

# Hybrid work as a self-determining context: examining the psychological mechanisms behind job satisfaction

Ana Junça Silva

*Business Research Unit, ISCTE-Lisbon University Institute, Lisbon, Portugal*

Raquel Pombo

*ISCTE-Instituto Universitario de Lisboa, Lisbon, Portugal, and*

Rita Rueff Lopes

*Department of People Management and Organization, ESADE,  
Universitat Ramon Llull, Barcelona, Spain*

Received 28 January 2025  
Revised 27 May 2025  
30 July 2025  
13 October 2025  
26 November 2025  
Accepted 22 January 2026

## Abstract

**Purpose** – Given the increasing prevalence of hybrid work arrangements, it is essential to investigate their relationship with employee job satisfaction. Grounded in self-determination theory, this study aimed to examine the influence of hybrid work on employee job satisfaction, while testing the mediating role of basic psychological needs (autonomy, competence and relatedness) in this relationship.

**Design/methodology/approach** – To achieve this research goal, a three-wave design was employed, using an online survey administered to a sample of 481 employees working in a hybrid working model.

**Findings** – Hybrid work was positively associated with employee job satisfaction through the fulfillment of the three basic psychological needs.

**Practical implications** – For organizations seeking to implement hybrid work arrangements, these results are critical, as they highlight aspects that should be considered in workplace practices to promote employee job satisfaction.

**Originality/value** – For learning organizations seeking to implement hybrid work arrangements, these results are critical, as they highlight aspects that should be considered in workplace practices to promote employee job satisfaction.

**Keywords** Hybrid working model, Flexible work arrangements, Self-determination theory, Job satisfaction

**Paper type** Research paper

## Introduction

The world of work is undergoing continuous transformation. The COVID-19 pandemic significantly accelerated this shift, catalyzing the widespread adoption of telework

---

© Ana Junça Silva, Raquel Pombo and Rita Rueff Lopes. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/>

**Funding:** This work was supported by Fundação para a Ciência e a Tecnologia, grant UIDB/00315/2020 (DOI: 10.54499/UIDB/00315/2020).

**Conflict of interest:** The authors declare that they have no conflicts of interest



(Charalampous, Grant, & Tramontano, 2023). As the pandemic subsided by mid-2022, many learning organizations began transitioning to hybrid work models in an effort to balance the advantages of remote flexibility with the benefits of in-person collaboration (Iqbal, Khalid, & Barykin, 2021). In this model, employees divide their time between on-site and remote work based on organizational needs and role-specific demands (Grzegorzczuk, Mariniello, Nurski, & Schraepen, 2021). In learning organizations – where adaptability, collaboration and ongoing development are core values – hybrid work is particularly relevant, as it may shape the conditions that enable these principles to thrive.

Prior research has linked telework to positive outcomes such as well-being (e.g. Junça Silva, Almeida, & Rebelo, 2024a) and job satisfaction (Blahopoulou, Ortiz-Bonnin, Montañez-Juan, Torrens Espinosa, & García-Buades, 2022; Tudu & Singh, 2023). However, these studies have focused predominantly on full telework arrangements (Dale, Wilson, & Tucker, 2024), leaving the implications of hybrid models comparatively underexplored (Kaltainen & Hakanen, 2024). Furthermore, while theoretical frameworks such as Self-Determination Theory (SDT; Deci & Ryan, 2000) have been proposed to explain the motivational underpinnings of flexible work arrangements, empirical research testing the mediating role of basic psychological needs – namely autonomy, competence and relatedness – within hybrid work contexts remains scarce (Junça Silva & Galrito, 2024).

This gap is especially relevant in learning organizations, where employee motivation and satisfaction are essential for fostering continuous learning, collaboration and performance (Cao et al., 2025). SDT provides a useful framework for understanding how specific work arrangements, such as hybrid work, may influence employee outcomes through the satisfaction of these basic needs (Ryan & Deci, 2024). Although some studies (Biron, Casper, & Raghuram, 2023; Gagné et al., 2022) have explored the association between psychological need satisfaction and work outcomes such as engagement (Lopes, Dias, Sabino, Cesário, & Peixoto, 2022) or well-being (Junça Silva, Neves, & Caetano, 2024b), they often do so in the context of full telework (see also Bakker & Van Woerkom, 2017.) As such, they may not adequately reflect the more complex, dynamic realities of hybrid work, where employees alternate between settings that differentially support each need (Dale et al., 2024).

Moreover, the few existing studies that do consider psychological needs in flexible work contexts tend to treat need satisfaction as a global construct, without disentangling how each need – autonomy, competence and relatedness – may uniquely influence outcomes such as job satisfaction (Bakker & Ererdi, 2022). The need for autonomy involves the sense of psychological freedom, including the ability to make choices and initiate one's own actions (key elements of learning organizations); the need for competence refers to the feeling of being capable of effectively performing tasks and managing the work environment (when hybrid work enables employees to develop their skills and perform effectively, it directly contributes to their ability to engage in problem-solving and knowledge-sharing activities that drive organizational learning); and the need for relatedness refers to the universal desire to interact and build relationships with others (Ryan & Deci, 2024).

SDT posits that the satisfaction of three basic psychological needs – autonomy, competence and relatedness – is essential for fostering intrinsic motivation and promoting job satisfaction (Wang, Albert, & Sun, 2020), both of which are central to the functioning of learning organizations. However, SDT scholars have highlighted that the relative impact of each need may vary depending on contextual and outcome-specific factors (Van den Broeck, Van Ruyseveldt, Smulders, & De Witte, 2010). Despite the growing relevance of hybrid work, it remains unclear whether, and through which psychological mechanisms, such arrangements contribute to employees' job satisfaction – particularly within the context of Learning Organizations. This gap reflects both a theoretical and empirical shortcoming in the literature, as

most prior studies have either treated need satisfaction as a composite construct or overlooked the role of organizational learning environments in shaping these relationships.

To address these gaps, the present study investigated the mediating role of autonomy, competence and relatedness need satisfaction in the relationship between hybrid work arrangements and employee job satisfaction. Job satisfaction was conceptualized as a multidimensional evaluative judgment of one's work experience (Sharma, Misra, & Mishra, 2017), encompassing both affective and motivational dimensions – elements that are particularly salient in organizations committed to continuous learning and development (Ahsan, 2025; Cao et al., 2025).

This study offers several original contributions to the literature. First, it extends SDT by empirically examining how hybrid work arrangements, increasingly prevalent in post-pandemic organizational life, satisfy distinct psychological needs and thereby shape job satisfaction. While prior studies have addressed hybrid work broadly (Çoban, 2022), few have explored its psychological mechanisms in such a theoretically grounded and differentiated manner. Second, by disentangling the unique contributions of autonomy, competence and relatedness, this study responds to recent calls in SDT research for a more granular understanding of how specific needs operate in distinct organizational contexts (Junça Silva & Galrito, 2024). Third, it applies this analysis specifically within Learning Organizations – settings that, despite their conceptual alignment with employee development and intrinsic motivation (Ahsan, 2025), have rarely been empirically studied through the lens of SDT in hybrid work environments.

Together, these contributions advance theoretical understanding of motivation in contemporary work contexts and provide actionable insights for practitioners and HR professionals in Learning Organizations. By demonstrating how hybrid work can be optimized to support core psychological needs, this research informs the design of more motivating work practices in organizations committed to continuous learning and innovation (Watkins & Marsick, 2020).

## Theoretical framework

### *Hybrid work*

Telework – as first delineated by Nilles (1998) – refers to a work arrangement in which employees perform their duties remotely, typically from home, leveraging information and communication technologies to remain connected to their organizations. This form of work has been variously termed telecommuting, remote work, e-work, virtual work, flexible work, flexplace, hybrid work or distance work (Allen, Golden, & Shockley, 2015); however, telework remains the predominant term in European scholarship (Junça Silva et al., 2024a). These designations encompass any work that occurs outside the traditional office environment and relies on digital tools – such as email, video conferencing and collaborative platforms – for communication and task execution (Grant & Russell, 2020).

Following the World Health Organization's declaration ending the COVID-19 pandemic as a global health emergency, many organizations adopted hybrid work models to balance remote and on-site demands (Tran, Carden, & Zhang, 2022). In a hybrid arrangement, employees alternate between working in the office and working remotely – whether from home or other locations – according to operational requirements and individual preferences (Iqbal et al., 2021). Such models have been proposed as a mechanism for enhancing work–nonwork balance by affording employees increased temporal and spatial flexibility (Naqshbandi, Ishak, Kabir, & Islam, 2025; Blahopoulou et al., 2022).

Empirical evidence has subsequently linked hybrid work to a range of positive organizational outcomes, including higher levels of employee attraction, retention and attendance (Biron et al., 2023; Jaiswal, Gupta, & Prasanna, 2022; Junça Silva & Coelho, 2023), reduced stress (Junça Silva & Lopes, 2025) and elevated job satisfaction (Kissi, Asare, Agyekum, Agyemang, &

Labaran, 2019). These findings underscore the strategic value of hybrid work arrangements in contemporary organizational practice (Choudhury, Khanna, Makridis, & Schirrmann, 2024), particularly as a means of mitigating the disadvantages commonly associated with full-time telework (Naqshbandi, Kabir, Ishak, & Islam, 2024). By offering a balanced alternative that combines the flexibility of remote work with the structure and social interaction of in-person work (Naqshbandi et al., 2025), hybrid models have emerged as a viable solution to address challenges such as isolation, communication barriers and reduced collaboration – while still promoting autonomy, well-being and job satisfaction (Junça Silva & Caetano, 2024).

#### *The relationship between hybrid work and job satisfaction*

Sharma and Stol (2020) conceptualized job satisfaction as a multifaceted and dynamic construct that encompasses multiple dimensions of the employee experience within the organizational context. Their work highlights that job satisfaction is influenced by a broad spectrum of factors, including the intrinsic characteristics of the work itself as well as external working conditions – such as the adoption of hybrid work arrangements.

From a theoretical standpoint, the e-Work Life Model (Grant, Wallace, Spurgeon, Tramontano, & Charalampous, 2019) offers a comprehensive and empirically grounded framework for understanding the relationship between flexible work arrangements – such as telework, e-work, and hybrid models – and job satisfaction (Charalampous, Grant, & Tramontano, 2021). This model elucidates how such arrangements impact core elements of employees' quality of work life, particularly their psychological well-being and overall job satisfaction (Grant et al., 2019). Specifically, the model identifies four key dimensions that mediate the effects of flexible work on individual outcomes:

- (1) organizational trust;
- (2) temporal and spatial flexibility;
- (3) work-life interference (i.e. the interaction between work and personal life); and
- (4) job productivity, typically operationalized through performance-related indicators (Jex, 1998, p. 26).

A growing body of empirical research substantiates the relevance of these dimensions, confirming their significant role in shaping employees' satisfaction levels (Grant et al., 2019; Junça Silva, 2024a, 2024b).

Moreover, empirical findings suggest a consistent association between hybrid work arrangements and enhanced job satisfaction (Dale et al., 2024). For example, Song and Gao (2020) found that hybrid work was linked to lower levels of fatigue, while Eng, Tjernberg and Champoux-Larsson, (2024) reported significant positive associations between hybrid work, work engagement and psychological well-being. In addition, Delanoëje and Verbruggen (2020) demonstrated that individuals who engaged in telework for up to two days per week during a two-week intervention experienced lower post-intervention stress levels. On telework days, participants also reported reduced daily stress and increased levels of work engagement. Taken together, these findings provide a robust theoretical and empirical basis for proposing the following hypothesis:

*H1. Hybrid work has a positive relationship with job satisfaction.*

#### *The relationship between hybrid work and basic psychological needs*

In addition to its positive impact on job satisfaction, hybrid work arrangements may also contribute to the fulfillment of employees' basic psychological needs (Kosenkranius, Rink,

Weigelt, Van Den Heuvel, & de Bloom, 2023). According to Self-Determination Theory (SDT; Deci & Ryan, 2000), individuals possess an innate propensity for psychological growth, integration, and well-being – processes that are contingent upon the satisfaction of three basic psychological needs: competence (the need to feel effective and capable of achieving desired outcomes), autonomy (the need to perceive one’s actions as self-endorsed and volitional) and relatedness (the need to feel meaningfully connected to others; Ryan & Deci, 2024). These needs are considered innate and universal (Gagné et al., 2022) and their satisfaction is critical for fostering intrinsic motivation, engagement and positive organizational outcomes (Ryan & Deci, 2024).

Hybrid work configurations, by design, offer a unique combination of structure and flexibility that can directly support the satisfaction of these core needs. In organizational contexts, autonomy is expressed through employees’ capacity to exercise discretion over their work tasks and decisions (Choudhary, Naqshbandi, Philip, & Kumar, 2017), including setting personal goals, managing work schedules and making meaningful choices (Liu, She, Cafferkey, & Townsend, 2025). Consequently, the autonomy embedded within hybrid work arrangements may function as a critical motivational resource (Šakan et al., 2020). Furthermore, hybrid work models provide employees with greater control over the temporal and procedural aspects of their work, such as choosing when and where to perform specific tasks (Delanoëje & Verbruggen, 2020), thereby facilitating perceptions of competence and mastery. This capacity for flexible self-regulation enhances employees’ sense of efficacy and contributes to sustained motivation and performance (Naqshbandi et al., 2025).

The simultaneous fulfillment of autonomy and competence needs has been shown to promote self-determined motivation (Zoubir et al., 2025), as individuals experience greater control, meaning and effectiveness in their daily work routines (Delanoëje & Verbruggen, 2020). Moreover, hybrid work environments are often associated with fewer unnecessary meetings and reduced task interruptions (Superi & Naqshbandi, 2022), which can enhance the quality and intentionality of interpersonal interactions (Şahin, Doğan, & İlic, 2025). These improved social dynamics –characterized by more meaningful, focused and supportive communication – can help fulfill the need for relatedness (Charalampous et al., 2023). By minimizing superficial or disruptive encounters and enabling employees to engage in deeper social exchanges, hybrid work fosters a sense of connection and belonging (Naqshbandi et al., 2024; Junça Silva, 2024).

Taken together, these theoretical and empirical insights suggest that hybrid work arrangements not only enhance job satisfaction but also serve as a strategic means of satisfying basic psychological needs, thereby promoting sustainable motivation, engagement, and well-being in contemporary workplaces.

In light of this theoretical and empirical foundation, the following hypotheses are proposed:

- H2. Hybrid work has a positive relationship the satisfaction of basic psychological needs for (a) autonomy, (b) competence and (c) relatedness.

### *The mediating role of basic psychological needs*

Although hybrid work arrangements have been associated with various positive outcomes, the underlying mechanisms through which they influence employee job satisfaction remain insufficiently understood (Naqshbandi et al., 2024, 2025). Despite growing interest in the topic, current empirical evidence has not yet comprehensively delineated how hybrid work specifically contributes to improvements in job satisfaction indicators (Golden, 2021). To advance theoretical and practical understanding, further research is required to unpack the

nuanced processes that link hybrid work structures to employee satisfaction. In this regard, SDT (Deci & Ryan, 2000) offers a robust and empirically supported framework for examining the psychological mechanisms that may explain these associations (Junça Silva & Galrito, 2024).

In organizational contexts, the positive association between the satisfaction of basic psychological needs and job satisfaction has been consistently supported by empirical research (Gagné et al., 2022). These findings suggest that favorable working conditions can facilitate the fulfillment of employees' psychological needs, thereby fostering both motivation and job satisfaction (Junça Silva & Galrito, 2024). For example, the flexibility inherent in hybrid work arrangements has been shown to enhance employees' perceptions of autonomy (Bakker, Demerouti, & Sanz-Vergel, 2014), which in turn may act as a salient motivational resource (Superi & Naqshbandi, 2022). Accordingly, the provision of flexible work conditions is expected to positively impact job satisfaction, as such arrangements have the potential to fulfill the need for autonomy (Bakker & Demerouti, 2007; Kattenbach, Demerouti, & Nachreiner, 2010).

When employees experience higher levels of autonomy, they are more likely to feel a sense of ownership and responsibility over their work, which can increase opportunities for creativity, innovation and ultimately, professional fulfillment (Liu et al., 2025). Flexible work arrangements also grant individuals greater control over their schedules and tasks (Delanoeije & Verbruggen, 2020), thereby supporting the simultaneous satisfaction of both autonomy and competence needs (Zoubir et al., 2025). This dual fulfillment is particularly relevant for enhancing motivation and job satisfaction, as it enables employees to perceive greater self-determination and efficacy in their daily activities (Naqshbandi et al., 2025).

Moreover, hybrid and flexible work structures have been linked to a reduction in unnecessary meetings and workplace interruptions, which can enhance the quality of interactions by focusing communication on meaningful, task-relevant issues (Charalampous et al., 2023). This reduction in superficial or disruptive interactions may mitigate interpersonal tensions and allow for more authentic and supportive social exchanges (Junça Silva, 2024). Consequently, such work arrangements may also fulfill the need for relatedness (Şahin et al., 2025) further contributing to increased job satisfaction.

Grounded in these theoretical principles, a growing body of research has demonstrated that organizations can enhance employee motivation by creating work environments that support the satisfaction of the basic psychological needs for autonomy, competence and relatedness (Van den Broeck, Ferris, Chang, & Rosen, 2016). Nonetheless, the specific role of hybrid work arrangements in satisfying these fundamental needs remains relatively underexplored in empirical literature (Ryan & Deci, 2024).

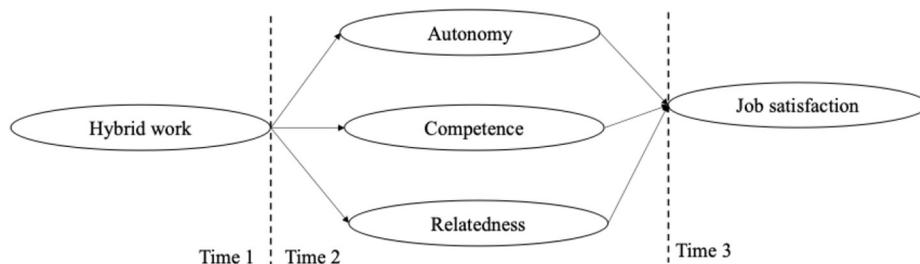
In light of these theoretical insights, the following hypotheses were formulated (see Figure 1):

- H3. The satisfaction of the basic psychological needs for (a) autonomy, (b) competence and (c) relatedness mediates the positive relationship between hybrid work and job satisfaction.

## Method

### *Participants and procedure*

Participants were recruited via LinkedIn using a non-probabilistic convenience sampling strategy, targeting individuals who were accessible within professional networks. To address potential limitations inherent in this approach, a snowball sampling technique was also used, whereby initial participants were encouraged to disseminate the survey within their own



**Figure 1.** The proposed model

**Note(s):**  $**p < 0.001$

professional circles. This strategy aimed to increase the heterogeneity of the sample and enhance the external validity of the findings (Demerouti & Rispens, 2014).

Eligibility criteria required participants to be actively employed in a hybrid work arrangement at the time of data collection and to belong to organizations characterized as Learning Organizations. In line with the definitions proposed by Senge (1990) and Garvin (1993), a Learning Organization is one that continuously facilitates the learning of its members and adapts to a changing environment. Core characteristics include support for continuous employee development, knowledge sharing, team learning and adaptive problem-solving and innovation.

To identify Learning Organizations, participants were asked in the first survey to describe their organization's learning practices. These included, but were not limited to, the presence of formal training programs, internal knowledge-sharing platforms, continuous improvement initiatives and relevant certifications related to organizational learning and development. Organizations meeting these criteria were considered aligned with the conceptual definition of a Learning Organization.

Data collection occurred across three sequential phases between September and December 2024. Before participation, individuals were informed about the study's objectives, the voluntary nature of involvement and data confidentiality. Electronic informed consent was obtained in accordance with ethical guidelines. Ethical approval was granted by the Institutional Ethics Committee of the first author's university.

At Time 1 (T1), 780 surveys were distributed to assess hybrid work arrangements and collect socio-demographic data, including the characteristics of learning organizations, resulting in 654 valid responses (response rate: 83.8%). At the end of the first survey, participants voluntarily provided email addresses solely for follow-up communication. These were kept confidential, not linked to survey data, and replaced by unique identification codes to enable matching responses across time points while preserving anonymity.

One week later, at Time 2 (T2), a follow-up questionnaire measuring the satisfaction of basic psychological needs was administered to the same participants, yielding 590 responses (response rate: 75.6%). A final wave of data collection at Time 3 (T3), conducted one week after T2, focused on job satisfaction and resulted in 481 completed surveys (response rate: 61.6%). An *a priori* power analysis (effect size = 0.20,  $\alpha = 0.05$ ) indicated that the final sample size was sufficient to detect statistically significant effects. To assess potential bias due to participant attrition, Little's Missing Completely at Random (MCAR) test was conducted (Little et al., 2014), indicating that missing data were MCAR ( $\chi^2 = 4.58$ ,  $df = 5$ ,  $p = 0.07$ ), suggesting no systematic attrition related to key study variables.

The final sample ( $n = 481$ ) comprised 57.7% females, with ages ranging from 20 to 50 years ( $M = 32.00$ ,  $SD = 13.21$ ). Educationally, 51.5% held a bachelor's degree, and 30.3%

had completed a master's degree. On average, participants had been employed in their current organization for 7 years ( $SD = 9.73$ ).

### Measures

*Hybrid work (time 1).* To measure hybrid work, respondents were asked to indicate the number of days they worked from home per week over the past month.

*Basic psychological needs (time 2).* The three basic psychological needs were measured using the Basic Need Satisfaction at Work Scale (Ilardi, Leone, Kasser, & Ryan, 1993; Broeck et al., 2010), with two items included for each dimension: autonomy (e.g. "I feel I can be myself at work"), relatedness (e.g. "I feel that people at work care about me") and competence (e.g. "I feel competent and capable"). Participants responded on a five-point Likert scale, ranging from "not at all" to "extremely." Cronbach's alpha ranged from 0.88 to 0.94.

*Job satisfaction (time 3).* Job satisfaction was assessed using three items from the Job Satisfaction Questionnaire (Sharma et al., 2017) (e.g., "I am satisfied with the recognition I receive from my superiors for my work."). Responses were provided on a five-point Likert scale, ranging from 1 – *strongly disagree* to 5 – *strongly agree*; ( $\alpha = 0.91$ ).

*Control variables.* Considering that the criterion variable was job satisfaction and the predictor was hybrid work arrangements, sex and age were included as control variables to minimize potential confounding effects. Sex was controlled because research has shown that women tend to report higher levels of happiness and generally prefer working from home due to work–life balance considerations (Çoban, 2022). This preference can influence how women experience hybrid work arrangements, affecting the satisfaction of their basic psychological needs and, consequently, their overall job satisfaction (Diener, Thapa, & Tay, 2020; Junça Silva, 2023). Similarly, age was controlled because younger generations often have different expectations and attitudes toward flexible work arrangements compared to older workers (Rueff-Lopes, Velasco, Sayeras, & Junça-Silva, 2025). Younger employees may respond more positively to hybrid work, which can impact their psychological needs satisfaction and job satisfaction levels (Junça Silva, 2025). Controlling for sex and age thus helps to isolate the unique effects of hybrid work on job satisfaction (Nguyen & Armoogum, 2021).

### Data analyses

In the proposed mediation model, three types of variables were included:

- (1) predictor (hybrid work);
- (2) criterion variable (job satisfaction); and
- (3) three mediators (basic psychological needs: competence, autonomy and relatedness)

SPSS 29.0 and JASP software (version 0.14.1) were used to test the proposed model. First, a descriptive analysis was conducted to calculate the mean and standard deviation for each variable, followed by correlation analyses to examine whether the work arrangement was associated with the mediators and criterion variables. Subsequently, the fit of the measurement model was assessed using structural equation modeling in JASP. The results showed that the Root mean square error of Approximation (RMSEA)  $< 0.08$ , the Standardized Root Mean Square Residual (SRMR)  $< 0.08$ , the Comparative Fit Index (CFI)  $> 0.90$ , and the Tucker-Lewis Index (TLI)  $> 0.90$  indicated good model fit (Kline, 2015).

### Common method bias

Although several recommended procedures were implemented to minimize common method bias (CMB) – such as randomizing the survey questions, interspersing closed-ended items

throughout the questionnaire (e.g. “I enjoy teleworking”), and using previously validated measurement instruments for the study variables – it cannot be entirely eliminated (Podsakoff, Podsakoff, Williams, Huang, & Yang, 2024). To assess the potential presence of CMB, multiple strategies were employed as recommended by Podsakoff et al., (2024).

First, Harman’s single-factor test was conducted to evaluate the extent of common method variance. The analysis revealed that the first factor accounted for only 36.14% of the total variance, suggesting that CMB was not a significant concern in this study.

Second, three confirmatory factor analyses (CFAs) were conducted to confirm the independence of the study variables. To evaluate model adequacy and compare it with other reasonable alternative models, various fit indices were analyzed (Hair, da Silva Gabriel, & Patel, 2014), such as CFI, TLI, SRMR and RMSEA. Model 1 was the four-factor model comprising separate scales for competence, autonomy and relatedness needs, and job satisfaction. Model 2 was a two-factor model where job satisfaction loaded into a single factor, and the three psychological needs were loaded onto one factor. Model 3 was a one-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 ( $\chi^2/df = 1.09$ ,  $p < 0.01$ , CFI = 0.99, TLI = 0.99, SRMR = 0.03, and RMSEA = 0.02; 95% CI [0.001, 0.05]), while all alternative models showed poorer fit. These results, along with the reliability indices (Cronbach’s alpha) associated with the scales, demonstrated the study’s discriminant and convergent validity. Therefore, hypothesis testing proceeded.

## Results

### Descriptive statistics

Table 2 displays the correlations between the variables, as well as their mean and standard deviation values. In addition, the results revealed that all variables showed significant and positive correlations with one another. Finally, age was significantly and negatively associated with autonomy and competence need satisfaction, hybrid work arrangements, and

**Table 1.** Confirmatory factor analyses results

Models	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
Model 1	1.09	0.99	0.99	0.02	0.03
Model 2	5.19	0.98	0.98	0.14	0.07
Model 4	9.91	0.98	0.97	0.20	0.09

**Table 2.** Descriptive statistics

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Autonomy	3.911	1.21	(0.88)					
2. Relatedness	3.671	1.29	0.66**	(0.94)				
3. Competence	3.841	1.20	0.76**	0.71**	(0.91)			
4. Hybrid work	2.13	0.74	0.12**	0.30**	0.12**			
5. Satisfaction	3.361	1.02	0.61**	0.64**	0.63**	0.16**	(0.91)	
6. Age	32.13	13.21	0.10*	-0.01	0.10*	0.12*	-0.08*	
7. Sex	-	-	0.06	0.04	-0.04	-0.10*	0.05	0.03

**Note(s):**  $n = 481$ ; \*\* $p < 0.001$ ; <sup>1</sup>Scale ranging from 1–5. <sup>2</sup>Sex codes: 1 – male; 2 – female. Cronbach alphas are in brackets

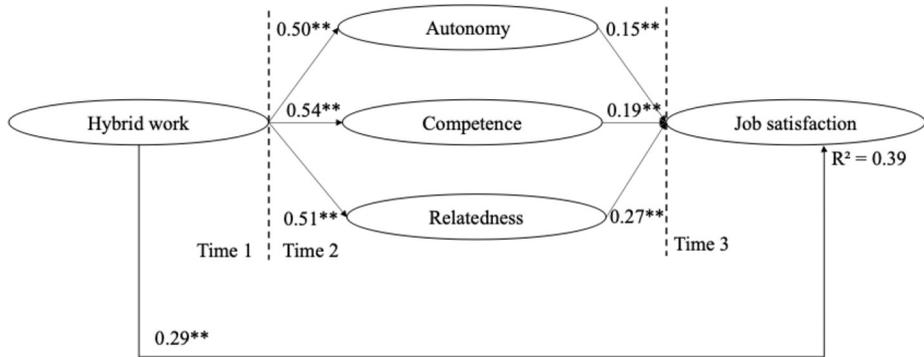
job satisfaction. These findings suggest that younger participants tended to report greater fulfillment of autonomy and competence needs, more positive perceptions of hybrid work, and higher levels of job satisfaction compared to older participants.

Regarding sex, a significant negative association was observed with hybrid work, indicating that women had lower access to hybrid work arrangements compared to men. No significant relationships were found between sex and the satisfaction of basic psychological needs or job satisfaction. These results highlight the importance of accounting for age and sex when examining the psychological mechanisms underlying job satisfaction in hybrid work contexts.

*Hypotheses testing*

The structural equation model demonstrated a good fit to the data:  $\chi^2(475) = 2.67, p < 0.001$ , CFI = 0.97, TLI = 0.91, RMSEA = 0.09, 90% CI [0.09; 0.16], SRMR = 0.03. The standardized coefficients of the relationships between the variables are presented in Figure 2.

Analyzing Table 3, the results suggest that the direct effect of hybrid work on job satisfaction is positive ( $\beta = 0.29; p < 0.001; 95\% \text{ CI } [0.12; 0.45]$ ). Thus, *H1* was supported by the data.



**Figure 2.** The path coefficients of the model  
 Note(s): \*\* $p < 0.001$

**Table 3.** Mediation model results

Indirect effect	Estimate	<i>p</i>	CI 95% LLCI	ULCI
Hybrid work → Autonomy → Satisfaction	0.08	<0.001	0.01	0.19
Hybrid work → Relatedness → Satisfaction	0.14	<0.001	0.03	0.28
Hybrid work → Competence → Satisfaction	0.10	<0.001	0.006	0.26
<i>Total indirect effect</i>				
Hybrid work → Job satisfaction	0.32	<0.001	0.11	0.55
<i>Direct effect</i>				
Hybrid work → Job satisfaction	0.29	<0.001	0.12	0.45
<i>Total effect</i>				
Hybrid work → Job satisfaction	0.61	<0.001	0.40	0.82

Note(s):  $n = 481$ ; \*\* $p < 0.001$ , Sex and age demonstrated non-significant associations with all the variables in the final model

Second, the indirect effect tests showed that the need for autonomy mediated the relationship between hybrid work and job satisfaction ( $\beta = 0.08$ ;  $p < 0.01$ ; 95% CI [0.01; 0.19]). Similarly, the results demonstrated that both psychological needs – competence and relatedness – mediated the relationship between hybrid work and job satisfaction ( $\beta = 0.10$ ;  $p < 0.01$ ; 95% CI [0.006; 0.26];  $\beta = 0.14$ ;  $p < 0.001$ ; 95% CI [0.03; 0.28], respectively). The overall model explained 39% of the variance in satisfaction ( $R^2 = 0.39$ ). Therefore, *H2* was supported by the data.

## Discussion

The COVID-19 pandemic catalyzed the widespread adoption of alternative work arrangements, with hybrid work emerging as a particularly prominent model. Currently, it represents one of the most widely implemented configurations across organizations (Eng et al., 2024). Given the increasing prevalence of hybrid work, it is imperative to advance our understanding of how this model influences employees' experiences and well-being. Although a substantial body of literature has demonstrated the positive effects of telework on various well-being indicators (Charalampous et al., 2023), much of this research has focused on fully remote arrangements or dichotomous comparisons between entirely on-site and entirely remote work (Junça Silva et al., 2024b). Consequently, it remains uncertain whether the benefits attributed to telework are equally applicable to hybrid work contexts.

In response to calls for further research into the specific outcomes associated with hybrid work (Blahopoulou et al., 2022; Delanoëje & Verbruggen, 2020), the present study draws upon SDT to examine the mechanisms through which hybrid work may enhance employee well-being – specifically by investigating its relationship with job satisfaction. SDT posits that the satisfaction of three basic psychological needs – autonomy, competence and relatedness – is essential for psychological growth, motivation and well-being (Ryan & Deci, 2024). Findings from this study suggest that hybrid work is positively associated with job satisfaction, and that this relationship is mediated by the fulfillment of these core needs.

Importantly, in contrast to fully remote work, which has been associated with challenges such as social isolation and weakened interpersonal relationships (Kosenkranius et al., 2023), hybrid work offers a more balanced approach (Choudhury et al., 2024). It provides employees with the autonomy and flexibility to organize their tasks while maintaining regular in-person interactions that nurture a sense of relatedness (Naqshbandi et al., 2025). The hybrid model appears particularly well-suited to satisfy autonomy by allowing individuals to exert greater control over the scheduling and execution of their work (Junça Silva & Caetano, 2024). At the same time, it supports competence through increased focus and reduced distractions on remote days, while reinforcing relatedness via continued opportunities for face-to-face social engagement on in-office days (Delanoëje & Verbruggen, 2020). This alternation between remote and in-person work facilitates a combined effort to sustain positive workplace relationships – even during periods of physical distance – thereby mitigating the relational drawbacks commonly associated with full telework (Junça Silva & Lopes, 2025).

These findings hold particular relevance within the context of learning organizations, which are inherently structured to foster continuous development, adaptability and the fulfillment of employees' basic psychological needs (Cao et al., 2025). As highlighted by Watkins and Marsick (2020), Learning Organizations promote collaborative learning even at distance, which is essential for cultivating employee's satisfaction, and achieving alignment around shared goals (Marsick, 2013; Cao et al., 2025). Furthermore, by embedding practices that support personal and professional growth, like hybrid work, Learning Organizations contribute to higher levels of job satisfaction among employees (Ahsan, 2025), reinforcing

the importance of psychological need satisfaction as a driver of positive work outcomes in such environments.

In summary, hybrid work appears to represent a strategic work arrangement that not only supports job satisfaction but also meets employees' basic psychological needs. It balances flexibility with connection, thereby creating conditions conducive to employees' job satisfaction.

### Theoretical implications

From a theoretical standpoint, this study provides a timely and meaningful contribution to the growing body of literature on hybrid work, while advancing the application of SDT (Deci & Ryan, 2000) in emerging work contexts. Specifically, our findings help bridge a notable gap in the literature by elucidating the psychological mechanisms through which hybrid work influences job satisfaction – a topic that has received limited empirical attention compared to fully remote or fully on-site arrangements (Naqshbandi et al., 2024). Although existing research has consistently shown that flexible work arrangements such as full telework or idiosyncratic deals (i-deals) are associated with improved well-being and reduced stress (Bakker & Ererdi, 2022; Sun, Liang, Li, & Song, 2023), these studies often overlook the unique nature and potential benefits of hybrid work.

Hybrid arrangements – characterized by a blend of remote and on-site work – are now the predominant form of flexibility adopted by organizations worldwide (Eng et al., 2024), yet remain understudied in terms of their underlying motivational mechanisms (Junça Silva & Lopes, 2025). This study addresses that gap by showing that hybrid work fosters job satisfaction via the fulfillment of employees' basic psychological needs for autonomy, competence and relatedness. Importantly, our results show that, contrary to common findings regarding full telework – which often leads to increased social isolation and weakened interpersonal connections (Grant et al., 2019; Kosenkranius et al., 2023; Mishra & Bharti, 2023) – hybrid work arrangements can actively contribute to the satisfaction of the need for relatedness.

The combination of in-office and remote days allows individuals to maintain meaningful face-to-face relationships with colleagues, supervisors, and clients, while also benefiting from reduced interruptions and more focused work during remote days (Nguyen & Armoogum, 2021; Şahin et al., 2025). This balanced rhythm supports what the vitamin model of well-being suggests: that excessive or insufficient social interaction can diminish well-being (Warr, 2021). Hybrid work thus offers a “moderate dose” of social connection that fosters supportive interactions without overwhelming employees (Liu et al., 2025), fulfilling the need for relatedness and enhancing job satisfaction (Zoubir et al., 2025).

In addition to relatedness, our findings highlight the hybrid model's capacity to satisfy the need for competence – the feeling of effectiveness and mastery in one's environment (Ryan & Deci, 2024). Working from home offers employees' greater comfort and control, allowing them to manage both work and non-work demands (e.g. parenting responsibilities; Radonić, Vukmirović, & Milosavljević, 2021), thereby enhancing their self-efficacy and perceived competence (Superi & Naqshbandi, 2022). On the other hand, office-based workdays offer opportunities for in-person collaboration and access to institutional resources, enabling employees to remain engaged with organizational goals and receive immediate feedback, further reinforcing feelings of competence (Junça Silva & Galrito, 2024; Toscano, González-Romá, & Zappalà, 2024). The hybrid model, by combining these two environments, creates a synergistic effect that promotes employees' perceptions of mastery and capability in diverse contexts (Dale et al., 2024).

Moreover, our study confirms that the psychological need for autonomy plays a key mediating role in the relationship between hybrid work and job satisfaction. Previous literature has emphasized the autonomy-enhancing nature of flexible work arrangements, such as telework (Kosenkranius et al., 2023), by allowing individuals to organize their schedules and make meaningful decisions regarding how work is accomplished (Charalampous et al., 2023; Choudhary et al., 2017). Our findings extend this evidence to hybrid work, showing that its inherent flexibility supports autonomy by granting employees control over both temporal and procedural aspects of their tasks. This autonomy, in turn, is a cornerstone of self-determined motivation and a robust predictor of well-being and job satisfaction (Ryan & Deci, 2024; Gagné et al., 2022; Scharp, Bakker, & Breevaart, 2022).

By grounding these insights within SDT, this study not only sheds light on how hybrid work arrangements fulfill fundamental psychological needs, but also contributes to theoretical development by illustrating that need satisfaction may be context-sensitive and differentially affected by specific work designs (Bakker & Ererdi, 2022). While full remote work may undermine relatedness or blur work-life boundaries, hybrid work appears uniquely positioned to offer a more balanced and integrative solution that supports all three psychological needs simultaneously (Naqshbandi et al., 2025). In doing so, it supports optimal functioning and enhances job satisfaction across diverse working conditions (Junça Silva, 2024). In sum, this research emphasizes the critical role of psychological need satisfaction in shaping the employee experience in hybrid work settings.

### Practical implications

The results underscore the importance of designing hybrid work strategies that actively support the fulfillment of employees' basic psychological needs – autonomy, competence and relatedness – as these are key drivers of job satisfaction in a the context of learning organizations. To enhance autonomy, organizations should allow employees greater flexibility in choosing their work location and schedule, enabling them to manage their tasks in a way that aligns with their personal and professional responsibilities. This flexibility can foster a stronger sense of control and ownership over their work, thereby enhancing intrinsic motivation and satisfaction. To promote competence, organizations should invest in continuous learning and development opportunities tailored to the hybrid context. This includes providing access to online training, workshops and digital skill development programs that empower employees to feel capable and effective in navigating both remote and in-office work demands.

To strengthen relatedness, it is crucial to maintain meaningful interpersonal interactions, even on remote days. Organizations can implement strategies such as regular virtual team meetings, informal check-ins and periodic in-person gatherings to foster social connection and mitigate the risk of isolation. Creating structured opportunities for collaboration and informal interaction helps preserve team cohesion and emotional support networks.

Finally, the negative associations between age and autonomy, competence and job satisfaction may indicate that Learning Organizations, despite their developmental focus, need to implement more inclusive and age-responsive strategies to ensure that employees across all age groups experience the same level of psychological support and satisfaction. Similarly, the observed gender difference in the frequency of hybrid work suggests that Learning Organizations must remain attentive to how flexible work arrangements are experienced differently by men and women. As organizations committed to ongoing learning and improvement (Cao et al., 2025), these entities are well-positioned to address such disparities by tailoring hybrid work policies to better meet diverse employee needs and to ensure equitable access to resources that support job satisfaction across the workforce.

In sum, by adopting a human-centered approach that supports the satisfaction of core psychological needs, learning organizations can leverage the hybrid model not only as a logistical arrangement but as a strategic tool to enhance employee job satisfaction.

### **Limitations and future directions**

When analyzing the results of this study, it is important to recognize the existence of some limitations that deserve consideration. The first limitation concerns the small sample size, which may not be sufficient to generalize the conclusions to the entire population of interest. For future studies, it is recommended to use a more heterogeneous sample, aiming to include participants with different profiles and experiences, to encompass different telework regimes, sectors and work contexts. In this study, a convenience sample was used, along with snowball sampling. The convenience sample may not adequately represent the target population of the study, although the complementarity with the sample obtained through non-probabilistic snowball sampling may have mitigated this issue. However, the convenience sample may lead to the inclusion of participants with similar characteristics and experiences, which limits the diversity of the data collected.

The second limitation is related to the use of self-reported data and the cross-sectional design, which may have led to CMB. However, some statistical techniques revealed that CMB was not a significant issue in this study.

Finally, due to the recent widespread implementation of the hybrid work regime, there remains a significant gap in scientific research regarding its various implications. The hybrid working model is a trend that is expected to strengthen in the coming years, becoming increasingly relevant for organizations and their employees. In-depth research on this topic will enable organizations to adapt to the new realities of the work world and build a more prosperous and sustainable future.

### **Conclusion**

The hybrid work seems to currently represent the future of work. Overall, hybrid work positively influences employee satisfaction through the satisfaction of psychological needs for competence, relatedness and autonomy. In sum, this study provides evidence that hybrid work arrangements are a promising avenue for enhancing employee satisfaction and well-being. By leveraging the principles of SDT, organizations can design hybrid work models that not only adapt to the evolving nature of work but also prioritize employee psychological needs, ultimately contributing to a more motivated and satisfied workforce.

### **Data availability**

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

### **Ethics 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.

### **Informed consent**

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

### **References**

Ahsan, M. J. (2025). Cultivating a culture of learning: the role of leadership in fostering lifelong development. *The Learning Organization*, 32(2), 282–306, <https://doi.org/10.1108/TLO-03-2024-0099>.

- Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest*, 16(2), 40–68. <https://doi.org/10.1177/1529100615593273>.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology*, 22(3), 309–328. <https://doi.org/10.1108/02683940710733115>.
- Bakker, A. B., & Ekerdt, C. (2022). I-deals and employee well-being: examining I-deals from JD-R perspective. *Idiosyncratic deals at work: Exploring individual, organizational, and societal perspectives*, Springer International Publishing, pp. 237–256.
- Bakker, A. B., & Van Woerkom, M. (2017). Flow at work: a self-determination perspective. *Occupational Health Science*, 1(1-2), 47–65. <https://doi.org/10.1007/s41542-017-0003-3>.
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and work engagement: the JD–R approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 389–411. <https://doi.org/10.1146/annurev-orgpsych-031413-09123>.
- Biron, M., Casper, W. J., & Raghuram, S. (2023). Crafting telework: a process model of need satisfaction to foster telework outcomes. *Personnel Review*, 52(3), 671–686. <https://doi.org/10.1108/PR-04-2021-0259>.
- Blahopoulou, J., Ortiz-Bonnin, S., Montañez-Juan, M., Torrens Espinosa, G., & García-Buades, M. E. (2022). Telework satisfaction, wellbeing and performance in the digital era. Lessons learned during COVID-19 lockdown in Spain. *Current Psychology*, 41(5), 2507–2520. <https://doi.org/10.1007/s12144-022-02873-x>.
- Cao, T. H. V., Chai, D. S., Nguyen, L. P., Nguyen, H. T. H., Han, C. S. H., & Park, S. (2025). learning organization and employee performance: the mediating role of job satisfaction in the Vietnamese context. *The Learning Organization*, 32(7), 53–73. <https://doi.org/10.1108/TLO-09-2023-0177>.
- Charalampous, M., Grant, C. A., & Tramontano, C. (2021). “It needs to be the right blend”: a qualitative exploration of remote e-workers’ experience and well-being at work. *Employee Relations: The International Journal*, 44(2), 335–355. <https://doi.org/10.1108/ER-02-2021-0058>.
- 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: The International Journal*, 45(1), 45–68. <https://doi.org/10.1108/ER-11-2021-0483>.
- Choudhury, P., Khanna, T., Makridakis, C. A., & Schirmann, K. (2024). Is hybrid work the best of both worlds? Evidence from a field experiment. *Review of Economics and Statistics*, 1–24. [https://doi.org/10.1162/rest\\_a\\_01428](https://doi.org/10.1162/rest_a_01428).
- Choudhary, N., Naqshbandi, M. M., Philip, P. J., & Kumar, R. (2017). Employee job performance: the interplay of leaders’ emotion management ability and employee perception of job characteristics. *Journal of Management Development*, 36(8), 1087–1098. <https://doi.org/10.1108/JMD-10-2016-0195>.
- Çoban, S. (2022). Gender and telework: work and family experiences of teleworking professional, Middle-class, married women with children during the covid-19 pandemic in Turkey. *Gender, Work & Organization*, 29(1), 241–255. <https://doi.org/10.1111/gwao.12684>.
- Dale, G., Wilson, H., & Tucker, M. (2024). What is healthy hybrid work? Exploring employee perceptions on well-being and hybrid work arrangements. *International Journal of Workplace Health Management*, 17(4), 335–352. <https://doi.org/10.1108/IJWHM-03-2024-0041>.
- Deci, E. L., & Ryan, R. M. (2000). The ‘what’ and ‘why’ of goal pursuits: human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. [https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01).
- Delanoëije, J., & Verbruggen, M. (2020). Between-person and within-person effects of telework: a quasi-field experiment. *European Journal of Work and Organizational Psychology*, 29(6), 795–808. <https://doi.org/10.1080/1359432X.2020.1774557>.

- Demerouti, E., & Rispens, S. (2014). Improving the image of student-recruited samples: a commentary. *Journal of Occupational and Organizational Psychology*, 87(1), 34–41, <https://doi.org/10.1111/joop.12048>.
- Diener, E., Thapa, S., & Tay, L. (2020). Positive emotions at work. *Annual Review of Organizational Psychology and Organizational Behavior*, 7(1), 451–477, <https://doi.org/10.1146/annurev-orgpsych-012119-044908>.
- Eng, I., Tjernberg, M., & Champoux-Larsson, M. F. (2024). Hybrid workers describe aspects that promote effectiveness, work engagement, work-life balance, and health. *Cogent Psychology*, 11(1), 2362535, <https://doi.org/10.1080/23311908.2024.2362535>.
- Gagné, M., Parker, S. K., Griffin, M. A., Dunlop, P. D., Knight, C., Klonek, F. E., & Parent-Rocheleau, X. (2022). Understanding and shaping the future of work with self-determination theory. *Nature Reviews Psychology*, 1(7), 378–392, <https://doi.org/10.1038/s44159-022-00056-w>.
- Garvin, D.A. (1993). Building an organizational learning. *Harvard Business Review*, 71(4), 78–91.
- Golden, T. D. (2021). Telework and the navigation of work-home boundaries. *Organizational Dynamics*, 50(1), 100822, <https://doi.org/10.1016/j.orgdyn.2020.100822>.
- 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>.
- Grant, C., Russell, E. (2020). *Agile working and well-being in the digital age*, Palgrave Macmillan.
- Grzegorzczak, M., Mariniello, M., Nurski, L., & Schraepen, T. (2021). *Blending the physical and virtual: a hybrid model for the future of work (No. 14/2021)*, Bruegel Policy Contribution.
- Hair, J. F., da Silva Gabriel, M. L. D., & Patel, V. K. (2014). Modelagem de equações estruturais baseada em covariância (CB-SEM) com o AMOS: orientações sobre a sua aplicação como uma ferramenta de pesquisa de marketing. *REMark-Revista Brasileira De Marketing*, 13(2), 44–55, <https://doi.org/10.5585/remark.v13i2.2718>.
- Iardi, B. C., Leone, D., Kasser, T., & Ryan, R. M. (1993). Employee and supervisor ratings of motivation: main effects and discrepancies associated with job satisfaction and adjustment in a factory setting 1. *Journal of Applied Social Psychology*, 23(21), 1789–1805, <https://doi.org/10.1111/j.1559-1816.1993.tb01066.x>.
- Iqbal, K. M. J., Khalid, F., & Barykin, S. Y. (2021). Hybrid workplace: the future of work. *Handbook of research on future opportunities for technology management education*, IGI Global, pp. 28–48.
- Jaiswal, A., Gupta, S., & Prasanna, S. (2022). Theorizing employee stress, well-being, resilience and boundary management in the context of forced work from home during COVID-19. *South Asian Journal of Business and Management Cases*, 11(2), 86–104, <https://doi.org/10.1177/22779779221100281>.
- Jex, S. M. (1998). *Stress and job performance: Theory, research, and implications for managerial practice*, Sage.
- Junça Silva, A. (2023). The telework pet scale: development and psychometric properties. *Journal of Veterinary Behavior*, 63, 55–63, <https://doi.org/10.1016/j.jveb.2023.05.004>.
- Junça Silva, A. (2024). Should I pet or should I work? Human-animal interactions and (tele) work engagement: an exploration of the underlying within-level mechanisms. *Personnel Review*, 53(5), 1188–1207, <https://doi.org/10.1108/PR-09-2022-0588>.
- Junça Silva, A., & Caetano, A. (2024). Uncertainty's impact on adaptive performance in the post-COVID era: the moderating role of perceived leader's effectiveness. *BRQ Business Research Quarterly*, 27(1), 40–56, <https://doi.org/10.1177/23409444231202809>.
- Junça Silva, A., & Lopes, M. (2025). Balanced life: the impact of hybrid work on employee well-being through the lens of work–family conflict. *Employee Relations*, <https://doi.org/10.1108/ER-04-2024-0199>.
- 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., & Galrito, M. (2024). Pets at work: integrating pet-friendly initiatives into human resources for enhanced workplace harmony. *BMC Psychology*, 12(1), 374, <https://doi.org/10.1186/s40359-024-01854-y>.
- Junça Silva, A., Almeida, A., & Rebelo, C. (2024a). The effect of telework on emotional exhaustion and task performance via work overload: the moderating role of self-leadership. *International Journal of Manpower*, 45(2), 398–421, <https://doi.org/10.1108/IJM-08-2022-0352>.
- Junça Silva, A., Neves, P., & Caetano, A. (2024b). 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>.
- Kaltainen, J., & Hakanen, J. J. (2024). Why increase in telework may have affected employee well-being during the COVID-19 pandemic? The role of work and non-work life domains. *Current Psychology*, 43(13), 12169–12187, <https://doi.org/10.1007/s12144-023-04250-8>.
- Kattenbach, R., Demerouti, E., & Nachreiner, F. (2010). Flexible working times: effects on employees’ exhaustion, nonwork conflict and job performance. *Career Development International*, 15(3), 279–295, <https://doi.org/10.1108/13620431011053749>.
- Kissi, E., Asare, O. A., Agyekum, K., Agyemang, D. Y., & Labaran, M. (2019). Ascertaining the interaction effects among organisational citizenship behaviour, work overload and employees’ performance in the Ghanaian construction industry. *International Journal of Productivity and Performance Management*, 68(7), 1235–1249, <https://doi.org/10.1108/IJPPM-07-2018-0262>.
- Kline, P. (2015). *A handbook of test construction (psychology revivals): introduction to psychometric design*, Routledge.
- Kosenkranius, M., Rink, F., Weigelt, O., Van Den Heuvel, M., & de Bloom, J. (2023). The effectiveness of a hybrid off-job crafting intervention on employees’ psychological needs satisfaction and well-being. *Scandinavian Journal of Work and Organizational Psychology*, 8(1), <https://doi.org/10.16993/sjwop.181>.
- Little, T.D., Jorgensen, T.D., Lang, K.M., & Moore, E.W.G. (2014). On the joys of missing data. *Journal of Pediatric Psychology*, 39(2), 151–162, <https://doi.org/10.1093/jpepsy/jst048>.
- Liu, L., She, L., Cafferkey, K., & Townsend, K. (2025). Hybrid HRM systems and employee well-being: a self-determination theory perspective. *Management Decision*, 63(9), <https://doi.org/10.1108/MD-02-2024-0276>.
- Lopes, S., Dias, P. C., Sabino, A., Cesário, F., & Peixoto, R. (2022). Employees’ fit to telework and work well-being:(in) voluntariness in telework as a mediating variable? *Employee Relations: The International Journal*, 45(1), 257–274, <https://doi.org/10.1108/ER-10-2021-0441>.
- Marsick, V. J. (2013). The dimensions of a learning organization questionnaire (DLOQ) introduction to the special issue examining DLOQ use over a decade. *Advances in Developing Human Resources*, 15(2), 127–132, <https://doi.org/10.1177/1523422313475984>.
- Mishra, N., & Bharti, T. (2023). Exploring the nexus of social support, work–life balance and life satisfaction in hybrid work scenario in learning organizations. *The Learning Organization*, 31(1), 27–47, <https://doi.org/10.1108/TLO-08-2022-0099>.
- Naqshbandi, M. M., Kabir, I., Ishak, N. A., & Islam, M. Z. (2024). The future of work: work engagement and job performance in the hybrid workplace. *The Learning Organization*, 31(1), 5–26, <https://doi.org/10.1108/TLO-08-2022-0097>.
- Naqshbandi, M. M., Ishak, N. A., Kabir, I., & Islam, M. Z. (2025). Thriving in the hybrid workspace: how task variety and self-control affect job performance. *Management Decision*, <https://doi.org/10.1108/MD-06-2024-1266>.
- Nguyen, M. H., & Armoogum, J. (2021). Perception and preference for home-based telework in the COVID-19 era: a gender-based analysis in Hanoi, Vietnam. *Sustainability*, 13(6), 3179, <https://doi.org/10.3390/su13063179>.

- Nilles, J. M. (1998). *Managing telework: Strategies for managing the virtual workforce*, John Wiley & Sons.
- Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (2024). Common method bias: it's bad, it's complex, it's widespread, and it's not easy to fix. *Annual Review of Organizational Psychology and Organizational Behavior*, 11(1), 17–61, <https://doi.org/10.1146/annurev-orgpsych-110721-040030>.
- Radonić, M., Vukmirović, V., & Milosavljević, M. (2021). The impact of hybrid workplace models on intangible assets: the case of an emerging country. *Amfiteatru Economic*, 23(58), 770–786.
- Rueff-Lopes, R., Velasco, F., Sayeras, J., & Junça-Silva, A. (2025). Understanding turnover of generation Y early-career workers: the influence of values and field of study. *Personnel Review*, 54(2), 762–778, <https://doi.org/10.1108/PR-10-2023-0918>.
- Ryan, R. M., & Deci, E. L. (2024). Self-determination theory. *Encyclopedia of quality of life and well-being research*, Springer International Publishing, pp. 6229–6235.
- Şahin, F., Doğan, E., & İlic, U. (2025). Instructors' continuance intention to use technology in online and hybrid settings: integrating psychological needs and emotions. *International Journal of Human-Computer Interaction*, 41(2), 1028–1041, <https://doi.org/10.1080/10447318.2024.2309002>.
- Scharp, Y. S., Bakker, A. B., & Breevaart, K. (2022). Playful work design and employee work engagement: a self-determination perspective. *Journal of Vocational Behavior*, 134, 103693, <https://doi.org/10.1016/j.jvb.2022.103693>.
- Senge, P. (1990). Peter Senge and the learning organization. *Dimension*, 14, available at: <https://alisalmi.com/wp-content/uploads/2023/02/the-learning-organization-by-Senge.pdf>
- Sharma, G. G., & Stol, K. J. (2020). Exploring onboarding success, organizational fit, and turnover intention of software professionals. *Journal of Systems and Software*, 159, 110442, <https://doi.org/10.1016/j.jss.2019.110442>.
- Sharma, P. K., Misra, R. K., & Mishra, P. (2017). Job satisfaction scale: adaptation and validation among Indian IT (information technology) employees. *Global Business Review*, 18(3), 703–718, <https://doi.org/10.1177/0972150917692186>.
- 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>.
- Sun, N., Liang, S., Li, H., & Song, H. (2023). Ex post i-deals, work-life balance, and work well-being in the hospitality industry: the moderating role of gender. *International Journal of Contemporary Hospitality Management*, 35(9), 3077–3094, <https://doi.org/10.1108/IJCHM-03-2022-0350>.
- Superi, M. F. B., & Naqshbandi, M. M. (2022). Lecturer competencies and student academic performance: examining the moderating role of student motivation. *International Journal of Management in Education*, 16(5), 463–484, <https://doi.org/10.1504/IJMIE.2022.125480>.
- Toscano, F., González-Romá, V., & Zappalà, S. (2024). The influence of working from home vs. working at the office on job performance in a hybrid work arrangement: a diary study. *Journal of Business and Psychology*, 40(2), 1–16, <https://doi.org/10.1007/s10869-024-09970-7>.
- Tran, N. Q., Carden, L. L., & Zhang, J. Z. (2022). Work from anywhere: remote stakeholder management and engagement. *Personnel Review*, 51(8), 2021–2038, <https://doi.org/10.1108/PR-11-2021-0808>.
- Tudu, B., & Singh, S. (2023). Conceptualizing the moderating effects between work from home and individual performance—developing a conceptual framework using the self-determination theory. *Current Psychology*, 42(33), 29149–29160, <https://doi.org/10.1007/s12144-022-03950-x>.
- Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, 42(5), 1195–1229, <https://doi.org/10.1177/01492063166632058>.

- 
- Van den Broeck, A., Van Ruysseveldt, J., Smulders, P., & De Witte, H. (2010). Does an intrinsic work value orientation strengthen the impact of job resources? A perspective from the job demands–resources model. *European Journal of Work and Organizational Psychology*, 20(5), 581–609, <https://doi.org/10.1080/13594321003669053>.
- Wang, W., Albert, L. J., & Sun, Q. (2020). Employee isolation and telecommuter organizational commitment. *Employee Relations: The International Journal*, 42(3), 609–625, <https://doi.org/10.1108/er-06-2019-0246>.
- Warr, P. (2021). Individual differences in the vitamin model of well-being. *Oxford Research Encyclopedia of Psychology*.
- Watkins, K. E., & Marsick, V. J. (2020). Informal and incidental learning in the time of COVID-19. *Advances in Developing Human Resources*, 23(1), 88–96, <https://doi.org/10.1177/1523422320973656>.
- Zoubir, M., Schwarz, B., Heidinger, J., Gruner, M., Jetter, H. C., & Franke, T. (2025). Anchoring autonomy: understanding seafarers' interaction with energy efficiency decision support systems for route planning and the role of basic psychological needs. *Cognition, Technology & Work*, 27(1-2), 1–16, <https://doi.org/10.1007/s10111-025-00789-7>.

### Further reading

- Bakker, A. B., Xanthopoulou, D., & Demerouti, E. (2023). How does chronic burnout affect dealing with weekly job demands? A test of Central propositions in JD-R and COR-theories. *Applied Psychology*, 72(1), 389–410, <https://doi.org/10.1111/apps.12382>.
- Choudhury, P., Foroughi, C., & Larson, B. (2021). Work-from-anywhere: the productivity effects of geographic flexibility. *Strategic Management Journal*, 42(4), 655–683, <https://doi.org/10.1002/smj.3251>.

### Corresponding author

Ana Junça Silva can be contacted at: [analjsilva@gmail.com](mailto:analjsilva@gmail.com)