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Evidence of the validity of the workplace telepressure scale, in the Brazilian context

Evidências de validade da escala de telepressão no trabalho, no contexto brasileiro

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Abstract

Workplace telepressure represents the state of mind that encourages constant connection to work that can be translated as the combination of a strong desire to respond to work-related messages with a concern for quick responses. The objective of the study was to gather evidence of the validity of the Workplace Telepressure Scale, in the Brazilian framework. The sample consisted of 567 workers of both genders, aged between 18 and 71 years, who were called to respond to a questionnaire of the Brazilian version of the Workplace Telepressure scale. The Confirmatory Factor Analysis showed that the six items model and one factor instrument was the instrument that presented the best fit indices. The results also showed a positive correlation with technological demands, workaholism and self-consciousness and a negative correlation with work engagement. It was concluded that the instrument presented psychometric properties that recommend its use in future investigations on workplace telepressure.

Keywords: Psychological assessment; Psychometrics; Teleworking.

Resumo

A telepressão no trabalho representa o estado mental que incentiva a constante conexão com o trabalho, traduzida pela combinação de um forte desejo de responder mensagens relacionadas ao trabalho com uma preocupação de obter respostas rápidas. O objetivo do estudo foi reunir evidências de validade da Escala de Telepressão no Trabalho, no contexto brasileiro. A amostra constituiu-se por 567 trabalhadores brasileiros, de ambos os sexos, com idades variando entre 18 e 71 anos, que responderam a versão brasileira da escala. A Análise Fatorial Confirmatória apontou que o modelo de seis itens e um fator foi o que apresentou os melhores índices de ajuste. Os resultados demonstraram, ainda, correlação positiva da telepressão no trabalho com demandas

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tecnológicas, adição ao trabalho e autoconsciência pública e negativa com o engajamento no trabalho. Concluiu-se que o instrumento apresentou propriedades psicométricas que recomendam seu uso em futuras investigações sobre a telepressão no trabalho.

***Palavras-chave**: Avaliação psicológica; Psicometria; Teletrabalho.*

Technological advancements have changed the way individuals transfer information and maintain relationships in their work environment. Technology-mediated interactions have brought significant productivity benefits, including increased control over work timing and location. Consequently, new forms of work and organizational structures have emerged around the new information and communication technologies, the most well-known being telework, virtual teams, and e-commerce (Filgueiras, 2022).

The integration of communication and information tools (such as email, voicemail, WhatsApp, etc.) has demonstrated that working from anywhere at any time is feasible. Furthermore, the need for social isolation as a protective measure against the – Coronavirus Disease 2019 (COVID-19) pandemic accelerated the adoption of remote work in Brazilian households; those communication and information tools facilitated work activities by enabling people to work whenever and wherever they chose. Consequently, workplace interaction has become largely virtual relying on remote communication via email, telephone, or videoconferencing, with a growing number of teams composed of individuals who communicate almost exclusively through electronic tools (Filgueiras, 2022; Oliveira, 2022).

Although this flexible approach to work can boost productivity, the use of technological tools can blur the boundaries between work and personal time. In fact, even outside working hours, individuals may feel a sense of anxiety and urgency to respond to messages via digital channels such as email, WhatsApp, or voice messages in order to attend supervisors, colleagues, and clients.

Recognizing this phenomenon, Barber and Santuzzi in their studies coined the term "workplace telepressure" in 2015; it can be defined as the combination of a preoccupation with monitoring work-related messages and a strong sense of urgency to respond to them, even outside working hours. Telepressure, therefore, represents the psychological state that encourages continuous connection to work activities.

Thus, telepressure undermines the primary benefit of using asynchronous communication tools: having flexibility and control over response times. Individuals experiencing telepressure tend to view Information and Communication Technologies (ICTs) in the same light as the users of synchronous communication methods, which typically demand an immediate response. For instance, while an employee called to discuss a project in a face-to-face meeting is expected to respond right away, reception of an email or a WhatsApp message would normally allow him/her to consider the matter more carefully before replying. However, workers experiencing high levels of telepressure feel compelled to respond immediately to asynchronous communications, giving priority to the electronic messages. This dynamics can hinder the recovery period between tasks, thereby draining the individual's work energy (Hu et al., 2019).

Thus, the use of technological communication tools transforms the potential workplace flexibility into a situation where work becomes inescapable and demands immediate responses – a phenomenon known as "paradoxical autonomy" (Wang et al., 2023). This paradox arises when the use of information and communication technologies fosters a sense of empowerment by offering flexibility regarding when and where to work, while simultaneously generating anxiety due to the need to keep up with messages and the pressure to remain constantly connected (ten Brummelhuis

et al., 2021). Consequently, attending to messages outside the working hours can encourage employees to maintain an "always-on" mindset, preventing them from properly disconnecting from work. When workers fail to sufficiently stay away from work during off-hours, they may experience conflict between work and family/home domains and, in turn, become emotionally exhausted (Tedone, 2022).

Barber and Santuzzi (2015) aiming to explore potential indicators of workplace telepressure, developed the Workplace Telepressure Measure scale. The instrument helps assessing the telepressure levels among workers. According to the Barber and Santuzzi (2015), the pressure to respond to work messages instantly, even outside of working hours can result in reduced productivity and negative impacts on physical and mental health. This kind of constant connectivity prevents individuals from having sufficient time to recover from work from day to day and also hinders the establishment of boundaries between work and family life. In this regard, such workplace connectivity would be positively associated with work addiction, work engagement, a lack of home-work boundaries, extraversion, self-awareness, self-monitoring, stress, recovery time, and factors related to work involvement (Barber & Santuzzi, 2015).

In the research to develop the aforementioned instrument, Barber and Santuzzi (2015) conducted two separate studies. In the first, eight items were initially drafted to assess the construct based on the concept of telepressure: a concern to provide rapid response for work-related messages combined with a sense of urgency to reply to them. The instrument was administered to a sample of 354 U.S. workers across various industries. Confirmatory factor analyses performed using the AMOS software (version 20) revealed that a correlated two-dimensional model yielded the best fit indices ($\chi^2(8) = 16.90$; $\chi^2/df = 2.11$; CFI = 0.99; TLI = 0.98; SRMR = 0.24; RMSEA = 0.06) when compared to two alternative models: a single-factor model ((9) = 67.60; $\chi^2/df = 7.53$; CFI = 0.94; TLI = 0.90; RMSEA = 0.14) and an uncorrelated two-dimensional model ((9) = 225.15; $\chi^2/df = 25.02$; CFI = 0.77; TLI = 0.64; RMSEA = 0.261). However, in the correlated two-factor model, the factors labeled "preoccupation" and "urgency" showed a strong correlation with each other ($r = 0.81$; $p < 0.001$), preventing them from being considered meaningfully distinct. Thus, the instrument's authors concluded that using the two sub-dimensions was not feasible due to collinearity. They therefore opted to exclude two highly similar items and treated workplace telepressure as a single factor.

In the first study, the authors tested the relationship between telepressure and external variables. The results indicated a significant correlation between telepressure and work addiction, specifically work excess ($r = 0.22$; $p < 0.01$); and compulsive work ($r = 0.23$; $p < 0.01$); work engagement ($r = 0.11$; $p < 0.05$); home-work boundary creation regarding ICT use ($r = -0.18$; $p < 0.01$); home-work boundary crossing regarding ICT use ($r = 0.20$; $p < 0.01$); home-work boundary crossing regarding email use ($r = 0.25$; $p < 0.01$); conscientiousness ($r = 0.11$; $p < 0.05$); public self-consciousness ($r = 0.19$; $p < 0.01$); technostress/technological overload ($r = 0.31$; $p < 0.001$); descriptive norms ($r = 0.15$; $p < 0.05$); and prescriptive norms ($r = 0.34$; $p < 0.001$). The internal consistency index, calculated using the Cronbach's alpha coefficient, was 0.86 for the unidimensional version of the Workplace Telepressure Scale.

The second study, conducted one year later with 303 workers, aimed to confirm the factor structure of the workplace telepressure scale and obtain additional evidence of its validity. Confirmatory factor analysis results indicated that the single-factor structure showed acceptable fit indices: $\chi^2(9) = 57.14$; $\chi^2/df = 6.35$; TLI = 0.93; CFI = 0.96; SRMR = 0.04; RMSEA = 0.13 ($_{90\%}$CI = [0.10 – 0.17]). Regarding ηconvergent validity evidence, the results showed that telepressure was positively associated with work engagement ($r = 0.22$; $p < 0.001$), affective commitment ($r = 0.13$;

$p < 0.001$), public self-consciousness ($r = 0.22$; $p < 0.001$), and technological demands – specifically the factors of response expectation ($r = 0.36$; $p < 0.001$) and availability ($r = 0.28$; $p < 0.001$). In our study, the internal consistency index (Cronbach's alpha) for the Workplace Telepressure Scale was 0.91.

Preliminary database searches (SciELO, PsycInfo, Web of Science, Google Scholar, PubMed/Medline) revealed a scarcity of studies regarding validity evidence for the Workplace Telepressure Scale in Brazil. However, research on workplace telepressure is important because the use of smartphones, tablets, and laptops for work purposes can create a new form of enslavement to work, causing physical and mental harm to employees and their families as well as impair job performance and, consequently, result in losses for the organizations (Barber & Santuzzi, 2015).

In this connection human resource management should guide all employees to mindfully use the communication tools. Research on this topic has become increasingly relevant. Compliance with work time, free time, and the work-family boundary must be embedded in the organizational culture since there is no productivity assurance when these conditions merge, as non-compliance in this field interferes with the time for recovery from work as well as the work-related outcomes (Barber & Santuzzi, 2015). Thus, the need for a scale with sound psychometric properties to investigate the construct of workplace telepressure becomes evident.

Based on these considerations, the general objective of this study is to adapt the Workplace Telepressure Scale (Barber & Santuzzi, 2015) and seek evidence of its validity in Brazilian samples. More specifically, the aim is to obtain validity evidence based on internal structure, internal consistency, items parameter invariance (across groups divided by gender and work modality), and the relationship between workplace telepressure and external variables: namely, technological work demands, public self-consciousness, work addiction, and work engagement.

Technological demands refer to aspects associated with the use of information and communication technologies that require sustained effort and entail physiological and psychological expenditure (Day et al., 2012). The Information and Communication Technology Demands-Resources model proposed by Day et al. (2012) highlights eight demand dimensions: response expectations (expectation that the worker will respond immediately to requests), availability (expectation that the employee be available to work outside standard working hours), poor communication (difficulties in the proper transmission and reception of information or messages between workers), loss of control (the degree of control over tasks for which the worker is responsible), hassles (difficulties encountered in the task execution due to equipment or ICT malfunctions), employee monitoring (the use of ICT to monitor employee performance, pace, and communication with clients), learning expectations (continuous need to learn and master new ICT knowledge and skills) and workload (increased work volume resulting from ICT use). To simplify data collection and analysis, this study focused on only two dimensions of technological demands: expectations and availability.

Given that individuals subject to telepressure are concerned about and feel the urgency to respond to work-related messages via technological communication channels (e.g., email, WhatsApp, voice messages), making themselves immediately available for work even after official working hours, a number of studies have demonstrated a positive relationship between workplace telepressure and technological demands (Kao et al., 2020; Sun & Xu, 2023; Wilder et al., 2023). Thus, the following hypothesis was formulated:

Hypothesis 1: Workplace telepressure is positively related to technological demands, specifically regarding the dimensions of response expectations and availability.

Personality traits can determine an individual's susceptibility to the effects of telepressure. Public self-awareness reflects the extent to which people are conscious of how they appear to others, leading individuals to adhere to social norms and behave in a socially acceptable and desirable manner (Scheier & Carver, 1985). More conscientious workers tend to be more responsible, reliable, and task-oriented; such individuals are likely to respond to a colleague's message to demonstrate responsibility and diligence in meeting goals, thereby avoiding negative impressions.

Thus, considering that such traits can lead to a propensity to respond to messages immediately, even outside the work setting, in order to avoid making a poor impression on others, there is empirical evidence that workplace telepressure is positively associated with public self-consciousness (Barber & Santuzzi, 2015; Barber et al., 2024). In light of the foregoing, the following hypothesis was developed:

Hypothesis 2: Telepressure at work is positively associated with public self-awareness.

On the other hand, work addiction has a motivational component, the compulsion to think about and perform work tasks, and a behavioral component, which is to work excessively (Pinheiro & Carlotto, 2018). Considering that the motivational component of addiction may involve a concern and desire to remain connected to work, it would be expected that employees more work addicted have higher levels of telepressure. For this reason, there is different evidence of the positive relationship between telepressure at work and work addiction (Barber & Santuzzi, 2015; Barber et al., 2024; Wilder et al., 2023). In this connection, it was hypothesized that:

Hypothesis 3: Telepressure at work is positively related to work addiction.

Finally, work engagement is defined as a positive mental state rooted in beliefs regarding the intensity with which an individual feels vigorous and absorbed while performing professional activities (Siqueira, 2014). Engaged workers experience high levels of mental energy and a high degree of concentration, perceiving virtually no distinction between themselves and the tasks they perform (Schaufeli, 2021). However, work engagement is associated more with the actual work tasks interactions and thus, enjoying more the work than the socially mediated interactions facilitated by technology in the workplace. Thus, workers suffering from telepressure due to the use of information and communication technologies may, if they yield to their impulses, appear engaged despite not necessarily completing their actual work tasks; in other words, they merely seem occupied with work-related tasks (Barber & Santuzzi, 2015).

Furthermore, such workers may present more characteristics related to dedication and absorption in relation to work (staying connected and involved), rather than vigor (enthusiasm for work), given that the latter brings intrinsic pleasure as a fair response to work demands. Even though the study by Barber and Santuzzi (2015) found a positive association between the constructs, there is other evidence that indicates that telepressure at work has a negative relationship with work engagement (Pfaffinger et al., 2022; Seeman et al., 2023; Wang et al., 2023). The findings from such studies suggest that telepressure at work can jeopardize employees' engagement by prolonging work-related psychophysiological effort and interfering with the necessary recovery. By keeping employees continuously connected, it increases stress and feelings of exhaustion, hampering their well-being and health; this reduces their ability to engage effectively in work activities. In this connection, the following hypothesis was formulated:

Hypothesis 4: Workplace telepressure is negatively related to work engagement.

Method

Participants

The study used a convenience sample composed of 567 Brazilian workers of both genders (59.4% female) with different professional education hailing from 21 states (plus the Federal District); most of them came from the states of Rio de Janeiro (62.3%) and São Paulo (13.8%). Most participants worked in the private sector (69.3%) and did not hold a managerial position (67.0%). Regarding the industry sector, the most frequently reported category was services (39.5%). With regard to the work arrangements at the time of the survey, 47.8% of all respondents were teleworking. Participant ages ranged from 18 to 71 years (M = 32.1; SD = 9.9). The inclusion criteria required participants to be at least 18 years old, to have completed high school, and to be currently employed.

Instruments

The workplace telepressure construct was measured using the Workplace Telepressure Scale developed by Barber and Santuzzi (2015); this is a unidimensional scale comprising six items rated on a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example is: "I can concentrate better on other tasks after responding to my pending messages." A translation and back-translation procedure was employed to translate the scale (Gregoire, 2018). This procedure involved a professor fluent in English who translated each item into Portuguese; an English language professor translated that version back into English and seven investigators in the field of psychometrics conducted a technical review and compared the two versions to verify semantic equivalence.

Public self-consciousness was measured using the public self-consciousness dimension of the Revised Self-Consciousness Scale, validated in Brazil by Teixeira and Gomes (1996). This dimension focuses on the interest in and concern regarding oneself as a social object or stimulus – a trait more prevalent in individuals who act under the influence of others' opinions – and consists of seven items rated on a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example is: "I am concerned about the way I present myself." The internal consistency index, calculated using Cronbach's alpha, was 0.70 in the Teixeira and Gomes study (1996).

Work addiction was measured using the short version of the Dutch Work Addiction Scale, adapted to the Brazilian context by Carlotto and Miralles (2010). The instrument consists of ten items distributed equally across two factors: excessive work and compulsive work. Responses were provided on a Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). An example of an item from the excessive work factor is: "It feels like I am racing against the clock." An example of an item from the compulsive work factor is: "I feel there is something inside me that drives me to work hard." Internal consistency indices (Cronbach's alpha) in the Carlotto and Miralles study (2010) were 0.70 for excessive work and 0.74 for compulsive work.

Work engagement was measured using the short version of the Utrecht Work Engagement Scale, adapted for the Brazilian context by Ferreira et al. (2016). It consists of nine items rated on a seven-point Likert-type scales, ranging from 0 (*never*) to 6 (*daily*). An example is: "At my work, I feel bursting with energy." The scale's internal consistency assessed using the Cronbach's alpha, was 0.91 in the study by Ferreira et al. (2016).

Technological demands were measured using the "response expectation" (two items) and "availability" (four items) factors from the ICT Demands Scale developed by Day et al. (2012); the

items were translated and implemented in this study. Response options followed a Likert-type scale ranging from 0 (never) to 4 (almost always). Examples of items include: "I am expected to respond to emails immediately" (response expectation) and "I must be accessible for contact at any time" (availability). Internal consistency indices (Cronbach's alpha) were 0.86 for response expectation and 0.83 for availability in the study by Day et al. (2012). It should be noted that, as the scale had not yet been adapted and validated for the Brazilian context, the same translation and back-translation procedure used for the Workplace Telepressure Scale was employed.

A sociodemographic questionnaire was also adopted. This questionnaire included questions regarding gender, age, children, education, profession, the Brazilian state where employed, the organization's sector (public or private), work arrangement (remote, hybrid, or in-person), and tenure in the current job.

Data Collection Procedures

Initially, the investigation project was submitted to the Research Ethics Committee of the authors' institution. After approval, data collection was performed online. As a condition for participation, individuals provided their consent by signing the Informed Consent Form. Data collection took place over a six-month period using the Typeform platform. Participants were called to take part in the survey via messages posted on social media – specifically Facebook, LinkedIn, Instagram, and WhatsApp – which included a link to access the survey.

Data Analysis Procedures

The data collected were tabulated using the BM®SPSS® (version 21), followed by analysis via the Lavaan package in the RStudio software. To test the scale's internal structure, confirmatory factor analyses were conducted using Structural Equation Modeling with the WLSMV (Weighted Least Squares Mean and Variance-adjusted) parameter estimation method. The model fit was assessed using the following indicators: chi-square (χ^2), Root-Mean-Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI); (Byrne, 2012). Values below 0.06 for RMSEA and above 0.95 for CFI and TLI were adopted as indicators of good fit (Gana & Broc, 2019). Reliability indices for each scale were calculated using Cronbach's alpha and McDonald's omega coefficients. Item invariance was examined through multigroup confirmatory analysis to determine whether groups defined by gender (female and male) and work modality (remote, hybrid, or in-person) were equivalent. Relationships between the Workplace Telepressure Scale (Barber & Santuzzi, 2015) and related constructs were investigated by calculating factor correlations.

Ethical Procedures

The research project was initially submitted to the institution's Research Ethics Committee and was approved and the *Certificado de Apresentação para Apreciação Ética* (CAAE, Certificate of Presentation for Ethical Appreciation) No. 47664721.7.0000.5289 was issued. Participants who voluntarily agreed to participate in the study were informed about the anonymity and confidentiality of their responses upon completing the Informed Consent Form and were subsequently asked to answer the questionnaires.

Results

Initially, based on previous studies using the instrument in question (Barber & Santuzzi, 2015), one-factor and two-factor models were tested via Confirmatory Factor Analysis, mirroring the approach used by Barber and Santuzzi (2015). Although the two-factor model showed somehow reasonable fit indices ($\chi^2(df)$ = 67.02 (8); CFI = 0.98; TLI = 0.97; RMSEA = 0.114 (0.090–0.140)), the factors exhibited a high correlation with each other (0.79), just as observed in the scale development study. Conversely, the one-factor model yielded superior fit indices ($\chi^2(df)$ = 24.17 (8); CFI = 0.99; TLI = 0.99; RMSEA = 0.060 (0.033–0.088)) and was, therefore, selected to represent the instrument's internal structure.

Subsequently, the internal consistency of the instrument's factors was calculated using the Cronbach's alpha and McDonald's omega coefficients. The results showed that the Telepressure at Work Scale factor exhibited adequate internal consistency indices: 0.83 for both Cronbach's alpha and McDonald's omega. The results thus demonstrated that the Brazilian version of the Telepressure at Work Scale retained the six items from the original version that were distributed across a single dimension. Table 1 presents the description of the items along with their relevant standardized factor loadings.

Table 1
Items and standardized factor loadings

Items		Factor loadings
1-	I have trouble concentrating on other things when I receive a message from someone [*Tenho dificuldade em me concentrar em outras coisas quando recebo uma mensagem de alguém*].	0.46
2-	I can focus better on other tasks after answering my messages [*Posso me concentrar melhor em outras tarefas depois de responder as minhas mensagens*].	0.46
3-	I can't stop thinking about a message until I reply to it [*Não consigo parar de pensar em uma mensagem até respondê-la*].	0.73
4-	I feel a strong need to respond immediately to others [*Sinto uma forte necessidade de responder aos outros imediatamente*].	0.85
5-	I feel pressured to respond the moment I receive a request from someone [*Sinto-me pressionado a responder no exato momento em que recebo uma solicitação de alguém*].	0.82
6-	It's hard for me to resist the urge to reply to a message immediately [*É difícil para mim resistir ao impulso de responder uma mensagem de imediato*].	0.87

Based on the single-factor structural model, the items parameter invariance was assessed using the Multi-Group Confirmatory Factor Analysis (MGCFA) across groups defined by gender (male and female) and work modality (in-person, hybrid, and online). The data analysis revealed that imposing constraints caused small and practically negligible differences in the indicators reviewed; specifically, differences in CFI and RMSEA were less than 0.01 (Table 2). These results indicate that, for the single-factor model, factor loadings, thresholds, and scalar parameters were actually invariant across the groups analyzed (Cheung & Rensvold, 2002).

Correlations between variables were calculated using a measurement model in which all five study variables were included as latent variables. The results showed that all correlations were significant, thereby confirming the study hypotheses (Table 3). Furthermore, the five-factor, 38-item model demonstrated good fit indices – $\chi^2(df)$ = 3069.89 (645); CFI = 0.97; TLI = 0.97; RMSEA = 0.083 (0.080–0.086) – indicating that the items were explained by their respective latent variables.

Table 2
Instrument Invariance Analysis

Models (Gender)	χ^2	$\Delta\chi^2$	CFI	ΔCFI	RMSEA	ΔRMSEA
Configural	27.73	-	0.998	-	0.051	-
Metric	36.91	9.18	0.998	0.000	0.052	0.001
Scalar	54.67	17.8	0.997	0.001	0.052	0.000
Models (Modality)	χ^2	$\Delta\chi^2$	CFI	ΔCFI	RMSEA	ΔRMSEA
Configural	36.27	-	0.998	-	0.052	-
Metric	39.98	3.71	0.999	0.001	0.050	0.002
Scalar	71.10	31.12	1.000	0.001	0.048	0.002

Notes: χ^2: Chi-square; $\Delta\chi^2$: Chi-square difference; CFI: Comparative Fix Index; ΔCFI: Difference in CFI; RMSEA: Root Mean Square Error of Approximation; ΔRMSEA: Difference in RMSEA; Configural: Factorial structure fixed across groups; Metric: Factorial structure and factor loadings fixed across groups; Scalar: Factorial structure, factor loadings, thresholds, and intercepts fixed across groups. N men: 230; N women: 337; N in-person modality: 206; N hybrid modality: 90; N online modality: 271.

Table 3
Correlation between the variables

Variables	1	2	3	4
1- Workplace telepressure	-	-	-	-
2- Technological demands at work	0.20**	-	-	-
3- Public self-awareness	0.26**	0.19**	-	-
4- Addition of work	0.33**	0.56**	0.26**	-
5- Work engagement	-0.12*	-0.17**	0.13*	-0.01

Note: * $p < 0.01$; ** $p < 0.001$.

Discussion

This study aimed to adapt the Workplace Telepressure Scale and gather initial validity evidence for it using a sample of Brazilian workers. The results indicated that the instrument demonstrated adequate psychometric properties regarding internal structure, internal consistency, items parameter invariance, and the relationship between workplace telepressure and external variables. Thus, this study reveals various theoretical and practical implications.

The confirmatory factor analysis revealed that the single-factor model yielded better fit indices; hence, it was selected to represent the instrument's internal structure. These results are consistent with the study on the development and validation of the original instrument (Barber & Santuzzi, 2015). Thus, the final Brazilian version of the Workplace Telepressure Scale consists of six items and a single factor. Consequently, our survey adds cross-cultural evidence supporting the conclusion that the single-factor model holds true, regardless of the differing cultural patterns found in North American and Brazilian societies.

Regarding internal consistency, the results demonstrated that the workplace telepressure factor exhibited adequate internal consistency indices. These findings indicate that scores for the general factor can be estimated with great accuracy, even with a limited number of items across samples composed of different nationalities' participants. Thus, it was determined that the instrument's scores possess a satisfactory level of precision, meaning there is minimal measurement error attributable to a lack of internal consistency (Souza et al., 2017).

Regarding the relationship with external variables, the results demonstrated a positive correlation with technological demands, thereby confirming the study's Hypothesis 1. Given that individuals experiencing telepressure feel a sense of concern and urgency to respond to work-related

messages via information and communication technologies (email, WhatsApp, voice messages) making themselves immediately available for work even after official work hours, these findings are justified by the fact that such demands are inherent to the use of these technologies; they require sustained effort and entail long-term physiological and psychological expenditure. The findings corroborate previous research indicating that these technologies create a sense of urgency that keeps employees connected to work beyond business hours, thereby hampering their recovery and psychophysiological well-being (Kao et al., 2020; Sun & Xu, 2023; Wilder et al., 2023).

A positive relationship was also observed between workplace telepressure and public self-consciousness, confirming Hypothesis 2. A plausible explanation for this result is that highly conscientious workers tend to be more responsible and diligent in performing their tasks; consequently, they may feel more inclined to respond to messages immediately, even outside the workplace, in order to create a favorable impression on others. This behavior is aligned with the findings of Barber and Santuzzi (2015) and Barber et al. (2024), which suggest that public self-consciousness can drive the behavior of remaining constantly available for work due to a desire for social approval, even at the expense of one's own work-life balance.

The study's findings indicated a positive relationship between workplace telepressure and work addiction, providing empirical support for Hypothesis 3. These results are aligned with the studies by Barber and Santuzzi (2015), Barber et al. (2024), and Wilder et al. (2023), which also found a positive correlation between telepressure and work addiction. One possible explanation for this relationship is that the motivational component of addiction involves a desire to remain engaged with work; thus, one might expect employees with higher levels of work addiction to experience higher levels of telepressure. However, while the motivational component of addiction may involve a concern with staying connected to work, telepressure focuses on maintaining social relationships through technology-mediated communication, that is, the concern lies in responding to work-related messages rather than actually performing work tasks. This distinction is crucial for understanding how telepressure positively relates to work addiction: it is more about the need to be "always available" than about actual productivity (Barber & Santuzzi, 2015).

Finally, the Workplace Telepressure Scale also showed a negative correlation with engagement, providing empirical support for Hypothesis 4. The findings reported here indicate that workplace telepressure is associated with interactions mediated by information and communication technologies; however, the employee experiencing telepressure lacks the vigor, dedication, and absorption which are typical characteristics of engaged employees when performing their work tasks. Thus, individuals experiencing telepressure may appear engaged in their work, but they lack enthusiasm in carrying out their work activities (Barber & Santuzzi, 2015).

These results contradict the findings of Barber and Santuzzi (2015), who identified a positive relationship between workplace telepressure and work engagement. However, they confirm the studies by Pfaffinger et al. (2022), Seeman et al. (2023), and Wang et al. (2023). As these studies show, the continuous pressure to be available impairs workers' psychophysiological and emotional recovery, thereby reducing their capacity to engage actively in their work. Telepressure may create an appearance of engagement, but affected individuals lack the enthusiasm or vigor required to fully dedicate themselves to their roles. A lack of recovery after work hours leads to a decline in enthusiasm, resulting in reduced absorption in work activities. This condition reflects how the continuous pressure and prolonged effort lead to a drop in genuine engagement, even if there is a superficial appearance of dedication.

The correlation results obtained between workplace telepressure and external variables provide evidence of the scale's convergent validity. Together with the findings regarding the validity

of its internal structure, these results reaffirm the instrument's utility for assessing workplace telepressure.

This study also offers practical contributions. Based on the empirical evidence presented, organizations can use the Workplace Telepressure Scale to monitor workers' telepressure levels, aiming to ensure a balance between rest and work hours. Consequently, the human resources professionals can identify effective ways to mitigate employees' high level of psychological connection to work. Such an assessment can shed light on necessary interventions such as planning and implementing strategies to monitor and limit the time employees spend using information and communication technologies outside the workplace thereby enhancing employee's well-being and quality of life.

Regarding the limitations of this study, it is worth noting that our investigation was cross-sectional, with data analysis conducted at a specific point in time. Consequently, the findings do not allow for causal inferences regarding the observed relationships. Another limitation concerns the sample; although large, it was a convenience sample, which prevents the claim that it represents the entire Brazilian population particularly keeping in mind that the population from the South, North, Northeast, and Center-West regions had a quite limited participation in the study. This factor may hinder the generalizability of the results. Furthermore, the present study did not delve into the specific differences observed between workplace telepressure and work addiction, work engagement, and public self-consciousness. However, all these constructs are characterized as positive individual outcomes resulting from workplace exposure, which may offer a likely explanation for the correlations found. In any case, future research distinguishing between these constructs is necessary to gain a deeper understanding of the actual differences among these distinct workplace phenomena.

Furthermore, regarding a future research agenda, the current study included diverse occupational categories; thus, it would be valuable for future research to gather evidence on scale invariance by comparing the internal structures of specific occupational classes. It is also suggested that research be conducted to further explore the nomological network of workplace telepressure, particularly concerning its impact on variables characterizing the workplace well-being. Such research should preferably have a longitudinal design, allowing for a deeper understanding of these relationships through the consistency of data observed over time. Finally, it would enrich the literature if the workplace telepressure was the subject of future research concerning people from other countries besides the US and, now, also Brazil.

This extension would enhance the concept of telepressure by assessing the construct's predictive validity in other languages.

In any case, the results of the present study indicate that the Workplace Telepressure Scale demonstrated initial evidence of internal structure validity and relationships with external variables in a Brazilian sample. Therefore, it can be considered an appropriate measure for assessing individuals experiencing workplace telepressure, supporting its future use in research and in organizational diagnostics.

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