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Wellbeing in telework: a systematic review of leadership competencies

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Introduction: In the context of Industry 5.0, organizations are experiencing significant changes in work arrangements, particularly through telework settings. Leaders face new challenges in reducing virtual distance, which also affects employee wellbeing in remote contexts. This systematic literature review examines empirical evidence on leadership competencies that promote teleworkers' wellbeing and analyzes the mechanisms and conditions under which these relationships occur.

Methods: We analyzed 31 empirical articles (23 quantitative and eight qualitative) published between 2000 and 2024 following PRISMA guidelines. The review focused on research examining leadership competencies in telework contexts and their relationship with different dimensions of wellbeing (hedonic, eudaimonic, and health-related).

Results: The review identified five key leadership competencies positively related to teleworkers' wellbeing. These include competencies for reducing operational distance (digital communication and goal management) and affinity distance (supervisor support, work-life facilitation, and participative leadership). Work-to-family enrichment, autonomy, and trust emerged as mediating mechanisms. Leaders' emotional intelligence, digital skills, and employees' work-life segmentation preferences were identified as relevant boundary conditions.

Discussion: While traditional leadership competencies remain important, they require substantial adaptation to reduce virtual distance and promote wellbeing in telework environments. The findings reveal gaps in current research, particularly regarding longitudinal studies and team-level outcomes. The results provide guidelines for developing leadership training programs that emphasize leaders' support, effective digital communication, and balanced goal management in telework contexts while considering specific mechanisms and contextual variables.

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telework, leadership, competencies, wellbeing, systematic review

1 Introduction

Industry 5.0 represents a paradigm shift that builds upon the digital transformation focus of Industry 4.0 by reintroducing a strong human element in organizations. While Industry 4.0 centered on digitalization, automation, and interconnectivity through cyber-physical systems, Industry 5.0 emphasizes human-machine collaboration, sustainability, and human-centricity (Breque et al., 2021). One of the key aspects of this shift is the transformation of work arrangements, particularly the rise of telework settings. Nowadays, the contemporary understanding of teleworking goes beyond its traditional definition of work performed outside the employer's location at least once a week. Modern telework

now includes both remote and hybrid arrangements, characterized by dynamic transitions between home and an organization's headquarters (Nakrošiene et al., 2019; Vartiainen and Vanharanta, 2024).

This transformation introduces new challenges in maintaining sustainable wellbeing for workers (Peiró et al., 2014). Despite the apparent benefits of teleworking, such as enhanced flexibility and reduced commuting time, organizations face significant challenges in maintaining employee wellbeing in remote contexts, for instance, coping with social isolation and dealing with operational issues such as difficulties in monitoring work progress without micromanaging, coordination barriers when team members work asynchronously across different time zones, technology integration issues when systems are not optimized for remote access, reduced contextual cues in digital interactions, and communication breakdowns (Beauregard et al., 2019; Raghuram et al., 2019; Shirmohammadi et al., 2022; Waight et al., 2022). Moreover, the digital workplace has introduced additional complexities such as technostress (stress experienced by individuals due to their use of information and communication technologies; Tarafdar et al., 2017) and digital fatigue (a state of mental exhaustion and disengagement resulting from excessive screen time and constant connectivity, characterized by decreased attention span, cognitive processing difficulties, and emotional depletion; Fauville et al., 2021), particularly affecting those new to remote work environments (Offstein et al., 2010). Also, the reduction in face-to-face interactions significantly affects the development of workplace relationships (Watson, 2007) and the development of career opportunities (Cullen-Lester et al., 2017), while the dissolution of work-life boundaries creates unique pressures in the remote work context (Bell et al., 2023).

Therefore, the new challenges that telework brings require a reconceptualization of leadership competencies (Alkhayyal and Bajaba, 2023; Contreras et al., 2020; Delanoeije and Verbruggen, 2020; Kozłowski et al., 2021; Pyöriä, 2011) to promote and ensure sustainable wellbeing levels in teleworkers. Traditional leadership research has identified several mechanisms that enhance wellbeing, including meaningful work, self-efficacy, motivation, justice, support, and empowerment (Nielsen and Taris, 2019). However, these mechanisms require reexamination in the context of technology-mediated work environments. Recent research highlights that effective leadership in telework involves more than just applying traditional leadership practices in virtual environments; it requires the development of specific competencies to manage remote work effectively (Alkhayyal and Bajaba, 2023; Bravo-Duarte et al., 2025; Contreras et al., 2020; Delanoeije and Verbruggen, 2020; Kozłowski et al., 2021; Ngayo Fotso, 2021; Peiró et al., 2024). In this context, Peiró and Martínez-Tur (2022) suggest that leaders must adapt their current behaviors and cultivate new ones suited to a digitalized and geographically dispersed work setting. This involves developing a new digital mindset, implementing effective communication strategies using digital media, supervising individuals in digital environments, navigating both, in-person and remote interactions, and selecting the media that best aligns with their objectives and goals.

For this purpose, the Virtual Distance Framework, developed by Lojeski and Reilly (2020), is a helpful framework for

understanding the new leadership competencies required in a telework environment. Lojeski and Reilly (2020) highlight that for organizations to be effective in telework environments, they must tackle two main challenges: operational distance and affinity distance. *Operational distance* involves the difficulties of coordinating work and sharing information through technology. On the other hand, *affinity distance* refers to the psychological and social disconnection that can occur when team members are physically apart. Leaders play a crucial role in addressing both challenges and supporting the wellbeing of teleworkers. In the context of Industry 5.0, this framework is also useful to address the management of human-technology interactions and their effects on employee wellbeing (Adel, 2022). Considering this virtual distance framework, our systematic review aims to identify key leadership competencies that promote wellbeing in telework settings either reducing operational or affinity distance. Additionally, we find it important to analyze the mechanisms and contextual factors that may influence these relationships, as they can impact the implementation of leadership competencies and their associated outcomes (Nielsen and Taris, 2019). Therefore, our research questions are the following:

RQ1. What leadership competencies effectively reduce operational and affinity distance to enhance teleworkers' wellbeing?

RQ2. How and when do these leadership competencies most effectively promote teleworkers' wellbeing?

To address the research questions, we conducted a structured literature review (SLR) focusing on the relationships between leadership competencies and wellbeing in telework contexts. An SLR is a thorough method for gathering literature that meets specific criteria, allowing us to identify themes, patterns, trends, or gaps, particularly in the field of human resource development (Rocco et al., 2023). Therefore, this review will provide an initial understanding of effective telework leadership competencies that can be applied to teams and organizations operating in full or hybrid telework arrangements, fostering wellbeing and enhancing workers' quality of life.

Furthermore, this systematic review uniquely contributes to the understanding of leadership in teleworking contexts. Despite similar systematic reviews that have been conducted on the associating leadership with wellbeing (Caputo et al., 2024; Lundqvist and Wallo, 2023) or performance outcomes (Bravo-Duarte et al., 2025), our research includes new contributions to the field. First, our study distinctively focuses on specific leadership competencies that favor teleworkers' wellbeing rather than general leadership styles, offering more precise behaviors and guidance for practice. Second, using the operational and affinity distance framework provides a theoretically grounded classification system for leadership competencies that enhances conceptual clarity. Third, our comprehensive analysis of both mediating mechanisms and boundary conditions represents a significant advancement, revealing how and when leadership influences teleworkers' wellbeing—an aspect largely underdeveloped in the existing literature. Fourth, by including qualitative research and distinguishing between different dimensions of wellbeing (hedonic, eudaimonic, and health-related), we provide a more nuanced understanding of leadership processes in telework settings. Finally,

we bring practical guidelines for HR managers and practitioners, to whom this review could serve as a foundational resource for determining the implications of future telework leadership training interventions, ultimately contributing to the creation of healthier organizations (Di Fabio and Peiró, 2018).

2 Methods

To address the research questions, we analyzed empirical studies published from January 2000 to June 2024, following the PRISMA guidelines for systematic reviews. This broader temporal scope enabled us to track the evolution of leadership approaches from initial telework implementations through the expansion of virtual teams in the 2010s and into the rapid adoption during and after the COVID-19 pandemic. We obtained systematically reviewed research from Scopus, PsycARTICLES, PsycINFO, ABI/INFORM, and Web of Science databases, as they offered complementary strengths, minimizing the risk of overlooking relevant research. Scopus and Web of Science were chosen for their extensive multidisciplinary coverage and citation-tracking capabilities. PsycARTICLES and PsycINFO were selected to capture psychological aspects of telework leadership and wellbeing. This review included quantitative and qualitative English, Spanish, and Portuguese studies.

The search terms were organized into four conceptual categories with the following structure: TITLE(Telework* OR "Remote Work*" OR "Smart work*" OR Telecommut* OR Virtual OR Digital*) AND ABSTRACT(Lead OR supervis* OR manag* OR e-leader*) AND ABSTRACT(Competenc* OR Practice OR Skill OR abilit* OR attitude) AND ABSTRACT("Wellbeing" OR Wellbeing OR "Occupational Health" OR "Quality of Life" OR Satisfaction OR "employee attitude" OR engagement OR affect OR stress).

For our inclusion criteria, we focused on peer-reviewed empirical research involving actual teleworking populations within the fields of organizational psychology and human resource management (HRM). In our exclusion criteria, we omitted research that did not involve teleworkers or teleworking contexts—such as studies based on student samples—and studies that did not consider leadership as an independent or antecedent variable. We also excluded studies that did not specifically examine distinct leadership competencies, for example, those focusing on general leadership models such as Leader-Member Exchange (LMX) or transformational leadership.

2.1 Study selection

The database search yielded 1,008 initial results. Applying exclusions criteria, we left 92 articles for full-text review. Two experts in the subject independently applied the selection criteria to ensure consistency in rating and reduce potential bias in study selection. These experts were researchers in organizational psychology with at least 5 years of experience in telework and

leadership research. Forty articles lacking dependent variables related to wellbeing were excluded (Figure 1).

After this filter, a systematic assessment of publication bias was conducted using a tailored scale explicitly developed for this literature review, following guidelines from Acosta et al. (2020). This scale evaluated: (1) the comprehensiveness of the literature search strategy, including the sources searched and the search terms used; (2) the inclusion of significant findings; (3) the adequacy of the sample, which consisted of teleworkers and leaders from actual organizations; and (4) the quality of the documents. This scale was designed to provide an indicator of publication bias that aligns with the parameters and scope of this review. This assessment served as an additional lens for readers to evaluate the objectivity and perspective of the review critically. As a result of this assessment, 18 articles were excluded for not including significant findings regarding leadership behaviors, and three for deficient quality regarding methodology or sample. Therefore, a total of 31 articles were reviewed. Studies on virtual teams were included, as they inherently involve teleworkers. Experimental studies were also considered. Additionally, since telework is seen as a continuum that can include on-site working days, research on hybrid arrangements was also incorporated. Two experts applied separately the selection criteria to confirm consistency in rating.

Each article was coded based on methodology, leadership framework, analysis level, sample characteristics, sample size, leadership variables, and the dimensions of wellbeing considered. We conducted our research according to the Systematic Literature Review (SLR) method outlined by Rocco et al. (2023), which involves a comprehensive, transparent, and reproducible search strategy to identify and synthesize relevant literature ensuring comprehensive coverage of the research topic. To systematize our findings, behaviors were thematically grouped to derive a final set of leadership competencies related to wellbeing outcomes.

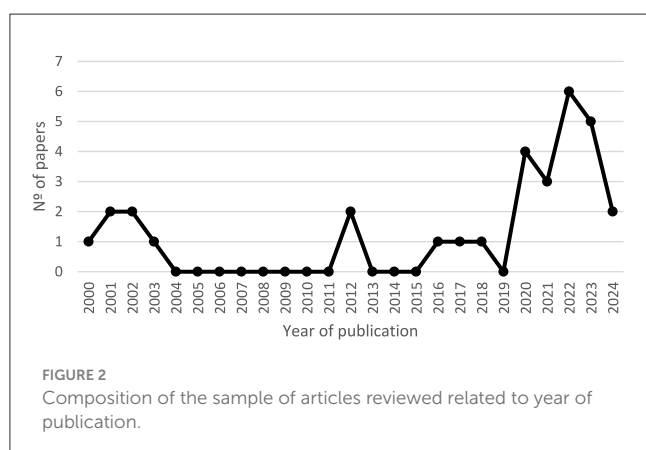
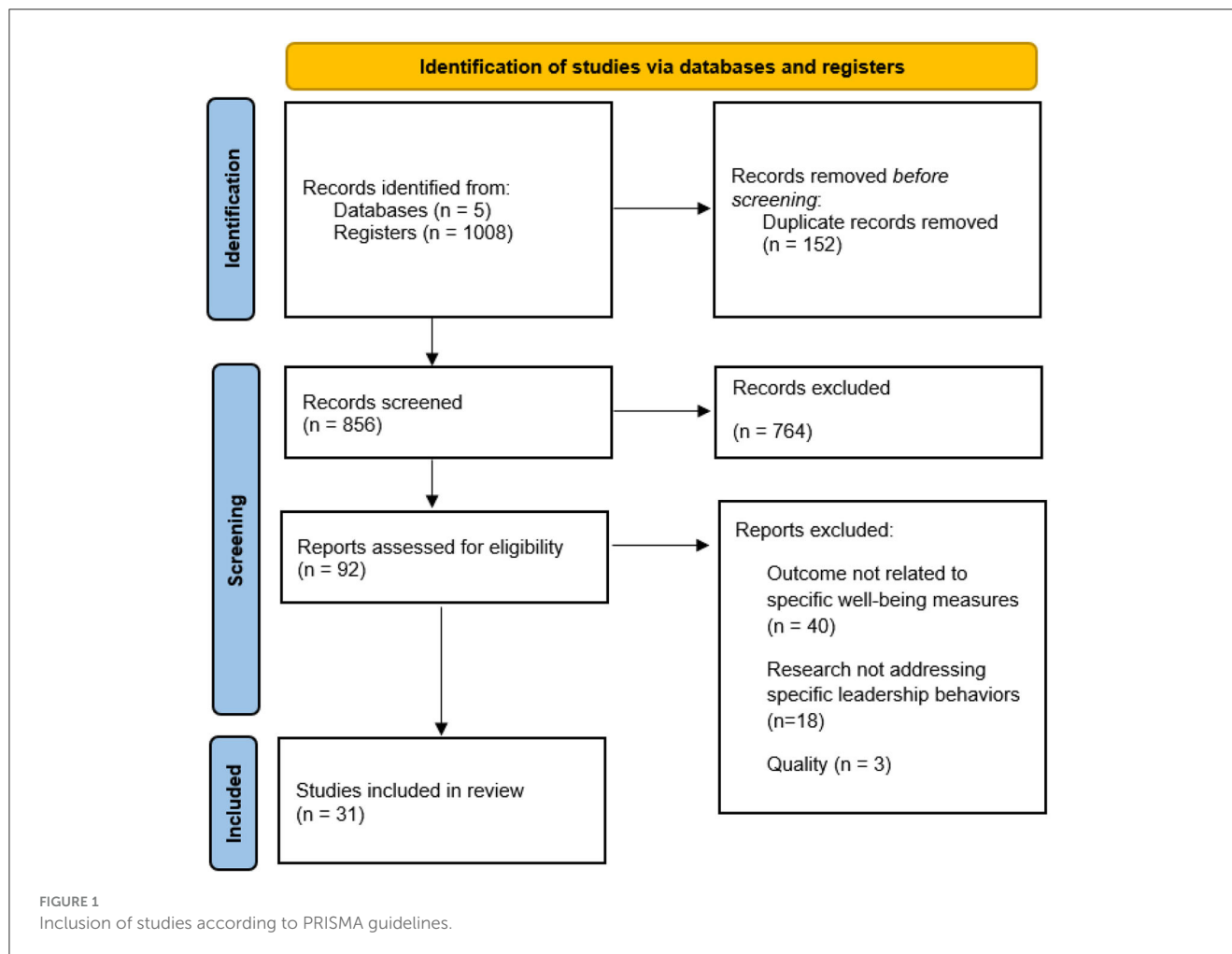
3 Results

The systematic review results are presented in two sections. First, we describe the reviewed literature regarding theoretical and methodological approaches. Then, we address the research questions regarding the relationships between leadership and wellbeing.

3.1 Theoretical and methodological approaches

We found 23 quantitative and eight qualitative studies that specifically examined the relationship between leadership behaviors and wellbeing outcomes, showing a predominant focus on quantitative methodologies. More information is described in Tables 1, 2.

Most reviewed articles were published within the last decade, with a significant concentration during the COVID-19 pandemic, particularly in 2020–2023. Given that 2020–2022 were the pandemic years, some competencies could not be extrapolated to the current reality; however, significant research from 2023 to 2024 (post-pandemic



years) has been conducted, contributing to understanding the relationships formed after the COVID-19 pandemic (Figure 2).

Regarding geographic distribution, most studies were conducted in the United States (nine), followed by Asia (India with three studies and China with one), Southern Europe (Italy with three studies and Portugal with two), North Europe (Germany

with three studies), and Canada (two). The remaining studies were distributed across different regions, including one from Australia (Oceania) and one from Romania (Eastern Europe).

In all, 23 quantitative studies, data sources were primarily from formal leaders' subordinates/followers. In qualitative studies, information was collected directly from leaders (e.g., Busse and Weidner, 2020), from both leaders and subordinates (e.g., Kurland and Cooper, 2002), or exclusively from subordinates (e.g., Yarberry and Sims, 2021). These studies typically involved smaller sample sizes (8–17 participants).

Regarding demographic considerations, while some studies achieved relative gender balance (e.g., Konradt et al., 2003, with 37 males and 35 females), others showed significant gender disparities. For example, Vătămănescu et al. (2022) reported 62.9% female participants, while Mutha and Srivastava (2023) had 75% male participants. Age reporting was inconsistent, with mean ages typically ranging from 30 to 45 years.

3.1.1 Conceptual approaches

Psychological wellbeing at work can be operationalized in different ways considering the hedonic, eudaimonic, or mental health-related dimensions (Warr and Nielsen, 2018). Specific patterns regarding the conceptual and operational approach

TABLE 1 Quantitative papers analyzing the relationship between leadership for telework and wellbeing indicators (23).

References	Sample	Independent variable(s)	Mechanisms and/or boundary conditions	Wellbeing outcomes
Challagalla et al. (2000)	Type: Remote and co-located workers N: 239 Sales workers in 2 Fortune 500 companies (168 remote vs. 71 co-located) Country: USA	Supervisory orientations (output, activity, capability)	Moderator: Salesperson location (on-site vs. remote)	Satisfaction with supervisor
Ilozor et al. (2001)	Type: Telecommuters N: 43 IT workers Country: Australia	Management communication strategies (clarity and regularity, telecommuting support, reviewing, provision of equipment, assistance in career development, training, and others)	None	Job satisfaction (<i>intention to leave, output perception, job stress-reducing, among others</i>)
Staples (2001)	Type: Remote and co-located workers N: 376 remotely managed and 255 locally managed employees in 18 organizations (tech, financial, and public sector) Country: USA	Frequency of communications from the leader	Mediator: Employee/manager trust (mediation not tested)	a. Job satisfaction b. Job stress
Haines et al. (2002)	Type: Telecommuters N: 193 workers of federal government agency, high-tech and financial institutions Country: USA	Supervisor support for telecommuting	Moderators: a. Affiliation motivation b. Self-management orientations	a. Satisfaction with telecommuting b. Work/life quality
Konradt et al. (2003)	Type: Teleworkers and non-teleworkers N: 30 home-centered teleworkers, 24 office-centered teleworkers, and 18 non-teleworkers from data processing, telecommunications, and financial services small companies Country: Germany	a. Quality of management by objectives (goal clarity, supervisory support, tangible rewards, goal efficacy, goal rationale, goal stress, goal conflict, among others) b. Task-related stressors c. Task-related resources d. Non-job related stressors	None	a. Psychological strain b. Job satisfaction
Kelley and Kelloway (2012)	Type: Teleworkers and non-teleworkers N: 151 remotely managed workers, 241 proximal-managed workers from production and service companies Country: Canada	a. Regularly scheduled communication b. Unplanned communication c. (Perceived) control d. Prior knowledge of leader and team	Mediator: Transformational leadership style	Job satisfaction
Madlock (2012)	Type: Full-time telecommuters N: 157 workers from insurance, healthcare, high-tech, and banking/finance companies Country: USA	a. Task and relationship orientations b. Communication competence	None	a. Job satisfaction b. Telecommuters communication satisfaction
Madlock (2018)	Type: Tele-commuters N: 222 workers from insurance companies Country: USA	a. Task and relationship orientations b. Communication competence	None	a. Job satisfaction b. Telecommuters communication satisfaction
Bartsch et al. (2020)	Type: Virtual workers due to COVID-19 N: 206 service workers Country: Germany	a. Task-oriented leadership behavior (manager) b. Relation-oriented leadership behavior (enabler)	Mediators: a. Individual Job autonomy b. Individual work tension c. Team cohesiveness d. Teamwork tension Moderator: Digital maturity	a. Individual work tension b. Teamwork tension
Bhumika (2020)	Type: Virtual workers due to COVID-19 N: 180 service workers Country: India	a. Participative leadership b. Work interference with personal life (WIPL) c. Personal life interference with work (PLIW)	None	Emotional exhaustion
Mutha and Srivastava (2023)	Type: Virtual team members N: 300 workers from IT, manufacturing, pharmaceutical and other industries Countries: India (72.5%), USA (7%), and UK (8.5%)	a. Effective leadership communication	Mediator: Trust between team members	Employee engagement

(Continued)

TABLE 1 (Continued)

References	Sample	Independent variable(s)	Mechanisms and/or boundary conditions	Wellbeing outcomes
Magnavita et al. (2021)	Type: Telecommuters N: 905 workers from 17 trade and service companies Country: Italy	a. Intrusive leadership b. Off-time work	Moderators: Workaholism	a. Effort/reward imbalance b. Anxiety c. Overall happiness d. Depression
Chambel et al. (2023)	Type: Teleworkers due to COVID-19 N: 318 workers (Study 1). 290 workers (Study 2) Country: Portugal	Family-supportive supervisor behavior	Mediators: a. Work-family conflict b. Work-family enrichment Moderator: Intensity of telework.	a. Exhaustion b. Work engagement
Chaudhary et al. (2022)	Type: Global virtual team members N: 810 workers from IT companies Countries: USA, UK, Denmark, Australia, and India	E-leadership competencies	Moderator: Emotional intelligence	Emotional wellbeing
Karani and Mehta (2022)	Type: Tele-workers due to COVID-19 N: 239 workers from sales departments Country: India	Supervisor support	Mediators: a. Psychological contract fulfillment b. Work engagement	a. Emotional wellbeing b. Psychological wellbeing c. Workspace wellbeing d. Life wellbeing
Vătămănescu et al. (2022)	Type: Virtual team members N: 175 workers from private and public organizations Country: Romania	Effectiveness of communication between leaders and team members	Mediator: Team performance	Satisfaction with teamwork
Giacomelli et al. (2023)	Type: Teleworkers N: 700 employees of a regional environmental protection agency Country: Italy.	a. Conditions for telework b. Supervisor support	Mediator: Job autonomy	Job satisfaction
Wang et al. (2023)	Type: Home based workers N: 276 employees Country: China	Home-based telework	Moderator: Family supportive leadership Mediators a. Workplace isolation b. Telepressure	a. Negative emotion b. Work engagement
Lee and Kim (2023)	Type: Tele-workers due to COVID-19 N: 449 workers from different industries Country: USA	Family-supportive leadership communication	Moderator: Segmentation preference Mediators Employee-organization relationship Work-life enrichment	Positive affect
Soares et al. (2023)	Type: Teleworkers N: 242 employees from different industries Country: Portugal	Supervisor support	Mediators: Satisfaction of basic psychological needs	Job satisfaction
Boccoli et al. (2024)	Type: Tele-workers due to COVID-19 N: 239 workers from the public sector Country: Italy	Perceived supervisor support	Moderator: Perceived supervisor digital communication skills	Work engagement
Hodzic et al. (2024)	Type: Home-based workers N: 242 employees from different industries Country: Germany and Austria	Telework	Moderator: Supervisor social support Mediators Knowledge sharing	Work engagement
Salvoni et al. (2024)	Type: Teleworkers due to COVID-19 N: 880 employees and 190 managers from public service Country: Canada	Managers' stress management competencies	Moderator: Manager-employee agreement	Psychological distress

to wellbeing can be identified. Most quantitative studies (12) approached it from a hedonic perspective, including satisfaction measures either with telework (one), supervisor (one), or the job itself (10). Other studies included psychological health-related aspects and operationalized them as tension/strain (three), stress/distress (two), emotions at work (two), exhaustion (one), anxiety, and depression (one). Six studies addressed it from a eudaimonic approach to wellbeing, operationalizing it as engagement during telework. Finally, four articles included measures of overall happiness or wellbeing.

3.1.2 Methodological approaches

The quantitative studies predominantly employed cross-sectional designs with individual-level analysis (20). The exceptions to this cross-sectional approach included Hodzic et al. (2024), who conducted a weekly diary study; Chambel et al. (2023), who employed a two-wave study design; and Salvoni et al. (2024), who conducted multilevel research.

In general terms, the samples were composed of remote workers, but some studies included both remote and non-remote workers (Challagalla et al., 2000; Konradt et al., 2003).

TABLE 2 Qualitative papers analyzing the relationship between leadership for telework and wellbeing indicators (8).

References	Design	Sample	Sex/age variables	Approach to leadership
Kurland and Cooper (2002)	Individual semi-structured interviews	Type: Supervisors, telecommuters, and non-telecommuters N: 17 leaders and 36 workers from IT teams Country: USA	Sex: 31 males and 21 females Age: 31–62 (mean not reported)	<i>Competencies:</i> Control Mentoring
Hoegl and Muethel (2016)	Individual Questionnaires	Type: Virtual team leaders and members N: 96 leaders and 337 workers from 96 IT teams Countries: Germany, and members from other European countries	<i>No information on sex or age of respondents</i>	<i>Competencies:</i> Decision making Autonomy promotion
Poulsen and Ipsen (2017)	Individual Semi-structured interviews	Type: Virtual team leaders and members N: 17 Production and service workers Country: Denmark	<i>No information on sex or age of respondents</i>	<i>Competencies:</i> Planning Communication Feedback
Busse and Weidner (2020)	Individual Semi-structured interviews	Type: Distant leaders (partially) N: 10 Production and service leaders Country: Germany	Sex: 8 males and 2 females Age: 46.5 (mean)	Agile leadership
Efimov et al. (2020)	Individual Semi-structured interviews	Type: Virtual team leaders N: 13 leaders from IT, manufacturing, aerospace, and logistics industries Country: Germany	Sex: 13 males and 0 females Age: 38.46% between 30 and 40	Health-oriented leadership
Yarberry and Sims (2021)	Individual Semi-structured interviews	Type: Employees from various professions working virtually due to COVID-19 N: 8 workers Country: USA	Sex: 4 males and 4 females Age: Between 32 and 63	Virtual mentoring Empowerment
Barhate et al. (2022)	Individual Semi-structured interviews	Type: IT sector leaders N: 12 total (6 per country) Countries: India and United States	<i>No information on sex or age of respondents</i>	Distributed leadership Empathy Flexibility

All studies utilized self-reported measures for the variables studied, such as satisfaction, engagement, and psychological health-related scales, operationalized at the individual level. No studies focused on the team level.

Finally, the qualitative studies (eight) employed various methodological approaches. Semi-structured interviews were the predominant data collection method used in most studies (six). Félix (2022) employed a case study methodology, while Hoegl and Muethel (2016) used individual questionnaires.

3.2 What leadership competencies are related to teleworkers' wellbeing?

We found 16 and 15 studies that, respectively, analyzed the relationships between teleworkers' wellbeing with leadership competencies aimed at reducing operational distance and aimed to reduce affinity or relational distance. Several wellbeing indicators have been considered: job satisfaction, job stress, work engagement, psychological strain, teamwork tension, satisfaction with telecommuting, work-life quality, exhaustion, and emotions. In the next paragraphs, we detail the main results of this review.

3.2.1 Competencies aimed to reduce operational distance

Our analysis identified two key competencies aimed at reducing operational distance that consistently demonstrated relationships with teleworkers' wellbeing: digital communication and goal management.

First, **digital communication**, defined as leader's ability to effectively transmit information, provide feedback, and maintain presence through technology-mediated channels, appeared in seven quantitative studies: Five studies examined relationships with hedonic wellbeing (primarily job satisfaction), one with eudaimonic outcomes (engagement), one with psychological health (reduced stress), and two qualitative studies explored broader wellbeing impacts.

Regarding hedonic wellbeing outcomes, two studies focus on message delivery. Madlock (2012) identified a correlation between communication competence (maintaining appropriate conversational norms, encompassing both knowledge and skill in message delivery) and teleworkers' job satisfaction. In addition, Vătămănescu et al. (2022) concluded that effective usage of different channels, inspiring members via emphatic messages, clarifying misunderstandings and sharing knowledge between leaders and team members leads to increased satisfaction with telework,

primarily by improving team performance. Both studies consider the two communication modes: synchronous (video meetings, phone calls) and asynchronous (email, messaging).

Furthermore, two studies focus on communication frequency and planning, especially regarding asynchronous communications. Staples (2001) discovered that the frequency of communications from leaders showed a positive relationship with interpersonal trust between the manager and employee, which was positively and significantly related to job satisfaction. This is also corroborated by Kelley and Kelloway (2012), who found that both regularly scheduled (planned meetings and check-ins) and unplanned communication (informal interactions) from leaders significantly correlate positively to job satisfaction. Nevertheless, the authors found that unplanned communication showed a stronger relationship than scheduled communication, explained that it increases interaction frequency, and its spontaneous nature may make individuals feel more valued by their leader.

Moreover, Chaudhary et al. (2022) grounded on the e-leadership competency framework developed by Van Wart et al. (2019) to explore the relationship of communication skills with wellbeing. E-leadership is defined as the effective use and blending of electronic and traditional methods of communication (Van Wart et al., 2019). Chaudhary et al. (2022) found that three e-leadership competencies: e-communication skills (communicating clearly and effectively through virtual media while minimizing errors and miscommunication), e-change management skills (effectively managing change initiatives via digital channels), and e-technological skills (demonstrating technological fluency by staying updated on relevant technology developments and addressing ICT security concerns) were positively associated with emotional wellbeing, defined as factors such as optimism and interest in new experiences (Chaudhary et al., 2022).

Only one study considers eudaimonic measures of wellbeing, and another studied its relationship with psychological health. Mutha and Srivastava (2023) highlighted that speaking and listening skills, combined with fostering an environment of open communication, providing appropriate information, and effectively addressing issues, positively relates to trust which, in turn, enhances the engagement of teleworkers. Regarding psychological health, Staples (2001) found a negative relationship between the frequency of communication between leaders and subordinates and job stress.

Two qualitative studies further reinforce the importance of digital communication in teleworking contexts. Félix's case study (2022) pointed out the importance of leaders giving key information and highlighting the achievements of teleworkers as a key competency to promote their engagement and retention in the company. The author also indicates that this set of behaviors promotes healthy relationships that generate satisfaction and a sense of fairness in the team. In addition, the leaders interviewed by Barhate et al. (2022) highlighted useful practices, such as improving communication and promoting virtual meeting platforms, to facilitate teleworkers' wellbeing.

Second, **goal management** competencies appeared in four studies specifically related to hedonic measures of job satisfaction. Challagalla et al. (2000) found that compared to collocated teams, in remote teams, the leaders' orientation on activities (specifying the goals and processes of daily activities) was positively related to

higher satisfaction with the supervisor. In a sample of teleworkers, Ilozor et al. (2001) found that those teleworkers who rated their leaders as more effective at clarifying job responsibilities and providing clear deadlines and expectations were related to higher levels of job satisfaction. The authors explained that this clarity enhances work quality and employee loyalty over time, both related to job satisfaction. More recently, the research of Giacomelli et al. (2023) in Italian public organizations found that leadership behaviors aimed at clarifying the contribution to organizational goals, giving contingent rewards, feedback, and motivation were strong mediators in the relationship between teleworking conditions and job satisfaction. Beyond job satisfaction, this type of leadership behavior was also found to be related to psychological health. Konradt et al. (2003) found that quality of management by objectives (including providing clear goals and adequate feedback on progress) had a significant negative relationship with psychological strain and a positive one with job satisfaction.

However, one study by Bartsch et al. (2020), in a sample of service workers during to COVID-19 lockdown, found no relationship between operational competencies—defined here as enabling leadership roles that focus on structuring tasks and controlling work results—and psychological health, including individual and teamwork tension among virtual workers. In this case, the authors concluded that managerial competencies were not related to affective processes in uncertain times, such as the pandemic emergency.

These findings are further qualified by qualitative research and extend the analysis to eudaimonic measures of wellbeing. In their interviews with leaders, Busse and Weidner (2020) suggest a U-shaped relationship between agile leadership—characterized by anticipating change, building confidence, initiating actions, freeing the mind, and evaluating results—and teleworker engagement. They found that moderate levels of agile leadership, combined with the appropriate use of digital tools, can enhance teleworker engagement. However, when leaders exhibit excessive presence and monitoring, engagement tends to decrease. Kurland and Cooper (2002) interviewed virtual leaders and found that managers who focus solely on results tend to make teleworkers feel more isolated, which negatively impacts their wellbeing. In this sense, qualitative research might help to better understand how this competence is displayed.

3.2.2 Competencies aimed to reduce affinity (relationship) distance

Our analysis identified three key competencies aimed at reducing affinity distance that consistently demonstrated relationships with teleworkers' wellbeing: leaders' support, work-life facilitation and participative leadership.

First, seven studies found that leaders' **support** is a key competence for hedonic and eudaimonic measures of teleworkers' wellbeing, particularly regarding job satisfaction and work engagement. For instance, Haines et al. (2002) found a positive relationship between managerial support (keeping teleworkers informed, taking home working schedules into account, checking their status, listening to their problems, and offering solutions) and satisfaction with telecommuting and work-life quality. Similarly,

Soares et al. (2023) found that employees who perceive their supervisors as appreciative, supportive, and caring reported higher levels of job satisfaction.

In terms of work engagement, Karani and Mehta (2022) pointed out that supervisor support (giving feedback, learning, and development opportunities) favors psychological contract fulfillment and work engagement, which they also found to be positively related to other wellbeing indicators (emotional, psychological, work-related, and general wellbeing). Boccoli et al. (2024), Hodzic et al. (2024), and Wang et al. (2023) also supported the positive relationship between perceived supervisor support and work engagement in remote work settings.

Moreover, Wang et al. (2023) found a negative relationship between leadership support and negative emotions, particularly focusing on feelings of anxiety, sadness, and other unpleasant emotions. Regarding mental health, Bartsch et al. (2020) found that leader-enabling behaviors—such as empowering and supporting employees, fostering their autonomy, promoting collaboration, and stimulating adaptability—can reduce tension levels within the team.

Qualitative research reinforces these findings. In their interviews with virtual team leaders, Efimov et al. (2020) found that generating conditions where teleworkers feel supported is critical. They reported that a practical way to act as supportive is to proactively monitor the emotional status of their teleworkers through “check-in” activities (structured and brief virtual interactions specifically designed to assess teleworkers’ emotional and psychological states) and give them constant appreciation virtually, which is usually done naturally when arriving physically at the office. Yarberry and Sims (2021) also highlighted that virtual mentoring is essential for providing emotional support, creating opportunities for dialogue, and enhancing an overall sense of wellbeing and belongingness. Supporting this statement, Kurland and Cooper (2002) found that managers who mentor teleworkers and promote team synergy help prevent feelings of professional isolation among their employees.

Second, three studies found support for the relationship between leaders’ **work-life facilitation** competencies and teleworkers’ wellbeing. Chambel et al. (2023) found that family-supportive supervisor behaviors (linked to emotional and instrumental support, giving creative suggestions to balance work and family, and acting as a role model for this balance) were negatively associated with exhaustion and positive engagement of teleworkers through reduced work-family conflict and increased work-family enrichment. Moreover, Lee and Kim (2023) also found that family-supportive leadership communication (including behaviors such as listening to family concerns, understanding family needs, acknowledging family obligations, caring about work-life effects, supporting work-family balance, and showing concern for employees’ families) positively influences employees’ positive affect. Finally, Magnavita et al. (2021) found that intrusive leadership (described as a style that does not respect workers’ privacy and demands off-time) is positively associated with teleworkers’ anxiety, depression, and perception of work’s effort-reward unbalance.

Additionally, the qualitative study by Poulsen and Ipsen (2017) with virtual teams documented that leaders who positively impact wellbeing develop the ability to get closer to their teleworkers,

generating personalized meeting instances to talk about these issues and seek solutions to work-family conflicts.

Finally, Bhumika (2020), identified a negative relationship between **participative leadership behaviors**—defined as consulting subordinates about problems and potential solutions—and emotional exhaustion. However, this relationship was observed only through the mediating effect of reduced work interference with personal life (WIPL). This finding is also supported by qualitative research conducted by Hoegl and Muethel (2016), who interviewed virtual team leaders and members. They concluded that a management style that employs delegation principles and emphasizes autonomy has a positive impact on employees’ wellbeing.

In conclusion, these findings show empirical support for the importance of relationship-oriented leadership competencies, such as providing support or facilitating work-life balance, in enhancing teleworkers’ wellbeing, job satisfaction, and engagement. However, it is worth noting that research that has considered simultaneously leaders’ operational-oriented and relationship-oriented competencies has found the former to remain the main predictors of wellbeing. In Madlock’s studies (2012, 2018), task-oriented leadership was the most significant predictor of job satisfaction, while a relationship-oriented leadership style showed weaker relationships and lost predictive power when considered simultaneously. Additionally, Chaudhary et al. (2022) also found that only the three operational-oriented competencies of the Roman et al. (2019) model (e-communication skills, e-change management skills, and e-technological skills) predicted emotional wellbeing when considered in the same model the relationship-oriented ones (e-social, e-team, and e-trust). These findings suggest that in telework contexts, clear direction and structure may be more crucial or necessary for job satisfaction or emotional wellbeing than relational aspects of leadership.

3.3 How and when do leadership competencies show stronger relationships with teleworkers’ wellbeing?

For understanding the relationship between leadership competencies and teleworkers’ wellbeing it is important to examine the mechanisms (mediators) and boundary conditions under which this relationship emerges. Empirical research has explored to some extent potential mechanisms. Less is known about the boundary conditions that facilitate or impede these relationships.

3.3.1 Mediators

The study of mediators is mainly directed to analyze the relationship between leadership support behaviors and hedonic and eudemonic measures of wellbeing (seven studies). Karani and Mehta (2022) found that **fulfillment of the psychological contract** between leader and employee mediates the relationship between supervisor support and work engagement. **Satisfaction of basic psychological needs** (autonomy, competence, and relatedness) was also found by Soares et al. (2023) to mediate the relationship between supervisor support and job satisfaction in

telework settings. Supervisor support had the most significant impact on satisfying autonomy needs, with lower effects on competence and relatedness. This finding highlights how supervisor support indirectly enhances job satisfaction by fulfilling essential psychological needs, particularly the need for autonomy. Supporting this finding, [Giacomelli et al. \(2023\)](#) found that **job autonomy** mediates the relationship between supervisory support and job satisfaction in telework settings. They emphasize the importance of autonomy for knowledge teleworkers, allowing them to leverage their expertise and shape their work to meet personal needs and expectations.

Another mediator explored by research is trust, which is an essential mechanism related to the wellbeing of workers. [Mutha and Srivastava \(2023\)](#) explored the role of **trust between team members** as a mediator between leaders' communication effectiveness and work engagement. The authors concluded that digital communication plays a crucial role in fostering a climate of trust where virtual team members feel comfortable sharing ideas and concerns despite physical separation, which in turn favors teams' engagement at work. Moreover, [Staples \(2001\)](#) found that **trust in leaders** also mediates the relationship between communication frequency from leaders and job satisfaction (positively) and job stress (negatively). Therefore, trust in a leader could be an enhancer of positive wellbeing outcomes and act as a buffer to prevent job stress in scenarios when communication is reduced. Therefore, trust appears particularly vital in telework contexts where interactions are reduced, and employees must rely more heavily on leaders' and colleagues' integrity and consistency in conveying messages.

Regarding work-life balance, [Chambel et al. \(2023\)](#) found that **work-to-family enrichment (WFE)** and **work-to-family conflict (WTC)** mediate the relationship between supportive leadership and employees' wellbeing, decreasing exhaustion levels and increasing engagement. Thus, when leaders were more supportive, the level of enrichment was higher and the level of conflict was lower, which in turn was related to lower levels of exhaustion and higher engagement ([Chambel et al., 2023](#)). Finally, concerning measures related to psychological health, one study ([Bhumika, 2020](#)) found **work interference with personal life (WIPL)** to mediate the negative relationship between participative leadership and emotional exhaustion.

3.3.2 Moderators or boundary conditions

Only five studies explored under which conditions the relationship between leadership (mainly relationships-oriented competencies) and teleworkers' wellbeing could be strengthened or weakened. First, [Lee and Kim \(2023\)](#) supported the moderator role of **workers' segmentation preference**, defined as separation regarding work vs. life. For employees who prefer to segment their work and personal lives, the relationship between supportive leadership and positive affect was stronger.

Second, the **intensity of teleworking**—the proportion of work time spent in remote arrangements—represents a potentially critical boundary condition for leadership effectiveness. [Chambel et al. \(2023\)](#) found mixed results regarding its moderating role. Their research revealed that telework intensity did not moderate

the indirect effect of family-supportive supervisor behaviors (FSSB) on exhaustion through work-to-family conflict (WFC) mediation. However, they found a significant interaction between FSSB and telework intensity on engagement in the work-to-family enrichment (WFE) mediation model. Specifically, FSSB had a significant direct effect on engagement only when telework intensity was low, becoming non-significant at higher intensity levels. These findings highlight a potential challenge for leadership support as telework intensity increases.

Third, [Boccoli et al. \(2024\)](#) found that **supervisors' digital skills** moderate the relationship between perceived supervisor support and work engagement. These authors propose that proficient use of digital tools enhances supervisors' psychological presence, intensifying the positive effect of support on engagement.

Fourth, [Chaudhary et al. \(2022\)](#) identified **leaders' emotional intelligence** as an important moderator in the relationship between e-leadership skills and teleworkers' mental and emotional wellbeing. In this study, emotional intelligence was defined through four dimensions: self-awareness (understanding one's own emotions), self-management (regulating emotional expressions), social awareness (recognizing the emotional states of others), and relationship management (positively influencing others' emotions through interactions). The findings indicated that emotional intelligence significantly strengthened the positive link between e-leadership competencies (such as e-communication, e-change management, and e-technological skills) and the wellbeing of teleworkers. This implies that leaders' e-competencies can greatly enhance employees' wellbeing when paired with emotional intelligence. Consequently, leaders who effectively manage their emotions while using digital media are likely to be more successful in addressing employee wellbeing issues, which can be particularly challenging in telework environments.

Finally, [Magnavita et al. \(2021\)](#) found that teleworkers' **workaholism** positively moderated the relationship between intrusive leadership and the perception of balance between efforts and rewards, a variable that they also associated with job stress. The authors conclude that in presence of high levels of workaholism, intrusive leadership led to increased occupational stress and potential negative health effects compared to workers with lower levels of workaholism. This finding suggests that workaholism serves as a critical moderating variable that can amplify, rather than merely influence, the relationship between intrusive leadership and teleworkers' wellbeing.

In summary, research on mechanisms and boundary conditions of the relationship between leadership competencies and wellbeing in the teleworking context is scarce. However, some job and work-family balance resources, such as autonomy or WFE, could explain the mechanisms linking those constructs. Contextual factors such as conditions of telework (intensity) or leaders' and employees' characteristics could play a relevant role in this process as boundary conditions.

4 Discussion

This systematic review aims to identify relevant leadership competencies that promote teleworkers' wellbeing by addressing the challenges of operational and affinity distance in virtual work

environments. In this sense, it aims to contribute to Industry 5.0's objective of using new technology and production processes in service of wellbeing and social development (EU, 2024). Our findings reveal several key patterns regarding the specific competencies that effectively reduce these dimensions of virtual distance, as well as the mechanisms and boundary conditions under which they influence teleworkers' wellbeing outcomes. Addressing our first research question about relevant leadership competencies that reduce operational and affinity distance to enhance teleworkers' wellbeing, our review identified five key competencies that consistently emerged.

Two competencies were found to be relevant to reduce operational distance: digital communication, and goal management. **Digital communication** was examined in nine studies with two main components. The *frequency* component addresses the optimal cadence of communication, balancing sufficient contact to maintain presence without creating communication overload. In deep, research such as Ilozor et al. (2001), Staples (2001), and Kelley and Kelloway (2012) found that higher frequency of both, scheduled and spontaneous communications, positively affected satisfaction. However, unplanned interactions showed stronger benefits (Kelley and Kelloway, 2012), possibly because they replicate the natural workplace interactions that teleworkers often miss. Another relevant component. This factor becomes crucial, especially since reduced contextual cues in digital communication increase the risk of misinterpretation (Raghuram et al., 2019). Research by Madlock (2012) and Mutha and Srivastava (2023) has shown a correlation between leaders' competence in delivering messages—being aware of the communication goals, understanding the audience, and recognizing relevant norms—and the wellbeing of teleworkers. Together, these components play a significant role in determining whether digital communication effectively addresses the operational gaps that exist in remote work environments. Addressing these gaps is essential for successful telework leadership.

Goal management was considered in four studies. Establishing clear objectives, activities, and tasks appeared as actions that could favor wellbeing outcomes, especially job satisfaction (Challagalla et al., 2000; Ilozor et al., 2001; Giacomelli et al., 2023). Nevertheless, when related to measures such as work engagement, excessive goal management could also harm workers' eudemonic wellbeing, suggesting a U-shaped relationship (Busse and Weidner, 2020).

Regarding the reduction of affinity distance, three competencies were identified: supervisor support, teleworkers work-life facilitation, and participative leadership. **Support** emerged as one of the most consistently studied and impactful competencies, appearing in nine studies. While supportive leadership is valuable in all work contexts, the reviewed research suggests it takes on distinct characteristics in telework environments. Unlike face-to-face support, which often occurs spontaneously and relies heavily on non-verbal cues (Raghuram et al., 2019), supervisor support in virtual contexts requires more deliberate implementation through structured check-ins, explicit verbal affirmation, scheduled mentoring and proactive outreach (Efimov et al., 2020; Kurland and Cooper, 2002; Yarberrry and Sims, 2021). Face-to-face support benefits from physical presence and shared environmental context,

while virtual support must overcome the limitations of reduced social presence and increased psychological distance (Lojeski and Reilly, 2020). Therefore, effective remote support appears to place greater emphasis on explicit communication of appreciation, more frequent acknowledgment of achievements, and more intentional expressions of concern for wellbeing, which research has found to lead to higher job satisfaction and work engagement while reducing psychological distress (Soares et al., 2023; Boccoli et al., 2024).

Teleworkers' work-life facilitation is identified in four studies. Leaders who actively support work-life balance appear to have a significant positive impact on employee wellbeing outcomes. This is supported in quantitative research showing how family-supportive supervisor behaviors reduce work-family conflict and exhaustion while enhancing engagement (Chambel et al., 2023). It is also supported in qualitative studies emphasizing the importance of boundary management support (Efimov et al., 2020; Poulsen and Ipsen, 2017). Interestingly, the effectiveness of this support appears to vary based on individual preferences, with stronger positive effects for employees who prefer clear boundaries between work and personal life (Lee and Kim, 2023). This suggests that leaders need to not only provide work-life support but also tailor their approach to individual employee preferences regarding work-life boundaries.

Finally, despite being noted by two studies only, **participative leadership** is identified as a competence that can favor teleworkers' wellbeing, especially with participative actions promoted by leaders (Bhumika, 2020; Hoegl and Muethel, 2016).

The results found reveal that reducing virtual distance requires a multifaceted approach. Leaders must simultaneously address both the technical and coordination challenges of operational distance and the psychological and social challenges of affinity distance to effectively support teleworker wellbeing, considering both types of behaviors (Lojeski and Reilly, 2020).

Regarding our second research question about mechanisms and boundary conditions, our findings reveal several important pathways through which leadership influences teleworkers' wellbeing. For example, trust between team members and leaders emerged as a mediating mechanism that effective communication is related to and contributes to positive wellbeing outcomes (Staples, 2001; Mutha and Srivastava, 2023). Moreover, some mechanisms were pointed out for supervisor support, which is linked to engagement through the fulfillment of the psychological contract (Karani and Mehta, 2022), and with exhaustion through the decrease of work-family conflict (Chambel et al., 2023). Therefore, there are variables at the individual and/or group level that can mediate between the leaders' competencies and wellbeing, an issue that is important to be addressed in this new context. Also, some research has initiated the study of boundary conditions that help to understand when these leadership competencies are most effective. Leader characteristics, particularly their emotional intelligence and digital communication skills, influenced how well they could implement these competencies in virtual settings (Chaudhary et al., 2022). Employee characteristics also mattered significantly—for instance, their preferences for work-life segmentation affected how they responded to different leadership approaches (Lee and Kim, 2023).

Interestingly, the intensity of telework emerged as a potentially critical factor influencing the relationship between leadership competencies and wellbeing outcomes, showing mixed results as a boundary condition. [Chambel et al. \(2023\)](#) found that the effectiveness of leadership behaviors remained relatively constant regardless of how much time employees spent working remotely. This suggests that leadership behaviors may have varying impacts based on the amount of time employees spend in remote work arrangements. For instance, when employees engage in high-intensity telework—nearly full-time remote work—they might develop more autonomous coping strategies that lessen their dependence on leader support. Alternatively, full-time telework could introduce additional challenges that require different leadership behaviors, a topic that deserves further exploration in research, as only a few studies are addressing it.

Finally, the role of individual characteristics, particularly workaholism, emerged as another significant consideration. [Magnavita et al. \(2021\)](#) discovered that workaholic teleworkers suffered more negative effects of intrusive leadership styles (characterized by high control and micromanagement), presenting higher levels of anxiety and effort/reward imbalance. This highlights the importance of leaders being aware of employee working patterns, which can have a significant impact on their wellbeing.

4.1 Theoretical implications

Our findings suggest that, while general principles of effective leadership for wellbeing remain relevant for telework, these arrangements introduce unique challenges that require specific adaptations to address both operational and affinity distance. That is, telework environments requires not just learning new technologies but reconceptualizing core leadership behaviors.

For example, the evidence indicates that telework contexts demand a more deliberate and proactive leadership approach to reduce both operational and affinity distance, to maintain employees' wellbeing. Leaders must consciously bridge those physical distances through constant goal clarification, intentional communication, and planned relationship-building efforts. Furthermore, while supervisor support has long been recognized as crucial for employee wellbeing, our review suggests it takes on heightened importance in telework settings, particularly through mediating mechanisms such as work-family balance ([Chambel et al., 2023](#)) and psychological contract fulfillment ([Karani and Mehta, 2022](#)), and acting as a key competence to reduce affinity distance with teleworkers.

Moreover, how leaders communicate and support wellbeing must evolve to account for reducing virtual distance. For example, [Bartsch et al. \(2020\)](#) found that relationship-oriented leadership behaviors required different implementation strategies in telework settings to reduce teamwork tension effectively. Moreover, qualitative research (e.g., [Magnavita et al., 2021](#)) suggests that traditional monitoring practices could become particularly problematic for wellbeing in telework contexts, which requires new strategies to check teleworkers' wellbeing status.

Also, emerging research on e-leadership models has begun to address these unique demands. However, the results have been mixed. While some studies found positive effects of e-leadership competencies on emotional wellbeing ([Chaudhary et al., 2022](#)), others revealed more complex relationships moderated by factors such as digital communication skills and work-life preferences ([Lee and Kim, 2023](#)). This suggests that simply translating traditional leadership approaches to digital formats may not be sufficient and supports the idea of developing new behaviors to reduce virtual distance.

These findings highlight a critical gap in current understanding: while we know these competencies matter for teleworker's wellbeing, we have limited knowledge about how they should be "digitalized" to maximize effectiveness in virtual or hybrid settings ([Peiró and Martínez-Tur, 2022](#)). The varied results across studies suggest that context and individual differences play crucial roles in determining leadership effectiveness for wellbeing outcomes, emphasizing the need for more nuanced theoretical frameworks specifically adapted to telework settings. More research is needed on this issue.

Finally, our findings indicate that operational and affinity distance reduction are not separate processes but interconnected dimensions of effective teleworking leadership, as both can enhance teleworkers' wellbeing and help to reduce overall virtual distance.

4.2 Practical implications

These findings have important implications for organizations developing leadership capabilities in teleworking contexts. The evidence suggests organizations should prioritize developing three key areas of leadership competence while considering relevant boundary conditions and mechanisms.

First, development programs should emphasize supervisor support as the primary focus, given its consistent relationship with wellbeing outcomes. This also can be related to telework-life promotion, another competence highlighted in the research. In this case, leaders could be trained to provide emotional support virtually, manage work-life boundaries, and address isolation concerns ([Efimov et al., 2020](#)). This includes developing skills in virtual check-ins and emotional assistance provision, particularly in supporting work-family balance as highlighted by [Chambel et al. \(2023\)](#) and [Lee and Kim \(2023\)](#).

Second, digital communication effectiveness training should also focus on improving communication strategies. As demonstrated by [Ilozor et al. \(2001\)](#) and [Mutha and Srivastava \(2023\)](#), leaders need to learn optimal communication frequencies and message clarity in virtual environments. The training should emphasize how communication builds trust in both leaders and members, which emerged as a crucial mediating mechanism in two studies ([Staples, 2001](#); [Mutha and Srivastava, 2023](#)).

Third, regarding goal management, teleworking development programs should emphasize clear objective setting without micromanagement, also encouraging empowering behaviors that allow teleworkers to participate in decisions and be

autonomous (Bhumika, 2020). For example, Konradt et al. (2003) suggest that structured goal-setting practices can help reduce uncertainty and anxiety in remote work settings while maintaining employee autonomy.

Fourth, work-life facilitation training should develop leaders' awareness of teleworkers' unique boundary challenges (Chambel et al., 2023), techniques for modeling boundaries (Lee and Kim, 2023), protocols for preventing work intrusion (Magnavita et al., 2021), and flexible scheduling approaches respecting individual circumstances (Poulsen and Ipsen, 2017).

Fifth, participative leadership development should create inclusive decision-making processes (Bhumika, 2020), establish decision-making frameworks that enhance autonomy (Hoegl and Muethel, 2016), and implement feedback channels encouraging employee input regardless of their location.

Finally, development programs should also address key boundary conditions, including adapting approaches based on employees' work-life segmentation preferences (Lee and Kim, 2023), adapting telework leadership behaviors according to telework intensity (Chambel et al., 2023), developing emotional intelligence for virtual contexts (Chaudhary et al., 2022), and enhancing digital skills to maximize benefits of digital media (Boccoli et al., 2024).

4.3 Future research

Despite the findings in the literature, there are gaps that further research needs to consider. First, the heterogeneity in wellbeing measures across studies made direct comparisons challenging. Studies used various constructs ranging from job satisfaction to psychological distress, limiting our ability to draw precise conclusions about the relative effectiveness of different leadership approaches, and their relationship with operational or affinity distance.

Second, most studies relied on cross-sectional designs and self-report measures. This limits our ability to make causal inferences about how leadership behaviors influence wellbeing over time. Future research should employ longitudinal designs to allow the study of time dynamics of these relationships.

Third, there is a notable geographic concentration of studies in certain regions, particularly in the USA. This may limit generalizability to other cultural contexts where telework and leadership practices might differ significantly.

Fourth, it is important to extend the analysis of wellbeing at the team level, which can provide interesting insights regarding how leadership can favor collective wellness across team members who work remotely.

Looking forward, several directions for future research emerge. Longitudinal studies are needed to understand how leadership influences teleworkers' wellbeing over time and how these relationships might evolve as organizations adopt more permanent hybrid work arrangements. Research should also examine how cultural and organizational contexts shape the effectiveness of different leadership approaches in telework settings.

Additionally, studies should explore a broader range of wellbeing outcomes beyond job satisfaction and stress. As

suggested by recent work (Chambel et al., 2023; Wang et al., 2023), examining eudaimonic wellbeing measures and team-level wellbeing outcomes could provide a more comprehensive understanding of leadership effects in telework contexts.

Finally, intervention studies are needed to test the effectiveness of leadership development programs targeting the competencies identified in this review, while research on boundary conditions (for example, telework intensity) requires substantial expansion beyond the limited moderators currently identified.

4.4 Limitations

This systematic review has some limitations which are important to address. The first one stems from methodological diversity in the analyzed studies, particularly the low number of qualitative investigations. Also, regarding quantitative methods, there are different approaches to operationalizing wellbeing variables. This heterogeneity made it unfeasible to conduct quantitative effect size calculations for specific leadership competencies' impact on wellbeing outcomes. Such calculations would have provided valuable insights into the relative importance and effectiveness of different leadership approaches in teleworking contexts.

A second consideration relates to the temporal scope. While many systematic reviews typically restrict their analysis to the past decade to ensure currency, we deliberately extended our review to encompass 24 years of research. This decision diverges from conventional practice but was chosen to capture the full evolution of teleworking leadership research. The fields' relatively slow development before 2010 meant that excluding earlier works would have omitted foundational studies that continue to offer relevant insights. The broader temporal scope allowed us to incorporate seminal works from the early 2000s that established crucial theoretical and empirical foundations for understanding leadership in virtual contexts, providing a more comprehensive understanding than a narrower timeframe would have permitted.

Finally, a significant limitation stems from the temporal concentration of studies during the COVID-19 pandemic (2020–2023). This period represented an unprecedented global experiment in forced telework under crisis conditions, potentially introducing contextual factors that may not generalize to voluntary telework under post-pandemic circumstances.

In conclusion, this systematic review demonstrates that leadership competencies in telework settings significantly influence employee wellbeing by addressing both operational and affinity distance challenges that remote work brings. Our findings highlight five key competencies that leaders should develop to promote teleworker wellbeing: supervisor support, digital communication, goal management, work-life facilitation, and participative leadership. While traditional leadership skills remain relevant, they require substantial adaptation for telework environments. The review also reveals important gaps in current research, particularly regarding team-level outcomes and longitudinal effects of leadership on teleworker wellbeing,

complemented with the analysis of telework conditions, such as telework intensity. As organizations continue to embrace hybrid and remote work arrangements, developing these specific leadership competencies becomes crucial for fostering sustainable wellbeing in telework environments. Future research should focus on understanding how these competencies can be effectively developed and implemented across different cultural contexts and organizational settings. By building on this foundation, researchers and practitioners can refine understanding of how leadership most effectively supports teleworker wellbeing in an increasingly digital work landscape, contributing to healthier organizational practices in the Industry 5.0 era.

Data availability statement

The original contributions presented in the study are included in the article, further inquiries can be directed to the corresponding author.

Author contributions

FB-D: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. NT: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing. IR: Conceptualization, Funding acquisition, Investigation, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing.

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Conflict of interest

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

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