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The relationship between attitudes toward telework and well-being: the mediating role of interpersonal interactions and the moderating role of neuroticism

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ABSTRACT

Grounded in the e-work life model, this study examined the relationship between attitudes toward telework and well-being, proposing interpersonal interactions as a mediating mechanism. Furthermore, neuroticism has been identified as a moderating factor that could shape how employees perceive and react to telework. Consequently, this study also tested the moderating role of neuroticism in the relationship between attitudes toward telework and well-being, mediated by interpersonal interactions. To test the model, a three wave-study was conducted ($N = 353$). The findings revealed that attitudes toward telework were positively associated with well-being through its facilitation of interpersonal interactions. However, this relationship was moderated by neuroticism, being stronger among individuals with lower levels of this personality trait. These results suggest that a positive attitude toward telework plays a crucial role in fostering healthy and cooperative interpersonal relationships among colleagues, which, in turn, enhance well-being. Therefore, workers' attitudes toward telework may be pivotal in creating a positive work environment that promotes well-being through stronger and more constructive interpersonal dynamics.

1. Introduction

Recent advancements in cloud computing, along with the COVID-19 pandemic, have significantly accelerated the adoption of telework—an arrangement that enables employees to perform their tasks remotely using information and communication technologies (López-Igual & Rodríguez-Modroño, 2020). In response, researchers have increasingly explored how attitudes toward telework influence employee well-being, emphasizing that a positive attitude plays a crucial role in promoting well-being. According to the e-work life model (Grant et al., 2019), telework attitudes comprise four interrelated dimensions: work-family interference, flexibility, organizational trust, and perceived effectiveness. When these dimensions are viewed positively, they collectively foster more favorable attitudes toward telework and contribute to enhanced well-being (Charalampous et al., 2023; Grant et al., 2019).

Recent studies have also shown that attitudes toward telework can be conceptualized as an overall construct (see Junça-Silva & Caetano, 2024), and that these attitudes significantly influence employees' satisfaction with telework conditions (Junça-Silva, Faria, & Lopes, 2025). This emerging evidence complements the multidimensional perspective by highlighting the value of global attitudinal assessments in understanding telework experiences and outcomes.

Regardless of whether attitudes toward telework are conceptualized as unidimensional or multidimensional, positive attitudes have been shown to enhance employee well-being (Dale et al., 2024). However, these benefits can be attenuated by challenges inherent to telework, such as social isolation and diminished interpersonal interactions, underscoring the critical importance of examining interpersonal dynamics within telework contexts (Barlow et al., 2014). Additionally, individual differences—especially personality traits like neuroticism—significantly influence how telework is perceived and its impact on well-being (Marhadi & Hendarman, 2020; Junça Silva et al., 2024). For example, Junça-Silva and Caetano (2024) demonstrated that neuroticism shapes employees' attitudes toward telework and moderates its effects on mental health outcomes. Drawing on cognitive appraisal theory (Lazarus, 1999), it is plausible that individuals with higher levels of neuroticism appraise telework-related interactions more negatively, thereby weakening the positive influence of favorable

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telework attitudes on well-being.

Given the mixed and inconsistent findings in research (e.g., Hong & Jex, 2022; Song & Gao, 2020), it is imperative to deepen our understanding of how employees' attitudes toward telework may influence their well-being. Thus, this study aimed to test: (1) the mediating role of interpersonal interactions in the relationship between attitudes toward telework and well-being; and (2) the moderating role of neuroticism in this indirect relationship. By integrating the e-work life model with cognitive appraisal theory, the study provides a comprehensive framework for understanding how employees' attitudes toward telework influence on well-being. It contributes to the telework literature by highlighting the importance of subjective experiences, interpersonal interactions, and individual differences in shaping employee' outcomes.

2. Theoretical framework

2.1. Telework

Telework, initially conceptualized by Nilles (1973) as "telecommuting," refers to a flexible work arrangement that allows employees to perform their tasks from locations outside traditional workplaces. This arrangement provides greater autonomy and flexibility, enabling individuals to adjust their work schedules and environments to better accommodate personal and family needs, thereby supporting work-life balance (Lopes et al., 2024). While several studies suggest that telework offers advantages for both employees and organizations—such as reduced operational costs, increased productivity, and improved talent attraction and retention (Lopes et al., 2024)—findings in this domain remain far from consistent.

Recent research highlights contradictory effects, suggesting that telework may also lead to increased social isolation, blurred work-life boundaries, and reduced performance in some contexts (Gajendran et al., 2024; Olafsen et al., 2024). Although the flexibility inherent in telework can help reduce work-family conflict (Maheshwari et al., 2024) and promote employee well-being (Pataki-Bittó & Kun, 2022), these benefits appear to be contingent upon various individual, relational, and organizational factors.

2.2. The relationship between attitudes toward telework and well-being

In response to the widespread adoption of telework, an increasing number of scholars have investigated its implications for employee well-being (e.g., Charalampous et al., 2023; Grant et al., 2019). Subjective well-being is a multifaceted construct that encompasses individuals' cognitive and affective evaluations of their lives (Diener, 2013). Within this domain, life satisfaction is a key cognitive component, representing a global, reflective judgment of one's overall quality of life rather than momentary feelings or domain-specific satisfaction (Pavot & Diener, 2008). This construct is particularly relevant in occupational research because it integrates multiple life domains, thereby capturing the broader influence of environmental and contextual factors—including work conditions, social relationships, and work-life balance—on individual well-being (Diener et al., 2018; Junça Silva et al., 2024). Given that telework blurs the boundaries between professional and personal life, life satisfaction provides a holistic measure that reflects how telework arrangements affect employees' overall life experience beyond the workplace (Kossek et al., 2014).

The e-work life model (Grant et al., 2019) highlights the pivotal role of attitudes toward telework in influencing employee well-being (Charalampous et al., 2023). Within this framework, well-being is shaped by four interrelated dimensions that collectively constitute the foundation of telework attitudes: work-family interference, which reflects the capacity to balance personal and professional responsibilities; flexibility, denoting the adaptability and autonomy afforded by telework; organizational trust, representing employees' confidence in supportive and reliable organizational practices; and efficacy, referring to the perceived ability and resources to perform effectively in a remote work setting. Positive appraisals of these dimensions foster more favorable overall attitudes toward telework, which in turn contribute to enhanced well-being.

Moreover, recent research acknowledges the relevance of a general, overarching attitudinal construct toward telework as a robust predictor of employee well-being, underscoring the value of both multidimensional and global perspectives in understanding telework experiences (Junça-Silva & Caetano, 2024). Therefore, it is expected that a positive attitude toward telework promotes higher well-being levels among teleworkers.

2.3. The mediating role of interpersonal interactions

Interactions among individuals in traditional, face-to-face work environments may differ substantially when part or all of the workforce operates under telework arrangements (Pulido-Martos et al., 2021). According to Reis and Collins (2004), interpersonal interactions encompass verbal and non-verbal communication, emotional exchanges, and behavioral responses that are central to building and maintaining meaningful relationships. In telework contexts, consistent communication—through virtual meetings (e.g., zoom meetings), team chats, or informal conversations—can foster social connectedness and mitigate feelings of isolation (Parent-Lamarche et al., 2024; Yang & Lin, 2023). Such interactions are not limited to physical proximity (Nemteanu et al., 2021) and, when positive, can reduce interpersonal conflicts and promote job satisfaction (de Albuquerque Lima & Mendes, 2023).

Drawing on the e-work life model (Grant et al., 2019), interpersonal interactions are integral to the broader evaluation of the telework experience. This model posits that employees' attitudes toward telework—whether conceptualized as multidimensional or unidimensional—play a crucial role in shaping how individuals feel and experience telework life (Charalampous et al., 2023). In particular, Junça Silva et al. (2023) emphasize the importance of conceptualizing telework attitudes as a general, overarching construct that captures employees' overall evaluation of telework. Within this framework, interpersonal dynamics represent one of the key social outcomes influenced by telework attitudes (Grant et al., 2019), which in turn contribute to employee well-being (Junça Silva & Coelho, 2023). Specifically, individuals who hold more positive attitudes toward telework are likely to perceive remote interactions as more constructive and supportive, thereby enhancing their overall well-being (de Albuquerque Lima & Mendes, 2023; Junça Silva et al., 2024).

Complementing this, Lazarus's (1991) cognitive appraisal theory helps explain individual variation in how teleworkers interpret and respond to these interactions. According to this theory, individuals appraise experiences based on their perceived significance and controllability, influencing their emotional and behavioral responses (Park & Cho, 2022). When telework is appraised positively—due, for instance, to perceived autonomy or trust—employees are more likely to perceive virtual interpersonal interactions as meaningful rather than stressful. These appraisals then influence whether such experiences enhance or diminish well-being (Charalampous et al., 2023).

Conversely, insufficient or unsatisfactory interpersonal interactions can significantly increase emotional stress (Fauville et al., 2021), foster feelings of loneliness (O'Day and Heimberg, 2021), and contribute to burnout (de Albuquerque Lima & Mendes, 2023). Although these negative outcomes are observed across various work contexts, they are particularly pronounced in telework environments, where spontaneous and informal social interactions are often limited (Pulido-Martos et al., 2021). However, in response to reduced social contact, teleworkers may be more inclined to actively pursue higher-quality interpersonal exchanges as a means of mitigating isolation (Parent-Lamarche & Saade, 2024), especially when these interactions are perceived as meaningful and emotionally rewarding (Bailey and Kurland, 2002). Empirical

evidence supports this perspective; for instance, Windeler et al. (2017) found that telework can foster more meaningful interpersonal interactions, which in turn reduce interpersonal strain and emotional exhaustion. These findings suggest that positive attitudes toward telework may play a critical role in motivating individuals to engage in high-quality, albeit less frequent, social interactions—ultimately enhancing employee well-being (Weziak-Bialowolska et al., 2023).

Building on the e-work life model's conceptualization of attitudes toward telework and cognitive appraisal theory, it can be argued that positive attitudes toward telework foster higher-quality interpersonal interactions, which subsequently enhance employee well-being. Individuals with favorable telework attitudes are more likely to engage in meaningful and constructive exchanges, even within remote work contexts. These interpersonal dynamics therefore serve as a critical pathway through which attitudes toward telework positively impact well-being. Accordingly, the following hypothesis is proposed.

H1. Positive attitudes toward telework are positively associated with well-being through interpersonal interactions.

2.4. The moderating role of neuroticism

Individuals' reactions to telework are shaped by dispositional characteristics, particularly personality traits (Xanthopoulou et al., 2023). Among these, neuroticism has garnered particular attention due to its robust association with emotional instability, poor stress regulation, and diminished well-being (Bianchi, 2018). Neuroticism reflects a chronic tendency to experience negative emotions—such as anxiety, sadness, and irritability—and is often linked to maladaptive coping (Barlow et al., 2014).

The moderating role of neuroticism in the telework context can be understood through Lazarus's (1991) cognitive appraisal theory, which posits that emotional responses to a situation are shaped not by the situation itself, but by how individuals cognitively evaluate it. In this framework, neuroticism does not directly affect attitudes toward telework, but rather moderates how individuals interpret and emotionally respond to telework-related experiences. This includes how they appraise and benefit from interpersonal interactions in telework settings and how such interactions translate into well-being.

We argue that neuroticism moderates the relationship between interpersonal interactions and well-being. In telework contexts—where social signals are reduced and mediated communication is the norm (Fauville et al., 2021)—highly neurotic individuals may misinterpret social cues or perceive neutral feedback as negative, which diminishes the positive emotional impact of interpersonal exchanges. This emotional filtering may reduce the potential of high-quality social interaction to enhance well-being. In contrast, low-neuroticism individuals are more likely to interpret virtual or limited interactions positively, reinforcing the beneficial effects of social engagement on well-being (Jacques et al., 2023).

We also propose that neuroticism moderates the indirect relationship between attitudes toward telework and well-being through interpersonal interactions. Individuals high in neuroticism are more prone to interpret telework as socially isolating or ambiguous, which may undermine their motivation to engage meaningfully with others. As a result, even when they hold moderately positive attitudes toward telework, their interpersonal interactions may still be characterized by suspicion, withdrawal, or emotional strain that, in turn undermines their well-being (Junça-Silva & Caetano, 2023). Conversely, individuals low in neuroticism are more likely to transform positive attitudes toward telework into adaptive social engagement, perceiving interactions as supportive and rewarding which in turn may promote higher well-being (Xanthopoulou et al., 2023). Thus, it is expected that neuroticism buffers the link between positive attitudes toward telework and well-being through interpersonal interactions.

Based on this evidence and theoretical reasoning, we propose the following additional hypotheses.

H2. Neuroticism moderates the positive relationship between interpersonal interactions and well-being, such that the relationship is stronger for individuals with lower levels of neuroticism (versus higher levels).

H3. Neuroticism moderates the positive indirect relationship between attitudes toward telework and well-being through interpersonal interactions, such that the relationship is stronger for individuals with lower levels of neuroticism (versus higher levels) (Fig. 1).

3. Method

3.1. Design and procedure

The data collection was conducted in three sequential phases. In the first phase (Time 1), a total of 480 surveys were distributed to assess participants' attitudes toward telework and gather socio-demographic data. Of these, 436 valid responses were obtained, resulting in a high response rate of 90.83 %. One week later, in the second phase (Time 2), a follow-up questionnaire assessing interpersonal interactions was sent to participants who had completed the initial survey. This phase yielded 401 responses (response rate: 83.5 %). Finally, in the third phase (Time 3), conducted one week after the second, data on well-being and neuroticism were collected, with 353 participants completing the final survey (response rate: 73.5 %).

To assess the potential risk of selective attrition, Little's missing completely at random (MCAR) test (Little et al., 2014) was conducted, confirming that data were missing completely at random ($\chi^2 = 1.939$, df = 5, p = 0.858). Additionally, independent samples t-tests were performed to compare participants who discontinued after T1 with those who completed all three waves. The results revealed no significant differences in the key study variables at T1, including attitudes toward telework ($t = -1.178$, $p = 0.24$), interpersonal interactions ($t = 0.717$, $p = 0.23$), well-being ($t = -1.95$, $p = 0.07$), and neuroticism ($t = -0.585$, $p = 0.55$). These findings indicate that attrition was not systematically associated with the focal variables. A priori power analysis (effect size = 0.2, $\alpha = 0.05$) confirmed that this final sample size was adequate for the intended statistical analyses.

Participants were initially recruited via an invitation message distributed on LinkedIn. To ensure the relevance and validity of the findings, specific inclusion criteria were applied: only individuals with at least one year of tenure in their current organization and actively working remotely—either in a fully remote or hybrid arrangement—were eligible to participate. These criteria ensured that participants had adequate experience and contextual understanding to provide informed and meaningful responses regarding telework.

In the first survey, participants received detailed information about the study's objectives and were assured of confidentiality. Informed consent was obtained before they proceeded with the questionnaire. At the end of the survey, participants were invited to provide their email addresses solely for follow-up purposes. These addresses were securely stored and not included in the analytical dataset to ensure anonymity. To match responses across the three time points, each participant generated a unique identification code. Data collection took place in November 2024.

3.2. Participants

The final sample consisted of 353 participants, of whom 64.4 % were female. The mean age was 37.28 years (SD = 13.08), and the average organizational tenure was 9.40 years (SD = 10.76). Regarding work arrangements, 21.4 % of participants reported working fully remotely, while the remaining 78.6 % were engaged in a hybrid work model, with those in hybrid arrangements reporting an average of 2.78 days working from home per week (SD = 1.20). On average, participants worked

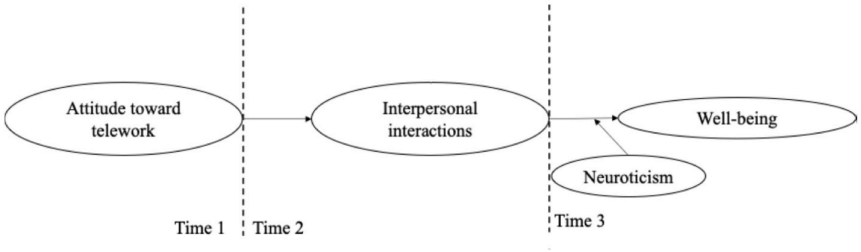

Fig. 1. The proposed moderated mediation model.

between 35 and 40 h per week. Additionally, 64 % held managerial positions across various occupational sectors, including finance (50.4 %), marketing (23 %), information technology (14.7 %), and banking (11.9 %).

3.3. Measures

3.3.1. Attitudes toward telework (T1)

To measure attitudes toward telework, the 10-item Tele Attitude Scale (Junça-Silva & Caetano, 2024) was utilized. Participants were asked to indicate whether telework had a positive or negative effect compared to in-person work on each evaluated aspect (e.g., "your quality of life"). Responses were rated on a 5-point Likert scale (1 = *much worse*, 5 = *much better* ($\alpha = 0.83$).

3.3.2. Interpersonal interactions (T2)

We used the 6-item Interpersonal Relationships Scale (Bulinks-Stangrecka & Bagienska, 2020). Participants answered on a 5-point Likert scale (1-"*strongly disagree*"; 5 -"*strongly agree*") (e.g., "I have a good relationship with my coworkers") ($\alpha = 0.90$).

3.3.3. Well-being (T3)

We used the Shortened Satisfaction with Life Scale (Kjell & Diener, 2021) with three items (e.g., "I feel that my life is close to my ideals."), answered on a 5-point Likert scale (1 - "*strongly disagree*"; 5 - "*strongly agree*") ($\alpha = 0.81$).

3.4. Neuroticism (T3)

We used two items of the short version of the Big Five Inventory (Rammstedt & John, 2003; e.g., "I see myself as someone who gets nervous easily"). Participants responded using a 5-point Likert scale (1 - "*does not describe me at all*"; 5 - "*describes me completely*" ($r = 0.52$).

3.4.1. Control variables

Gender and age were included as control variables, as previous studies have indicated significant differences in well-being between men and women, as well as between younger and older individuals (Diener et al., 2020). These differences may have a relevant impact on employees' well-being in telework settings.

3.5. Data analyses

To test the hypotheses, the PROCESS macro in SPSS (Hayes, 2022) was used with bootstrapping (5000 iterations). Model 4 tested Hypothesis 1 by estimating indirect effects, while Models 1 and 14 tested Hypotheses 2 and 3, examining moderation and moderated mediation with mean-centered variables and confidence intervals for the moderated mediation index.

3.6. Common method bias

To ensure the validity of the results and mitigate common method bias (CMB), in addition to using validated questionnaires and randomizing the items in the online survey, we adopted specific procedures recommended by Podsakoff et al. (2024). First, we conducted Harman's single-factor test, which revealed that the first factor accounted for only 26.33 % of the total variance, suggesting that common method bias was not a significant concern in this study.

Then, we performed three confirmatory factor analyses (CFAs) to confirm the independence of the variables under study. Model fit was evaluated using various fit indices recommended by Hair et al. (2010), such as the CFI, TLI, SRMR, and RMSEA, and the results were compared against plausible alternative models. Model 1 represented the hypothesized four-factor model, distinguishing telework attitudes, interpersonal interactions, well-being, and neuroticism. Model 2 consisted of a three-factor model, combining interpersonal interactions and well-being into a single factor, with telework attitudes and neuroticism as separate factors. Model 3 reduced the structure to two factors, grouping telework attitudes, interpersonal interactions, and well-being into one factor and neuroticism into another. Finally, Model 4 was a single-factor solution, where all items loaded onto a single factor.

Table 1 shows that the four-factor model (Model 1) provided the best fit to the data ($\chi^2/df = 1.38$, $p < 0.001$, CFI = 0.97, TLI = 0.97, SRMR = 0.05, and RMSEA = 0.04, 95 % CI [0.01, 0.06]), outperforming the alternative models, which exhibited poorer fit indices. These results, combined with the Cronbach's alpha reliability coefficients obtained for all scales (>0.70, as recommended by Fornell and Larcker, 1981), support both the discriminant and convergent validity of the study. Based on this evidence, we proceeded to test the formulated hypotheses.

4. Results

4.1. Descriptive statistics

Table 2 presents the descriptive statistics, correlations, and internal consistency indices for the variables included in the model.

4.2. Hypotheses testing

Hypothesis 1 proposed that the attitudes toward telework would influence well-being through interpersonal interactions. The results showed a significant indirect effect ($\beta = 0.05$, 95 % CI [0.01, 0.12]). The model explained 10 % of the variance in well-being ($R^2 = 0.10$, $p < 0.001$). The relationship between attitudes toward telework and interpersonal interactions ($\beta = 0.31$, $p < 0.001$) was significant. Similarly, the relationship between interpersonal interactions and well-being ($\beta = 0.17$, $p < 0.05$) was also significant. After including interpersonal

Table 1
Confirmatory factor analyses results.

Models	χ2/df	CFI	TLI	RMSEA	SRMR
Model 1	1.38	0.97	0.97	0.04	0.05
Model 2	4.20	0.78	0.73	0.11	0.11
Model 3	6.88	0.58	0.51	0.16	0.14
Model 4	7.14	0.56	0.48	0.16	0.14

Table 2
Descriptive statistics.

Variables	M	SD	CR	AVE	MSV	1	2	3	4	5
1.Telework[a]	3.72	0.53	0.91	0.51	0.07	(0.71)	[0.83]			
2. interaction[a]	4.14	0.75	0.93	0.69	0.04	0.22**	(0.83)	[0.90]		
3.well-being[a]	3.64	0.82	0.89	0.73	0.12	0.26**	0.21**	(0.85)	[0.81]	
4.Neuroticism[a]	2.83	0.91	0.87	0.68	0.12	−0.10	−0.12*	−0.34**	(0.83)	
5. Age	37.22	13.08	–	–	–	0.10	−0.05	0.19*	−0.10	–
6. Sex[b]	–	–	–	–	–	0.10	−0.11	0.01	0.19*	0.13

Note: $N = 353$; *$p > 0.05$ **$p > 0.001$.
The square roots of the Average Variance Extracted (AVE) are shown in parentheses. M = Mean; SD = Standard Deviation; AVE = Average Variance Extracted; MSV = Maximum Shared Variance; CR = Composite Reliability. Cronbach's alphas are indicated in brackets [].
[a] Scale 1 to 5.
[b] Sex: 1- male; 2 - female.

interactions in the equation, the effect of attitudes toward telework on well-being became weaker but remained significant (β = 0.38, p < 0.01), indicating partial mediation. These findings supported H1.

Hypothesis 2 posited that neuroticism would negatively moderate the relationship between interpersonal interactions and well-being. To test this hypothesis, Model 1 from PROCESS (Hayes, 2022) was employed. The results revealed a significant negative interaction effect between interpersonal interactions and neuroticism on well-being (β = −0.11, SE = 0.07, $p < 0.05$). In other words, the relationship between interpersonal interactions and well-being was weaker for those who scored higher on neuroticism (versus lower levels of neuroticism). Therefore, H2 was supported.

The third hypothesis proposed that neuroticism would moderate the indirect effect of attitudes toward telework on well-being through interpersonal interactions. This hypothesis was tested using Model 14 of the PROCESS macro in SPSS. The results showed that neuroticism moderated the indirect effect of attitudes toward telework on well-being via interpersonal interactions (β = −0.03, SE = 0.03, CI [−0.09, −0.01]). This model explained 31 % of the variance in well-being ($R^2 = 0.33$, p < 0.001; $\Delta R^2 = 0.01$, $F_{(1, 350)} = 2.57$, $p < 0.05$).

The significant interaction revealed that the indirect effect varied across different levels of the moderating variable, neuroticism. Analyzing simple slopes, as suggested by Dawson and Richter (2006), it was concluded that the indirect effect was significant and stronger when neuroticism was lower (−1 SD: β = 0.04, SE = 0.03, $p < 0.01$, 95 % CI [0.01, 0.12]), and ceased to be significant as neuroticism increased (+1 SD: β = −0.01, SE = 0.02, $p > 0.05$, 95 % CI [−0.06, 0.04]) (Fig. 2 and Table 3). Thus, Hypothesis 3 was supported by the data.

Table 3
Mediation results.

	Model 1		Model 2	
	Interpersonal interactions		Well-being	
	β	SE	β	SE
Intercept	2.97***	0.36	1.50***	0.45
Telework attitudes	0.31**	0.10	0.38***	0.11
Interpersonal interactions	–	–	0.17**	0.08
Neuroticism	–	–	−0.17**	0.06
Neuroticism*Interpersonal interactions	–	–	−0.11*	0.07
Sex[a]	−0.12	0.09	0.10	0.10
Age	−0.01	0.00	0.01	0.01
Indirect effect	0.05 (SE = 0.03, IC 95 % [0.01, 0.12]			
Moderated mediation index	−0.03 (SE = 0.03, IC 95 % [-0.09, −0.01]			

N = 353. Unstandardized regression coefficients. CI = Confidence Interval.
*p < 0.05. **p < 0.01. ***p < 0.001.
[a] Sex: 1- male; 2- female.

This graph highlights how neuroticism levels can influence the intensity and direction of the impact of attitudes toward telework on well-being through interpersonal interactions. In contexts of higher neuroticism, attitudes toward telework cease to have a significant effect on well-being. Conversely, in situations of lower neuroticism, the impact of attitudes toward telework on well-being via interpersonal interactions becomes stronger and more positive.

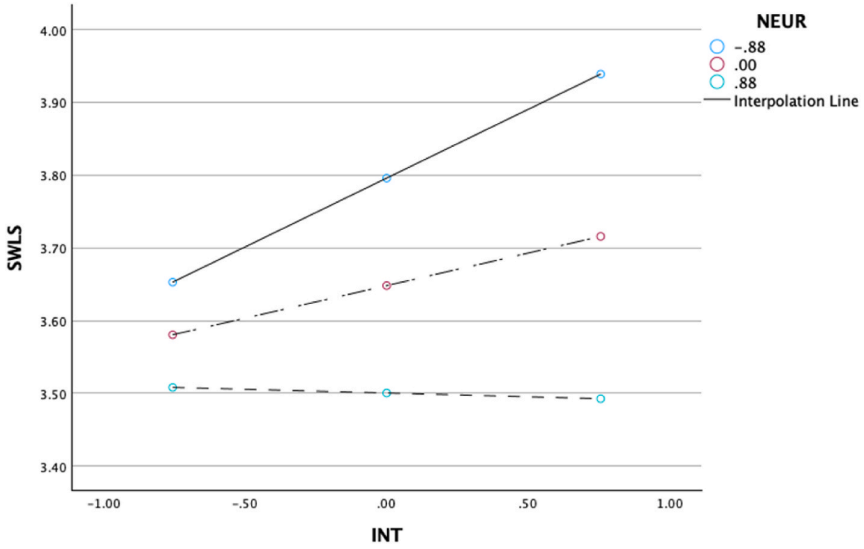

Fig. 2. Interaction between interpersonal interactions and neuroticism.

5. Discussion

The literature underscores that one of the main challenges of telework is the risk of social isolation, which elevates the theoretical and practical importance of interpersonal interactions and employee well-being in remote work settings (Anja et al., 2024). Within this context and drawing upon the e-work life model (Grant et al., 2019), the present study explores how attitudes toward telework relate to well-being, proposing that interpersonal interactions serve as a key mediating mechanism in this relationship. While previous research has often focused on the direct effects of telework arrangements (e.g., Junça-Silva and Caetano, 2023; Park & Cho, 2022), this study shifts the focus to individuals' telework attitudes (Taskan et al., 2025), examining how these attitudes shape their social experiences and, ultimately, their well-being.

Furthermore, neuroticism has been identified in prior studies as a personality trait that can shape how individuals experience and respond to telework regarding well-being (Xanthopoulou et al., 2023). Building on this evidence, the current study examines the moderating role of neuroticism in the indirect relationship between attitudes toward telework and well-being, through interpersonal interactions. Specifically, we investigate whether this mediated relationship varies according to levels of neuroticism.

Overall, the findings reveal that positive attitudes toward telework are associated with higher levels of well-being, and this relationship is mediated by interpersonal interactions. In other words, individuals who hold a positive attitude toward telework tend to maintain more constructive and frequent interactions with colleagues, which, in turn, promote greater well-being. These results are consistent with previous research suggesting that positive social interactions in virtual environments can buffer the negative effects of telework, such as social isolation (Fauville et al., 2021) and enhance employees' sense of belonging and perceived social support (Collins et al., 2016). A favorable attitude toward telework appears to facilitate social openness and engagement with colleagues, creating conditions that foster well-being (Charalampous et al., 2023).

Importantly, the strength of this indirect relationship is moderated by neuroticism, such that it is stronger among individuals with lower levels of this trait. In other words, emotionally stable individuals—those lower in neuroticism—derive greater well-being from positive telework attitudes, largely because they tend to hold a general positive view of the world, that interacts with the way they appraise interpersonal interactions in telework settings. This finding contributes to a growing but mixed body of literature (Gajendran et al., 2024). For instance, while Clark et al. (2012) suggested that highly neurotic individuals may prefer telework to reduce face-to-face interactions, more recent studies (e.g., Jacques et al., 2023; Xanthopoulou et al., 2023) show that lower neuroticism is associated with greater well-being among teleworkers. The current findings align with the latter, emphasizing that individuals with higher emotional stability appraise more positively what happens around them, and as such experience more favorably their telework attitude in w way that enhances their well-being through their ability to maintain positive interpersonal interactions.

This may be because individuals low in neuroticism typically exhibit stronger emotion regulation skills and more adaptive coping strategies (Barlow et al., 2014; Schulze et al., 2024), which help them manage the challenges of telework, such as ambiguity, isolation, or stress (Marhadi & Hendarman, 2020). As such, a positive attitude toward telework may lead to effective interpersonal interactions and, as a result, boosts well-being—particularly among those with lower neuroticism (Hong & Jex, 2022; Xanthopoulou et al., 2023). In summary, this study highlights the importance of telework attitudes in promoting well-being through interpersonal interactions, and it underscores neuroticism as a key moderating factor in this process.

5.1. Theoretical implications

This study makes several important theoretical contributions that deepen our understanding of how and when attitudes toward telework influence employee well-being. First, the findings extend the e-work life model (Grant et al., 2019) by integrating it with the Cognitive Appraisal Theory, offering a more comprehensive framework to explain how individuals cognitively evaluate telework and how these attitudes derived from their evaluations influence well-being. This theoretical integration provides a lens to better understand the mechanisms that underlie the relationship between telework attitudes and well-being, enriching current models that focus primarily on structural or contextual factors.

Specifically, by examining the mediating role of interpersonal interactions in the relationship between attitudes toward telework and well-being, this study advances previous research (e.g., Parent-Lamarche & Saade, 2024) by shifting the focus from telework as a mere work arrangement to employees' subjective attitudes toward telework (Taskan et al., 2025). In addition to this, the present findings also contribute to the ongoing debate in the literature, particularly the mixed evidence suggesting that telework may reduce the frequency of social contact (Almeida et al., 2024), potentially leading to lower well-being (Gajendran et al., 2024).

Our study adds nuance to this discussion by showing that it is not telework per se that reduces interpersonal interactions, but rather how individuals perceive telework (Taskan et al., 2025). This distinction is crucial, as it emphasizes that when employees hold positive attitudes toward telework, they are more likely to engage in interpersonal interactions, which in turn enhances their well-being. This finding suggests that fostering positive attitudes toward telework may help counteract the risk of social isolation frequently reported in telework contexts (Lopes et al., 2024). Overall, these findings enrich current theoretical and empirical discussions by highlighting attitudes—and not merely the structure of telework—as key drivers of interpersonal interactions and psychological outcomes (well-being) in telework settings.

Finally, by incorporating neuroticism as a moderating variable, the study enriches the theoretical conversation on the intersection between personality and work experience (Junça-Silva & Caetano, 2023). The results emphasize the moderating role of individual differences, particularly neuroticism: the indirect effect of positive telework attitudes on well-being via interpersonal interactions is stronger for individuals low in neuroticism, suggesting that emotional stability enhances the capacity to benefit from telework. This underscores the importance of considering personality traits, as emotionally stable individuals may be better equipped to leverage interpersonal interactions as a resource for well-being under telework conditions. Thus, this finding adds a dispositional lens to the broader discussion of telework, illustrating that personality traits can shape how telework is perceived regarding both social and intrapersonal outcomes (well-being).

The study thereby introduces social mechanisms (interpersonal interactions) and contextualized moderators (such as personality traits) into the analysis, offering a more nuanced understanding of how and when telework attitudes translate into psychological outcomes. Collectively, these contributions offer a more dynamic and person-centered theoretical framework for understanding the complex interplay between attitudes toward telework, personality, social interactions, and employee well-being.

6. Practical implications

The present findings highlight that attitudes toward telework play a central role in shaping employees' well-being, particularly through the mediating role of interpersonal interactions. From a practical standpoint, this suggests that organizations can benefit from creating conditions that foster more positive attitudes toward telework—rather than focusing solely on the structural aspects of remote work.

Managers can implement strategies that promote trust, autonomy,

and clarity in remote work arrangements, as these are known to positively influence employees' attitudes toward telework. By reinforcing these conditions, organizations may enhance employees' receptiveness to engaging in interpersonal interactions, which, according to our results, serve as a pathway to greater well-being. While initiatives that promote interpersonal contact—such as virtual coffee breaks, peer support groups, or collaborative platforms—can be valuable, it is important to consider individual differences, particularly personality traits such as neuroticism.

Our findings indicate that the benefits of interpersonal interactions for well-being are stronger among individuals with lower levels of neuroticism. Therefore, although promoting interpersonal interactions is generally beneficial, such initiatives should be implemented with flexibility and sensitivity to individual preferences and emotional dispositions. For example, offering opt-in rather than mandatory social initiatives and providing a variety of interaction formats (e.g., informal chats, structured collaboration, or asynchronous communication) can accommodate different comfort levels and maximize inclusion. Tailoring approaches in this way ensures that social initiatives enhance well-being without creating additional pressure for those who may find such interactions more emotionally demanding.

In sum, promoting positive attitudes toward telework and offering supportive, inclusive opportunities for interpersonal connection—while accounting for individual differences—can contribute meaningfully to employee well-being in virtual work contexts.

6.1. Limitations and future directions

It is important to acknowledge that this research has some limitations. First, although we employed a three-wave design to reduce common method bias (CMB) and strengthen the temporal ordering of variables, the study still relied on self-report measures. This method, while common in organizational research, may introduce biases such as social desirability or recall inaccuracies. Future research could benefit from incorporating multi-source data (e.g., supervisor or peer ratings) or objective indicators to complement self-reported experiences and behaviors.

Second, although this study employed a three-wave longitudinal design, it did not include baseline measures of interpersonal interactions and well-being. This methodological limitation restricts the ability to account for the potential stability of the mediator and outcome variables over time, making it more difficult to draw definitive causal inferences about the impact of attitudes toward telework. While the multi-wave design allows for a stronger inference of temporal relationships, causality cannot be fully established without experimental or longitudinal methods that track changes over longer periods or with more frequent measurement. Daily diary or experience sampling methods could provide a more nuanced understanding of how attitudes toward telework and interpersonal interactions fluctuate over time and influence well-being on a day-to-day basis.

Lastly, although we examined neuroticism as a key individual difference moderating the relationship between attitudes toward telework and interpersonal interactions, personality is inherently complex. Future studies might explore additional traits or psychological resources (e.g., extraversion, resilience) that could further elucidate how different employees navigate telework contexts.

Despite these limitations, this study makes a timely and relevant contribution to the literature by addressing a relatively underexplored area: how employees' attitudes toward telework influence their social and psychological outcomes. By integrating the e-work life model with the Cognitive Appraisal Theory, the findings provide a novel theoretical lens to understand why and for whom attitudes toward telework may lead to greater well-being. The use of a three-wave design and the examination of personality as a moderator add methodological and conceptual depth, supporting the relevance and applicability of the results to both academic research and organizational practice.

7. Conclusion

This study reveals that attitudes toward telework have a significant impact on well-being, as they create more opportunities for interpersonal interactions. However, the analysis indicates that individuals with lower levels of neuroticism benefit the most from this relationship. This is because people with a lower predisposition to neuroticism tend to be more emotionally stable and resilient, which enables them to better leverage social interactions in the context of telework.

CRediT authorship contribution statement

Ana Junça-Silva: Writing – review & editing, Writing – original draft, Supervision, Software, Project administration, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Leonor Lourenço:** Investigation, Data curation, Conceptualization.

Informed consent

Informed consent was obtained from all individual participants involved in the study.

Compliance of ethical standard statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Data availability

The data is available only upon reasonable request to the authors.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

References

Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 23*(4), 383–400. https://doi.org/10.1002/job.144

Barlow, D. H., Ellard, K. K., Sauer-Zavala, S., Bullis, J. R., & Carl, J. R. (2014). The origins of neuroticism. *Perspectives on Psychological Science, 9*(5), 481–496. https://doi.org/10.1177/1745691614544528

Bianchi, R. (2018). Burnout is more strongly linked to neuroticism than to work-contextualized factors. *Psychiatry Research, 270*, 901–905. https://doi.org/10.1016/j.psychres.2018.11.015

Charalampous, M., Grant, C. A., & Tramontano, C. (2023). Getting the measure of remote e-working: A revision and further validation of the E-work life scale. *Employee Relations, 45*(1), 45–68. https://doi.org/10.1108/ER-11-2021-0483

Clark, L. A., Karau, S. J., & Michalisin, M. D. (2012). Telecommuting attitudes and the 'big five' personality dimensions. *Journal of Management Policy and Practice, 13*(3), 31–46.

Collins, A. M., Hislop, D., & Cartwright, S. (2016). Social support in the workplace between teleworkers, office-based colleagues and supervisors. *New Technology, Work and Employment, 31*(2), 161–175. https://doi.org/10.1111/ntwe.12065

Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal*

of Applied Psychology, 91(4), 917–926. https://doi.org/10.1037/0021-9010.91.4.917

de Albuquerque Lima, F. L., & Mendes, V. A. M. F. (2023). Social interactions in mandatory teleworking: From instrumental rationality to the theory of communicative action in the workplace context. *Revista chilena de Derecho del Trabajo y de la Seguridad Social, 14*(28), 115–128. https://doi.org/10.5354/0719-2584.2023.71481

Diener, E., Oishi, S., & Tay, L. (2020). Assessing well-being across cultures. *International Journal of Wellbeing, 10*(1), 1–24. https://doi.org/10.5502/ijw.v10i1.1

Fauville, G., Luo, M., Queiroz, A. C. M., Bailenson, J. N., & Hancock, J. (2021). Zoom exhaustion & fatigue scale. *Computers in Human Behavior Reports, 4*, Article 100119. https://doi.org/10.1016/j.chbr.2021.100119

Gajendran, R. S., Ponnapalli, A. R., Wang, C., & Javalagi, A. A. (2024). A dual pathway model of remote work intensity: A meta-analysis of its simultaneous positive and negative effects. *Personnel Psychology*. https://doi.org/10.1111/peps.12641. Advance online publication.

Grant, C. A., Wallace, L. M., Spurgeon, P. C., Tramontano, C., & Charalampous, M. (2019). Construction and initial validation of the E-Work Life Scale to measure remote e-working. *Employee Relations, 41*(1), 16–33. https://doi.org/10.1108/ER-09-2017-0229

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Press.

Hong, J., & Jex, S. (2022). The conditions of successful telework: Exploring the role of telepressure. *International Journal of Environmental Research and Public Health, 19*(17), Article 10634. https://doi.org/10.3390/ijerph191710634

Jacques, P. H., Garger, J., Mullen, A., & Petrarca, P. (2023). The future of work and teleworking: A conceptual study of employee preferences, managerial strategies, and rto mandates. *Journal of Behavioral and Applied Management, 23*(2), 74–83.

Junça-Silva, A., & Caetano, A. (2023). How followers' neuroticism buffers the role of the leader in their daily mental health via daily positive affect: A multilevel approach. *Personality and Individual Differences, 208*, Article 112190. https://doi.org/10.1016/j.paid.2023.112190

Junça Silva, A., Almeida, A., & Rebelo, C. (2023). Validation of the E-work life scale for the Portuguese population. *TPM - Testing, Psychometrics, Methodology in Applied Psychology, 30*(1), 93–105. https://doi.org/10.4473/TPM30.1.7

Junça Silva, A., & Coelho, N. (2023). The moderating role of organizational culture on the relationship between workers' attitudes towards telework and happiness. *Kybernetes, 52*(10), 4357–4374. https://doi.org/10.1108/K-02-2022-0231

Junça Silva, A., Neves, P., & Caetano, A. (2024). Procrastination is not only a "thief of time", but also a thief of happiness: It buffers the beneficial effects of telework on well-being via daily micro-events of IT workers. *International Journal of Manpower, 45*(1), 89–108. https://doi.org/10.1108/IJM-05-2022-0223

Kjell, O. N., & Diener, E. (2021). Abbreviated three-item versions of the satisfaction with life scale and the harmony in life scale yield as strong psychometric properties as the original scales. *Journal of Personality Assessment, 103*(2), 183–194. https://doi.org/10.1080/00223891.2020.1737093

Lazarus, R. S. (1991). Cognition and motivation in emotion. *American Psychologist, 46*(4), 352–367. https://doi.org/10.1037/0003-066X.46.4.352. Lazarus, R. S. (1991). Cognition and motivation in emotion. American psychologist, 46(4), 352.

López-Igual, P., & Rodríguez-Modroño, P. (2020). Who is teleworking and where from? Exploring the main determinants of telework in europe. *Sustainability, 12*(21), 8797. https://doi.org/10.3390/su12218797

Marhadi, A. B. M., & Hendarman, A. F. (2020). Identifying the relationship between the Big Five personality traits and attitudes towards teleworking of Generation Z. *AIJBM, 3*(7), 1–12. https://www.aijbm.com/wp-content/uploads/2020/07/J377685.pdf.

Nemteanu, M. S., Dabija, D. C., & Stanca, L. (2021). The influence of teleworking on performance and employee's counterproductive behaviour. *Amfiteatru Economic, 23*(58), 601–619.

O'Day, E. B., & Heimberg, R. G. (2021). Social media use, social anxiety, and loneliness: A systematic review. *Computers in Human Behavior Reports, 3*, Article 100070. https://doi.org/10.1016/j.chbr.2021.100070

Olafsen, A. H., Stenling, A., Tafvelin, S., & Bentzen, M. (2024). The paradox of remote work: When employee wishes and wellbeing collide. *Human Resource Development International*, 1–9. https://doi.org/10.1080/13678868.2024.2351335

Parent-Lamarche, A., Marchand, A., & Saade, S. (2024). A multilevel analysis of changes in psychological demands over time on employee burnout. *Merits, 4*(1), 19–34. https://doi.org/10.3390/merits4010002

Park, S., & Cho, Y. J. (2022). Does telework status affect the behavior and perception of supervisors? Examining task behavior and perception in the telework context. *International Journal of Human Resource Management, 33*(7), 1326–1351. https://doi.org/10.1080/09585192.2020.1777183

Pataki-Bittó, F., & Kun, Á. (2022). Exploring differences in the subjective well-being of teleworkers prior to and during the pandemic. *International Journal of Workplace Health Management, 15*(3), 320–338. https://doi.org/10.1108/IJWHM-12-2020-0207

Pulido-Martos, M., Cortés-Denia, D., & Lopez-Zafra, E. (2021). Teleworking in times of COVID-19: Effects on the acquisition of personal resources. *Frontiers in Psychology, 12*, Article 685275. https://doi.org/10.3389/fpsyg.2021.685275

Reis, H. T., & Collins, W. A. (2004). Relationships, human behavior, and psychological science. *Current Directions in Psychological Science, 13*(6), 233–237. https://doi.org/10.1111/j.0963-7214.2004.00315.x

Song, Y., & Gao, J. (2020). Does telework stress employees out? A study on working at home and subjective well-being for wage/salary workers. *Journal of Happiness Studies, 21*(7), 2649–2668. https://doi.org/10.1007/s10902-019-00196-6

Weziak-Bialowolska, D., et al. (2023). Remote work and interpersonal interactions: A systematic review. *Work and Occupations, 50*(1), 25–45. https://doi.org/10.1177/07308884211034567

Windeler, J. B., Chudoba, K. M., & Sundrup, R. Z. (2017). Getting away from them all: Managing exhaustion from social interaction with telework. *Journal of Organizational Behavior, 38*(7), 977–995. https://doi.org/10.1002/job.2176

Xanthopoulou, D., et al. (2023). Telework and productivity: An analysis of factors influencing work output. *Applied Psychology: International Review*. https://doi.org/10.1111/apps.12345

Yang, Y. K., & Lin, W. S. (2023). How to enhance workplace climate through telework communication approaches in organization during the era of changes? Evidences of authentic leaders. *Asia Pacific Management Review, 28*(2), 110–119. https://doi.org/10.1016/j.apmrv.2022.07.002