Sure, 2015).

In general, developments in how people do their work and the uncertainty that changes imply may also result in a transformation in the very meaning of work. As we already know, work plays a central role in modern societies, because it provides people not only with economic security but also personal identity and psychological health (Harpaz, 2002; Blustein, 2008). Work satisfies instrumental needs through income and security, and intrinsic needs by maintaining people's self-esteem and sense of accomplishment through interpersonal relationships and opportunities for development. WOP research should examine whether and how the meaning of work changes under FIR conditions and what effects these changes have on career commitment and psychological health.

Are Automated Systems Supporting Humans or Taking Over Their Jobs?

The impact of the FIR on occupation is widely debated and represents one of the main open issues. Several jobs are susceptible to computerization and will soon be at risk (Frey and Osborne, 2017) and many predictions appear drastic in terms of structural unemployment and rising inequality in the future. This Revolution may have consequences for both low-skilled and high-skilled workers: university graduates may find themselves threatened by software capable of performing sophisticated decision-making processes, in a persistently challenging environment characterized by the strenuous pursuit of a balance between the educational system and technological evolution (Ford, 2009; Brynjoifsson and McaAfee, 2014; Bonekamp and Sure, 2015).

Nevertheless, there are also some counter-skeptical positions, which argue that the FIR will undeniably eliminate some jobs in the short term, but will represent an opportunity creating benefits for everyone in the long run (Kaplan, 2015; Weldon, 2016). The key lies in how the technological transformation will take place (Weldon, 2016) and how this transitional phase is managed so that it can lead to a future where technology itself will create new jobs, characterized by less hard and repetitive but more intellectual activities, jobs for which the necessary skills need to be developed through investments in retraining (Kaplan, 2015). In other words, the FIR is regarded as a flywheel for the creation of new employment opportunities in the coming decades, with an increasing need for workers with IT skills and specialized technical expertise. Care professions characterized by a high need for empathy seem to be excluded from these considerations (Bonekamp and Sure, 2015).

However, fear of job loss remains an important issue among employees today, since robots and automation might be seen and perceived as competitors. To date, there are few studies in this field, although initial evidence has confirmed that workers might react by opposing automation. For example, in their study on the usability and acceptance of an industrial robotic prototype, Weiss et al. (2016) found that participants expressed fear of being replaced by robots in the future, although the robot was introduced as a cooperative tool.

TRANSFORMATION OF JOBS AND SKILLS

According to Gorecky (2014), employees play a strategic role in the FIR, since they "will determine the overall production strategy, monitor the implementation of this strategy, and if need be, intervene in the cyber-physical production system" (Gorecky, 2014, in Pfeiffer, 2015, p. 7). However, this requires specific knowledge and qualifications and a new skills paradigm. Among the conditions that are driving the demand for new skill sets are "comprehensive integration and information transparency; increasing automation of production systems; self-management and decision-making by objects; digital communication and interactive management functions; flexibilization of the use of staff" (Ahrens and Spöttl (2015) in Cevik Onar et al., 2018, p. 138). Nevertheless, in the literature the debate on the need for new skills and how these can be upgraded is still in its early stages (Pfeiffer, 2015).

For psychologists, the intersection between learning and new technology is interesting from many points of view: *how do learning processes change in the context of digital immersion? Is Google becoming a substitute for memory? Does technology positively or negatively affect our ability to learn? How do the life-cycles of our knowledge and competence change? Furthermore, which competence profile, considering hard and soft skills, is needed and expected in the future of work?*

This last question is the one on which WOP should focus more, in order to theoretically define and empirically validate models of adequate skills and, above all, provide practical

indications to those actors who contribute to the development of knowledge and skills: educational system, training, organizational practices and employment policies. A study which involved more than 500 representatives in industrial companies, found that 86% attributed increasing importance to life-long learning and 76% expected interdisciplinary cooperation to assume growing importance (Fraunhofer and Ingenics, 2014). Further studies have highlighted the growing significance of teamwork, work-life flexibility (Institut für Führungskultur im digitalen Zeitalter [IFIDZ] and FAZ-Institute, 2014), cross-functional management and cooperation, and cross-company partner networking (Porter and Heppelmann, 2014; Bonekamp and Sure, 2015).

Since most forecasts indicate that there will be greater demand for a higher standard of IT competency in the future (Bonekamp and Sure, 2015), this sheds light on the importance of improving knowledge about digital devices, particularly among engineers, and topics such as virtual, augmented and mixed reality, 3D printing and smart factories (Motyl et al., 2017). Nevertheless, a crucial role is also played by soft skills, especially continuous learning, flexibility, the ability to work in multi-functional teams and to deal with complex situations. Today, this is considered a particularly tricky issue since different studies have highlighted that graduates leave university with insufficient soft skills and that in many cases they are not aware of the importance of these skills in the world of work (Alias et al., 2013; Ghislieri, 2017).

CONCLUSION

Any attempt to answer the question "How can work and organizational psychologists support workers and organizations at the time of the FIR?," requires an agenda for research and interventions that can contribute to the identification of policies aimed at maximizing the positive effects for workers and organizations and minimizing the negative consequences. Despite disagreement over the impact of this Revolution on employment, there is a certain consensus about the importance of identifying adequate and different measures to cope with the ongoing transformation, with interventions at micro, meso and macro levels. Specifically, indications are expected from national and European policies on work and education (from the need for new curricula and updating of higher education to the debate about basic income for everybody) and from organizations and trade union policies (Bonekamp and Sure, 2015).

Since the current literature is scarce, research should first of all aim to deepen the understanding of the interconnection between workers, organizations and technology. Longitudinal studies would be particularly helpful in order to examine the effects of technology on people's performance, well-being and motivation, and understand whether and when these are positive or negative. Nevertheless, at this stage, preliminary evidence is needed in order to direct future research and decisions, and this could also come from cross-sectional studies. Moreover, it might be useful to focus on specific contexts and categories of workers to draw accurate conclusions, using both qualitative and quantitative methods to build up knowledge in this field.

In order to investigate human-robot interaction and acceptance of automation, valuable models have been described in literature. Venkatesh et al. (2003, 2012) introduced the Unified Theory of Acceptance and Use of Technology (UTAUT), able to explain about 70% of the variance in behavioral intention to use a technology. Weiss et al. (2009) proposed the USUS model, a theoretical and methodological framework to evaluate human-robot collaboration considering Usability, Social acceptance, User experience, and Societal impact. Together with ethnography and observations (Cascio and Montealegre, 2016), such models may be useful for leading research on human-technology dynamics; moreover, they may support interventions, providing useful information for designing and implementing collaborative systems.

According to the Future of Jobs Report (Leopold et al., 2016), only 53% of Chief Human Resources Officers surveyed are confident regarding the adequacy of their organization's workforce strategy to face changes brought about by the FIR. Thus, a stronger collaboration between practitioners in the HR fields and WOP researchers may be useful to define more effective and shared strategies. In general, practical interventions should consider work analysis, team working, selection, training, talent program and performance management. Applied-research in the field of work-related stress needs to be reviewed, including dimensions linked to the use of new kinds of technology during working and leisure time. Communication processes are also of particular importance in order to accompany people in this transitional phase and deal with doubts and fears that may arise; these processes should involve the working population at large, not only workers directly involved in the change. Moreover, specific interventions for leaders and supervisors might be necessary, in order to support them in dealing with the big transformations associated with the FIR; specific research should investigate how their role is changing and what they will need in order to adopt an effective leadership style able to guide the process of change.

As regards training, educators and policymakers play an essential role in preventing competence obsolescence and fostering the continuous updating and development of those skills required by the current and future labor market. In particular, hard and soft skills must be systematically monitored at the end of university courses, to check whether these profiles meet companies' expectations, and evaluate the effective use of acquired skills in working contexts. Altogether, these measures should foster the creation of synergies between the educational system and employee training (Bonekamp and Sure, 2015). Enhancing digital skills is a target that is also supported by the European Digital Single Market Strategy (Negreiro, 2015), which sustains digital inclusion projects aimed at tackling and reducing the digital divide, according to which there is still a gap between people who have access to specific information technology and people who do not. This gap influences the development of digital skills as well as opportunities to find a job. Finally, career practitioners also play a crucial role, since they can encourage people to strengthen their ability to deal with changes, to develop their employability skills according to the new needs of the labor market, or to reinvest their skills and professional competence

in new jobs in those cases where the Revolution has led to them losing their job. More investments in services of this kind are needed in order to improve their efficacy and accessibility.

AUTHOR CONTRIBUTIONS

All authors contributed to this work. CG and MM wrote the manuscript receiving substantial input from CG. All authors approved the final version of the manuscript for submission and agreed to be accountable for all aspects of the work.

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Learning Climate Perceptions as a Determinant of Employability: An Empirical Study Among European ICT Professionals

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This study investigated the role of age in the relationship between perceptions of learning climate and self- and supervisor-rated employability among European Information and Communication Technology (ICT) professionals. The psychological climate for learning was operationalized by three indicators, namely the perceptions that employees have of the learning value of their job, supervisor support for learning, and the organizational support for learning. As hypothesized, a Structural Equation Model demonstrated that the relationship between age and perceptions of learning climate was negative. The model also showed a strong positive relationship between learning climate and self-reported and supervisor-rated employability. Furthermore, learning climate perceptions appeared important for employability irrespective of life or career stage. An explorative bootstrapping-based test suggested that older workers with managerial responsibilities profit less from psychological learning climate for self-reported and supervisor-rated employability than older workers at non-managerial levels. These findings have important implications for human resource practices that aim to increase lifelong employability.

Keywords: learning climate, psychological climate, employability, older workers, career stages, life-span perspective, multi-source ratings, ICT professionals

INTRODUCTION

As a result of aging and dejuvenization of the working population, the competitiveness of developed countries in the next few decades is forecasted to depend increasingly on the contribution of older workers (Shultz and Adams, 2007; Van der Heijden et al., 2009b). Constant change in the work environment and in job content also means that, increasingly, both older and younger workers are required to continuously develop and maintain their work-related skills and employability (Semeijn et al., 2015; De Vos and Van der Heijden, 2017). This paper addresses the potential positive effects for worker employability when organizations actively promote a climate of learning across various employee career stages.

Stimulating workers' employability appears to be advantageous for both employee and organizational outcomes (Fugate et al., 2004; Van Dam, 2004; Van der Heijde and Van der Heijden, 2006; Rothwell and Arnold, 2007; Crook et al., 2011; Van der Heijden et al., 2018). Van der Heijde and Van der Heijden's (2006) competence-based approach to employability is an elaboration of the resource-based view of the firm (Nordhaug and Grønhaug, 1994; Wright et al., 1994). According to this view, competences are one category of possible resources that enable firms to achieve performance and (sustained) competitiveness. Highly employable workers (Van Dam, 2004) are necessary for organizations to meet fluctuating demands for numerical and functional flexibility (Valverde et al., 2000). When an organization encourages individual development and change its employees are better able to meet new or anticipated demands (see for instance: Argyris and Schön, 1978; Senge, 1990; Fugate et al., 2004; Rothwell and Arnold, 2007).

For the individual worker, employability is defined as the ability to obtain a job and to keep employed, within or outside one's current organization, for one's present or new customer(s), and with regard to future prospects (Van der Heijde and Van der Heijden, 2006) (see also Forrier and Sels, 2003; Fugate et al., 2004; Rothwell and Arnold, 2007). Increasingly, domain-specific occupational expertise is insufficient to guarantee positive work outcomes during the course of one's entire career. Rather, a broad competence package or a high level of *employability* that enables workers to cope with fast changing job requirements is needed. For an organization to be attractive to employees, it should provide lifelong and challenging learning opportunities: that is, chances to improve existing knowledge and skills and to develop new ones. Fortunately, several organizational policies and practices can be utilized to promote growth and learning behavior and to prevent obsolescence (e.g., Borghans et al., 2006; Bartram and Roe, 2008; Fouarge et al., 2009; Nikolova et al., 2016), herewith introducing the concept of learning climate.

Besides a possible direct effect on competence development, the way that employees perceive learning climate also potentially influences competence development indirectly via outcomes, such as job satisfaction, learning motivation (De Lange et al., 2005), and feelings of job security. Kooij's (2010) research also suggested that formal development practices are equally important for older and younger workers, in the light of the enhancement of positive employee outcomes, such as affective commitment, job satisfaction, and motivation to continue to work. For older workers, specifically, several studies (e.g., Boerlijst et al., 1993; Rhebergen and Wognum, 1997; Tikkanen et al., 2002; Borghans et al., 2006; Maurer, 2007) have already indicated that organizations generally expend less energy optimizing psychological learning climate. Notwithstanding the considerable amount of literature stressing the importance of learning climate, there is limited empirical research on the predictive validity of learning climate for employability development throughout the life span.

In this paper, we elaborate a theoretical framework focused on the age-learning climate–employability relationship and a life span perspective, and develop three hypotheses to test if learning climate perceptions really decrease with age. We then present a study of European Information and Technology (ICT) professionals designed to examine these hypotheses.

THEORETICAL BACKGROUND AND FORMULATION OF HYPOTHESES

Psychological Learning Climate and Employability at Different Career Stages

Derived from the concept of *psychological* climate (indicating perception, e.g., Parker et al., 2003), and adapted from Nikolova et al. (2016, p. 259) we use the following definition of psychological learning climate: The *individual* perception of an employee of organizational policies and practices aimed at supporting employees' learning behaviors. In this empirical study, we will use a conceptualization of psychological climate that acknowledges situational constraints (Parker et al., 2003 after Jones and James, 1979), based on several work domains. This approach has the potential to provide organizations with practical starting points for stimulating learning climate experiences. In this section, we consider three themes associated with learning climate with respect to employee age, for which so called situational constraints for learning might occur: the learning value of the job, supervisor support for learning, and organizational support for learning (see also D'Amato and Zijlstra, 2008).

Learning Value of the Job

A job can be interpreted as a learning environment (e.g., Sims, 1983), and is the best preventive measure against obsolescence or plateauing (Rothman and Perrucci, 1970). The extent to which the job contributes to professional advancement is labeled the learning value of the job for the worker (Boerlijst et al., 1993, p. 57). This learning value depends on key features of the work, such as high quality job assignments and the degree of challenge and growth potential, especially with regard to the ability to utilize one's knowledge and skills. Supervisors fulfill a crucial role with regard to the assignment of challenging tasks and activities (Van Vianen et al., 2011). However, Maurer (2007) found that older workers more often receive routine tasks rather than complex and challenging job assignments that stimulate development (p. 168), herewith endangering their future employability (Van der Heijden et al., 2009a). Job content does not grow automatically with the expertise of older workers.

Boerlijst et al. (1993) found that the relatively low learning value conveyed by many jobs, especially among employees over 50, is a considerable problem. The percentage of employees in jobs offering too few opportunities for new learning experiences and, more specifically, for acquiring new expertise, was very high (reaching 45% and higher for jobs of medium and higher levels of education: ISCED level 3 and higher, see OECD). Furthermore, jobs with high work pressure, often do not leave room for new and challenging assignments. Thus, a contemporary challenge for organizations is to design jobs which facilitate continuous learning for all employees, while safeguarding efficiency and value for the employing organization or department (Van der Heijden, 2001, 2002). Furthermore, jobs should to a certain

extent offer the space for workers to select their own tasks and challenging assignments (De Pater et al., 2009) in the context of their career development.

Supervisor Support for Learning

Supervisors can endanger the mobility and employability of their employees (Boerlijst et al., 1993; Boerlijst, 1994) by focusing on short-term goals to the exclusion of employees' long-term career goals. However, organizational policies and practices can enable supervisors to promote the development of occupational expertise. Concretely, supervisors can be empowered to stimulate employees to participate in training and development programmes, to exchange information, and to think about their future career steps. A basic requirement for growth is the formulation of a realistic and attainable individual career development plan by the employee, together with the supervisor and the HR department, where present (Stickland, 1996).

Maurer (2001), however, concluded that there was a systematic decrease of supervisory support for learning and development with employee age, for example, by withholding older workers from difficult job assignments, positions, and training experiences (for similar findings see also Rhebergen and Wognum, 1997). Maurer also showed that this decline in support negatively affects older workers' mastery experiences and their perceived self-efficacy for development. Van Vianen et al. (2011) demonstrated how such reluctance was perceived by employees. These authors found a negative relationship between employee age and willingness for further development among employees that perceived little developmental support from their supervisors, and whose supervisors perceived them to have a learning avoidance orientation.

Overall, studies examining the use of HRM practices for mature workers have found that few employers seem to encourage age awareness for their managers (Armstrong-Stassen, 2008). Such findings reinforce the importance of age awareness training which aims to promote managers' recognition of age bias, awareness of the needs of mature workers, and a change in attitude toward mature workers (Griffiths, 1997; Goldberg, 2005; Hedge et al., 2006).

Organizational Support for Learning

Organizational support for learning extends beyond the immediate job content of the worker, and his/her immediate supervisor. Unfavorable working conditions, situational constraints, and too little time to practice beyond the scope of "normal" work are problems confronting many employees (Peters and O'Connor, 1980; Paoli, 1997; Paoli and Merllié, 2001; Tikkanen, 2006). An increase in work intensification does not allow time or opportunities for experimentation or work outside one's immediate domain (Parent-Thirion et al., 2007). Concretely, important organizational support for learning comprises time (considering present high work pressures), support from the team wherein one is employed, and the experience of ample opportunities to develop (see Bartram et al., 1993).

Time enables workers to do their job properly and to learn effectively. Having time to think, practice, keep up with changes,

and having time to talk things through with colleagues and line managers is important for employees' development. Time for self-regulation in learning is necessary to set learning goals, develop action plans for learning and seek feedback, and to evaluate learning results. Taris and Kompier (2004) argued that workers under time pressure tend to fall back on routine chores with no learning as a result. Availability of time might even be of higher importance for older workers' learning new knowledge and skills, due to the relative deterioration of fluid intellectual capabilities (Kanfer and Ackerman, 2004; Ng and Feldman, 2008, p. 400 and p. 403; cf. Baruch and Bozionelos, 2011).

A learning-provoking *team style* comprises a working environment with ample opportunities to learn from colleagues with expertise, who are supportive, caring and willing to help each other, and who are willing to share information and work. Under these circumstances, team members are seen as knowing their own limitations and as being willing to admit them. The importance of co-worker support for development has been underlined (Noe and Wilk, 1993; see for instance Maurer and Tarulli, 1994). Access to new information is critical, and much of the technical information needed by professionals comes from interactions with colleagues, for example by participation in social networks (e.g., Škerlavaj et al., 2010). For this reason, organizations should pay closer attention to information dissemination systems, and to the structure of these systems.

The fact that older workers are likely to perceive less support from their team-mates might be a result of their tenure and years of experience: older workers are more likely to be moved up in the hierarchy to be leaders or managers, and perceive less support from their boss or co-workers (Kawakami and Fujigaki, 1996). Another hindering factor for older workers concerns the difficulty of adapting to workplace changes, such as the requirement to adequately function within the setting of work teams (Yeatts et al., 2000), while being used to working individually. Moreover, older workers may experience problems in their collaboration with younger counterparts.

Employees reporting more *opportunities to develop*, perceive their workplace as providing opportunities to learn new skills and to do a variety of work. They see scope for creativity and opportunities for being a novice outside their own work domain. They have an awareness of what learning materials and options exist, and are involved in the discussion of plans and policies for change (both with regard to their work as well as the organization, in a broader sense). However, previous research has indicated that older workers in technology-intensive environments rarely described that they encountered totally new situations (Tikkanen, 2002). Based on the foregoing, we formulated our first hypothesis on the relation between employee age and all three discussed dimensions of learning climate.

H1: There exists a negative relationship between employee age and employees' perceptions of learning climate.

H2: There exists a positive relationship between employees' perceptions of learning climate and self-reported and supervisor-rated employability.

Different Operationalizations of Age: Different Life and Career Stages

According to Kanfer and Ackerman (2004), the assumption of a general decline with age is simplistic, misleading and based on stereotyping (Pazy, 1996; Baruch and Bozionelos, 2011; see also Arnold and Clark, 2016). The authors presented a life-span perspective with regard to adult development and work motivation, including changes with regard to cognitive abilities, personality, affect, interests, and values with aging. "Work motivation in midlife and later years follows the same basic principles as work motivation in young adulthood—namely, the allocation of personal resources to work behaviors that build on competencies, promote a sense of self-efficacy and self-concept, and offer opportunities for the attainment of desired outcomes" (p. 455). Older workers can contribute in a different way and continue to be motivated for work and development. On top of that, there is more variability in work performance within age groups than between age groups (e.g., Ilmarinen, 2001 with regard to physical work capacity).

The meta-analysis of Ng and Feldman (2008) demonstrated that age was largely unrelated to core task performance, creativity, and performance in training programs. The weak negative relationship between age and motivation for training and career development activities found by Ng and Feldman (2012) in their follow-up meta-analysis, might be attributable to: (a) greater resistance and fear of failure because of deterioration of fluid intellectual capabilities; (b) lower perceived incentive with regard to return of investment; or (c) a self-fulfilling prophecy with regard to being offered less developmental activities. Since motivation to learn on the job does not appear to decrease with age (De Lange et al., 2005), learning climate is interpreted as an important predictor, both for older and younger workers. Although different age groups are expected to flourish with different learning climate profiles and are likely to demonstrate different patterns of competences throughout the life-span, age is approached as a continuous variable, since employees' development is variegated and does not occur at the same pace.

To examine the influence of age on the learning climate-employability relationship it is important to include different operationalizations of age, since calendar age serves only as a proxy for age-related processes (Kanfer and Ackerman, 2004; De Lange et al., 2010). Individuals may be at a different life- and career-stage, despite being the same calendar age. Approaches to the operationalization of age include: (a) performance-based or functional approaches (e.g., work ability or health measures); (b) psychosocial or subjective approaches (e.g., age norms applied to an individual with respect to an occupation, company, or society; cf. Kaliterna et al. (2002); (c) organizational approaches (e.g., job tenure, career stage); and (d) life-span approaches (e.g., family status or life stage measures) (De Lange et al., 2010, p. 943). This is also in line with Super's (1990) concept of recycling through the stages of adult career development, implying that career and life phases do not have a strict relation with chronological age and are flexible.

Working life nowadays consists of repeated cycles of learning (Hall and Mirvis, 1995; Baruch and Bozionelos, 2011). By including different career and life stage characteristics, herewith our model represents a broader conceptualization of the concept of age. As such, our approach is expected to lead to a better understanding of the age-learning climate-employability relationship. Specifically, we hypothesize that learning climate perceptions will be important for employability irrespective of life or career stage. This implies that including different career and life stage characteristics into the model, besides age, will not alter the previously hypothesized relationship between learning climate and employability.

H3: Learning climate perceptions will be important for employability irrespective of life- or career-stage.

METHODS

Participants and Procedure

This study was carried out among pairs of ICT professionals and their immediate supervisors working in small- and medium-sized enterprises (SMEs) in seven countries (Germany, Greece, Italy, the Netherlands, Norway, Poland, and the United Kingdom). ICT professionals were defined as employees involved in the conception, development, implementation, and maintenance of software products and services (Van der Heijden et al., 2005). ICT professionals were estimated to be an eligible research population with regard to learning climate, since developments are very fast in the ICT industry (Scholarios et al., 2008; Marzec et al., 2009). The selection of employees excluded persons with low levels of education (not having attained ISCED level 3, see OECD), to be able to produce useful and comperative data with respect to future potential organizational change. This was a prerequisite to enable comparison of current and future workers, especially with regard to older workers (after ~20 years) in light of growing complexity and increasing level of difficulty of future jobs and concomitant rising required educational levels (see also Van der Heijde and Van der Heijden, 2006, p. 457).

We used two data collection methods: (1) an online questionnaire with immediate personalized feedback; and (2) a paper-and-pencil questionnaire, to increase the response rate in case a permanent internet connection in companies was less common. Informed consent was obtained by virtue of survey completion. Nevertheless, all employees received extensive information about the study before deciding to participate and received personalized confidential feedback after completion. They could also withdraw from the study at any time. The immediate supervisors were asked to respond to a shorter questionnaire, and were instructed to indicate how employable their subordinates were on a respective scale. The advantage of the use of multi-rater (or multi-source) performance ratings is that different evaluation perspectives add incremental validity to the assessment of individual performance (see for instance Borman, 1997). In line with the work by (Facteau and Craig (2001), p. 215) on performance appraisals, we expected an equivalent factor structure of the employability construct among

the rater groups (employees and supervisors) (see also Van der Heijde and Van der Heijden, 2006; Van der Heijden et al., 2009b).

It was accepted that achieving a sufficient sample size would depend on elements of convenience sampling, utilizing personal contacts and networks. An examination of the final respondent characteristics indicated that we did, indeed, achieve a representative sample of ICT professionals in most countries, comparing the obtained data in each country with the three sampling criteria in the defined sampling frame: (1) the geographical regions in each country where most ICT activity occurs; (2) the ICT industry subsector in which ICT professionals are employed, including both ICT suppliers and ICT users; and (3) the size of the organizations in which they were employed, taking into account that the majority of the population of ICT organizations comprises SMEs (Van der Heijden et al., 2005).

Our final sample consisted of 967 pairs (response rate was 69% for employees, and 63% for supervisors across countries for the web-based survey and around 25% for the paper-and-pencil versions). The employees' sample included 694 men (71.8%) and 273 women (28.2%). Mean age was 34.50 years ($sd = 8.29$), with an average of 9.82 years ($sd = 8.07$) on the labor market, of which 7.21 ($sd = 5.80$) was as an ICT professional, and average length of service for the organization was 4.72 years ($sd = 4.45$). In total, 728 of the supervisors were men (75.3%) and 239 were women (24.7%). Their mean age was 41.53 years ($sd = 7.82$).

Measures

The questionnaire was used in a large European study during which several precautions were undertaken to increase the measurement equivalence of the factors included across the participating countries (e.g., Van de Vijver and Leung, 1980): (1) extensive testing concerning the item formulation of all instruments among five employees, five supervisors, and two communication specialists in the Netherlands; (2) instructions regarding cross-checking of the self-ratings with the ratings of the supervisor (on employability) as well as guaranteeing anonymity (see also Mabe and West, 1982); (3) extensive pre-testing of the questionnaire in a pilot following the translation back-translation methodology, herewith solving possible language and linguistic problems, and aimed at enhancing user-friendliness; (4) a needs analysis amongst ICT employers was used as a cross-validation for the rationale of incorporating the study's variables, with societal and labor market needs.

Employability was assessed with Van der Heijde and Van der Heijden's (2006) domain-independent (or generic) instrument that contains five dimensions: (1) occupational expertise (15 items); (2) anticipation and optimization (8 items); (3) personal flexibility (8 items); (4) corporate sense (7 items); and (5) balance (9 items). Construct validity for the employability instrument, including the second-order structure of the concept, equivalent factor structure over the different rater groups (employees and supervisors), and predictive validity were demonstrated using structural equation modeling and multi-trait-multimethod analysis (Van der Heijde and Van der Heijden, 2006; Bozionelos et al., 2016). Examples were: "By virtue of my experience with him/her, I consider him/her … competent to be of practical assistance to colleagues with questions about the approach to

work" (ranging from "not at all" to "extremely") (*occupational expertise*), "(S)he is … focused on continuously developing him/herself" (ranging from "not at all" to "a considerable degree") (*anticipation and optimization*), "(S)he adapts to developments within the organization …" (ranging from "very badly" to "very well") (*personal flexibility*), "(S)he manages to exercise … influence within the organization" (ranging from "very little" to "a very great deal") (*corporate sense*), and "The time (s)he spends on his/her work and career development on the one hand, and his/her personal development and relaxation on the other are… evenly balanced" (ranging from "not at all" to "a considerable degree") (balance). The item sets for the employees and the supervisors are nominally identical and all scored on a six-point rating scale.

Learning climate was assessed on the individual (psychological) level using three scales: (1) learning value of the job; (2) supervisor support for learning; and (3) organizational support for learning. *Learning value of the job* was assessed with Van der Heijden's instrument (Van der Heijden et al., 2005; Van der Heijden and Bakker, 2011). A sample item was: "My job enables me to further develop my talents." The item sets for the employees are all scored on a six-point rating scale (ranging from "strongly disagree" to "strongly agree"). *Supervisor support for learning* was assessed by means of a thoroughly validated, five-item instrument (Van der Heijden et al., 2005, 2010) An example item was: "My supervisor has taken into account my age and capacity when assigning me new tasks and responsibilities during the last year." The item sets for the employees are all scored on a six-point rating scale (ranging from "strongly disagree" to "strongly agree").

Organizational support for learning was measured with the multivariate learning climate questionnaire (LCQ) of Bartram et al. (1993) that provides measures of three aspects of learning opportunity: time (seven items, sample item "in some parts of the job there is not enough time to keep up with changes," team style (nine items, sample item "if we ask for help it is given") and opportunity to develop (six items, sample item "our ideas for changes are welcomed by management." Response format was five-point ("never true" to "always true").

Since in the literature on the subject there is no agreement how different indicators of career stage and life phase representing age should be operationalized (Lynn et al., 1996; De Lange et al., 2010; Kooij and Boon, 2018), we decided to apply multiple indicators (Super, 1990; Lam et al., 2012). General perceived health, representing a functional approach of age, was measured with a 5-item general health scale of the SF-36 Health Survey (Ware and Sherbourne, 1992). A sample item was "My health is excellent." All items, except the first one, are scored on a five-point rating scale ranging from: (1) definitely false, to (5) definitely true. Work role [measured as managerial responsibilities (yes/no)] was included as an important indicator with regard to career stage of ICT professionals (see also Kappelman et al., 2016) thereby representing a subjective approach to age (age norms). Furthermore, we included ICT professional tenure (in years) (Lam et al., 2012), and length of supervisory relationship (in months), as operationalizations of an organizational approach of

age. Family status (number of children) represented a life-span operationalization of age.

Highest educational qualification of the employee and age of the supervisor were used as control variables. Highest educational qualification was measured with one item and the following scale anchors: High school or equivalent; College (some university); Bachelor's degree (or recognized equivalent); Master's degree (or recognized equivalent); and Doctorate (PhD). According to Ostroff and Atwater (2003), gender of the supervisor affects compensation levels but not performance ratings. Therefore, we did not control for supervisor gender.

Ethical Considerations

As regards ethical guidelines, full review and approval by the Ethical Committee was not required, according to national legislation, since there was no impairment of medical integrity and no interventions were performed (Wet Bescherming persoonsgegevens, 2000). Standards from the American Psychological Association and the British Psychological Society were followed as well as standards from the European Commission (within the Fifth Framework) and NWO: The Netherlands Organization for Scientific Research. Furthermore, the study was led by a psychologist (Beatrice I.J.M. van der Heijden), registered at the NIP: The Dutch Association of Psychologists, who initiated and coordinated the study.

RESULTS

Descriptive Statistics

Cronbach's α coefficients of all employability dimensions were in the acceptable range; the self-ratings ranged from 0.78 to 0.93, and the supervisor ratings from 0.80 to 0.95, see **Table 1**. The supervisor-rated employability dimensions correlated highly ($r \geq 0.66$), while the self-rated employability dimensions correlated somewhat lower ($r \geq 0.37$). The consistency between supervisor-ratings and self-ratings for the same employability dimensions ranged from 0.21 to 0.53. All learning climate perception measures demonstrated good internal consistencies, with Cronbach alphas ranging from 0.77 to 0.85.

Preliminary Analyses

Besides chronological age, we explored different operationalizations of age in the model to do full justice to the earlier formulated life-span perspective (Kanfer and Ackerman, 2004; De Lange et al., 2010): perceived health, organizational tenure, ICT professional tenure, length of supervision, work role (i.e., managerial responsibilities), and family status (number of children). Regression analyses of these variables on each of the employability dimensions separately (both supervisor and employee version), showed that perceived health, ICT professional tenure, length of supervision (in months), and work role (i.e., managerial responsibilities) were significantly related to both employability supervisor ratings and self-ratings (see **Table 2**). Only factors that appeared to be significantly related to the outcome measures were subsequently included in further analyses.

Test of the Age–Learning Climate Perceptions–Employability Relationship

We tested our first and second hypotheses by means of Structural Equation Modeling (SEM) using the maximum likelihood method with the AMOS computer program (Arbuckle, 2003). Both learning climate perceptions and self-reported and supervisor-rated employability were included as latent endogenous factors (see **Figure 1**). The SEM analysis was conducted with the mean scores of the scales, instead of the scale items. Previous results of Confirmatory Factor Analysis (Van der Heijde and Van der Heijden, 2006; Van der Heijden et al., 2009b; Bozionelos et al., 2016) supported the suggested factor structure of employability. The measurement errors of the parallel dimensions (supervisor and employee version) were allowed to correlate.

To test the fit between the proposed model and the data, the traditional χ^2-value, the Comparative Fit Index (CFI), the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA) were calculated. A CFI ≥ 0.90, NFI ≥ 0.90, and a RMSEA ≤ 0.08 indicate a reasonable fit between the model and the data. The model for the total sample appeared to have a reasonable fit ($\chi^2 = 723.89$, df $= 116$, CFI $= 0.93$, NFI $= 0.91$, RMSEA $= 0.07$, see Model 1, **Table 3**).

The significant structural path showed that age was negatively related to learning climate perceptions ($\beta = -0.13$, $p < 0.001$), providing support for Hypothesis 1. Furthermore, learning climate perceptions were positively related to both supervisor-rated employability and self-reported employability ($\beta = 0.43$, $p < 0.001$ and $\beta = 0.75$, $p < 0.001$), providing support for Hypothesis 2 (for the supervisor ratings not as strongly positive as for the self-ratings). The proportion of explained variance in this model was 23% for supervisor-rated employability and 58% for self-rated employability.

Test of the Age–Learning Climate Perceptions-Employability Relationship, Including Different Career-and Life-Stage Characteristics Into the Model

When testing Hypothesis 3, we performed a SEM analysis testing our model of the age—learning climate perceptions—employability relationship, adding perceived health, ICT professional tenure, length of supervision (in months), and work role (i.e., managerial responsibilities) into the model (see Model 2, **Table 3**, and **Figure 2**). The model had a satisfactory fit to the data, $\chi^2 = 1408.88$, df $= 351$, CFI $= 0.89$, NFI $= 0.86$, RMSEA $= 0.06$, given the large number of items we used (Patterson et al., 2005).

More specifically, for the category without managerial responsibilities we found that age was no longer significantly related to learning climate perceptions and employability (self-ratings). Age was related positively and significantly to supervisor-ratings of employability ($\beta = 0.14$, $p < 0.01$). The learning climate—employability relationships remained unaltered (H3). Learning climate perceptions were significantly and positively related to both supervisor-ratings and self-ratings

TABLE 1 | Means, standard deviations, reliability coefficients (Cronbach's α on the diagonal), and correlations between the model variables, $N = 967$.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
(1) Age employee	34.50	8.29	–																				
(2) Highest Educ. Qual. employee	2.56	1.13	–0.06	–																			
(3) ICT Professional tenure (years)	7.21	5.80	0.70	–0.11	–																		
(4) Health	3.77	0.72	–0.22	0.13	–0.09	(0.79)																	
(5) Age supervisor	41.53	7.82	0.29	0.01	0.16	–0.05	–																
(6) Length supervision (months)	34.95	26.63	0.30	–0.01	0.26	–0.11	0.33	–															
LEARNING CLIMATE PERCEPTIONS																							
(7) Learning value	4.20	0.84	–0.11	0.09	–0.16	0.24	0.01	0.07	(0.85)														
(8) Supervisor support for learning	3.23	1.08	0.03	–0.03	0.06	0.05	–0.02	–0.05	0.12	(0.80)													
(9) Time	3.06	0.63	–0.13	0.07	–0.15	0.19	0.01	–0.03	0.07	–0.01	(0.82)												
(10) Team	3.52	0.60	–0.14	0.06	–0.15	0.23	–0.02	–0.08	0.35	0.22	0.32	(0.84)											
(11) Opportunities	3.26	0.63	–0.07	0.04	–0.08	0.13	0.02	0.04	0.45	0.28	0.23	0.57	(0.77)										
EMPLOYABILITY SUPERVISOR																							
(12) Occupational expertise	4.58	0.76	–0.05	0.24	–0.06	0.24	–0.07	0.05	0.31	–0.01	0.18	0.20	0.26	(0.95)									
(13) Anticipation and optimization	4.19	0.82	–0.09	0.20	–0.11	0.21	–0.04	0.05	0.38	0.06	0.08	0.18	0.25	0.72	(0.89)								
(14) Personal flexibility	4.32	0.75	–0.07	0.21	–0.13	0.30	–0.03	0.03	0.37	–0.04	0.21	0.29	0.33	0.79	0.74	(0.87)							
(15) Corporate sense	4.19	0.90	0.05	0.18	0.03	0.19	0.04	0.14	0.32	0.07	0.06	0.19	0.30	0.74	0.74	0.72	(0.88)						
(16) Balance	4.28	0.72	–0.12	0.17	–0.12	0.26	–0.07	0.06	0.32	0.03	0.13	0.22	0.28	0.69	0.66	0.67	0.67	(0.80)					
EMPLOYABILITY EMPLOYEE																							
(17) Occupational expertise	4.62	0.62	0.02	0.25	0.10	0.35	–0.07	0.00	0.26	0.11	0.17	0.31	0.29	0.53	0.36	0.40	0.34	0.39	(0.93)				
(18) Anticipation and optimization	4.05	0.72	–0.12	0.16	–0.07	0.19	–0.03	0.02	0.41	0.26	0.04	0.28	0.33	0.23	0.40	0.27	0.21	0.23	0.45	(0.82)			
(19) Personal flexibility	4.27	0.61	–0.03	0.10	–0.02	0.37	0.00	–0.02	0.39	0.17	0.18	0.41	0.42	0.36	0.32	0.44	0.28	0.32	0.63	0.54	(0.79)		
(20) Corporate sense	4.00	0.78	0.13	0.13	0.17	0.18	0.06	0.11	0.33	0.28	–0.02	0.35	0.48	0.26	0.24	0.28	0.37	0.24	0.50	0.55	0.55	(0.81)	
(21) Balance	4.08	0.65	–0.06	0.12	–0.05	0.27	0.03	0.06	0.34	0.18	0.27	0.41	0.43	0.28	0.23	0.28	0.25	0.38	0.46	0.42	0.48	0.44	(0.83)

Correlations between $0.06 \leq r \leq 0.08$ are significant at $p < 0.05$ while correlations $r \geq 0.09$ are significant at $p < 0.01$.

TABLE 2 | Results of the hierarchical regression analyses with socio-demographic characteristics.

Step	Supervisor					Employee				
	Occupational expertise	Anticipation and optimization	Personal flexibility	Corporate sense	Balance	Occupational expertise	Anticipation optimization	Personal flexibility	Corporate sense	Balance
Country	0.06	−0.03	−0.01	0.01	0.02	0.05	−0.05	−0.07a	0.03	0.04
Gender employee	−0.03	−0.04	−0.04	0.00	−0.04	−0.02	0.04	0.01	0.09b	0.05
Highest educational qualification	0.18c	0.16c	0.15c	0.14c	0.12c	0.21c	0.15c	0.06a	0.10b	0.09b
Organizational tenure	0.05	−0.03	0.00	0.02	0.07	0.04	−0.12b	−0.07	−0.06	0.02
ICT professional tenure	−0.12a	−0.12a	−0.20c	−0.08	−0.16b	0.08	0.05	−0.03	0.10a	−0.03
Work role (i.e., managerial)	−0.10b	−0.09b	−0.10b	−0.12c	−0.05	−0.10b	−0.08a	−0.10b	−0.25c	−0.01
Health	0.22c	0.18c	0.29c	0.19c	0.25c	0.32c	0.14c	0.37c	0.18c	0.25c
Family status (Children)	−0.03	0.01	−0.01	0.02	−0.01	−0.04	−0.02	−0.01	0.01	−0.01
Gender supervisor	0.08a	0.09b	0.14c	0.07a	0.06a	−0.03	0.03	0.05	−0.02	0.09b
Length of supervision	0.12b	0.15c	0.10b	0.16c	0.15c	0.01	0.10b	0.03	0.08a	0.07a
Age employee	0.07	0.01	0.12a	0.09	−0.01	0.05	−0.08	0.10a	0.08	−0.01
Age supervisor	−0.11b	−0.07a	−0.06	−0.04	−0.09b	−0.08a	−0.02	0.01	−0.01	0.03

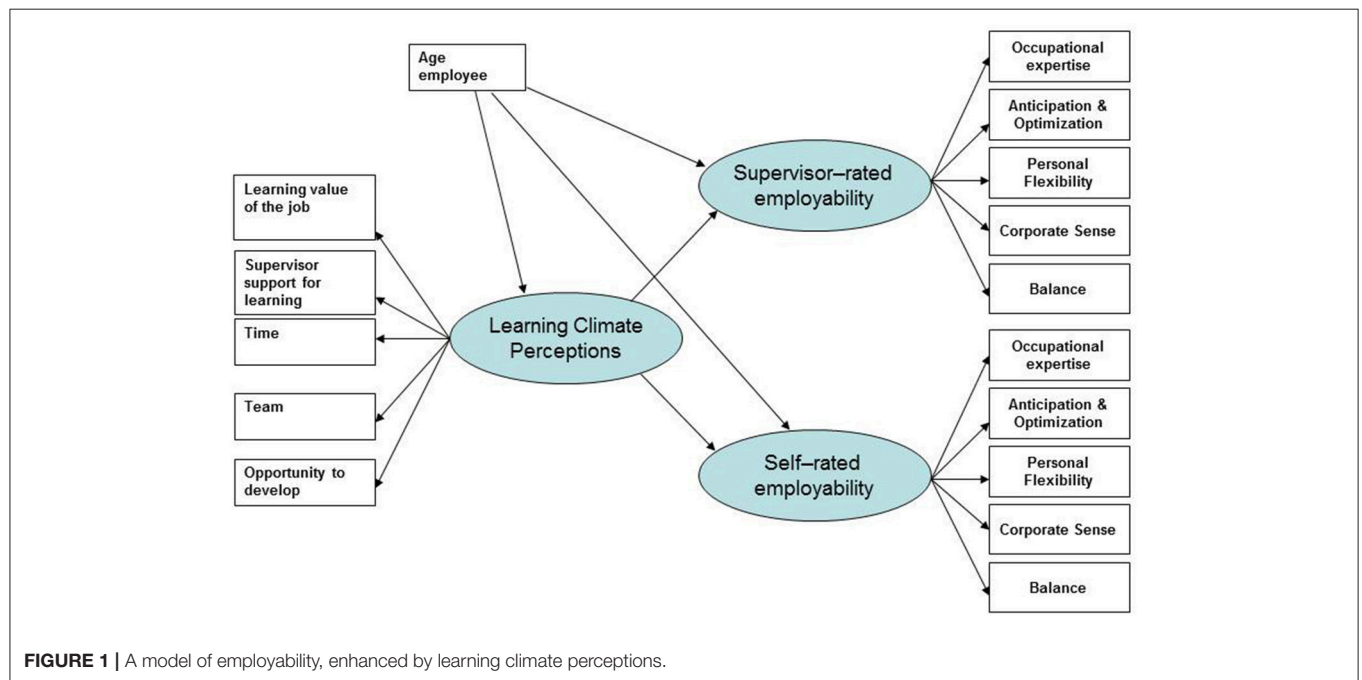*Gender: female = 0, male = 1, a p < 0.05; b p < 0.01; c p < 0.001.*

FIGURE 1 | A model of employability, enhanced by learning climate perceptions.

TABLE 3 | Goodness of fit indices for proposed models.

Model	χ^2	df	CFI	NFI	RMSEA
(1)	723.89	116	0.93	0.91	0.07
Null	8,450.63	171	0.00	0.00	0.22
(2)	1,408.88	351	0.89	0.86	0.06
Null	10,029.17	462	0.00	0.00	0.15
(3)	1,272.45	336	0.90	0.88	0.05
Null	10,144.20	420	0.00	0.00	0.15

of employability ($\beta = 0.34$, $p < 0.001$ and $\beta = 0.67$, $p < 0.001$ respectively).

For the category with managerial responsibilities we found comparable results: age was no longer significantly related to learning climate perceptions or employability (both supervisor and self-ratings). The learning climate—employability relationships remained unaltered (H3). Learning climate perceptions were significantly and positively related to both supervisor-ratings and self-ratings of employability ($\beta = 0.47$, $p < 0.001$ and $\beta = 0.70$, $p < 0.001$, respectively). These findings imply support for Hypothesis 3 that learning climate perceptions will be important for employability irrespective of life or career stage.

The proportion of explained variance in this model was 28% for supervisor-rated employability and 59% for self-rated employability for the category without managerial responsibilities, while it was 0.35 for supervisor-rated employability and 0.65 for self-rated employability for the category with managerial responsibilities. On an explorative basis we found significant indirect effects (with a 90% confidence interval) of age and all age/career-and life-stage variables via learning climate on supervisor and self-rated employability, using the bootstrapping-based test (MacKinnon et al., 2004) with 2000 bootstrap resamples (see Model 3 and **Tables 3**, **4**).

DISCUSSION

The results in this study justify taking a life-span perspective (Kanfer and Ackerman, 2004) on learning in organizations and stress the importance of approaching each worker as an individual in that respect. Learning climate ratings appeared to decline with age unless different career- and life-stage characteristics were taken into account. Moreover, adding these factors into our model led to a larger proportion of explained variance in the supervisor ratings and self-ratings of employability, especially for workers with managerial responsibilities. Furthermore, we found a stable positive relationship between learning climate perceptions and employability (supervisor ratings and self-ratings of employees).
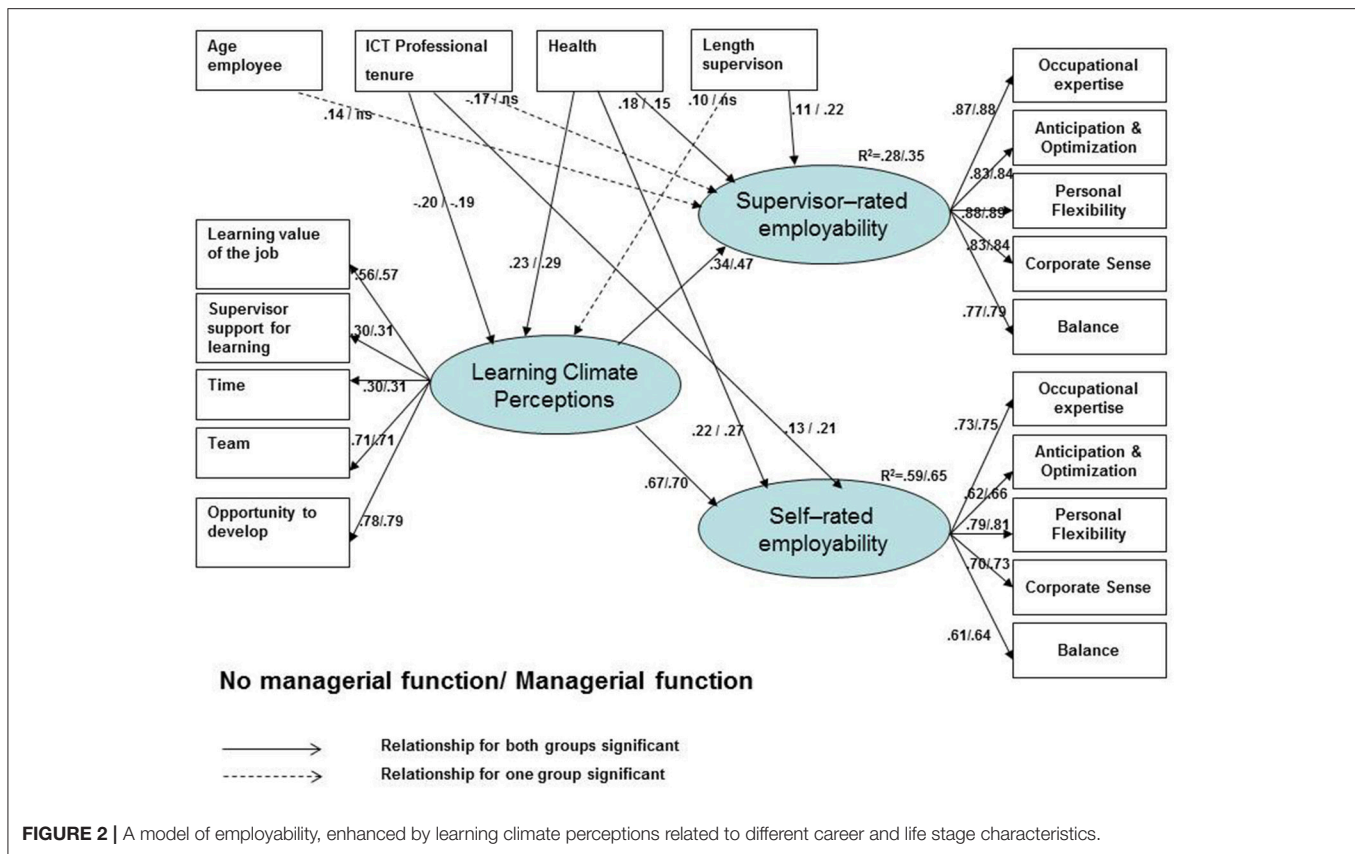
Older employees without managerial responsibilities seem to profit from higher supervisor employability ratings. Another finding was that employees without managerial responsibilities with longer ICT professional tenure were given less positive employability ratings by their supervisors. A potential explanation for this finding is higher expectations of supervisors caused by a higher level of workers' experience. These

effects were less pronounced for employees with managerial responsibilities (herewith indicating a so-called trend). In all instances, health was positively related to a better perceived learning climate and employability experience. Workers without managerial responsibilities with shorter ICT professional tenure and/or working longer with the same supervisor seem to experience better learning climates. That was not the case for workers with managerial responsibilities.

When exploring for indirect effects with the bootstrapping method, we found both age and the other career and life stage characteristics to be significant moderators of the psychological learning climate—employability relationship (**Table 4**). When trying to interpret these results, it seems as though older workers with managerial responsibilities profit less from the learning climate in the light of their employability contrary to older workers without managerial responsibilities. Adding to that, workers with longer ICT professional tenure also profit less from the learning climate for their employability (both with and without managerial responsibilities). Workers without managerial responsibilities who were supervised longer by their manager profit more from the learning climate for their employability contrary to workers with managerial responsibilities. All workers with higher perceived health profit more from the learning climate for their employability.

These findings underscore the importance of incorporating life phase factors when deciding about optimization of learning experiences within the organization. One possible explanation for the fact that workers with longer ICT professional tenure profit less from the learning climate for their employability could also be their lowered motivation for learning in that job environment, necessitating some form of internal or external stimulation (i.e., switch of tasks, roles, organization and/or sector).

Furthermore, additional research is necessary to understand the differences in learning climate experience for workers with or without managerial responsibilities. Workers with managerial responsibilities appeared to be a distinct group of workers that, at first view, seems to be less strongly influenced by life stage factors regarding their perceived learning climate and employability ratings. At second glance though, they seem to profit less from the perceived learning climate for their employability with increasing age (including the different life stage factors), implying that they may have specific needs for development. On a functional level, work content of workers with managerial responsibilities can differ substantially from workers without managerial responsibilities and they might need different stimuli to develop their careers. For instance, in the case of developing their transactional leadership styles into more transformational styles, factors such as personality and maturity come into play. Furthermore, older managers who have reached career plateaus can have different career orientations, being motivated more by subjective career success as opposed to younger managers that strive for more objective career success, such as upward career moves and salary increases (Bown-Wilson and Parry, 2013), The reason that older managers are less able to benefit from the psychological learning climate of the company for increasing their employability could be a reflection of their underlying work motivations.

FIGURE 2 | A model of employability, enhanced by learning climate perceptions related to different career and life stage characteristics.

We do not advocate a position-based approach that is prone to positive and negative discrimination; for instance, fostering a more positive learning climate for employees with a higher ranking in the organization, or for younger employees. We rather advocate a resource-based approach that is focused on equally developing competences of both younger and older workers (see also Tikkanen et al., 2002). Likewise, Maurer and Rafuse (2001), in their study on preventing age discrimination when managing the organization's development process, stressed the need for policies that imply allocation of developmental opportunities on an age-neutral, and individual-by-individual basis. This follows knowledge about large individual variability with regard to developmental potential, performance and career orientation among (older) workers (Ilmarinen, 2001; Kanfer and Ackerman, 2004; Bown-Wilson and Parry, 2013).

Organizations should invest energy into career development for all age and life phase groups, for instance, (older) managers and workers starting their retirement process. Such processes could include both formal and informal learning climate, such as training, job experiences, job rotation, supervisor support, supervisor support for learning, mentoring programs, and career and role change, including career coaching (e.g., Bown-Wilson and Parry, 2013). Parallel to that, organizations should remove constraints (e.g., time constraints) that have potential detrimental effects on the employee's motivation to learn and on learning self-efficacy. These would also include flexible working and flexible retirement policies for workers that want to slow down (Bown-Wilson and Parry, 2013). LePine et al. (2004)

demonstrated relationships of challenge and hindrance stress on learning performance via motivation to learn (see also Mathieu and Martineau, 1997).

Improving the learning climate is also important in order to reduce job stress and to promote occupational health (Mikkelsen et al., 1998). A mismatch between individual learning climate perceptions and the averaged evaluation of learning climate in the rest of the working group was found to be an important source of stress. Mikkelsen et al. (1999) found that decision authority and learning opportunities appeared to have a specific and independent impact on subjective health, psychological functioning, coping style and organizational outcome variables. Finally, excluding older workers from learning climate optimization policies makes them vulnerable for skills obsolescence and job termination: it appears that there is a relationship between unemployment and mental health for this age group, and not for younger workers (Breslin and Mustard, 2003).

Limitations and Recommendations for Further Research

First, our survey research design allows for response set consistencies to occur. Secondly, in order to increase certainty that the relationships we found occur in the sequence as hypothesized, longitudinal research is needed. Thirdly, research into the generalizability of our findings to other occupational settings is recommended. Not including country as a variable in the model was justified by our preliminary analyses. This result

TABLE 4 | Exploration of indirect effects of age/ different career and life stage characteristics and learning climate perceptions on employability: standardized indirect effects and the associated 90% confidence intervals.

Variable	Indirect effect	90% confidence interval
NO MANAGERIAL RESPONSIBILITIES		
(1) Age -> learning climate perceptions -> employability supervisor ratings	0.004*	[−0.028, 0.039]
(2) Age -> learning climate perceptions -> employability self-ratings	0.008*	[−0.056, 0.076]
(3) ICT professional tenure -> learning climate perceptions -> employability supervisor ratings	−0.068*	[−0.108, -0.037]
(4) ICT professional tenure -> learning climate perceptions -> employability self-ratings	−0.135*	[−0.201, -0.069]
(5) Length supervision -> learning climate perceptions -> employability supervisor ratings	0.032*	[0.004, 0.064]
(6) Length supervision -> learning climate perceptions -> employability self-ratings	0.063*	[0.007, 0.120]
(7) Health -> learning climate perceptions -> employability supervisor ratings	0.078*	[0.051, 0.118]
(8) Health -> learning climate perceptions -> employability self-ratings	0.155*	[0.102, 0.215]
MANAGERIAL RESPONSIBILITIES		
(1) Age -> learning climate perceptions -> employability supervisor ratings	−0.011*	[−0.094, 0.071]
(2) Age -> learning climate perceptions -> employability self-ratings	−0.016*	[−0.133, 0.108]
(3) ICT professional tenure -> learning climate perceptions -> employability supervisor ratings	−0.087*	[−0.179, -0.004]
(4) ICT professional tenure -> learning climate perceptions -> employability self-ratings	−0.129*	[−0.272, -0.001]
(5) Length supervision -> learning climate perceptions -> employability supervisor ratings	−0.002*	[−0.053, 0.042]
(6) Length supervision -> learning climate perceptions -> employability self-ratings	−0.003*	[−0.078, 0.061]
(7) Health -> learning climate perceptions -> employability supervisor ratings	0.132*	[0.070, 0.218]
(8) Health -> learning climate perceptions -> employability self-ratings	0.196*	[0.104, 0.299]

*$p < 0.10$.

is also plausible considering that the first dominating culture of this sample is the ICT culture. Fourthly, including measures of learning self-efficacy and learning motivation (see e.g., Maurer et al., 2003) might contribute to our understanding of the relationships between age, learning climate perceptions and employability.

Practical Implications

Enhancing learning climate experience in the firm (and department) is an essential component of investing in human competence through suitable HR policies and practices (Boxall, 1999; Van der Heijde and Van der Heijden, 2006). Secondly, improving the learning climate experience in organizations is important to keep aging workers in the labor force, thereby utilizing their carefully built-up expertise, as long as possible. Older workers who are less motivated and report low self-efficacy have already left the labor market instead of adapting to workplace changes (see for instance, Yeatts et al., 2000).

Companies can collect information on different aspects of the learning climate from their workers, both young and old, and on a group by group basis (both at organization and department level) thereby taking into account different life-span factors. Follow-up is possible on several levels. First, at management level, outcomes for different types of workers (e.g., younger/older, those with longer/shorter sectoral experience, those with managerial/no managerial responsibilities, those who are healthy/unhealthier) can be discussed within the management team, offering starting points for improvement of the learning climate experience. Secondly, at an individual level, workers can be encouraged to undertake action(s) to enhance their learning climate experience and to remove hindrances to learning. In order to be able to do this, they need some

form of personalized confidential feedback, including some means they can use for action; for instance, writing a personal development plan and discussing it with their superior, putting their personal hiatus on the agenda of the weekly meeting, or discussing their personal learning climate issue with a colleague. The valid and reliable measurement instrument developed for this study is suitable for providing a thorough insight of a company's learning climate, and that of different sections, as well as for use as an HR tool to develop the individual worker.

AUTHOR CONTRIBUTIONS

All authors of this study were involved in all stages of the research process: conception and design, data collection and processing, analysis and interpretation of the data, and writing substantial sections of the paper.

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Perceived Employability and Entrepreneurial Intentions Across University Students and Job Seekers in Togo: The Effect of Career Adaptability and Self-Efficacy

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This study examined the relationship between two personal resources, career adaptability and general self-efficacy, and two career outcomes, self-perceived employability and entrepreneurial intentions in a West African context, characterized by a developing economy. A Togolese sample of 334 university students and 216 job seekers completed French versions of the General Self-Efficacy Scale, the Self-Perceived Employability Scale, the Entrepreneurial Intentions Scale and an adapted form of the Career Adapt-Abilities Scale. A multi-group path analysis showed that the results are similar for both groups. Career adaptability and general self-efficacy were positively related to self-perceived employability. The contribution of career adaptability was especially strong for job seekers. Only general self-efficacy was related to entrepreneurial intentions. Furthermore, perceived employability was positively related in some way to entrepreneurial intentions in both groups. Career adaptability seems to be especially important for employability among job seekers (activation of resources), whereas entrepreneurial intentions may be more context-dependent. Finally, perceived employability failed to mediate the relationship between personal resources and entrepreneurial intentions in both samples.

Keywords: career adaptability, general self-efficacy, self-perceived employability, entrepreneurial intentions, West Africa, Togo

INTRODUCTION

The transition from education to work is considered a serious challenge for many young people, especially those with low social capital (Blustein et al., 2002). This transition is likely to be more difficult for university students and recent graduates facing extreme unemployment and other macro-level contextual barriers (Atitsogbe et al., 2016). Several theories and empirical investigations have stressed the important role of macro factors such as the economic context or public policies and micro factors such as personal resources that are thought to sustain

individuals' ability to interact with their environment, take control of situations, and produce significant changes in their careers and lives (Savickas et al., 2009; Duffy et al., 2016). Although both factors have been documented to have significant impacts on individuals' career development, the effects of micro-level factors on career outcomes seem to be under-investigated in environments subject to uncertainty and economic constraints like Sub-Saharan Africa (Blustein et al., 2017). Given the evidence that future employability is a central concern for university students as well as recent graduates seeking work, and considering the fact that entrepreneurship could be an alternative in a context subject to extreme unemployment, it follows that personal resources could significantly contribute to vocational outcomes in such contexts. Consequently, this study investigated the usefulness of the personal resources of career adaptability and self-efficacy to perceived employability and entrepreneurial intentions in Togo, a sub-Saharan African country. Furthermore, it examined the relationship between perceived employability and entrepreneurial intentions, which has not been investigated to date in the vocational psychology literature.

THE TOGOLESE CONTEXT

Togo is a French-speaking Sub-Saharan African country with a population of approximately 7 million inhabitants (United Nations, 2017). As OECD (2016) reported, the labor market in this country appears to be especially precarious, particularly for the youth. The unemployment rate is estimated at 32% for the global population; 28% of women and 21% of men who completed tertiary education were underemployed. According to the same report, one quarter of Togolese are facing difficulties in making the transition from education to satisfactory employment. For example, it takes average 35 months (without direct transition) for higher education graduates to access a first job; 40% of them relying on relationships or family to the detriment of classic job-searching strategies (OECD, 2016). Moreover, the country is classified a low-income country where informal employment stands at 63% while exceeding 70% in Sub-Saharan Africa (World Bank, 2019). From 2000, the number of students in higher education has tripled in 10 years and reached a total of 51,908 in 2011 for the two State Universities. This rapid growth in the number of students have significantly impacted the study conditions, leading to low success rates (42–56% with respect to the different fields and levels of study) (Chitou, 2011; OECD, 2016). Although Togo provides lower university tuition fees, only 12.3% of secondary school attendees will access higher education (OECD, 2016). In fact, Togolese University students face several contextual barriers such as a lack of financial means, unfavorable study conditions or perceived difficulties to integrate the labor market (Atitsogbe et al., 2016). Several researchers have suggested that higher education in this country should be reformed in order to facilitate young graduates' occupational integration (e.g., Chitou, 2011).

In fact, occupational integration has become a major issue for both the government and the populations of this country. As

in most Sub-Saharan African countries, the economic context has deteriorated since the early 1990s with the implementation of structural adjustment measures (e.g., budget reduction) recommended by the Bretton Woods Institutions (Gogué, 1997). Furthermore, in 1993, most of Togo's international and bilateral funding partners suspended development cooperation for political reasons, aggravating the already precarious financial situation (Breuer and Asiedu, 2017). According to the Ministry of Planning and National Development, the informal sector represents 92.4% of the labor force while contributing 41.6% of the GDP in 2011. The informal sector has dramatic implications in terms of underemployment and working poverty. Moreover, the gap between the country's development needs or labor market's demands and the curriculum of the education system has contributed to the deregulation of the job market in a way that does not favor young higher-education graduates (Pieume, 2016).

The resumption of development cooperation with the European Union in the late 2000s, however, enabled the Government of Togo to start implementing measures in support of employment and entrepreneurship. Over the last few years, an entrepreneurship movement emerged in Togo through diverse national and international initiatives such as the *Foire des Jeunes Entrepreneurs* [Young Entrepreneurs Fair], which held its seventh meeting in August–September 2018 under the heading "quality and innovation." Nevertheless, according to a joint report published by The African Development Bank Group [AfDB], The Organization for Economic Co-operation and Development [OECD], and The United Nations Development Programme [UNDP] (2017), this movement has not led to entrepreneurship enthusiasm yet, as the government has failed to implement sustainable and effective entrepreneurship education programs or policies that secure investments. For instance, Pari (2014) conducted a study among 360 job seekers registered at the National Employment Agency, finding that 85% of respondents reported preferring a paid job rather than creating their own business. Moreover, among job seekers who attended an entrepreneurship training program with the idea of creating their own business, 79% reported that they would prefer paid employment, although 56% showed high scores in motivation to be an entrepreneur. These findings led the author to conclude that the reluctance of job seekers for entrepreneurial careers is due to contextual factors that may fail to facilitate business creation. In line with Pari's (2014) findings, Golo (2012) reported factors such as a lack of financial means, difficulties to access credit, unfavorable taxation, and increased competition as inhibitors of entrepreneurial intentions in potential entrepreneurs. However, according to the OECD (2016), in contexts that are characterized by a turbulent job market, difficulties in job accessibility, uncertainty and a lack of sustainable employment as Togo, entrepreneurship could be an alternative for the unemployed and contribute to the development of new sectors of the economy. Therefore, investigating entrepreneurial intentions and perceived employability among university students and recent graduates might provide new insights into the occupational integration challenges of these populations.

PERCEIVED EMPLOYABILITY AND ENTREPRENEURIAL INTENTIONS

Self-Perceived Employability

Rothwell et al. (2008, p. 2) defined self-perceived employability as "the perceived ability to obtain sustainable employment appropriate to one's qualification level." Among the broad range of variables that influence self-perceived employability, personal resources appear to play a significant role. In this respect, Kasler et al. (2017) reported a significant and positive association between hope, grit and self-perceived employability. Ngo et al. (2017) stressed a significant predictive role of general self-efficacy and de Guzman and Choi (2013), the role of career adaptability. Moreover, a longitudinal study conducted by Berntson et al. (2008) showed that self-perceived employability and self-efficacy were associated with each another and that self-perceived employability preceded self-efficacy. The findings of this latter study should be considered in light of an employed population, as the sample considered for the study essentially consisted of employed individuals with enriched working experience. Regarding university students and newly graduated employment-seekers, it would be reasonable to expect that self-perceived employability would be preceded by general self-efficacy, considering their limited work experience. Perceived employability has been linked to contextual antecedents such as job insecurity (e.g., Mäkikangas et al., 2013) and to interpersonal variables such as support (Forsythe, 2017). Several empirical studies have shown the significant contribution of perceived employability to other variables such global health including psychological functioning, job search behaviors, or job satisfaction (e.g., Berntson and Marklund, 2007; Gowan, 2012; Onyishi et al., 2015). It has also been found to serve as a strong moderator/mediator between labor market state variables and well-being, and between self-evaluations and job search behaviors (e.g., Silla et al., 2009; Onyishi et al., 2015).

Multiple conceptualizations of employability reflecting the interplay between individual characteristics and contextual factors have been documented (for a review, see Guilbert et al., 2016). Some of these models placed significant weight on one or the other of these two factors. For example, Yorke (2006) argued that graduates' employability largely depends on the attended higher education institution in that, the more training they were provided meet the labor market requirements, the more likely they are to gain employment and achieve career success. Moreover, Berntson and Marklund (2007) focused on individual characteristics such as their skills, experience, network, personality and knowledge of the labor market. One of the individual-centered and frequently used model of employability is the one developed by Rothwell et al. (2008). A part from the self-belief dimension which assess the perceived ability to gain employment, this model includes three external dimensions related to the prestige of the university attended, the field of study, and the state of the external labor market. The main advantage of this model is that it covers both internal and external dimensions of employability. Although most studies that used this model have been conducted among the student population, we found it to be usable across young graduates seeking employment given that its four dimensions could significantly account for employability across this population.

Entrepreneurial Intentions

There has been a substantial interest in entrepreneurship in recent years, especially in low-income countries, where it has been found to be an important factor for economic growth, productivity, and social development (Denanyoh et al., 2015; OECD, 2016; Campos et al., 2017). In the same manner, there is a growing interest in investigating entrepreneurial intentions among university students in such contexts. Entrepreneurial intentions are defined as the intention of individuals to start their own business (Yıldırım et al., 2016). More recently, by assessing the determinants of entrepreneurial intentions among Ghanaian polytechnic tertiary students, Denanyoh et al. (2015) reached the conclusion that educational, familial, and structural supports significantly contribute to entrepreneurial intentions. Although job seekers showed a motivation to become entrepreneurs in Togo, they usually prefer a paid job; their entrepreneurial motivation seems to be weakened by limiting contextual factors such as difficulties to access loans, a lack of favorable policies in favor of startups among others (Pari, 2014). It has been demonstrated that personal resources such as general self-efficacy and career adaptability have a positive influence on entrepreneurial intentions (Boyd and Vozikis, 1994; Tolentino et al., 2014). However, almost no studies have investigated such relationships in developing or emerging economies. A concept similar to self-efficacy that has been linked to entrepreneurial intentions in the majority of studies is entrepreneurial perceived behavioral control. In his theory of planned behavior, Ajzen (1991, p. 183) referred to perceived behavioral control as "people's perception of the ease of performing the behavior of interest.". Hence, entrepreneurial perceived behavioral control is viewed as the perceived feasibility of performing entrepreneurial behaviors. Indeed, the concept of perceived behavioral control was found to overlap with Bandura's conceptualization of self-efficacy (Krueger et al., 2000), which has been used in several studies (Belchior and Liñán, 2017).

The Link Between Self-Perceived Employability and Entrepreneurial Intentions

Both self-perceived employability and entrepreneurial intentions have been linked separately to several variables in the career literature (Liñán and Fayolle, 2015; Kasler et al., 2017). Furthermore, these two career outcomes have been linked to the similar antecedent such as self-efficacy (e.g., Boyd and Vozikis, 1994; Ngo et al., 2017). However, to our knowledge, no empirical studies have systematically examined the relationship between the two constructs. Moreover, there is no explicit theoretical framework that elucidates the possible links between these two career variables. Despite these limitations, we sought to formulate a hypothesis based on those variables regarding a context characterized by high unemployment and adverse

economic situations. It is obvious that employable individuals are likely to implement career development behaviors as reviewed by Guilbert et al. (2016). Berntson et al. (2008, p. 414) stated that high levels of perceived employability "reflect one's ability to solve specific work-related problems and handle difficult situations." Moreover, psychology of working theorists have stressed that individuals in difficult socio-economic conditions could reach successful employment if they activate resources such as career adapt-abilities (Duffy et al., 2016). For these reasons, we argue that extreme economic conditions characterized by high levels of unemployment could lead people with an especially high self-perceived employability to create their own employment to integrate into the labor market, and for this reason be characterized by higher entrepreneurial intentions. Therefore, we posit that in developing economies such as Togo, higher levels of self-perceived employability may foster individuals' intentions to implement entrepreneurial behaviors.

PERSONAL RESOURCES

The Role of Career Adaptability

The career construction theory (CCT; Savickas, 2005) stresses the importance of past and present environments and how individuals interact with these environments to produce significant changes in their lives. As a key concept of the theory, career adaptability is considered as a set of psychosocial processes that help individuals manage their own careers—for example, to prepare for or master school-to-work transitions—and design their lives. Career adapt-abilities include career concern, control, curiosity, and confidence (Savickas and Porfeli, 2012). *Career concern* denotes the extent to which individuals are interested in their future career and are preparing for it. *Career control* reflects self-discipline and agency and, therefore, the ability of individuals to self-manage their career. *Career curiosity* refers to individuals' willingness to learn more about their desired domains or occupations, with the idea of searching for a better person-job fit. *Career confidence* denotes the degree to which they believe in their ability to successfully address barriers they encounter while achieving their career goals. Rossier (2015a) argued that adapt-abilities are an important set of resources among others, such as emotion regulation skills or self-efficacy that have been studied by approaches such as the social cognitive career theory (SCCT). There is a widespread agreement in the literature that career adaptability is significantly associated with several person-, career-, and work-related variables that can be grouped into four categories including adaptivity variables, adapting response variables, adaptation result variables, and socio-demographical characteristics (Rudolph et al., 2017). In this study, we supposed that these resources, if mobilized, should help university students develop a clear vision of their future and facilitate their transition to the world of work. Accordingly, such resources should increase the employability of job-seekers and help them find or even create their own opportunities in job-insecure and economically constrained environments.

Savickas and Porfeli (2012) have developed a measure to assess the four career adaptability resources, the Career Adapt-Abilities Scale (CAAS), which has demonstrated a strong validity across different cultures. Several cross-cultural researchers suggested that measures developed in one context should be adapted for use in other contexts considering local specifies (e.g., Van de Vijver, 2016). In line with this recommendation, the CAAS will be slightly adapted to the Togolese context in the present study.

The Role of General Self-Efficacy

Bandura (1977, p. 193) referred to self-efficacy expectations as "a mechanism of operation" that involves one's conviction to successfully implement actions that will lead to the desired outcome. According to the SCCT, self-efficacy is one of the two mediators that account for career development outcomes, namely, interest development, choice making, and performance attainment (Lent et al., 1994). A recent extension of the SCCT, the Social Cognitive Model of Career Self-Management stressed the contribution of personal resources such as self-efficacy to several career outcomes (Lent and Brown, 2013). Based on this perspective, self-efficacy has been intensively studied over the two past decades (e.g., Lent et al., 2017). General self-efficacy is referred to as "the belief in one's competence to cope with a broad range of stressful or challenging demands" (Luszczynska et al., 2005, p. 439). It appears to impact intention, intention implementation, outcome expectancies, and self-regulation as reviewed by Luszczynska et al. (2005). It is positively correlated with career adaptability (Öncel, 2014). Available studies demonstrate that higher levels of general self-efficacy are associated with higher levels of perceived employability (e.g., Ngo et al., 2017). Moreover, a study conducted among Taiwanese agricultural college students showed that higher levels of general self-efficacy were associated with higher levels of entrepreneurial intentions (Wang et al., 2016). Some researchers stressed the fact that the self-efficacy construct should be domain-specific (Betz and Hackett, 2006). Accordingly, the relationship between self-efficacy tied to specific domains or tasks and career-related variables has come under investigation. For example, entrepreneurial self-efficacy has been linked to entrepreneurial intention in most studies (e.g., Wilson et al., 2007). However, in this study the aim was to assess the impact of self-efficacy on both employability and entrepreneurial intentions. For this reason, general self-efficacy will be considered. It has been well documented that the development of employability on one hand, and entrepreneurship on the other hand, are two challenging and complex problem-solving situations (Wilson et al., 2007; Guilbert et al., 2016). Both depend on individual factors such as formal and actual competence, interpersonal skills or personal characteristics, and contextual factors such as the political, social, and economic situations (Nilsson, 2010; Guilbert et al., 2016). Therefore, the achievement of these two career outcomes and even intentionality regarding them would involve abilities or perceived abilities to cope with various related external challenges or tasks. Thus, we found general self-efficacy to better reflect such perceived broad abilities that could account for both career outcomes simultaneously.

THE AIMS OF THE STUDY

This study aimed at investigating the effect of career adaptability and self-efficacy on two vocational outcomes, self-perceived employability and entrepreneurial intentions across university students and job seekers in a context subject to extreme unemployment and economic constraints. Furthermore, the study investigated for the first time the link between self-perceived employability and entrepreneurial intentions, and explored if perceived employability would mediate between resources and entrepreneurial intentions. University students and recent graduates seeking work are two populations that are not at the same level regarding the transition from education to work. Given the fact that job seekers are facing occupational integration challenges and certain social pressures, it is likely that adapt-abilities have been significantly activated in this sub-population as observed by Rossier (2015b). Moreover, it has been well documented that perceived employability significantly mediates the relationship between core self-evaluations, which are beliefs about one's capabilities, and career outcomes such as job search behaviors (e.g., Onyishi et al., 2015). While personal resources are expected to be associated with entrepreneurial intentions, it is likely that perceived employability will mediate in this relationship. Based on the above literature and rationale, we hypothesized that career adaptability and general self-efficacy would have direct significant and positive paths on both perceived employability and entrepreneurial intentions in both groups (H1). However, we expect career adaptability to exhibit a stronger effect in job seekers (H2). We also hypothesized that self-perceived employability will be positively related to entrepreneurial intentions in both groups (H3) and will mediate between resources and entrepreneurial intentions (H4).

METHODS

Participants

A sample of 557 adults were surveyed. Seven profiles including two university students and five job seekers with more than 10% of missing data were excluded. The remaining 550 profiles (67.1% men and 32.9% women), aged 18 to 44 ($M = 25.11$, $SD = 4.42$) was considered for the study. Among this sample, 334 (60.7%) were university students (87.7% bachelor level and 12.3% master's) enrolled in different majors and 216 (39.3%) were job seekers (91.2% with a bachelor degree and 8.8% a master's degree) who had graduated from tertiary education and were registered at the National Employment Agency. More precisely, 77 (23.1%) students against 70 (32.4%) job seekers enrolled or graduated in economy, business or technical fields. Moreover, 257 (76.9%) students against 123 (56.9%) job seekers enrolled or graduated in social sciences or other fields, and 23 (10.6%) of job seekers did not provide such information. The job seeking duration for young graduates ranged from 1 to 168 months ($M = 25.28$, $SD = 27.83$) with a median of 12 months.

Instruments
Career Adapt-Abilities

Career adapt-abilities were assessed using the French version of the Career Adapt-Abilities Scale (CAAS; Savickas and Porfeli, 2012; Johnston et al., 2013). This scale includes 24 items divided into four subscales (concern, control, curiosity, and confidence), with six items each. To adapt the CAAS to the Togolese context, one item— "develop relations and networks"— was added to the confidence subscale. This was because being able to benefit from a social network was believed to be especially relevant to the access of employment in Togo which is a difficult context regarding employment as reported by OECD (2016). The Togolese-version of the CAAS thus consisted of 25 items indicating abilities, which participants were asked to rate on a 5-point Likert-type scale from 1 (I don't have the ability/This is not a resource for me) to 5 (I have a very strong ability/This is a very important resource for me). Responses are computed in terms of the four subscales as well as a global score. Internal reliabilities for this Togolese version for the total sample, the university students, and the job seekers were, respectively, 0.75, 0.73, and 0.77 for concern, 0.72, 0.70, and 0.73 for control, 0.78, 0.72, and 0.84 for curiosity, 0.83, 0.80, and 0.84 for confidence, and 0.91, 0.89, and 0.92 for the total career adaptability score.

Self-Efficacy

General self-efficacy in terms of personal beliefs was assessed using the French version of the General Self-Efficacy Scale (Schwarzer and Jerusalem, 1995; Scholz et al., 2002). The scale is currently available in 33 languages and consists of 10 items measured on a 5-point Likert scale with scores ranging from 1 (not at all true) to 4 (very true). This scale is the most commonly used to assess general self-efficacy around the world and has shown strong measurement stability across cultures (Luszczynska et al., 2005). Scholz et al. (2002) reported internal reliability coefficients ranging from 0.75 to 0.91 across 25 countries. Internal reliability coefficients for the total sample, university students, and job seekers were 76, 0.77, and 0.76, respectively, close to values reported by Scholz and colleagues for some countries (e.g., India, α = 0.75 or Portugal, α = 0.76).

Employability

Self-perceived employability was measured using the student version of the Self-Perceived Employability Scale (Rothwell et al., 2008), which was translated into French using a back-translation method with permission from the authors (see **Appendix 1** for the French version of this scale). The scale, consisting of 16 items that evaluate four basic components related to employability and their interactions, can be used with students and job-seekers. The four basic components address the prestige of the university attended, the field of study, the state of the external labor market, and beliefs about one's ability to obtain a job. Rothwell et al. (2008) reported an internal reliability coefficient of 0.75 for a university student sample in the United Kingdom. In Togo, we found internal reliability coefficients of 0.76, 0.75, and 0.78 for the overall sample, university students, and the job seekers, respectively.

Entrepreneurial Intentions

The French-translation (A. Battistelli, personal communication, November 21, 2015) of the Entrepreneurial Intention Scale (Liñán and Chen, 2009) was used for this study. This scale consists of six pure-intention items that evaluate a participant's determination to implement entrepreneurial behaviors and to become an entrepreneur. A 5-point Likert scale with scores ranging from 1 (completely disagree) to 5 (completely agree) have been used (Battistelli, 2001) instead of the 7-point Likert scale used in an early study by Liñán and Chen (2009). The reliabilities of this scale for the total sample, the university student subsample, and the job seeker subsample were all $\alpha = 0.87$.

Procedure

University students were recruited from several departments at the University of Lomé. In each department, response sessions were organized under the supervision of the fourth author working at that university. Questionnaires were paper-pencil. Job seekers were recruited at the National Employment Agency in Lomé, within the framework of a training designed for new graduates looking for occupational integration. The second author was responsible for data collection from job seekers. Response sessions were organized in collaboration with the staff of the Agency. In the same manner as that of the university students, participants responded to a paper-pencil questionnaire. According to Togo national guidelines, questionnaire based research conducted by public institutions does not currently require ethics committee approval. However, we respected the codes of practice and ethics in research and in particular the Declaration of Helsinki. Accordingly, all participants provided informed written consent and volunteered for this study.

Analyses

A total of 557 participants completed the paper-pencil questionnaire. Seven cases were deleted due to being over the cut off of 10% missing data (Bennett, 2001). For the remaining respondents, missing data were handled using a multiple imputation technique in the R package "MICE" (for more detail about this procedure, see Schlomer et al., 2010).

Descriptive statistics including the means (*M*), standard deviations (*SD*), internal reliabilities, inter-correlations, skewness (*S*), and kurtosis (*K*) were computed for all scales using SPSS 24.0 software. Scale normality was evaluated by means of *S* and *K*, whose values should be equal to or below an absolute value of 2. Scale internal consistency was assessed using Cronbach's alpha.

Structural validity was assessed for each construct by means of confirmatory factor analyses (CFA) using AMOS statistical package 24.0, with maximum likelihood estimation. Various model fit indices were analyzed: χ^2 per degree of freedom (χ^2/df), the goodness of fit index (GFI), the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root mean square error of approximation (RMSEA). According to Bollen and Long (1993), values of $\chi^2/df \leq 3$, GFI, CFI, and TLI ≥ 0.90, and RMSEA ≤ 0.05 indicate that a specified model has exhibited an adequate fit. Regarding the career adaptability construct, based

on the etic–emic approach, one item, "develop relations and networks," that was found to be relevant in the Togolese context was added to the CAAS to be adapted to this context (Van de Vijver, 2016). Item-to-dimension reliabilities were $r = 0.29$ for concern, 0.31 for control, 0.40 for curiosity and 0.43 for confidence. Hence, this item was added to the confidence subscale of the CAAS-Togo form.

Furthermore, convergent, discriminant and incremental validity were assessed for the CAAS-Togo. As Weiner and Greene (2007) stated, convergent validity evaluates how well a measure correlates with other measures measuring similar construct whereas discriminant validity evaluates how unrelated a measure is to other measures measuring dissimilar constructs. Moreover, for these authors, incremental validity should address whether the scale of interest provides additional information after having considered the predictive power of previous variables.

Finally, four-factor measurement models of the overall data and of the two groups were assessed, with career adaptability, general self-efficacy, self-perceived employability, and entrepreneurial intentions considered as latent variables. In this respect, the four career adapt-abilities (i.e., concern, control, curiosity, and confidence) were assessed for the observed variables. As item-level models usually result in large modification indices and poor fit — needing an increase of covariance links between related error terms to obtain substantial improvement of the fit—, item parceling solution was considered for some scales in defining our hypothesized model as recommended by Thompson and Melancon (1996). Items were parceled into the four basic components of self-perceived employability and empirically by means of factor analysis to reduce the observed variables to three for general self-efficacy and to four for entrepreneurial intentions. The reduction of observed variables increases the robustness of the model (e.g., Berntson et al., 2008; De Vos and Soens, 2008). To test the hypothesized paths for the university student and job seeker groups, a multi-group path analysis was conducted.

RESULTS

Descriptive Statistics

Means, standard deviations, skewness, kurtosis, internal reliabilities, and inter-correlations for all scales and per group are presented in **Table 1**. All correlations between career adaptability, general self-efficacy, self-perceived employability, and entrepreneurial intentions were positive and significant for both students and job seekers. With respect to the career outcomes, both groups did not differ for perceived employability but job seekers scored higher on entrepreneurial intentions ($d = 0.36$). Considering entrepreneurial intentions, no differences were observed between students enrolled in economy, business or technical majors and those enrolled in social sciences or other majors. Similar results were found across job seekers. With respect to gender, men scored higher than women on entrepreneurial intentions only in the job seeker group ($d = 0.31$). Finally, there were no differences on entrepreneurial intentions between graduates that had been seeking job for a

TABLE 1 | Descriptive statistics, internal reliabilities, and inter-correlations for career adapt-abilities, GSE, SPE, and EI for both sub-samples.

Scale	Students (n = 334) M	SD	Job seekers (n = 216) M	SD	α	K	S	d	1	2	3	4	5	6	7	8
(1) CA	3.75	0.50	3.97	0.54	0.91	−0.14	−0.15	−0.43***	—	0.76***	0.85***	0.87***	0.86***	0.38***	0.38***	0.18**
(2) Concern	3.80	0.64	3.96	0.63	0.75	−0.40	−0.24	−0.25**	0.76***	—	0.56***	0.53***	0.50***	0.27***	0.26***	0.20**
(3) Control	3.91	0.60	4.08	0.61	0.72	0.15	−0.54	−0.29**	0.80***	0.51***	—	0.66***	0.65***	0.30***	0.29***	0.09
(4) Curiosity	3.54	0.63	3.74	0.71	0.78	−0.27	−0.04	−0.31***	0.81***	0.47***	0.53***	—	0.68***	0.33***	0.38***	0.17*
(5) Confidence	3.75	0.62	4.08	0.63	0.83	0.27	−0.32	−0.52***	0.83***	0.47***	0.54***	0.59***	—	0.36***	0.34***	0.15*
(6) GSE	3.25	0.46	3.29	0.44	0.76	0.06	−0.56	−0.09	0.46***	0.37***	0.35***	0.30***	0.43***	—	0.28***	0.20**
(7) SPE	3.49	0.59	3.54	0.64	0.76	0.29	−0.21	−0.09	0.31***	0.26***	0.22***	0.24***	0.27***	0.28***	—	0.19**
(8) EI	3.89	0.87	4.20	0.86	0.87		−0.89	−0.36***	0.14**	0.13*	0.06	0.08	0.17*	0.20***	0.14*	—

CA, Career adaptability; GSE, General self-efficacy; SPE, Self-perceived employability; EI, Entrepreneurial intentions. Cohen's ds are negative when job seekers scored higher than university students. S, skewness; K, kurtosis; α, Cronbach's alpha coefficient. Correlations for students are reported above the diagonal. Correlations for job seekers are presented below the diagonal. *p < 0.05, **p < 0.01, ***p < 0.001.

relatively long time and those who had been for a relatively short time (more or less than the median of 12 months).

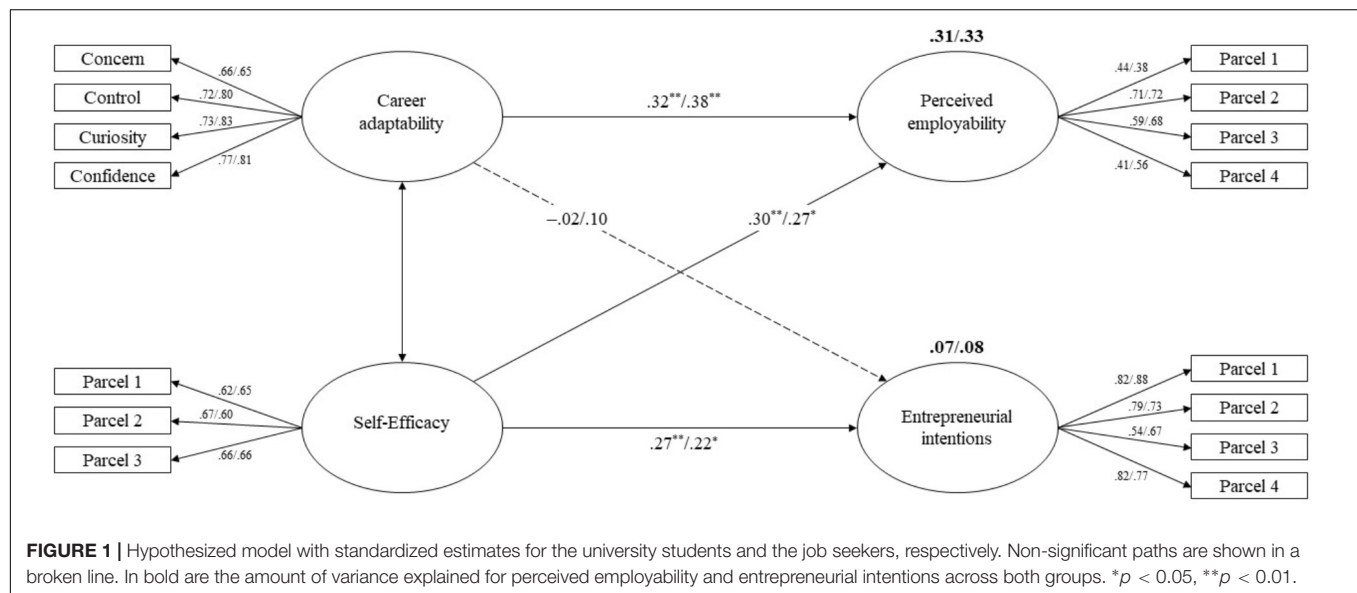## Structural Validity of Instruments and Measurement Model

Based on the theoretical model of the CAAS (Savickas and Porfeli, 2012), a four-factor structure was tested for both the French language form (Johnston et al., 2013) and the Togo form of the CAAS considering the overall sample. Four first-order latent variables (i.e., concern, control, curiosity, and confidence) and a second-order construct (career adaptability) were considered. Fit indices for the initial model tested for the CAAS French language form indicated a modest fit: $\chi^2(248) = 752.53$, $p < 0.001$, $\chi^2/df = 3.03$, GFI = 0.894, CFI = 0.877, TLI = 0.863, and RMSEA = 0.061. Those for the CAAS Togo-form including the added item were slightly better: $\chi^2(271) = 781.15$, $p < 0.001$, $\chi^2/df = 2.88$, CFI = 0.894, CFI = 0.879, TLI = 0.866, and RMSEA = 0.059. Both models were adjusted by setting four covariances between error terms that had modification indices (MI) equal or above 20 in each case (Johnston et al., 2013). As reported in **Table 2**, adjusted models' fit indices were adequate or close to the expected values for the CAAS French language form, $\chi^2(244) = 536.65$, $p < 0.001$, $\chi^2/df = 2.20$, GFI = 0.922, CFI = 0.928, TLI = 0.919, and RMSEA = 0.047 and the CAAS-Togo, $\chi^2(267) = 567.01$, $p < 0.001$, $\chi^2/df = 2.12$, GFI = 0.922, CFI = 0.929, TLI = 0.920, and RMSEA = 0.045. As can be seen, the CAAS-Togo exhibited a better fit to the overall data compared to the CAAS French language form. We concluded that the added item increased the robustness of the scale. The standardized loadings of the CAAS-Togo ranged from 0.43 to 0.72 for the items (*Mdn* = 0.61) and from 0.76 to 0.93 (*Mdn* = 0.86) for the second order variables. These loadings were comparable to those of the French-language form of the CAAS with item loadings ranging from 0.56 to 0.73 (*Mdn* = 0.61) and from 0.77 to 0.88 (*Mdn* = 0.81) for the second-order variables as reported by Johnston et al. (2013).

Furthermore, structural validity was also tested for the other instruments. Unidimensional measurement was assessed for the GSE scale (Scholz et al., 2002). Fit indices for the initial model were: $\chi^2(35) = 166.73$, $p < 0.001$, $\chi^2/df = 4.76$, GFI = 0.941, CFI = 0.858, TLI = 0.817, and RMSEA = 0.083. This model was improved by setting three covariation links between error terms associated with MI equal or above 10, leading to acceptable fit indices: $\chi^2(32) = 89.10$, $p < 0.001$, $\chi^2/df = 2.78$, GFI = 0.968, CFI = 0.938, TLI = 0.913, and RMSEA = 0.057. A four-factor structure was tested for the Self-Perceived Employability Scale (Rothwell et al., 2008). The fit of the initial model to data was: $\chi^2(98) = 261.26$, $p < 0.001$, $\chi^2/df = 2.66$, GFI = 0.942, CFI = 0.871, TLI = 0.843, and RMSEA = 0.055. The model was improved considering the MI equal or above 10 criteria. This allowed setting four covariance links in the model, which subsequently improved the fit: $\chi^2(94) = 170.55$, $p < 0.001$, $\chi^2/df = 1.81$, GFI = 0.962, CFI = 0.940, TLI = 0.923, and RMSEA = 0.039. The Entrepreneurial Intention Scale showed mitigated fit indices regarding the initial unidimensional model tested: $\chi^2(9) = 112.89$, $p < 0.001$, $\chi^2/df = 12.54$, GFI = 0.940, CFI = 0.931, TLI = 0.885,

Adjusted model	χ^2	df	χ^2/df	p	GFI	CFI	TLI	RMSEA
CAAS French language form (4-factor model, MI > 20)	536.65	244	2.20	<0.001	0.922	0.928	0.919	0.047
CAAS Togo-form (4-factor model, MI > 20)	567.01	267	2.12	<0.001	0.922	0.929	0.920	0.045
Generalized self-efficacy (unidimensional, MI > 10)	89.10	32	2.78	<0.001	0.968	0.938	0.913	0.057
Self-perceived employability (4-factor model, MI > 10)	170.55	94	1.81	<0.001	0.962	0.940	0.923	0.039
Entrepreneurial intentions (unidimensional, MI > 20)	14.55	6	2.42	<0.001	0.992	0.994	0.986	0.051
Hypothesized 4-factor model	152.11	84	1.81	<0.001	0.965	0.973	0.966	0.038
Hypothesized 4-factor model (multi group)	241.32	170	1.42	<0.001	0.947	0.971	0.965	0.028

N = 550. CAAS, career adapt-abilities.

FIGURE 1 | Hypothesized model with standardized estimates for the university students and the job seekers, respectively. Non-significant paths are shown in a broken line. In bold are the amount of variance explained for perceived employability and entrepreneurial intentions across both groups. *p < 0.05, **p < 0.01.

and RMSEA = 0.145. Adjustments applying the MI equal or above 20 criteria led to setting three covariance links in the model, which led to good fit: $\chi^2(6) = 14.55$, $p < 0.001$, $\chi^2/df = 2.42$, GFI = 0.992, CFI = 0.994, TLI = 0.986, and RMSEA = 0.051.

Finally, a measurement model that simultaneously considered career adaptability, general self-efficacy, self-perceived employability, and entrepreneurial intentions was first tested for the overall sample with four indicators for career adaptability, self-perceived employability, and entrepreneurial intentions, and three indicators for general self-efficacy. The model fit the overall data well: $\chi^2(84) = 152.11$, $p < 0.001$; $\chi^2/df = 1.81$; GFI = 0.965; CFI = 0.973; TLI = 0.966; and RMSEA = 0.038. Likewise, a multi-group CFA showed that the measurement model exhibited adequate fit indices for the two subgroups: $\chi^2(170) = 241.32$, $p < 0.001$; $\chi^2/df = 1.42$; GFI = 0.947; CFI = 0.971; TLI = 0.965; and RMSEA = 0.028. Fit indices for all instrument and the measurement model considering the overall sample are summarized in **Table 2**.

Convergent, Discriminant and Incremental Validity of the CAAS-Togo

As shown in **Table 1**, correlations between overall career adaptability and the measure of general self-efficacy were 0.38

and 0.46 (both $p < 0.001$) for the student and job seeker groups, respectively, suggesting a relatively high convergence between the two constructs. Career adaptability and entrepreneurial intentions are correlated to a lesser extent across both groups, respectively ($r = 0.18$, $p < 0.01$; $r = 0.14$ $p < 0.05$). Moreover, as shown in **Figure 1**, both constructs were found to be unrelated, suggesting discriminant validity of career adaptability. Finally, we performed a hierarchical regression in order to assess the incremental validity of career adaptability over general self-efficacy in predicting perceived employability. Age and gender were entered in a first step, followed by general self-efficacy in a second step to evaluate their contribution to perceived employability. In a third step, previous steps were continued adding the overall career adaptability score to evaluate the incremental validity of career adaptability over general self-efficacy. After controlling for age and gender, self-efficacy explained 7 and 8% of perceived employability variance for university students and job seekers, respectively. The additional effect of career adaptability was particularly important in job seekers, $\Delta R^2 = 0.09$, $F(2,213) = 21.47$, $p < 0.001$ compared to university students, $\Delta R^2 = 0.04$, $F(2,331) = 22.49$, $p < 0.001$. These findings suggested that career adaptability had a significant incremental validity regarding the predictive power of self-efficacy on perceived employability.

From Personal Resources to Career Outcomes

A multi-group path analysis yielded fit indices identical to those yielded for the measurement model: $\chi^2(170) = 241.32$, $p < 0.001$; $\chi^2/df = 1.42$; GFI = 0.947; CFI = 0.971; TLI = 0.965; and RMSEA = 0.028. Career adaptability and self-efficacy explained 31 and 32% of the variance in perceived employability, and 7 and 8% of the variance in entrepreneurial intentions for the student and the job seeker groups, respectively. As expected and with respect to the two groups, career adaptability and general self-efficacy produced significant direct and positive paths to self-perceived employability across the university student group ($\beta = 0.32$, $p < 0.01$; $\beta = 0.30$, $p = 0.01$, respectively) and the job seeker group ($\beta = 0.38$, $p < 0.01$; $\beta = 0.27$, $p = 0.05$, respectively) as reported in **Figure 1**. This suggests that career adaptability and general self-efficacy are significant predictors of self-perceived employability, confirming hypothesis 1 with respect to self-perceived employability. Furthermore, general self-efficacy produced significant direct and positive paths to entrepreneurial intentions across university students ($\beta = 0.27$, $p = 0.01$) and the job seekers ($\beta = 0.22$, $p < 0.05$), indicating that general self-efficacy significantly predicted entrepreneurial intentions. However, the paths from career adaptability to entrepreneurial intentions was non-significant for either the student ($\beta = -0.02$, $p = 0.86$) or the job seeker group ($\beta = 0.10$, $p = 0.32$), indicating that entrepreneurial intentions are not predicted by career adaptability. Self-efficacy served as the unique significant predictor of entrepreneurial intentions in the two groups suggesting that hypothesis 1 was partially confirmed with respect to entrepreneurial intentions.

Regarding hypothesis 2, as expected, career adaptability exhibited a stronger effect than self-efficacy ($\beta = 0.38$ vs. $\beta = 0.22$) in predicting perceived employability across the job seeker group. However, the assumption regarding the detrimental effect of career adaptability on self-efficacy in predicting entrepreneurial intentions was not supported, suggesting a partial confirmation of hypothesis 2.

Self-Perceived Employability and Entrepreneurial Intentions

Finally, correlations between perceived employability and entrepreneurial intentions were positive across the university student group ($r = 0.19$, $p < 0.01$) and the job seeker group ($r = 0.14$, $p < 0.05$). Moreover, self-perceived employability was found to covary with entrepreneurial intentions in both groups, respectively, after controlling for sex in the job seeker group ($\beta = 0.16$, $p = 0.032$; $\beta = 0.22$, $p = 0.021$). Age and the level of education attained were not controlled as they were not related to the outcome variable in any group. Results suggest that perceived employability was positively related to entrepreneurial intentions across both groups as expected, confirming hypothesis 3. Furthermore, and to test hypothesis 4, we evaluated if an additional path from perceived employability to entrepreneurial intentions would be significant using 5,000 bootstrap samples with 95% bias-corrected confidence intervals (Shrout and Bolger, 2002). The comparison of this model to the previous one (i.e., **Figure 1**) revealed that the additional path did not significantly improve the model [$\Delta\chi^2(2) = 1.82$, $p = 0.40$]. Considering that this additional path and the paths between resources and entrepreneurial intentions were non-significant across the two groups suggest that perceived employability cannot be considered as a mediator.

DISCUSSION

This is the first study that investigated the impact of personal resources of career adaptability and self-efficacy on two career outcomes (i.e., self-perceived employability and entrepreneurial intentions) in the Togolese context, with the particular aspect of comparing findings for university students and job seekers, two populations that are at different levels regarding the transition from university to work. Furthermore, the link between self-perceived employability and entrepreneurial intentions, which has not been investigated to date was evaluated for the two subsamples. The CAAS-Togo form and the other instruments fit the data well. The measurement model exhibited good fit indices for the overall data as well as for the two subsamples. Likewise, path analyses yielded good fit indices for the overall data and the subsamples. Thus, hypothesized direct paths were tested.

Psychometric Properties of the Measuring Instruments

This study provided an adaptation of the Career Adapt-Abilities Scale to the Togolese context. Our findings clearly indicated that this scale exhibited good fit indices and showed adequate convergent, discriminant, and incremental validity. Therefore, we conclude that the CAAS-Togo is a valid and useful measure to assess career adaptability in a Sub-Saharan Africa context. The other scales such as the General Self-Efficacy Scale, the Self-Perceived Employability Scale, and the Entrepreneurial Intentions Scale fit the Togo data well and have shown a strong structural validity across our overall sample. This suggests that these instruments can be used in this context and will contribute filling the gap of the lack of measures in most of Sub-Saharan Africa countries, which is one major limitation for researchers in this area (Atitsogbe et al., 2016).

Effects of Personal Resources on Career Outcomes

Consistent with our expectations, significant and positive direct paths were observed from career adaptability and general self-efficacy to self-perceived employability, for both subsamples. This suggests that the extent to which students and recent graduates seeking employment are confident in their readiness to cope with the university-to-work transition (career adaptability) and/or with a broad range of stressful or challenging demands (general self-efficacy) directly relates to their perceived ability to find a job (self-perceived employability). Our findings contradict those of Coetzee and Oosthuizen (2012), where the self-efficacy of adult workers enrolled in undergraduate studies did not relate significantly to their perceived employability. However, the findings of our investigation support the important role

of personal resources, as highlighted by social cognitive career theorists and career construction theorists, and reaffirm the conclusions of several empirical studies regarding the positive influence of the above-mentioned personal resources on the self-perception of employability (e.g., Lent et al., 1994; Savickas, 2005; de Guzman and Choi, 2013). Moreover, as expected, general self-efficacy was positively related to entrepreneurial intentions across both subsamples. Our findings empirically support previous studies conducted across student populations, where general self-efficacy significantly predicted entrepreneurial intentions (Boyd and Vozikis, 1994; Wang et al., 2016).

Contrary to our expectations, career adaptability was not related to entrepreneurial intentions in either university students and job seekers. Our findings did not replicate those of Tolentino et al. (2014) who found career adaptability to be positively associated with entrepreneurial intentions among Serbian business students. One explanation to these findings could be the fact that career adaptability is a composite of four distinct adapt-abilities (concern, control, curiosity, and confidence) that may not contribute in the same manner to entrepreneurial intentions. Moreover, it has previously been demonstrated that although a majority of job seekers show a motivation for the entrepreneurial career, they seem to be discouraged by perceived environmental barriers regarding this option, and would prefer paid employment (Pari, 2014). Indeed, perceived barriers are subject to individual interpretations and may inhibit intentions (e.g., entrepreneurial intentions) and, thus, the ability of individuals to implement such career choices (Lent et al., 1994). In addition, entrepreneurship was found to be deeply intertwined with social, political, and economic variables, and the transition from intentions to a formal business creation is largely dependent on these variables (Boyd and Vozikis, 1994). Unfortunately, Togo does not appear to be stable in these variables, which may explain the fact that individuals may not systematically activate adaptive resources regarding entrepreneurial intentions even if they scored higher on this career outcome. If career adaptability appeared not to have a direct link with entrepreneurial intentions, career adaptability could have an impact on the ability of people to implement these intentions. However, this would need further investigations.

The Link Between Self-Perceived Employability and Entrepreneurial Intentions

As expected, self-perceived employability was positively related to entrepreneurial intentions in the two subsamples. According to our findings, the extent to which either university students or job seekers perceived themselves as employable affected their intentions of becoming an entrepreneur. Employable individuals have been described as being likely to handle difficult situations and cope with change (Berntson et al., 2008). Moreover, as documented by several researchers, venture creation requires similar abilities (Wilson et al., 2007). This may explain the positive association between both career outcomes. Our findings suggested that higher levels of perceived employability were associated with higher levels of intentionality regarding venture creation. Furthermore, this path was tested within the hypothesized model. Results suggested no significant contribution of personal resources to entrepreneurial intentions via perceived employability.

Implications for Educational Policies and Career Counseling

Our findings regarding the relationship between personal resources and career outcomes have several implications for educational policies and career counseling in the Togolese context. The strong and significant influence of career adaptability and self-efficacy on perceived employability has been seen for the two groups. However, such influences appeared to less systematically impact entrepreneurial intentions, which may be more context and learning-dependent. This could indicate that public policies should support entrepreneurship by means of structural, macroeconomic, and educational measures. Concerning the impact of educational or training measures, Liñán and Fayolle (2015) cite several researchers who have found that entrepreneurial education has a significant positive effect on entrepreneurial intentions and, later, on venture creation. Moreover, psychology-based entrepreneurship training financed by the World Bank has shown great potential to impact business growth and sustainability for Togolese entrepreneurs (Campos et al., 2017). In fact, the government of Togo has designed and offered entrepreneurship training to young graduates for several years, but few graduates were able to attend these rather exclusive trainings. Moreover, a 7-month entrepreneurship training program is provided at *Maison de l'Entrepreneuriat* [Entrepreneurship House] at the State University of Lomé and costs 16 times the yearly registration fees for a bachelor's degree. This may prevent some university students from attending, as the lack of financial means is reported as the most salient perceived career barrier in Togo (Atitsogbe et al., 2016). Entrepreneurship training might be more usefully included as a discipline at universities based on a credit-earning system so that students from various disciplines could benefit from these courses. Similar programs could be highly valuable for high school students as well, as only 12.3% will later enroll in higher education (OECD, 2016).

The results of this investigation underscore the important role of career adaptability and self-efficacy on self-perceived employability. Although this latter construct is subjective, it might be largely influenced by the willingness of people to self-manage their careers. For this reason, career interventions designed for university students and job seekers should aim at strengthening their adapt-abilities. Career construction theorists have highlighted the importance of individuals' recognition of environmental barriers, development of coping strategies through a mobilization of adapt-abilities (i.e., concern, control, curiosity, and confidence) to self-manage their career and produce significant changes in their lives. These are the focal points that career counselors in contexts subject to extreme unemployment and which seem to be hostile to entrepreneurship should develop in their practice (Atitsogbe et al., 2016).

Limitations and Future Research

Several limitations regarding this study should be mentioned. The lack of a relationship between career adaptability and entrepreneurial intentions could be attributed to the characteristics of the population studied. Regarding this point, first, it is important to keep in mind that the type of education or the education program considerably influences entrepreneurial intentions (Yıldırım et al., 2016). It is likely that students and recent graduates from economic, business or technical majors would be more skilled to implement entrepreneurial behaviors given the content of their academic programs that may include management courses for example. Our findings suggesting no mean differences between participants who enrolled or graduated in such fields and those from other fields should be taken with caution as the sample sizes considered were relatively small. Further research with larger samples and considering the type of education as a moderator may provide insight into this issue. Moreover, it is possible that our samples consisted of a high proportion of university students and job seekers disadvantaged in the support available from family and friends regarding entrepreneurial intentions. In fact, support from family members and friends has been found to be a significant predictor of entrepreneurial intentions (Liñán and Chen, 2009). Other characteristics such as family background or perceived barriers to entrepreneurship could bring insight into this issue. Hence, adapting and testing the whole entrepreneurial intentions model (Liñán and Chen, 2009) for Togolese university students, job seekers or other populations could provide insights into the role of personal and contextual determinants of entrepreneurial intentions in this country. Finally, only job seekers who attended training provided by the National Employment Agency were recruited. Such training may put the job seekers in a job-seeking state of mind to the detriment of entrepreneurial orientations. Further investigations including those recruited in other contexts would strengthen the generalizability of results regarding the predictive role of career adaptability on entrepreneurial intentions in this population. Career adaptability is a composite of multiple adapt-abilities that may not contribute equally to entrepreneurial intentions, which could explain the lack of association between these constructs. Later studies could investigate the contribution of each of the four adapt-abilities to entrepreneurial intentions in the Togolese context. Finally, perceived employability can't be considered as a mediator between personal resources and entrepreneurial intentions. In fact, perceived employability and entrepreneurial intentions are only weakly linked.

CONCLUSION

This study addressed the role of personal resources on career outcomes of perceived employability and entrepreneurial intentions in West African populations and opened avenues for further investigations. Moreover, investigating the relationship between these two career outcomes among university students and recent graduates seeking work, especially in countries with high unemployment might provide insights into the occupational integration challenges in such contexts. The study contributed filling the gap that can be observed in the literature regarding the lack of studies on the contribution of personal resources to career outcomes in Sub-Saharan Africa. Furthermore, it highlighted the usefulness of career adaptability and to a lesser extent self-efficacy as predictors of perceived employability in populations facing extreme unemployment in an economically constrained context. It showed that self-efficacy specifically was linked to entrepreneurial intentions. Finally, the study showed that self-perceived employability covaried positively with entrepreneurial intentions in university students and job seekers in Togo.

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APPENDIX 1

The French version of the Self-Perceived Employability Scale.

(1) J'obtiens des notes élevées dans mes études/I achieve high grades in relation to my studies.

(2) Je considère mon travail académique comme une priorité absolue/I regard my academic work as top priority.

(3) Les employeurs sont désireux de recruter les jeunes diplômés de mon université/Employers are eager to employ graduates from my university.

(4) La réputation de mon université est un atout important pour ma recherche d'emploi/The status of this university is a significant asset to me in job seeking.

(5) Les employeurs ciblent les étudiants de mon université pour recruter des personnes dans mon/mes domaine(s)/Employers specifically target this university in order to recruit individuals from my subject area(s).

(6) Mon université a une réputation exceptionnelle dans mon/mes domaine(s) d'étude/My university has an outstanding reputation in my field(s) of study.

(7) Ma filière d'étude attire beaucoup plus de candidats qu'il n'y a de places disponibles/A lot more people apply for my degree than there are places available.

(8) Mon/mes domaine(s) d'étude est/sont associé(s) à un statut social très élevé/My chosen subject(s) rank(s) highly in terms of social status.

(9) Les personnes exerçant l'emploi que je vise sont très demandées sur le marché du travail/People in the career I am aiming for are in high demand in the external labor market.

(10) Mon diplôme est perçu comme permettant d'accéder à des emplois très convoités/My degree is seen as leading to a specific career that is generally perceived as highly desirable.

(11) De façon générale, il y a actuellement une forte demande pour les diplômés/There is generally a strong demand for graduates at the present time.

(12) Il y a beaucoup de postes vacants dans la zone géographique où je souhaiterais travailler/There are plenty of job vacancies in the geographical area where I am looking.

(13) Je peux facilement trouver des opportunités dans le domaine que j'ai choisi/I can easily find out about opportunities in my chosen field.

(14) Les compétences et aptitudes que je possède sont ceux que les employeurs recherchent/The skills and abilities that I possess are what employers are looking for.

(15) Généralement, j'ai confiance de réussir les entretiens d'embauche ou concours/I am generally confident of success in job Interviews and selection events.

(16) Je crois pouvoir obtenir n'importe quel emploi pour autant que mes compétences et expériences semblent suffisamment appropriées/I feel I could get any job so long as my skills and experience are reasonably relevant.

Fostering Flexibility in the New World of Work: A Model of Time-Spatial Job Crafting

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In today's "new world of work," knowledge workers are often given considerable flexibility regarding where and when to work (i.e., time-spatial flexibility) and this has become a popular approach to redesigning work. Whilst the adoption of such practices is mainly considered a top-down approach to work design, we argue that successful utilization of time-spatial flexibility requires proactivity on the part of the employee in the form of *time-spatial job crafting*. Previous research has demonstrated that time-spatial flexibility can have both positive and negative effects on well-being, performance, and work-life balance; yet remains mute about the underlying reasons for this and how employees can handle the given flexibility. Drawing on research from work design, we posit that in order for employees to stay well and productive in this context, they need to engage in time-spatial job crafting (i.e., a context-specific form of job crafting that entails reflection on time and place), which can be considered a future work skill. We propose a theoretical model of time-spatial job crafting in which we discuss its components, shed light on its antecedents, and explain how time-spatial job crafting is related to positive work outcomes through a time/spatial-demands fit.

Keywords: flexible working practices, new world of work, job crafting, time-spatial job crafting, work engagement, person-job fit, time/spatial-demands fit, work-life balance

INTRODUCTION

Where shall I work today? At home? In the office? Where in the office? In the silence area? In the open office area? When shall I start working? Before I bring the kids to school or afterward? These are only some of the various questions knowledge workers are confronted with in the contemporary world of work every day. Commencing with advances in information and communication technologies (ICT), a new way of working emerged where knowledge work organizations have gradually moved from using traditional offices with permanent workplaces to adopting a more hybrid approach (e.g., Microsoft Netherlands). This enables knowledge workers such as academics, consultants or analysts to work from different work venues both outside the central office (e.g., a home office, a client's premises, or on the go) and inside it (e.g., open office space, silent areas) (cf. Vos and van der Voordt, 2001) that are designed for the execution of particular tasks (e.g., collaborative work,

focused work) (Becker and Steele, 1995). Along with the increased flexibility regarding where to work, employees also have greater flexibility regarding when to work. This implies that employees are better able to control and adjust their working hours to suit their private demands (Baltes et al., 1999). Flexible working times have become a relatively widespread policy within the European Union – especially in the Northern and Western member states (European Commission, 2010). Flexibility in terms of when and where to work is also known as time-spatial flexibility (Peters et al., 2009). Time flexibility is considered to be a supportive HR policy helping employees in knowledge work organizations to manage all the different work and private demands (European Commission, 2010).

However, prior research has shown equivocal and contradicting findings regarding the effects of time-spatial flexibility; it has been related to both negative (e.g., Brennan et al., 2002; Kelliher and Anderson, 2008) and positive (e.g., Gajendran and Harrison, 2007; Kelliher and Anderson, 2008; McElroy and Morrow, 2010) outcomes in terms of employee well-being, performance, and work-life balance (for reviews see De Croon et al., 2005; De Menezes and Kelliher, 2011).

Given these equivocal findings regarding the effectiveness of time-spatial flexibility, the question arises how employees can make informed choices regarding workplaces, work locations, and working hours to ensure well-being, high performance, and a good work-life balance on a daily level. Previous literature is relatively mute on why and when flexible work designs lead to positive or negative effects neglecting the role of possible mediators, moderators, and time in this relation (De Menezes and Kelliher, 2011). In the current paper, we respond to calls to come up with more sophisticated research models in this area. Since a flexible work design is a central element in the European employment strategy (European Commission, 2010) and a growing number of organizations implement (aspects of) time-spatial flexibility (Vos and van der Voordt, 2001; European Commission, 2010), it is imperative to know which strategies are most effective in dealing with increased flexibility.

To address these challenges, we develop a theory and model of time-spatial job crafting, in which we propose that a large part of the negative outcomes of flexibility are likely due to a misfit between personal and task demands and working hours, work locations, and workplaces. Hence, a first thing we propose in **Figure 1** is that employees in knowledge work organizations need to optimize a time/spatial-demands fit on a day-to-day basis. However, finding this fit seems to be particularly difficult given the mixed findings of flexibility. Therefore, a second thing we propose is that in order to find a time/spatial-demands fit, employees should ideally engage in time-spatial job crafting. This should help them to capitalize on flexibility on a day-to-day basis and is related to positive outcomes by means of a time/spatial-demands fit.

Part of the problem of finding a good fit seems to be that to date, flexible working practices have been understood mainly as a top-down approach to work design (cf. Humphrey et al., 2007). We argue that a bottom-up work design approach (Humphrey et al., 2007) is needed to provide an optimal fit between personal and task demands and work locations, workplaces,

and working hours on a day-to-day-basis. Job crafting could be such a bottom up approach to job design. It has been defined as proactive behavior by employees aimed at making changes to job characteristics such as tasks and relationships (Wrzesniewski and Dutton, 2001) or job demands and job resources (Demerouti and Bakker, 2014).

However, research on job crafting has been relatively mute about how job crafting is related to time and spatial dimensions of work. In the context of time-spatial flexibility, we argue that it is imperative that employees make conscious decisions regarding the time and spatial dimensions of their work to optimize a time/spatial-demands fit (i.e., the best time and location/place to work on a given task and given personal demands). We introduce the term time-spatial job crafting as a form of self-regulatory behavior (Higgins, 1987). Time-spatial job crafting refers to the extent to which employees reflect on specific work tasks and private demands, actively select workplaces, work locations, and working hours, and then potentially adapt the place/location of work and working hours or tasks and private demands to ensure that these still fit to each other (i.e., optimizing time/spatial-demands fit).

A core premise of this article is that time-spatial job crafting enables knowledge workers to benefit from time-spatial flexibility on a day-to-day basis by optimizing a time/spatial-demands fit. The model of time-spatial job crafting is thus proposed as a context specific model as it only relates to knowledge work organizations that offer time spatial flexibility in Western societies. In the following, we review literature on time-spatial flexibility and outcomes; introduce time/spatial-demands fit as a specific kind of fit and embed it into existing P-E fit literature; explain the different components of time-spatial job crafting as well as its antecedents on the trait level and elaborate on how time-spatial job crafting is related to positive outcomes on the state level.

Our model (see **Figure 1**) is important from both a theoretical and practical standpoint. Theoretically, the model extends literature on job crafting (Wrzesniewski and Dutton, 2001; Bakker et al., 2014), reflexivity (Schippers et al., 2014) and flexible work arrangements (Hill et al., 2008). In particular, it incorporates the role of time into flexibility research to explain the mixed findings of cross-sectional research in this area. Our model also contributes to the work design literature by emphasizing the importance of bottom-up approaches of work design in the new world of work. This paper also has important practical implications, as time-spatial job crafting may be of particular interest for employees working under a flexibility policy and their organizations. In particular, the model offers important handles for knowledge workers and knowledge work organizations on how to deal with the given flexibility and raises HR managers' awareness for the optimal usage of flexibility.

CONCEPTUALIZATION OF TIME-SPATIAL FLEXIBILITY

Time-spatial flexibility within the new world of work describes the context in which knowledge work employees have the ability

FIGURE 1 | A model of time-spatial job crafting.
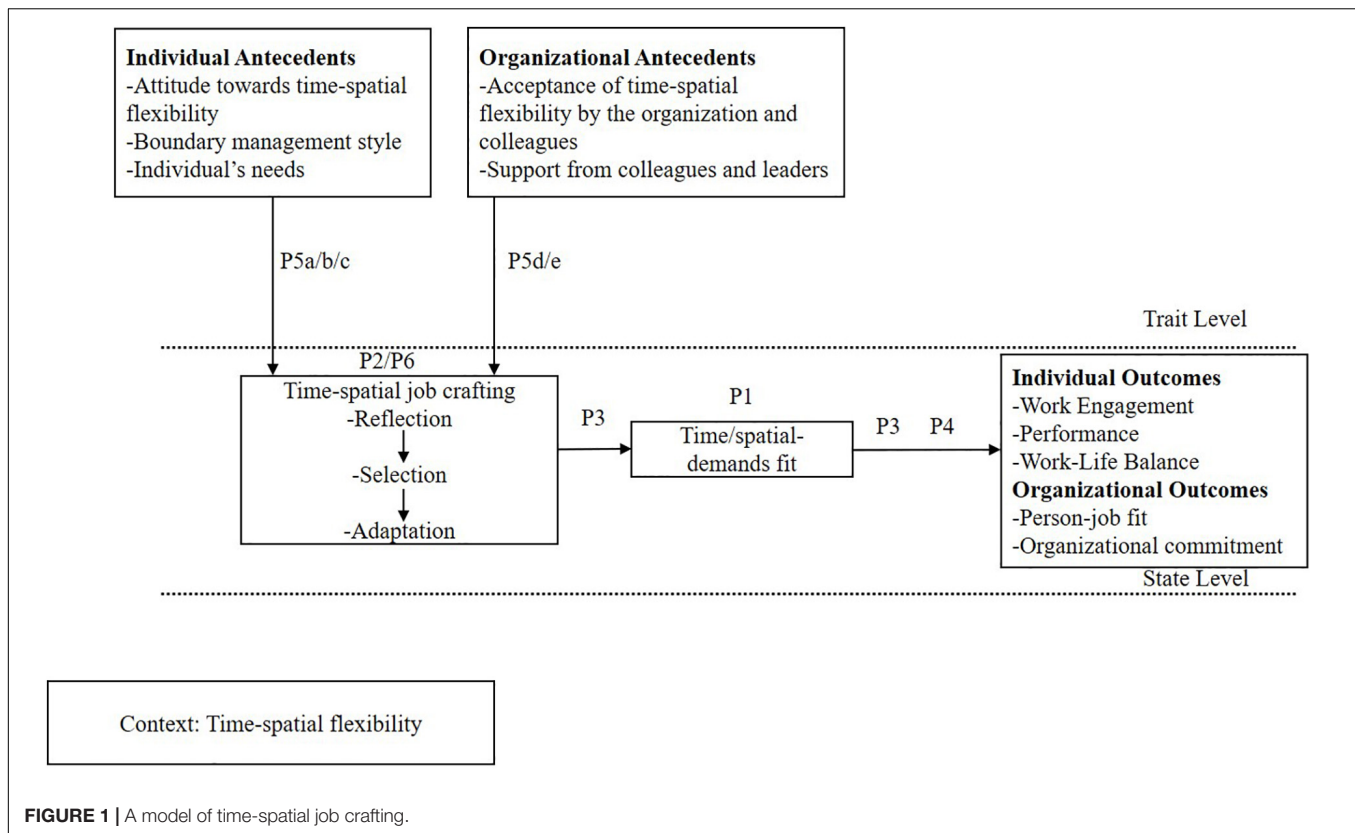
to decide when, where, and for how long to work on a daily basis (Hill et al., 2008). Employees, who have the freedom to determine when and how long they work, have scheduling or time flexibility. A common form of time flexibility is flextime, which gives employees the freedom and control to adjust working hours to their personal needs (Baltes et al., 1999). This not only includes scope to vary the start and end point of a working day but also the length of the workday can be adjusted. Spatial flexibility allows work tasks to be carried out away from the office (e.g., at home, at a client's premises, in the train, or in a coffee shop), and working away from the central office location is often referred to as teleworking (Nilles, 1998). Previous definitions of spatial flexibility have failed to include the notion of increasing flexibility *inside* the office environment. With greater flexibility inside the office environment, work tasks can be accomplished from different workplaces within the central office that are often designed with a specific kind of task in mind (e.g., silent areas, open office areas, meeting rooms, or brainstorm rooms) (Becker and Steele, 1995). In the current paper, we therefore include this notion of flexibility in the definition of spatial flexibility.

Even if an organization offers flextime and flexplace options, this does not guarantee that employees recognize these as such or actually make use of them (Hill et al., 2001). It is therefore important to differentiate between the more formal time-spatial flexibility provided by the employer (e.g., as part of an HR policy) and the actual time-spatial flexibility experienced by employees on a day-to-day basis, which we will focus on. This combination of time and spatial flexibility influences how employees carry

out their work and thus brings both opportunities and risks for individuals (Karlsson, 2007).

CONSEQUENCES OF TIME-SPATIAL FLEXIBILITY

Offering time-spatial flexibility is often said to help employees in knowledge work organizations in being able to handle work and non-work obligations in a more balanced manner (Allen and Shockley, 2009) and is regarded as one of the main policies to cope with demands from both work and life (Poelmans and Chenoy, 2008). As time-spatial flexibility gives employees greater control over scheduling their workdays, employees are able to allocate work, and non-work time more efficiently in a way that fits their needs thereby creating balance between work and home life. For instance, not having to commute to the office saves commuting time which can be spent otherwise (Hill et al., 2003). Despite its main goal regarding handling responsibilities from both work and home in a better way, there exists great inconsistency regarding the actual effectiveness of time-spatial flexibility practices for work-life balance (Allen and Shockley, 2009). While some studies reported increases in work-life balance due to decreases in work-family conflict (e.g., Hammer et al., 1997; Hill et al., 2003; Madsen, 2003; Gajendran and Harrison, 2007); other studies found decreases in work-life balance due to greater blurring of boundaries (Kurland and Bailey, 1999) or no significant relation (Aryee, 1992; Hill et al., 1998).

Time-spatial flexibility and the choices that individuals make also affects employee's well-being and performance. In their literature review particularly on the influence of office concepts on health and performance, De Croon et al. (2005) identified that office concepts – such as open offices spaces and telework offices – can have positive as well as negative effects on performance and well-being. For instance, on the one hand, in an open office space with several workstations, employees oftentimes have direct eye contact with each other. Due to this proximity, employees can easily be distracted by their co-workers (McElroy and Morrow, 2010). This kind of interruption and disturbance is assumed to increase cognitive workload because employees need to stop regularly and then refocus on the task at hand. This can be an energy-draining activity, which, will lead to exhaustion and diminished work performance. On the other hand, De Croon et al. (2005) note that that time-spatial flexibility can also increase well-being and performance. For instance, Ten Brummelhuis et al. (2012) found in their study that once an employee has decision latitude in terms of responding to emails and phone calls, the general efficiency and effectiveness of communication increases, leading to more work engagement.

A systematic review by De Menezes and Kelliher (2011) on flexible work arrangements and performance-related outcomes also found that flexible working arrangements can be both beneficial and detrimental for employees and their organizations. They conclude that so far the evidence fails to provide a clear business case for flexible work arrangements, but that future research should take into account moderators, mediators, and the role of time. In our theorizing, we aim to (1) propose a theory that incorporates these, and (2) propose when and why flexible work arrangements are related to better employee outcomes. Below, we present our propositions.

PROPOSITIONS

Time/Spatial-Demands Fit

In light of the health-promoting and health-impairing influences of time-spatial flexibility on work outcomes, we argue that individuals can make choices over workplaces, work locations, and working hours that enable them to either exploit the advantages we have outlined above or run the risk of being affected by the disadvantages. Thus, times-spatial flexibility is not a good or bad thing *per se*; whether it turns out favorably or unfavorably depends on how each individual uses the flexibility and the extent to which they manage to optimize the time/spatial-demands fit. We argue that a great deal of the negative outcomes may result from a misfit between working hours, work locations, and workplaces and task and private demands. This has largely been neglected in previous theorizing efforts for why flexibility does not lead to positive outcomes. As can be seen in **Figure 1**, a first thing we propose is that in order to remain productive, engaged and to keep a good work-life balance when faced with time-spatial flexibility on a daily level, employees should ideally optimize a time/spatial-demands fit. Analogs to the task-technology fit perspective (Goodhue, 1997), where workers optimize the fit between work tasks and technology and

technology and their abilities, we define time/spatial-demands fit as the fit between work tasks and work locations, workplaces, and working hours on the one hand and private demands and work locations, workplaces, and working hours on the other hand. Time/spatial-demands fit is different from person-environment fit (P-E fit) as it is not concerned with a fit between the person and the environment. Person-environment fit is conceptualized either as the fit between an employee's characteristics and the characteristics of an organization (P-O fit) or as the fit between an employee's competencies such as personal needs and abilities and the requirements of the job (P-J fit) (Kristof-Brown et al., 2005). Thus, the nature of the P-E fit literature is concerned with the fit between the person and the environment (Chatman, 1989). However, we argue that time/spatial-demands fit does not deal with the fit of the person with the environment. Time/spatial-demands fit is concerned with the fit between perceptions of a HR policy (flexible working hours and work locations) and office design (workplaces) on the one hand and work demands and private demands on the other hand. We propose that employees who have time-spatial flexibility need to match task and private demands to designated places, locations, and to working hours. Taken together, optimal health, performance, and work-life balance will be ensured if employees manage to create an optimal time/spatial-demands fit in the context of time-spatial flexibility. Thus, we suggest.

Proposition 1

In the context of time-spatial flexibility, employees need to optimize a time/spatial-demands fit.

How Can Employees Optimize Time/Spatial-Demands Fit? From Job Crafting to Time-Spatial Job Crafting

In order to optimize the time/spatial-demands fit, employees should ideally engage in what we term *time-spatial job crafting*. In the work design literature, job crafting is seen as a specific form of proactive behavior and shares distinct features with it, such as initiative-taking behavior or anticipating a future situation and adapting behavior accordingly (Parker and Collins, 2010). The central tenet of current job crafting conceptualizations is that employees alter aspects of their job of their own accord. Originally, job crafting has been defined in terms of physical and cognitive changes that employees make to the task or to their relationships at work (Wrzesniewski and Dutton, 2001). According to the latter authors, employees may modify three different aspects of their job – namely the task itself, their relationships with others, and/or their perception of the job (i.e., cognitive crafting). Recently, scholars extended the conceptualization of job crafting to also include self-initiated skill development (Lyons, 2008) and modifying job demands and resources (Tims et al., 2012). According to Tims et al.'s (2012) reasoning, employees proactively increase structural and social job resources, as well as challenging job demands and decrease hindering job demands. While increasing structural or social job resources refers to behaviors such as feedback-seeking and developing one's own capabilities, decreasing hindering

job demands is targeted at making work less mentally and emotionally exhausting. Scholars have found that crafting in terms of job resources and demands turns out favorable for employee well-being (e.g., Bakker et al., 2012) also on the daily level (Petrou et al., 2012).

Taken together, those previous job crafting approaches define job crafting solely in terms of the characteristics of the job such as making changes to tasks and relationships at work (Wrzesniewski and Dutton, 2001) or in terms of job demands and job resources (Tims et al., 2012). Yet, those studies are relatively mute about how job crafting is related to contextual aspects such as the time and spatial dimensions of work. In today's new world of work, knowledge workers are able to execute their work activities anywhere anytime, but those practices have led to both positive and negative outcomes for employee well-being, performance, and work-life balance. Hence, it is increasingly important that employees proactively craft changes to the location and timing of work to remain engaged, productive and to retain their work-life balance on a daily level. Thus, the extension that we make is that in the context of time-spatial flexibility, the time and location/place categories become subject to daily job crafting. We call this type of job crafting *time-spatial job crafting* where employees make active changes to their work, relating to working hours, places, and locations of work. Time-spatial job crafting and the previously discussed existing job crafting approaches can co-exist. For instance, employees who came to the conclusion to work from home on a particular day can still change the scope or number of their tasks to derive a different meaning for their work or they can still ask colleagues for advice (increasing social job resources) (e.g., through the use of ICT).

Time-spatial job crafting resonates with the idea that "flexworkers have to assume more responsibility for managing themselves and their whole lives" (Richardson and McKenna, 2014, p. 734) by reordering their lives.

We formally define *time-spatial job crafting* as a context-specific type of job crafting in which employees (a) reflect on specific work tasks and private demands; (b) select workplaces, work locations, and working hours that fit those tasks and private demands; and (c) possibly adapt either their place/location of work and working hours or tasks and private demands to ensure that these still fit to each other thereby optimizing time/spatial-demands fit. This definition is analogous and bears some similarities to the self-regulatory construct of reflexivity, which has been defined at the group level as "the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies (e.g., decision making), and processes (e.g., communication), and adapt them to current or anticipated circumstances" (West, 2000, p. 296). Reflexivity is said to consist of three different components, namely reflection, planning, and action (for reviews see Schippers et al., 2014), which represent an iterative cycle of reflection, planning, and action (Schippers et al., 2017). Similarly, we suggest that time-spatial job crafting also consists of three different components, namely reflection, selection, and adaptation that can be presented in a chain of reflection, selection and if necessary, adaptation. Please refer to **Figure 1**.

Components of Time-Spatial Job Crafting

Reflection

Reflection at the individual level is usually understood in terms of a learning process among individuals in which they examine their past behavior and assess its contribution to performance (for a review, see Ellis et al., 2014). According to Schön (1983), reflection represents serious consideration of past actions and experiences with the aim to evaluate them for future actions. Indeed, reflection in the organizational learning literature is recognized as one central element in learning (Moon, 1999; Høyrup, 2004). Applying this to the context of time-spatial flexibility, reflection can be regarded as a deliberate process of thinking about the tasks and private demands and working hours, places, and locations of work available on any particular day. While considering all the different alternatives, employees may use past experiences to evaluate workplace options for their current choice. They may think about their past workplace/work location and working hour choice and reflect on the benefits/drawbacks of this choice.

We argue that especially when it comes to working with time-spatial flexibility, employees often do not reflect on optimization issues, and often routinely opt for the same workplace (Wessels, 2017). This leads to a mismatch between their task and/or private demands on the one hand and work locations, working hours, and workplaces on the other hand. If employees reflect carefully, they are more likely to detect potential disadvantages of certain flex arrangements for task or private demands.

There is indeed evidence that reflection increases awareness in a variety of contexts – for example, students' self-awareness of their personal learning style (Kanthan and Senger, 2011), knowledge of mental mistakes (Kahneman, 2011), and awareness of biases and errors (Schippers et al., 2014). Building on this literature, we propose that reflection on task and private demands is likely to foster awareness of the requirements of a particular workday and sensitize employees to the nature of each workplace, work location, and working hours. As such, reflection constitutes the cognitive component of time-spatial job crafting. Once employees have reflected, they can more readily engage in selection, which constitutes the behavioral component.

Selection

Selection can be understood here as the actual choice of working hours, work locations, and workplaces, which is then likely to play a part in reaching the best time/spatial-demands fit. The actual choice of a workplace, work location or working hour is the result of the conscious consideration of and choice between alternatives (cf. Vohs et al., 2008). In such a reflective system (Strack and Deutsch, 2004), selection is the outcome of reasoning leading to the choice about the viability of a given action, which is in our case the selection of the right workplace, location or working hour (cf. Ajzen, 1991; Bandura, 1997). Selection may be equal to action in the reflexivity literature, which is defined as "goal-directed behaviors relevant to achieving the desired changes in team objectives, strategies, processes, organizations or environments

identified by the team during the stage of reflection" (West, 2000, p. 6). Action is seen as a means to try out assumptions by practical experience (for a review see Widmer et al., 2009).

While reflection and selection may work quite well for days that are fairly predictable, for instance, the decision to work from home when one needs to pick up the kids from school, not all days are equally plannable and may also have unforeseen demands. Therefore, time-spatial job crafting also includes an element of adaptation, which increases in importance when employees are working from a workplace inside the central office.

Adaptation

Sometimes employees may face hindrances that prevent them from executing their work tasks in their desired place/location or during the desired time and also perceive problems and/or constraints that may disable them to make the best timing or location decision. Indeed, job crafting may be a more enduring process that can contain adjustments and change, which result from the perceived challenges that limit the opportunities for job crafting (Berg et al., 2010). On the individual level, adapting refers to "performing adaptive behaviors that address changing conditions" (Hirschi et al., 2015, p. 1) and we propose that behaviors such as either changing the workplace, work location or working hours or changing particular tasks/private demands denote illustrations of adapting within the time-spatial job crafting construct.

Key of adaptation in time-spatial job crafting is that timing/location or tasks choices may be adapted in hindsight. Various circumstances may require adaptation. First, it is often the case that employees only realize in hindsight that they made the wrong choice in terms of the time/spatial-demands fit. For instance, even though employees might know that they actually need to work in silence, they could still decide to work in the open office space in order to sit next to a particular colleague they have not seen for a while. Second, depending on the occupancy rate, the reverse situation is also possible. For instance, by means of reflection, employees may conclude that they need a high level of concentration. If the only workplace that is free within the open office space and commuting back home is not an option, employees may choose to engage in a different task that requires less concentration and silence. Third, most workdays involve multiple activities that cannot be readily foreseen in the morning but which may require several different types of workplaces. Therefore, employees also need to adapt where they work to make sure that the workplaces are appropriate to the task at hand. This also suggests that employees need to be able to adjust their work situation "on the fly"; thus, having mini chains of reflection/selection/adaptation each day. In **Table 1**, we exemplified time-spatial job crafting behavior according to the three dimensions. Overall, we propose that:

Proposition 2

Time-spatial job crafting consists of a cognitive component, namely reflection, and two behavioral components, namely selection and adaptation.

Consequences of Time-Spatial Job Crafting

As suggested above, time-spatial job crafting is essential in optimizing time/spatial-demands fit. While time-spatial flexibility can have both desirable and undesirable consequences for well-being, performance, and work-life balance due a time/spatial-demands fit or misfit, we argue that the extent to which this occurs may be contingent upon time-spatial job crafting. Whether employees experience an environment as beneficial or detrimental depends on their requirements of a particular workday. Time-spatial job crafting is likely to help employees realize these resulting in an optimal time/spatial-demands fit.

For instance, on a particular workday, employees may come to the conclusion that they need to engage in focused work and that they will not require a high level of support from colleagues or supervisors (time-spatial job crafting in terms of the task) and that they need to pick up their children from school at 4 PM (time-spatial job crafting in terms of private demands). Once they have reached that conclusion, they are more likely to choose to work in a silent room or from home rather than in an open office space (selection). This would result in the best time/spatial-demands fit for this particular day augmenting work outcomes. When employees are able to seek out work locations, workplaces, and working hours that fit their private and task needs, they are more likely to invest their capabilities fully at work and this should give them more energy and should make them more productive and result in a greater work-life balance. Hence, by modifying time and spatial aspects of the job so that these fit employee's own task and private demands, they are likely to boost their own engagement, performance, and work-life balance. Prior research has indeed shown that job crafting behavior is linked to higher work engagement (e.g., Petrou et al., 2012; Rudolph et al., 2017). Hence, we suggest:

Proposition 3

Time-spatial job crafting leads to a time/spatial-demands fit, thereby leading to higher work outcomes.

Next to having positive effects on work outcomes, we also propose that engaging in time-spatial job crafting behavior leads to a higher person-job fit. As mentioned earlier, the fit between an employee's competencies such as personal needs and abilities and the requirements of the job is denoted as person-job fit (Kristof-Brown et al., 2005). The notion behind person-job fit is that fit is likely to occur if the employee possesses the necessary skills to meet the requirements of the job (Kristof-Brown et al., 2005). Edwards (1991) distinguished here between demands-abilities fit, in which employees' knowledge, skills, and abilities (KSA) match with the requirements of the job and needs-supplies fit to refer to the situation an employee's needs are met by the organization. Applying this to context of time-spatial flexibility implies that employees need to have certain skills, knowledge, and abilities in order to work successfully when granted flexibility. Those skills encompass reflecting, selecting, and adapting so that they are able to match working hours, work locations, and workplaces to personal and task demands. Hence, we propose that time-spatial job crafting can be regarded as a necessary tool when granted

TABLE 1 | Examples of time-spatial job crafting.

Form	Example reflection	Example selection	Example adaptation
Time-job crafting- Tasks and Private demands	Underlying questions: What do I need to do today? - I need to finish a paper, write emails, and have two meetings with colleagues What are my private demands for today? - I need to bring my kids to school Specific questions: Which working times do I have available for my tasks and private demands? - My day today begins at 6 AM and ends 10 PM; standard office hours are from 8 AM to 5 PM, but I can also work before or after that - I need to bring my kids to school before 9 AM - I have a meeting at 3 PM with my colleagues	- I choose to start working after I will have brought my kids to school - I will work on the paper I need to finish in the morning because I am most productive in the morning - I will write emails in the afternoon	- I need to finish answering my emails in the evening because I did not finish writing my paper in the morning and used the time in the afternoon for my paper
Spatial-job crafting- Tasks and Private demands	Underlying questions: What do I need to do today? - I need to finish a paper, write emails, and have two meetings with colleagues What are my private demands for today? - I need to bring my kids to school Specific questions: Which working locations/workplaces do I have available for my tasks and private demands? - I can work from home, on the go and from the different office spaces inside the office	- I decide to work from home in the morning since I need to work in piece in quiet to finish my paper - I drive to the office after lunch because I have a meeting at 3 PM with colleagues - I decide to work in the open office space so that I can sit close to my colleagues and also because a closed office space was not available to continue working on that paper	- I switched my office place to a closed office space because it was hard for me to concentrate on the paper in the open office space

flexibility that helps to achieve a good person-job fit, which, in turn may lead to higher levels of organizational commitment (Kristof-Brown et al., 2005).

Proposition 4

Time-spatial job crafting leads to greater person-job fit and to higher levels of organizational commitment.

Antecedents of Time-Spatial Job Crafting

As engaging in time-spatial job crafting seems to be critical in the new world of work, this raises the question what triggers employees to do so. The willingness to engage in time-spatial job crafting is likely to depend on various individual and organizational characteristics at the trait level. On the individual level, if employees have a negative attitude regarding time-spatial flexibility it seems unlikely that they will use time-spatial job crafting to make optimal use of time-spatial flexibility. Attitudes are understood as favorable or unfavorable judgments regarding objects, people, or events (Bohner and Dickel, 2011; Robbins and

Judge, 2014), hence we understand a positive attitude toward time-spatial flexibility as employee's favorable judgments about the practice. This involves for instance seeing the benefits of time-spatial flexibility in terms of places as activity specific spaces, which help to accomplish tasks more efficiently. With regard to time-flexibility, adjusting working hours in a flexible manner also needs to be regarded as valuable for one's work in order for employees to engage in time-spatial job crafting. If employees do not see these benefits, it is highly unlikely that they will start optimizing their work environment.

Proposition 5a

A positive attitude toward time-spatial flexibility leads to time-spatial job crafting.

It seems that time-spatial job crafting and boundary management have some overlap. According to boundary management theory, individuals manage boundaries to organize certain domains in their life (Ashforth et al., 2000). The term 'boundary work' was coined by Nippert-Eng (1996) to refer to how individuals build, dismantle, and maintain the work-home

border. Managing those work-home boundaries takes place on a continuum ranging from boundaries that are permeable and highly integrative to impermeable and segmented (Ashforth et al., 2000). Whether boundaries are integrated, separated, or alienated depends on individual's preferences. Boundary management theory is concerned with all domains of work and thus broader than the concept of time-spatial job crafting. Time-spatial job crafting is highly context specific as it only relates to knowledge work organizations that offer time-spatial flexibility.

However, time-spatial job crafting does not solely explicitly relate to solving or negotiating conflicts between work and family life. On the one hand, the time-spatial job crafting model suggested that employees who have time-spatial flexibility need to find a fit between time and space and their tasks. This solely concerns negotiating demands with respect to their work role for which time-spatial job crafting is likely to help. Hence, this is not about managing work-home boundaries but about managing tasks and work locations, working hours, and workplaces. On the other hand, the time-spatial job crafting model is also concerned with optimizing the fit between time and space and private demands. With this dimension, there might be some overlap between boundary management since time-spatial job crafting related to private demands is also concerned with managing demands between work and home. However, the literature on boundary management is silent with respect to the underlying processes that lead to the decision regarding when and where to work. While Kreiner et al. (2009) do shed light on how people manage boundaries by introducing four types of boundary work tactics at the behavioral, temporal, physical, and communicative level to negotiate demands between work and home, they do not explain the underlying processes that lead to for instance to adapting physical boundaries. This more flexible perspective is offered by our theorizing on time-spatial job crafting and the accompanying process of reflection, selection, and adaptation.

Boundary management style however can be an important antecedent of time-spatial job crafting related to private demands and hence, we introduce boundary management style as a possible antecedent of time-spatial job crafting related to private demands in the model, however, we argue only for time-spatial job crafting in terms of private demands. Boundary management style refers to "a general approach an individual uses to demarcate boundaries and regulate attending to work and family roles" (Kossek and Lautsch, 2012, p. 155). Individuals thereby make use of different boundary management styles to manage those boundaries. Kossek and Lautsch (2012) proposed that next to the separation-integration continuum, where individuals either separate or integrate work and family, individuals can also adopt a more hybrid approach alternating between separation and integration. The extent to which employees employ either of these styles depends on their boundary-crossing preferences and their work-family role identity centrality (Kossek and Lautsch, 2012). While segmented boundaries result in a higher inflexibility and in a more rigid separation of roles in terms of times and place, integrated boundaries foster greater integration of roles.

We argue that an employee's preference for integration, separation or alienation (which will also depend on the preference of the family) will influence time-spatial job crafting in terms of reflecting and choosing where and when to work aligned with private demands. A preference for a particular boundary management style will help employees in reflecting about the difference options available and will ultimately result in selection of a specific work location which is in line with the employee's boundary management style. For instance, employees who prefer to separate home and work in a strict manner, are more likely to come to the conclusion that it is not advisable for them to work from home when kids are around (reflection) and thus choose their timing of work (selection) in such a manner that it does not interfere with family responsibilities (e.g., going to the office earlier, finishing un-finished tasks the next day).

Proposition 5b

An employee's boundary style preference for integration, separation or alienation will positively influence time-spatial job crafting in terms of private demands.

Furthermore, at the individual level, individual needs for autonomy, competence, and relatedness (Deci and Ryan, 1985) may play a crucial role in shaping time-spatial job crafting behavior. Bindl et al. (2018) showed in their extended framework of job crafting that indeed individual needs are decisive for engaging in job crafting behavior. They found that employees who had a stronger need for autonomy, relatedness and competence were more likely to engage in task crafting, skill crafting, and relationship crafting, respectively. In a similar vein, we propose that the need for autonomy may be crucial for time-spatial job crafting since such individuals have a desire to exercise control over their actions (Deci and Ryan, 1985). Since deliberately thinking and choosing where and when to work can be understood as such a control-taking process, the need for autonomy might trigger time-spatial job crafting. The need for relatedness describes an individual's desire to feel connected to others (Deci and Ryan, 1985). An individual who has a strong need for relatedness may be more likely to reflect on when and where to work since they want to stay close to colleagues and their choice may be (partly) contingent on colleagues. Finally, the need for competence, which represents an individual's desire to feel skillful in one's behavior (Deci and Ryan, 1985), may also stir time-spatial job crafting behavior, since time-spatial job crafting represents a way of how individuals can better handle time-spatial flexibility. Hence, we propose:

Proposition 5c

Employee's needs for autonomy, competence, and relatedness leads to time-spatial job crafting.

At the organizational level, perceived organizational support may also play a role. If employees perceive that flexible working is not accepted within the organization, or fear negative consequences for their career, it seems unlikely that they will use time-spatial job crafting to make optimal use of time-spatial flexibility. Research at Microsoft Netherlands, which moved toward new ways of working, has shown that it is indeed important that the whole organization including the CEO of the company approves of this change process (van Heck et al., 2012). If an employee realizes that fellow colleagues do not appreciate him or her working flexible, it is highly unlikely that

this employee will engage in time-spatial job crafting to make the most out of time-spatial flexibility. That is indeed what Fursman and Zodgekar (2009) found in their study. Employees reported as one barrier to make use of time-spatial flexibility a non-supporting organization. Likewise, if an employee recognizes that flexible working has detrimental effects on his or her career, it is also not very likely that he or she will become a time-spatial job crafter. Prior research has shown that employees are less inclined to make use of time-spatial flexibility when they fear negative consequences for their career (Fursman and Zodgekar, 2009). Furthermore, prior research on job crafting has also shown the prominent role of the leader as well as social support from colleagues in fostering job crafting behavior (Harju et al., 2018). We also argue that in order for employees to engage in time-spatial job crafting, a supportive leader and colleagues may trigger employees to engage in time-spatial job crafting. Taken together we suggest that.

Proposition 5d
Employees are more likely to engage in time-spatial job crafting when they perceive that the organization and co-workers accept time-spatial flexibility and when they do not fear negative consequences for their career.

Proposition 5e
Employees are more likely to engage in time-spatial job crafting when the experience support from the leader and from colleagues.

Intricacies to Time-Spatial Job Crafting
While the preceding discussion suggests that reflecting on and selecting workplaces, work locations, and work hours is straightforward, in fact, employees may also be likely to resist reflecting since conscious reflection may be something that employees are often not familiar with and may elicit defense reactions. Hence, since time-spatial job crafting is a behavior that needs to be learned, resistance to reflect (i.e., Piderit, 2000) may hinder to optimize a time/spatial-demands fit and lead to positive work outcomes in the short-term.

Also, on any given workday employees may face conflicting demands that make the selection of the right workplace or working hours more difficult. Making choices turns out to be more troublesome at whatever point various needs, objective or values, are in conflict (Brandstätter et al., 2006). Conflicting demands either within the work domain or between the work and home domain can create what is commonly termed role conflict within the same role (intra-role conflict, or between two roles (inter-role conflict; Kahn et al., 1964), which occurs "when the behaviors expected of an individual are inconsistent (Rizzo et al., 1970, p. 151). For instance, even though employees would perhaps like to work from home so that they can work in perfect silence, at the same time they also might have several meetings that require them to be at the main office. Even if employees consciously decide to work from home, unlearning to resist going to the fridge, lying on bed or watching TV (Howgego, 2019), hence to procrastinate, can take some effort and time.

Also, the choice over when and where to work may depend on the choices of colleagues. Evidence suggests that employees base their workplace/work location choice on the decision of their colleagues (Rockmann and Pratt, 2015), which may not be in line with private or task demands. Hence, managing those opposing demands is difficult and creates extra effort; effort in the form of more reflection, selection, and potentially adaptation. Thus, time-spatial job crafting can be a strenuous activity in itself, although one would also expect that over time "practice makes perfect," and choices can be made with less effort. Consequently, it is likely that the proposed benefits of time-spatial job crafting will be less strong in the short run and increase in the long term (cf. Schippers et al., 2013).

Proposition 6
Time-spatial job crafting could be an energy-draining activity in itself, and therefore, the positive role of time-spatial job crafting will be more positive in the long-term than in the short-term.

DISCUSSION

In this paper, we have explored the implications of time-spatial flexibility for work outcomes and person-job fit on a daily level. We have applied proactive work design literature and literature on flexible working practices to explain that individuals can make choices over workplaces, work locations, and working hours that enable them to either exploit the advantages of time-spatial flexibility or run the risk of being affected by the disadvantages. In order for employees to make the best choice in terms of their tasks and private demands, we introduced the concept of time-spatial job crafting as a context-specific type of job crafting. We proposed that employees may use time-spatial job crafting as a technique that allows them to reap the benefits of time-spatial flexibility and avoid its drawbacks to optimize time/spatial-demands fit on a day-to-day basis.

Implications for Job Crafting and Flexibility Research
Theoretically, the model extends current theorizing efforts in flexibility research. Previous literature has shown that flexibility can have both – a positive and negative effect at the cross-sectional level; through time/spatial-demands fit and time-spatial job crafting, we explained when flexibility will be positive and negative on the daily level. Hence, we incorporated the role of time into flexibility research helping to explain some of the ambiguous outcomes. In addition, we extend the job crafting literature to the context of flexibility. Whereas the traditional job crafting literature construes job crafting in terms of job characteristics (Wrzesniewski and Dutton, 2001; Tims et al., 2012), we postulated that other aspects of the job can also be subject to job crafting and this becomes especially important when working flexibly. Time-spatial job crafting is offered as a tool that should help employees to exploit time-spatial flexibility and that can be regarded as an optimization strategy for using various workplaces, work locations, and

working hours, which leads to finding a time/spatial-demands fit. With the term 'time/spatial-demands fit' we created a new form of fit, which has never been made explicit by prior flexibility research.

As much as job crafting represents a valuable tool for older workers to find a good person-job fit (Wong and Tetrick, 2017), the suggested positive role of time-spatial job crafting should enable employees to better deal with flexibility and should have a positive impact on work outcomes through a time/spatial-demands fit. We stressed throughout the paper that employees need to become proactive if they want to reap the benefits of time-spatial flexibility.

This paper therefore highlighted the importance of bottom-up approaches to work design in the new world of work. On top of that, we also add to the P-E fit literature by explaining how time-spatial job crafting relates to a better person-job fit.

Implications for Practice

As HR managers are constantly assessing how different workplace settings may influence performance (Okhuysen et al., 2013), the insights we provide should give them a greater understanding of how work-settings change the nature of work and consequently influence human behavior. Demonstrating the importance of time-spatial job crafting to ensure that employees are able to use various workplaces, work locations, and working hours optimally could become a crucial aspect of managers' agenda. By making employees aware of how they can make changes within their environment if they reflect on what is needed, managers can show employees how they themselves can increase their own well-being, performance, and work-life balance. This can be achieved, for instance, through a time-spatial job crafting intervention, in which they learn what they themselves can do to enjoy working in such an environment. Several recent studies among various groups of employees have shown that job crafting interventions and trainings can be successful (e.g., Van den Heuvel et al., 2015; Van Wingerden et al., 2017). Such a training might also be of particular importance since there may be cases in which a poor or suboptimal time-spatial choice is not perceived or recognized as such by employees or employees might not be aware that much more effective practices are available and could be used. Awareness could be enhanced via trainings, however, only a continuous assessment of one's own behavior by employees themselves, managers or also fellow colleagues helps to optimize time/spatial-demands fit over time. On top of that, it is important that employees experience the benefits of time-spatial flexibility and time-spatial job crafting first hand so that they are motivated to engage in time-spatial job crafting as attitudes form directly as a result of experience or social norms (Bohner and Dickel, 2011). This is also important in light of resisting to reflect. Piderit (2000) termed resistance to change as a negative attitude toward a certain change process. Schippers et al. (2014) pinpointed to the hindrance and facilitating factors of reflection (reflexivity) and to trainings and interventions in regard to the latter. Therefore, since time-spatial job crafting is a behavior that needs to be learned, it is important that employees experience the benefits of reflection and learn this in trainings.

Limitations and Research Agenda

The time-spatial job crafting perspective on work outcomes affords several valuable research opportunities. First of all, researchers interested in flexibility and job crafting should empirically address the model we proposed also in non-Western organizations. Second, it would be interesting to use an intervention study to test the concept of time-spatial job crafting or a case-study and conduct interviews to evaluate the effectiveness of such an intervention, also at the team-level.

Also, time-spatial job crafting imposes interesting challenges for leadership and cooperation. If employees are allowed to engage in time-spatial job crafting, and every employee adjusts time and location choices to his or her own preference, this requires on the one hand increased coordination among employees but also challenges for leadership. Interesting leadership questions the model might provoke are: Is there a preferred leadership style for time-spatial job crafting? How can a leader facilitate employees to engage in time-spatial job crafting? What does time-spatial job crafting mean for leader-membership exchange? It is also interesting in itself to know how to foster good time-spatial job crafting and for whom it may work best. For instance, interesting to investigate in a quantitative study might be whether there exist generational differences in time-spatial job crafting behavior. One might assume that it is easier for generation Y to embrace time-spatial job crafting since they are "pragmatic, open-minded, (. . .), innovation-oriented, [and] eager to experiment with new solutions" (Sujansky and Ferri-Reed, 2009, p. 135). Longitudinal studies should also address the long-term consequences of time-spatial job crafting. This is important to investigate as we indicated at the start of the article, that we restricted our suggestions to organizations that offer employees time-spatial flexibility. Also, it is conceivable that once employees become used to working in a flexible manner and where the task structure stays stable, time-spatial job crafting can also become a more routine-based behavior (cf. Schippers et al., 2014). This may be an interesting notion for future research to see whether time-spatial job crafting can positively contribute to work engagement, performance, and work-life balance above and beyond its daily effects.

An important caveat to the concept of activity magnet areas in general is that there are certain tasks, such as writing emails or correcting documents that could technically be undertaken from many different workplaces. Where this actually takes place will depend on personal preferences. While some employees prefer to answer an email in private, other workers do not mind doing so within the open office space. A possible avenue for future research may be to explore the role of personal preferences in choices regarding workplaces and working hours. The empirical distinctiveness of time-spatial job crafting and boundary management tactics represents also an interesting avenue for further research.

CONCLUSION

In the last two decades, time-spatial flexibility has become a popular approach to redesigning work. A considerable literature

emerged to examine the relationship between time-spatial flexibility and various outcomes, amongst other well-being, performance, and work-life balance. However, previous research failed to demonstrate an unequivocal business case for time-spatial flexibility identifying both positive and negative effects on well-being, performance, and work-life balance. We proposed a model of time-spatial job crafting that may help explain why prior studies found diverging and contradicting results. We posited that in order for employees to profit from time-spatial flexibility, time-spatial job crafting – a context-specific form of job crafting that entails reflection on time and place– can be seen as a strategy for staying well and being productive because it helps to find a time/spatial-demands fit. Accordingly, we offer a greater understanding of time-spatial flexibility for managers and a new direction for scholars examining new ways of working: time-spatial job crafting ensures that workers reflect in order to optimize time/spatial-demands fit.

AUTHOR CONTRIBUTIONS

CW played the primary role in the conception and drafting of the manuscript. CW and MS developed together the idea of time-spatial job crafting. MS played a major role in shaping the manuscript. SS and AB provided the critical revision to the manuscript and contributed to the conceptualization, writing, and editing. PvB and KP revised the work critically for important intellectual content. All authors contributed to all parts of the manuscript, agreed to all aspects of the work, and approved the final version of the manuscript.

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