Effects of Intensity of Teleworking and Creative Demands on the Cynicism Dimension of Job Burnout

Carlos Santiago-Torner[1] · Elisenda Tarrats-Pons[1] · José-Antonio Corral-Marfil[1]

Abstract

The study of the effect of virtual work environments on the emotional health of employees has received considerable attention in recent years. However, there has been insufficient research on how uninterrupted exposure to high job demands can lead to permanent stress, which deteriorates interpersonal relationships, to the point of draining them of affection. The study aims to examine the impact of telework intensity on cynicism (second dimension of burnout or depersonalisation) through two indirect effects: creativity and the number of days teleworked per week. A sample of 448 university-educated employees from the Colombian electricity sector was selected, who completed an online survey. The data were statistically analysed using a simple moderation model. In general, the results show that telework intensity favours employee behavioural adaptation, which buffers potential depersonalisation, through key characteristics such as: perceived social support, participation in decision-making, sense of autonomy, gender equality and reduced work-family conflict. However, when the tasks associated with teleworking require creative solutions continuously, and the employee's resources are not properly managed, recurrent stress can lead to an emotional fracture that deteriorates the employee's well-being. In conclusion, the protection of the employee's emotional health depends on a balanced workplace structure that avoids a constant mismatch between available resources and creative demands.

Keywords Teleworking · Job burnout · Organizational cynicism · Creativity · Employee well-being · Colombia

✉ José-Antonio Corral-Marfil
  joseantonio.corral@uvic.cat

  Carlos Santiago-Torner
  carlos.santiago@uvic.cat

  Elisenda Tarrats-Pons
  elisenda.tarrats@uvic.cat

[1] University of Vic - Central University of Catalonia, Sagrada Família 7, Barcelona, Vic 08500, Spain

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Introduction

Teleworking, in many Latin American countries including Colombia, has gone from being an underused employment option to becoming a priority. In this sense, it is essential to understand how it can influence the emotional health of employees (Aplin-Houtz et al., 2022; Beckel & Fisher, 2022). A first change related to teleworking is that it essentially transforms ways of communicating. Thus, several studies have highlighted that indiscriminate use of smart devices tends to increase levels of stress and exhaustion (Mheidly et al., 2020). However, Vahedi and Saiphoo (2018) agree that stress is not directly related with the use of mobile devices within a work environment, but with their unlimited use.

In fact, stress is a conscious or unconscious response to scenarios that cause some type of physical or mental load (Al Amiri et al., 2021; Meunier et al., 2022). Therefore, permanent exposure to stressful factors decreases individual resources and this can lead to emotional exhaustion, cynicism and a specific feeling of inability to work (Chen et al., 2023; Yoshimoto et al., 2021). From this perspective, different meta-analyses establish that teleworking provides benefits such as greater autonomy and freedom of action, which tend to mitigate perceived stress (Delanoeije & Verbruggen, 2020; Kakar et al., 2023; Raghuram et al., 2019). Nevertheless, virtual work environments can also represent an obstacle through strong feelings of social isolation (Le Vigouroux et al., 2023) and clear difficulties in keeping work and family life in harmony, which prevent an adequate perception of work well-being (Heiden et al., 2021; Widar et al., 2021). Undoubtedly, the professional reorganization entailed by teleworking must be accompanied by behavioural changes, but it is also true that employees with a higher degree of knowledge are more likely to react proactively to a system characterized by low supervision (Busu & Gyorgy, 2021; Lane & Aplin-Houtz, 2022).

Additionally, due to technological advances, divergent thinking and creativity have become critical support for deploying strategies seeking to be an organizational competitive advantage, in a reasonable period (Safari et al., 2020). Therefore, and linking concepts, it is vitally important to review how creativity interacts within a virtual work environment, and if it becomes a protective or a risk factor for employees (Naotunna & Priyankara, 2020). In fact, in most contexts, creativity requires fluidity, flexibility, originality, and elaboration as basic elements to progress (Ghanizadeh & Jahedizadeh, 2016). Therefore, it requires for teleworkers to allocate part of their cognitive resources to correctly satisfy this demand and, at the same time, for the job position to be designed in a way that considers a gradual readjustment of the assigned tasks based on the creative demands (Sun et al., 2020). Indeed, a significant gap between resources and work demands can lead to a first phase where employees feel over-demanded, to such an extent that they perceive their emotional resources as insufficient and, if not remedied, this translates into a spiral of excessive apathy resulting in ideological deterioration and subsequent dehumanization (Lazauskaitė-Zabielskė et al., 2022).

Thus, organizations face a key scenario wherein they need to analyse the impact that teleworking has on the health of employees (Hu & Subramony, 2022), and specifically on indicators as significant as excessive emotional exhaustion, which ultimately promotes disproportionate self-control behaviour and rejection responses towards the work community itself (Vander Elst et al., 2017). Actually, in virtual work environments, not paying attention to employees' responses can have negative impacts on performance, absenteeism and turnover intentions. Paradoxically, these are central components in the

justification of teleworking as an option which, besides benefiting professional employees, is also more profitable from a corporate perspective (Aplin-Houtz et al., 2023; Guilbert et al., 2022).

Naturally and in turn, the questions this research aims to address arose in the context of annual conventions the Colombian electricity sector has promoted for the last seven years. It follows then that the segment in question needs to have clear references on the effect of teleworking, as its strategic planning and expansion guidelines proposed for the coming years depend on it (Ludviga & Kalvina, 2023).

Therefore, and aiming at addressing the multiple knowledge gaps that exist, this study seeks to respond to the following objectives. The first one is understanding how teleworking and its intensity influence not only initial emotional exhaustion, but more specifically the first interpersonal dimension of exhaustion (cynicism), which leads to low self-assessment and work disconnection behaviours, in other words in depersonalization and scepticism (Heiden et al., 2021). In this direction, this study adheres to the assumption that teleworking, and its scope, reduce the cynical attitudes of employees through aspects such as perceived social support, participation in decision-making, a high sense of autonomy in the tasks performed (Castanheira & Chambel, 2013) and fundamentally the reduction of work-family conflict (WFC). This supports previous studies such as those by (Moens et al., 2022; Vander Elst et al., 2017), and improves the scope as some of their results were not significant enough. Additionally, the work force that forms the different organizations studied is characterized by high academic training. Such feature contributes to a better adaptation to virtual contexts where low supervision and flexibility are decisive.

Sardeshmukh et al. (2012) consider that role conflicts, added to the already existing demands of teleworking, can be determinant for higher emotional exhaustion leading to cynical behaviours and job indifference (Hur et al., 2015). From this perspective, this research considers that teleworking integrates characteristics such as selective feedback, or enables new functions, which allow teleworkers to increase their feeling of institutional support and this limits WFC (Lautsch et al., 2009). In fact, teleworking already mitigates potentially stressful agents such as commuting, which facilitates reformulating the daily work schedule enabling to uniformly align resources and demands (Gajendran & Harrison, 2007). Likewise, recently published studies such as those by Lyttelton et al. (2022) deduce that teleworking provides a structure that reduces possible distances between genders, which can also moderate the risk of sustained stress that leads to disproportionate passive attitudes (Aguiar et al., 2021). Additionally, the number of days teleworked enables cognitive and emotional adaptation, in the form of a resource, which prevents unmanageable exhaustion (Golden, 2006). Finally, Belle et al. (2015) conclude that the number of days teleworked limits the inherent pressure of work, which has a positive impact on regulating employees' exhaustion.

The second objective of this study, and surely the most significant one, is to interpret, within a virtual work environment, the effect of creative demands on potential extreme emotional exhaustion, which translates into sustained sceptical and/or negligent behaviours. Along these lines, Merisalo et al. (2013) consider that creative and knowledge workers, meaning employees with a high academic background, are ideal candidates to conduct their work in a virtual work environment. In fact, among their conclusions they find common characteristics between teleworking, intensity of knowledge and creativity. Therefore, these are particularities giving a holistic perspective to this work modality. To this end, this research adds to the hypothesis that teleworking is an optimal scenario for individuals, with advanced education, to optimize their creative performance through fewer distractions (Sadeghi & Razavi, 2020) and less energy expenditure by limiting face-to-face interactions

(Sun et al., 2020). Furthermore, working within independent contexts favours persistence, which is an important element in divergent thinking and original ideas development (Naotunna & Priyankara, 2020). However, when activities that require permanent creative effort increase, as demands, and the work activity does not adjust these new demands through a smaller scope of the job position in other tasks, it is possible that teleworkers go into a spiral of imbalance leading first to emotional exhaustion (Lazauskaitė-Zabielskė et al., 2022), and later, due to the extension of the stress, to cynical and inoperative behaviours (Zhang et al., 2019). Certainly, an excess of tasks with high cognitive involvement does not allow employees to decide creatively, which restricts their learning and eventual development (Crawford et al., 2010).

Regarding the regression analyses used in this article, a simple moderation process was chosen. This method is a multivariate analysis in which an independent variable predicts a dependent variable, considering the causal force of a third variable that interacts with both, called a moderator variable. Therefore, the moderator variable affects the strength and/or direction in the relationship between the predictor variable and the outcome variable. Unlike a mediation analysis that tries to quantify how or why a certain phenomenon occurs, a moderation analysis tries to quantify especially when or under what circumstances it occurs.

To conclude, this research covers different knowledge gaps and includes the research proposals presented by Moens et al. (2022) or Santiago-Torner (2023). They propose to review the relationship between teleworking and the two main scales of chronic emotional exhaustion (burnout and depersonalization) through different mediations and moderations, including creativity or Affective Commitment in different cultural environments. In fact, the relationships between teleworking and some dimensions related to exhaustion have important limitations since they have been subject to the feeling of obligation posed by the corona virus. To the best of our knowledge, this is the first study that links the benefits of teleworking with cynical behaviours through creativity and the number of days teleworked. The dampening effect of teleworking on emotional exhaustion, and its ability to enhance psychological well-being, has not received sufficient attention. Only Moens et al. (2022) or Vander Elst et al. (2017) propose similar results. On the other hand, the negative effect of teleworking on emotional health was widely justified during COVID-19, for example by Barriga Medina et al. (2021) or by Raišienė et al. (2023). Lastly, the moderator effect of creativity means an important advance to understand the circumstances that generate the relationship between teleworking and Cynicism.

Literature Review

Benefits of Teleworking and Cynicism

The benefits of the teleworking in an initial stage related to both, the possible impact on the environment and the decrease in traffic in urban areas (Mello, 2007). However, beyond these eventual advantages, teleworking is a decentralized labour option that facilitates employee autonomy along with better coordination between work and family life (Kakar et al., 2023). In fact, being able to rethink the configuration of the tasks makes it possible to adjust labour demands to the usual work schedule (Santiago-Torner, 2023). Therefore, teleworking is related to a reorganization of activities that simplifies the role of employees and prevents unnecessary loss of emotional resources (Sardeshmukh et al., 2012).

Personal and professional balance prevents sustained investments of resources that usually derive in emotional costs and in growing dissatisfaction at work (Abdel Hadi et al., 2021). Thus, the conservation of resources theory (COR), updated by Hobfoll et al. (2018), suggests that employees intentionally seek to maintain and increase psychological resources to avoid losing emotional energy, which drastically increases symptoms of stress and exhaustion (Aplin-Houtz et al., 2023).

Surely, the self-management capacity provided by teleworking enables optimizing employees' roles, so that they are compatible with the family sphere. It follows then that preventing conflict between work and family generates a positive emotional continuity that expands affective resources (Yoshimoto et al., 2021). This environment of security and psychological empowerment, enables facing work demands without emotional insufficiencies (Tripathi & Bharadwaja, 2020).

On the other hand, depersonalization is subject to sustained and traumatic stress which teleworking dampens through closer ties of trust and satisfaction (Santiago-Torner, 2023). An atmosphere of subjective well-being is an essential element of quality of life and is consistent with the COR theory (Annor & Amponsah-Tawiah, 2020). From this perspective, the capacity for adaptation proposed by teleworking represents a specific resource that contributes positively to the capacity to respond to certain stressful factors (Santiago-Torner et al., 2023). Finally, Lyttelton et al. (2022) deduce that teleworking provides a series of mechanisms that reduce the gender gap. This circumstance mitigates stress and facilitates a better management of emotional exhaustion.

Therefore, the following hypothesis is proposed:

H1. The benefits of teleworking act as mitigation against excessive emotional exhaustion and prevent it from leading to apathetic behaviour and organizational disaffection (cynicism).

Intensity of Teleworking and Cynicism

Excessive job stress begins when employees are unable to cope with the demands of the job with the emotional resources available to them (Hollis & Goodson, 1989).

Under this light, teleworking is a work modality that can have two faces. On one side, a high number of days teleworked may weaken the employees' organizational identification. That is, it can lead to affective separation due to lack of personal intimacy (Belle et al., 2015). The high intensity of online work probably modifies the communication patterns and coping strategies focused on emotions. For instance, resilience and tolerance to stress tend to deteriorate (Mathur et al., 2023). In fact, this emotional wear and tear worsens when regular work hours are systematically exceeded (Mazzetti et al., 2016).

Based on this point of view, teleworking intensity can affect emotional competences in different ways. Not being able to reconcile an invasive world of work with the specific demands of the family context, possibly means a permanent drain on resources leading towards emotional exhaustion (Lengen et al., 2021).

On the other side, teleworking intensity is likely to dampen job demands through a positive learning curve (Santiago-Torner et al., 2023). Developing skills associated with a virtual work environment, specifically self-management capacity or little change resistance, can become critical factors to favourably address emotional exhaustion or excess of work obligations (Loredana et al., 2021).

Likewise, other resources such as autonomy, role clarity, ability to segment, or low task interdependence, can prevent excessive work tension and therefore have a positive effect on stress control (Santiago-Torner, 2023). It is possible that the experiences of high-intensity virtual workers increase the feedback and sense of social support that impact personal satisfaction (Beckel & Fisher, 2022; Miethlich et al., 2023).

Teleworking, under a voluntary perspective, does not exhaust employees. The challenge posed by the drastic and accidental change proposed by the spread of the SARS-CoV-2 virus led to a progressive adaptation to virtual work environments. In conclusion, the last three years have become an opportunity for teleworking to balance professional and family life (Jamal et al., 2023). Consequently, the number of days teleworked enables adapting all the necessary management dynamics to neutralize any stressor agent that may lead to an excessive absorption of negative feelings.

Consequently, the following hypothesis is proposed:

H2. The intensity of teleworking dampens the factors that cause disproportionate stress and lead to cynical behaviour.

Teleworking, Creativity and Cynicism

Merisalo et al. (2013) agree that teleworking is a contextual factor capable of enhancing the creativity of employees with high academic training as it can regulate distractors and prevent exchanges with difficult people. In fact, they consider that a virtualwork environment works as an acceptable substitute for face-to-face relationships by including social interaction through technology. Sun et al. (2020) state that redefining the limits of work and the faculty to choose the order of tasks is potentially beneficial for creative people. Nevertheless, this relationship of affinity depends on the optimal balance between work demands that constitute a challenge and a reduction of the obstacles that prevent their execution.

Objectives with added difficulty probably require more focus and a larger allocation of cognitive and emotional resources. Thus, it follows that an adjustment of demands is essential. Permanently freeing up resources implies an emotional imbalance that can lead to blocking behaviours and personal disconnection (Zhang et al., 2019). Clearly, teleworking involves development of certain roles through additional stimuli which promote learning and the development of ingenious solutions. However, the probability for this work environment to enhance creativity is interconnected with the fact that the employee conserves his emotional resources, and can redirect them through an appropriate combination of ideas. When professionals expand their field of exploration into certain tasks with high psychological involvement, and maintain all their daily loads, their emotional resources gradually decrease until they run out (Lazauskaitė-Zabielskė et al., 2022).

The COR theory holds that the relationship between loss and gain of resources is not equitable (Hobfoll et al., 2018). Extreme consumption of energy has a greater influence on the emotional state of the employee than adequate recovery. In other words, cognitive well-being depends on a positive and sufficient balance of capacities (Hobfoll et al., 2018). Therefore, when the replacement of resources is not optimal, individuals enter an escalation of imbalances extending into a drastic frustration, that completely impacts their emotional health (Zhang et al., 2019).

Undoubtedly, work climates that do not regulate the scope of tasks affect the physical and emotional recovery of employees, because they intentionally avoid the separation between work and life. Excessive effort, aimed at solving complex problems, leads to

behavioural changes that can lead to a severe rupture with daily life (Lazauskaitė-Zabielskė et al., 2022). Certainly, development of useful and potentially creative ideas must be accompanied by a restructuring of the job position. A restructuring that averts emotional gaps through an adequate proportion of resources and demands (Santiago-Torner, 2023).

Therefore, the following hypotheses are proposed:

H3. Creativity induces cynical behaviour when there is evident misalignment between resources and demands.
H4. Creativity moderates the relationship between teleworking and cynicism.
H4.1. Creative demands, within a virtual work environment and when they imply permanent medium or high cognitive efforts without reduction in the usual tasks to act as a balance, induce cynical behaviour in employees.

Method

Type of Study

The analysis uses a quantitative, cross-sectional, correlational-explanatory scheme. The sample includes 448 employees evaluated by means of a digital questionnaire.

Participants

The total sample for the study was 448 professional employees linked to six different organizations in the Colombian electricity sector, 273 men and 175 women, with an age range from 20 to 69 years. 82% of the participants are under 50 years old. Regarding distribution by departments, 44% is in Antioquia, 26% in Caldas, and the remaining 30% is equally distributed in departments as Cundinamarca, Risaralda and Valle del Cauca.

Distribution by education. 100% of the participants have university studies, and 57% have graduate studies. It is worth highlighting that 63% of the sample participants have more than 4 years in the organization, indicating strong professional stability. Additionally, 58% have children, and 39% have elderly dependents. It is relevant to mention that 76% of the people surveyed live in a socio-economic strata sector from 1 to 4, which shows inequality in the country regardless of education level *[socioeconomic stratum in Colombia goes from 1, lowest, to 6, highest]*. Finally, only 10% suffer from chronic diseases, and 32% rest daily from 3 to 6 h on average.

The sampling was probabilistic by conglomerates. Considering the initial size of the study population and a confidence level of 95%, an ideal number of participants was obtained just below 400. This number was amply exceeded in the research. The specific participating organizations were: EPM, ISA, CIDET, XM, CHEC and DISPAC.

Instruments

Teleworking One-dimensional scale of 11 questions proposed by Illegems et al. (2001), with a Cronbach's Alpha of 0.90 and a seven-level Likert scale. It evaluates the employees' self-perception about the potential advantages of teleworking. This scale is applied by Santiago Torner (2023) with a Cronbach's Alpha of 0.91 using a six-level Likert scale. This study obtains an $\alpha = 0.91$ (see Table 1).

Table 1 Reliability[1], Means[2], Standard Deviations[3] and Correlations between Variables ($n = 448$) CI (95%)

Constructs	α[1]	N	M[2]	SD[3]	1	2
Telework	.91	11	49.62	10.130		
Creativity	.88	3	14.32	3.820	.263***	
Cynicism	.90	4	23.32	5.123	− .182***	− .235***

Source: All correlations are significant ($p < .05$). Self-prepared

Scope of Teleworking It was measured through a single element according to the indications of Vander Elst et al. (2017). The scale ranged from 1 to 5 days teleworked per week. This is a common way of measuring this variable (see Table 3).

Creativity One-dimensional scale proposed by Oldham and Cummings (1996), formed by three reagents using a seven-point Likert scale and a Cronbach's Alpha of 0.90. It analyses if employees promote products, ideas or processes which can become a competitive advantage. Santiago-Torner (2023) used this scale, reduced to six options, with a Cronbach's Alpha of 0.88. This study also obtains a Cronbach's Alpha of 0.88 (see Table 1).

Cynicism One-dimensional scale proposed by Schaufeli et al. (1996), initially composed by five items. It evaluates if the workload weakens employees' emotional resources until an evident distance between employees and the organization is created. The initial Cronbach's Alpha is 0.78. This construct is used by Salanova and Schaufeli (2000) with a reliability of 0.84 when question No. 13 was removed from the cynicism scale. This study applies the same criteria and obtains an $α = 0.90$ (see Table 1).

Procedure

The research was presented to the to the author's university Ethics Committee and obtained a favourable opinion on July 7, 2021. The data was compiled from October to December 2021. Initially, confidentiality agreements were signed, and documents were distributed to explain the objective of the research, the data protection guarantee, and a brief description informing what participation consisted of. A voluntary withdrawal from the study document was also attached. In May 2021, the researcher presented the study project to the 35 organizations that comprise it, through an invitation from the collective action of the electricity sector. At the end and after multiple meetings, representative participation of six companies with offices in the main cities of the country was obtained. A Microsoft Forms questionnaire was used for the study. The expected completion time was 25 to 40 min, including a brief introduction by the researcher.

Data Analysis

First, descriptive statistics and correlations between the variables of this study were calculated. Next, multiple regression analyses were conducted using the PROCESS 3.5 macro for SPSS (Hayes, 2018) to study the moderating role of the Creativity variable in the relationship established between teleworking and Cynicism. Therefore, model 1 (simple moderation) was selected with a confidence interval of 95% and a number of bootstrapping samples of 10,000. The Variance Inflation Factor (VIF) and the tolerance indices, both,

Table 2 Convergent and discriminant validity

	ALPHA[1]	CR[2]	CFC[3]	AVE[4]	DV[5]
Telework	.91	> 1.96	.880	.540	.730
Creativity	.88	> 1.96	.920	.700	.840
Cynicism	.90	> 1.96	.860	.650	.810

Source: (1) Cronbach's alpha. (2) Critical Coefficients. (3) Composite Reliability. (4) Mean Extracted Variance. (5) Discriminant Validity. Self-prepared

Table 3 Analysis of moderation teleworking - cynicism 95% (CI) ($R^2 = .260$) ($f^2 = .415$; Large)

Effect:		Route:	β	p	t	ES	LLCI	ULCI
Telework (TEL) on Cynicism (CYN)		a1i	−.339	.005	-5.16	.154	−.757	-134
Creativity (CREATI) on Cynicism		a2i	−.520	.001	-5.32	.254	−.632	−.123
TEL x CREATI on Cynicism		a3i	.026	.009	4.62	.053	.015	.113
Covariate days teleworked			−.289	.015	-3.12	.118	−.520	−.057
Conditional CREATI (TEL-CYN)	Low (12)		.051	.314	2.08	.023	−.021	.067
	Medium (15)		.163	.001	5.63	.017	.029	.203
	High (17)		.190	.001	5.98	.029	.045	.312

Source. $f^2 = 0.02$ (small), $f^2 = 0.15$ (medium), $f^2 = 0.35$ (large). Self-prepared

were revised to prevent potential multicollinearity problems. The values obtained, between 0.820 and 1.23, enable reducing statistical problems related to the high correlation between the predictor variables (of 0.90 or higher), and facilitate the subsequent interpretation of the coefficients associated to the terms that are part of the interaction (Baños et al., 2019). Finally, the Johnson-Neyman technique was used to delimit the regions of statistical significance, enabling to observe the effect of the independent variable (teleworking), specifically on the dependent variable (Cynicism), for the different values of the moderating variable (Creativity).

Results

The reliability of the scales was adequate, using Cronbach's alpha with results above 0.70. Table 1 shows the means, standard deviations, correlations, and internal consistencies of all the scales included in this study.

Table 2 shows the convergent and discriminant validity. Regarding composite reliability, the critical coefficients (CR) meet the recommended minimums of (> 1.96; $p < .05$) per (Hair et al., 2006). The Composite Reliability Indices (CFC) are above 0.70, as are the different Cronbach's Alphas, which means they are adequate to measure the construct (Hair et al., 2006). Likewise, the values of the average variance extracted (AVE) are between 0.54 and 0.70, and explain from 54 to 70% of the variance. Therefore, the higher the AVE value, the more significant the latent variable indices. Discriminant validity (MSV), based on Fornell and Larcker (1981), depends on the square root of AVE being greater than the correlation value, which is widely applicable in this case.

Table 3 indicates the linear regression analyses: (1) of the independent variable (X) on the dependent variable (Y); (2) of the moderating variable (W) on the dependent variable
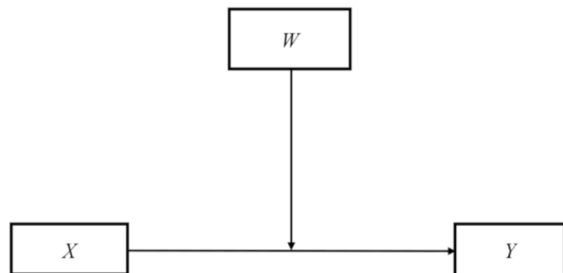
(Y); and (3) of the interaction between the independent variable and the moderating variable (XW) on the dependent variable (Y). Estimates for each regression analysis were obtained using the coefficient values obtained (not standardized), combined with the significance level, defined for the p-value, the lower and upper limits (LLCI, ULCI), and the confidence interval (CI). If the value 0 is within this range, the regression analysis is not significant. Additionally, the R^2 coefficient enables indicating the quality of the proposed regression model, allowing to explain 26% of the total variance of the criterion variable (Cynicism) ($R^2 = 0.26$, F $= 52.73$, $p < .001$).

The results obtained confirm the hypotheses proposed. Significant values were obtained for (Hypothesis 1): attenuating effect of teleworking on Cynicism (b $= -0.34$, $p < .05$, 95% CI $[-0.76, -0.13]$). Additionally, the Intensity of teleworking dampens cynical behaviours (b $= -0.29$, $p < .05$, 95% CI $[-0.52, -0.06]$) (Hypothesis 2). Regarding the moderating variable (Hypothesis 3): significant effect of Creativity on Cynicism (b $= -0.52$, $p < .05$, 95% CI $[-0.63, -0.12]$), it is met. Finally, for the interaction between the independent and moderating variable, (Hypothesis 4 and Hypothesis 4.1), significant and positive moderating effect of Creativity in the relationship between teleworking and Cynicism ($\theta X \to Y \mid W = 0.026$, $p < .05$, 95% CI $[0.015, 0.113]$), plus the three conditional effects low, medium, and high. The results show that both variables (teleworking and Creativity) have a significant influence on Cynicism. Additionally, Creativity acts as a moderating variable in the relationship between both variables, increasing the negative effects of Cynicism when it is perceived at medium and high levels, within a context of mismatch between resources and work demands.

Figure 1 graphically represents the proposed model from a conceptual and statistical perspective. Figure 2 includes the regression coefficient values calculated for each one of the variables studied.

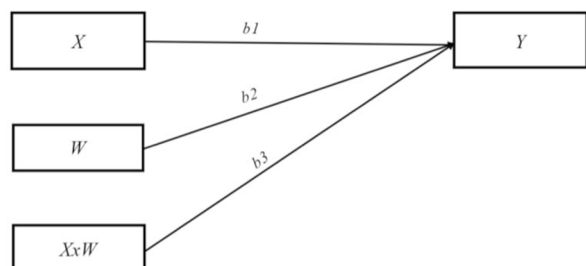**Fig. 1** Study model: Conceptual and statistical diagram (Model 1)

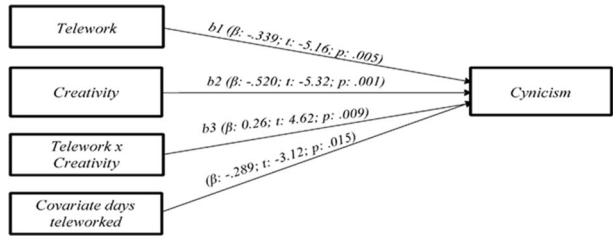**Fig. 2** Regression analysis results with PROCESS macro (statistical diagram)

Figure 3 graphically represents the interaction effect (moderation) of the Creativity variable, in the relationship established between teleworking and Cynicism. Using the select one-dot technique, PROCESS provides three different values for the moderating variable, calculated from the mean score +/- 1 times its standard deviation. These values were labelled as (1) low perception; (2) medium perception and (3) high perception (see Table 3).

The graph shows that the effect of teleworking on Cynicism was statistically significant in conditions of medium perception ($\theta X \rightarrow Y \mid W = $medium$= 0.16$, $p < .05$, 95% CI [0.029, 0.203]), high perception ($\theta X \rightarrow Y \mid W = $high$= 0.19$, $p < .05$, 95% CI [0.045, 0.31]), but not in low perception ($\theta X \rightarrow Y \mid W = low= 0.051$, p$= .31$, 95% CI [-0.021, 0.067]). Therefore, teleworking has a greater impact on Cynicism as the perception of Creativity increases (medium and high). When the perception of Creativity is low, teleworking ceases to influence Cynicism.

Finally, Fig. 4 represents the conditional effect of teleworking on Cynicism for the different values adopted by the moderating variable (Creativity), using the Johnson-Neyman technique. This graph defines the region of statistical significance, where the conditional effect studied is statistically significant between the X and Y variables for the different
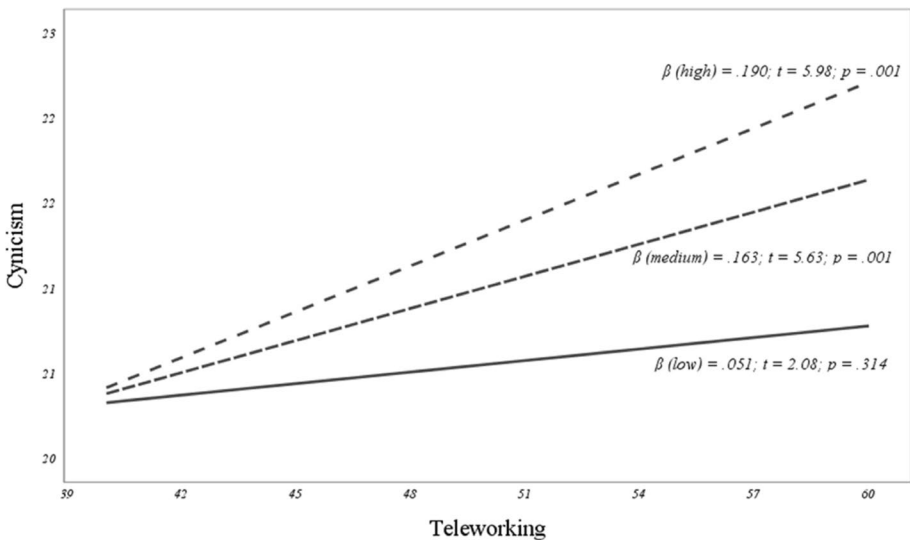

Fig. 3 Moderating effect of the creativity variable (low, medium, and high perception). Telework cynicism (SPSS)
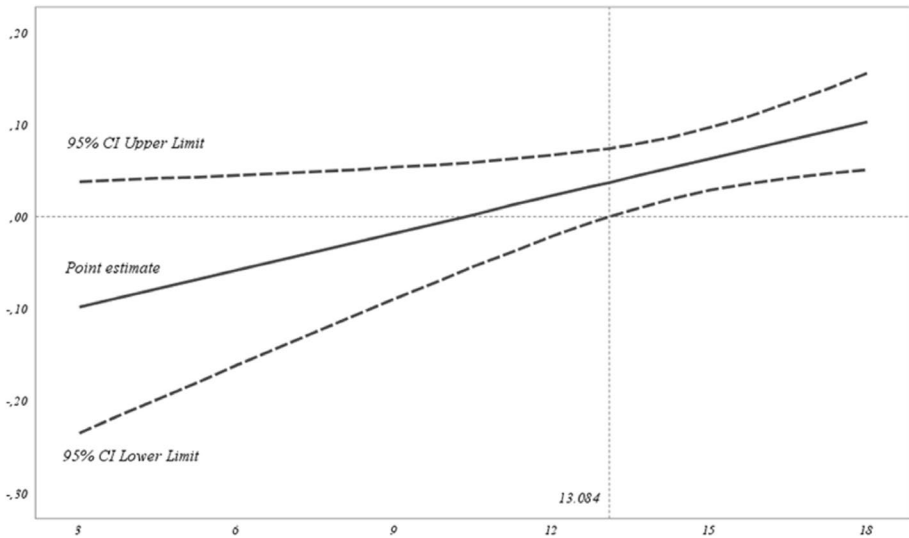
Fig. 4 Conditional effect of telework on cynicism depending on the different values of the moderating variable (Creativity) (SPSS)

values of Creativity (W). This region is represented in the second quadrant of the graph (upper right quadrant). It is observed that the effect of teleworking on Cynicism (represented in the line entitled "Point Estimate"), is statistically significant when W has a value equal to or greater than 13.08, and ceases to be significant for scores below this value (upper and lower left quadrants). 65.4% of the sample is above this value, while 34.6% is below.

Therefore, the effect of teleworking on Cynicism ($\theta X \rightarrow Y$) is conditioned by the Creativity variable ($\theta X \rightarrow Y \mid W$), which significantly moderates the causal relationship studied, in such a way that its intensity increases progressively as the perception of Creativity expands.

Figure 5 represents the perception of work-family balance. It is very high, equal to or above 80% for both genres for all teleworked days. Figure 6 represents the sensation of gender equality, which is also high or very high for both sexes, equal to or greater than 68%.

Figure 7 represents low, medium and high creativity indices (left to right). Two significant notes: creativity is less in people who telework for a single day, which can be explained by the short time for the person/work position adjustment. The female gender has lower levels of creativity, specifically teleworkers with a work intensity of four days. This may be because people who telework that number of days has more operational tasks. Figure 8 explains high, occasional, and low cynical behaviours (left to right).

Discussion

This study innovatively contributes to research on the effects of telework on employees' well-being, by serving as theoretical support for different hypotheses. The first one is that a virtual work environment limits interpersonal disconnection and organizational
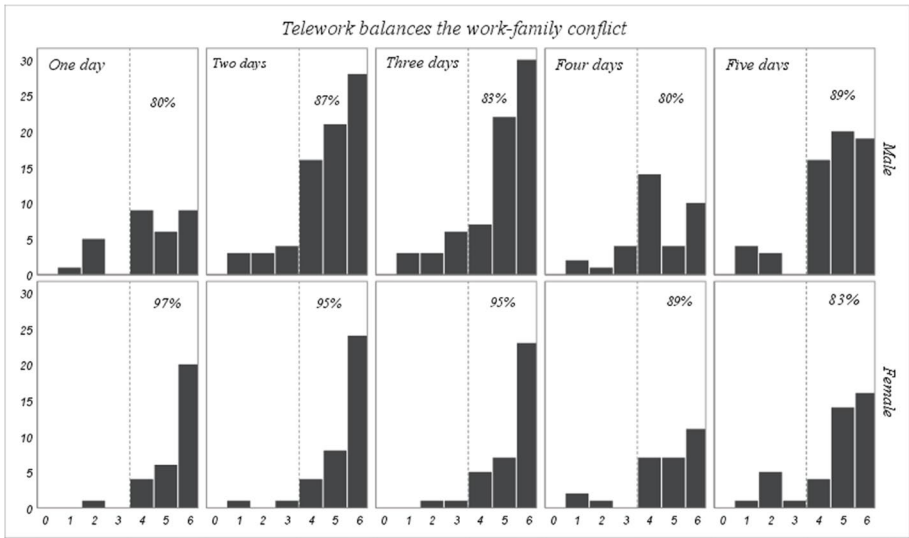
Fig. 5 Intensity of telework and perception of work-family balance (SPSS)
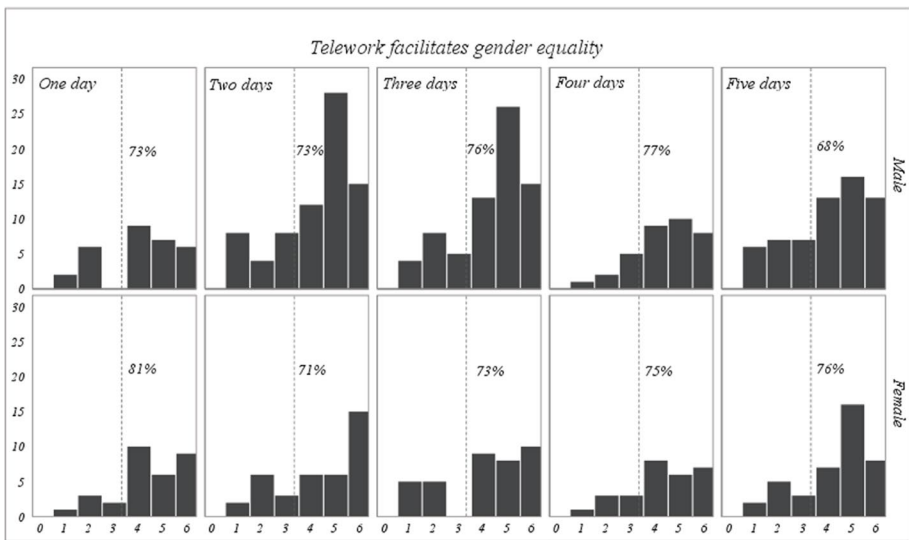

Fig. 6 Perception of gender equality based on the intensity of telework (SPSS)

disaffection (cynicism). This result represents an advance with respect to the proposal of Moens et al. (2022) because the data collection was done afterwards. In other words, the teleworkers' learning and adaptation curve was much higher. Additionally, it includes a proposal for future research offered by the previously cited authors: to revise if cultural differences change the results. Our study confirms an important fit between professionals with high academic training and online work environments. This, at least in an emerging country like Colombia, covers an important knowledge gap.
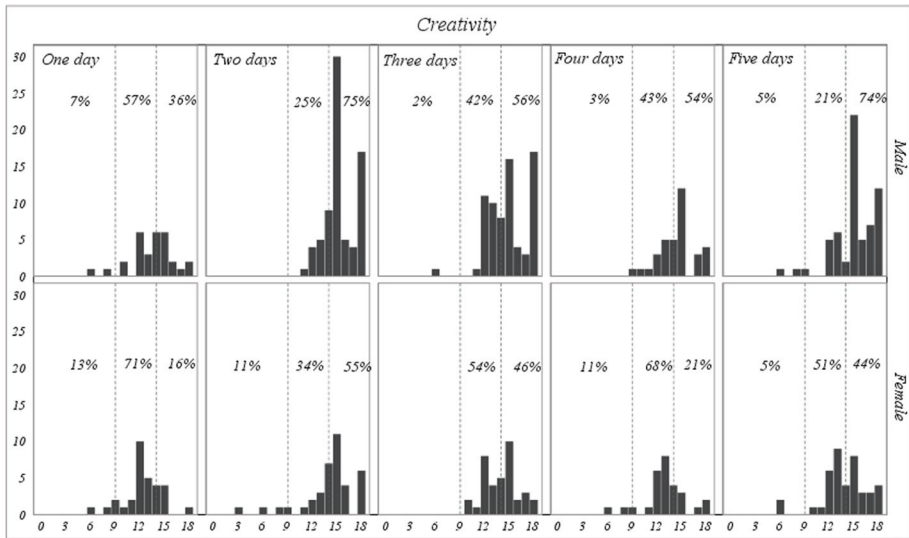
Fig. 7 Creativity by intensity of telework and by gender (SPSS)
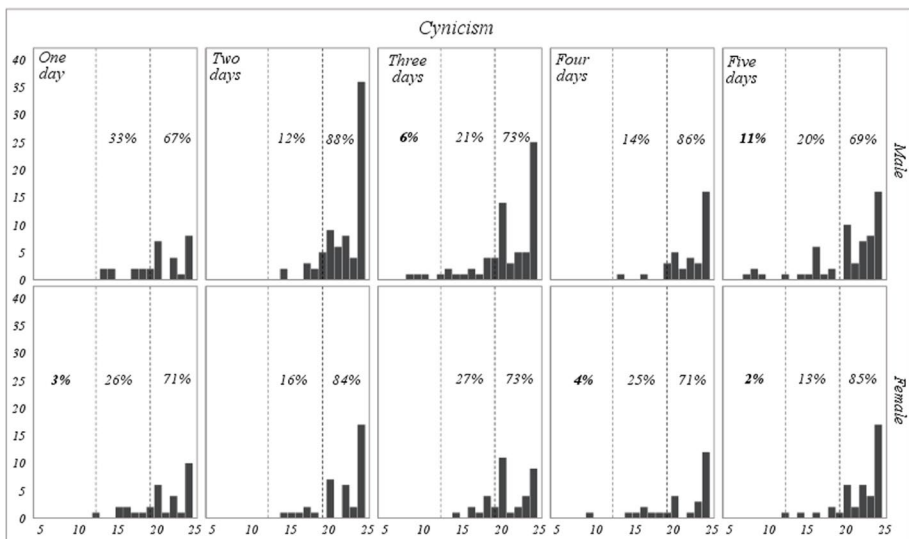

Fig. 8 Cynicism by intensity of telework and by gender (SPSS)

In this sense, the organizations studied are characterized for stimulating teamwork and bonds between employees through virtual calls or videoconferences, in addition to specific spaces for integration. These are key strategies to improve emotional state within teleworking, and to also attenuate isolation and promote timely feelings of social support (Mohammadi et al., 2022). Another critical aspect that positively influences employees' commitment, and consequently their way of relating at organizational level, is the perception that teleworking, regardless of its intensity, adequately influences gender equality. (See

Fig. 6). This partially coincides with (Lyttelton et al., 2022). In fact, the sample analysed in this research presents some particularities that may explain this high perception of equality between genders. The first particularity is that the proportion of managerial positions clearly leans towards the female gender, which follows the recommendations proposed by (Fang et al., 2022). Other important factors are that 100% of the studied population has university studies, and 70% have no children or only one child, which may facilitate equilibrium in the assignment and redistribution of home chores (Alon et al., 2020).

Besides, there is a majority agreement (see Fig. 5) that teleworking favours harmony between work and family (WFC), which coincides with assumptions raised by (Moens et al., 2022; Vander Elst et al., 2017). Therefore, the WFC acts as a resource that positively influences employees' well-being and separates apathetic attitudes in teleworking, which contradicts recent studies such as those of (Van der Lippe & Lippényi, 2020; Varotsis, 2022). The results obtained can be explained from different approaches. Initially, preventing proliferation of exhaustion and of its cynical dimension in specific, depends on the expansion of certain resources, such as social support, feedback and autonomy. In this sense, McNaughton et al. (2014) specify that people with higher education tend to cover jobs that incorporate independence in decision-making, along with permanent articulation between subordinates, peers and superiors. This prevents teleworking from isolating or dehumanizing employees. Finally, Adamovic (2022) goes a little further and deduces that the relationship between teleworking and low stress levels depends on a cultural background that considers that this work modality is effective and does not induce isolation. From this perspective, 55% of those surveyed are under 40 years of age, and 82% are under 50. Therefore, they are people who are linked, by their education and by their same age, to jobs specifically based on, and enabled by, information and communication technologies (ICTs).

The second important hypothesis confirmed by this research is that the scope of teleworking is directly related to a decrease in cynical attitudes, which improves previous studies such as those by (Vander Elst et al., 2017). This result is especially important for establishing a continuous relationship between teleworking intensity and a clear reduction of risks related to extreme emotional separation between individuals. This represents a great theoretical advance that closes important knowledge gaps, especially in Latin America. Furthermore, it provides continuity to the research proposals made by Santiago-Torner (2023) or Santiago-Torner et al. (2023). The high perception of gender equality and the weak feeling of conflict between work and family are the most significant aspects justifying this second approach.

Based on this result (see Fig. 8), it is possible to infer that the number of days teleworked helps employees adapt to a virtual work environment, allowing them to reassess their resources. This facilitates emotional adjustment which prevents progressive psychological wear and tear leading to depersonalization (Golden, 2006).

Consequently, high-intensity teleworking fuels interpersonal interaction and shared life experiences, joining the personal with the social in the form of support. This context actually reduces ambiguity and role conflict, which limits pressure on professionals and consequently affects the effective control of excessive exhaustion (Beckel & Fisher, 2022). Likewise, Fig. 8 provides another significant result: that the male gender shows higher levels of cynicism than the female gender, which coincides with (Sak, 2018). Although there is contradictory research regarding stress and its impact on men and women, this study uses Lambert et al. (2010) to specify that usually the female gender, in high positions or having high responsibility within the hierarchical organizational structure, along with misalignment between home and work responsibilities, can suffer sustained stress leading to frustration, feelings of injustice and interpersonal distance

(Maslakçı & Sürücü, 2022). In this sense, Figs. 5 and 6 provide a concrete answer that the female gender does not perceive asymmetries in the work-family axis, or in gender equality. In other words, the predominant management style of the Colombian electricity sector promotes women's roles instead of obstructing them, which prevents unnecessary signals of emotional tension and strengthens their perception of competence.

Finally, the last three hypotheses determine how constant creative demands, at different levels, can lead employees towards cynical behaviours and personal deactivation. This is the great finding of this study, which differs to some extent from (Derakhshanrad et al., 2019), considering that they reach the conclusion that stress and exhaustion, in some professions, is caused by a lack of creativity. Therefore, they conceptualize creative and original ideas as a resource that moderates exhaustion and cynicism levels. In fact, this research coincides with these results but only when creativity levels are low. This result is especially important because it covers important knowledge gaps. In fact, we consider that it is the first study that directly relates creativity to depersonalization and severe emotional disruptions. The negative relationship between creative behaviour and certain cynical behaviours is broken through continuous imbalances between resources and demands, which a virtual environment can intensify. Therefore, it is critical to be able to adjust the number and intensity of tasks to take advantage of the potential benefits provided by a virtual work environment, on individual creativity, and to not deteriorate the emotional health of the employee.

Based on the results obtained, cynicism is characterized by a manifest distrust of the organization which implies apathy, interpersonal conflicts, low performance, quitting and excessive emotional exhaustion (Sigahi et al., 2021). In fact, Maslach (2017) refers to cynicism as a constant emotional overload that drains the individual of resources. Therefore, severe emotional exhaustion depends on the constant balance between the resources, available or owned by the employee, and the demands of the work position (Abdel Hadi et al., 2021). In this sense, Beckel and Fisher (2022), within their model, suggest that teleworking itself can be considered a structural resource that improves employees' abilities to face potential additional demands. Additionally, they also include notions of personal resources and demands. In other words, the individual characteristics that help control a virtual work environment successfully and effectively. Among other things, optimistic and self-efficient people face continuous creative challenges with more guarantees (see Fig. 7) than other emotionally unstable or perfectionist people (Santos Alves Peixoto et al., 2022).

Therefore, when the work characteristics change, as constant creative efforts with medium and high difficulties are integrated, employees may respond with greater time dedication and effort, which progressively leads to deep emotional exhaustion (Sun et al., 2020). Undoubtedly, a priority participation in a new work system can lead to high emotional exhaustion, which in turn leads to organizational and interpersonal disaffection (Oppenauer & van de Voorde, 2018). Likewise, analytical and critical people use many emotional resources when facing new challenges, as their intention is to transfer excellence. Thus, they are more likely to experience emotional exhaustion and constant disappointment (Beckel & Fisher, 2022).

Finally, excessive work demands tend to reduce virtues inherent to teleworking, such as work autonomy, and nullify its benefits regarding creativity, or continuously exhausting its resources (Shih et al., 2011). In this sense, Sun et al. (2020) think that increasing challenges in teleworking gives rise to more creative ideas, depending on whether or not the cognitive resources proportion is enough. However, for this to occur, the demands that modify this process must also be limited. Consequently, when employees multiply demanding tasks

without separating themselves from the high demands they live with, they are likely to feel overwhelmed and exhausted (Lazauskaitė-Zabielskė et al., 2022).

Practical Implications and Limitations

The practical implications aim at improving structural and personal resources. In this sense, homes and their environments must be viable for remote work. This means not only having an independent space where adequate performance is possible, but also having a context where concentrating is easy with few internal and external distractors (Mohammadi et al., 2022). In fact, 76% of those surveyed live in socioeconomic strata ranging from 1 to 4. Considering that the cities analysed are the largest in the country, it is possible for their homes to be inside the 70% of the sectors that systematically breach environmental noise pollution regulations in Colombia.

At the same time, developing time management skills helps employees increase their self-efficacy, allowing them to cope with high creative demands without extending their working hours. Undoubtedly, time management is an essential personal resource that can be optimized through targeted training plans. Additionally, qualitative virtual interaction can strengthen the perceived social support and consolidate friendship relationships that mitigate the feeling of isolation (Vander Elst et al., 2017).

Lastly, it is essential to revise and repress intrusive leadership styles as they increase work addiction, prevent digital disconnection policies, and create constant stress scenarios that can lead to a complete deactivation of individuals (Mheidly et al., 2020).

Regarding limitations, cross-sectional studies do not accurately determine an adequate temporal relationship. However, the use of probabilistic sampling by geographical conglomerates diversifies the places where information is obtained and prevents possible biases. Specifically, social-desirability was attempted to be reduced with completely anonymous surveys and with prior awareness raising by the researcher, explaining the importance of answering responsibly as the usefulness of this research depended on it.

Conclusions

Teleworking, like any other work activity, requires a process of assimilation and adaptation (Santiago-Torner & Rojas-Espinosa, 2021). In this sense, this study confirms that the Colombian electricity sector has acquired the necessary skills and critical attitude for remote work and that this has a positive impact on emotional exhaustion regulation, which prevents personal and organizational disconnection (Vander Elst et al., 2017). Undoubtedly, coherence in the work position, alongside with high institutional support and individual characteristics according with the occupational type, optimize critical benefits such as the work-family axis or the perception of gender equality. These can be differential factors regarding on-site work. (Moens et al., 2022). Likewise, the idea that teleworking maximizes the autonomy of professional employees turns this work option into an ideal habitat for studying the sector, because 100% of its members have university studies and this translates into less work turnover and absenteeism. In fact, an adequate use of technology through videoconferences, work groups, knowledge transfer platforms, and workshops among other options, stimulates organizational relationships and constant feedback, which in turn prevent risks associated with teleworking such as social isolation (Even, 2020).

Additionally, the intensity of teleworking is associated with lower levels of fatigue or with less roles' overload (Song & Gao, 2020). Undoubtedly, the number teleworked days influences the control employees have over tasks and this helps the balance between resources-demands and perceived well-being (Duxbury & Halinski, 2014). In this sense, Perry et al. (2018) conclude that the number of teleworking days improves the emotional harmony and the psychological impact of demands on employees.

However, when the work position requires increasing the amount of time dedication, or the pressure and intensity of work, in limits of quantity, it is very possible for this to lead to constant depletion of resources resulting in a spiral of disconnection and apathy (Engelbrecht et al., 2020). In fact, time is a basic resource to properly manage creative processes, and, without it, the high energy demands to solve complex problems will tend to consume the intellectual and cognitive resources of the employees, until exhausting them, and emotionally separating them from the organization and their peers (Abdel Hadi et al., 2021; Beckel & Fisher, 2022; Heiligensetzer et al., 2021). Undoubtedly, divergent thinking requires contexts where time pressure does not become an inconvenience and where the process to generate original ideas is continuous. Therefore, individuals can only deal with new challenges when their levels of self-efficacy are adequate to be able to assume them successfully. Consequently, an imbalance between complex creative demands and limited cognitive resources will tend to overload employees until exhausting and disconnecting them from the organization (Barriga Medina et al., 2021).

Data Availability The dataset generated and analyzed during the current study is available in the Open Science Framework repository. The anonymous view-only link to the complete dataset is: https://osf.io/w2g5b/?view_only=f8b9995262ed469eab5413f302dd83c4.

Declarations

Ethics Approval Approval was obtained from the Research Ethics Committee of the University of Vic - Central University of Catalonia.

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

Competing Interests The authors have no competing interests to declare that are relevant to the content of this article.

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