10.33208/PC1980-5438v037e003

Technostress in clinical psychologists who provide online care

Tecnoestresse em psicólogos clínicos que realizam atendimento online

Tecnoestrés en psicólogos clínicos que trabajan en línea

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Resumo

Este estudo teve dois objetivos: o primeiro foi identificar o poder preditivo dos fatores psicossociais no trabalho sobre as dimensões do tecnoestresse; e o segundo, verificar se a satisfação no trabalho funciona como variável mediadora entre as demandas de trabalho e as dimensões do tecnoestresse em 146 psicólogos clínicos que realizavam atendimentos *online*. Como instrumentos de pesquisa, foram utilizados a Escala de Tecnoestresse (RED/TIC), o Copenhagen Psychosocial Questionnaire (COPSOQ I), versão média, e um questionário de dados sociodemográficos e funcionais. Os resultados obtidos por meio de análise de regressão linear mostraram que as dimensões do tecnoestresse foram explicadas pelas variáveis Demandas (quantitativas, cognitivas, afetivas), Estresse (comportamental, somático, cognitivo), Vitalidade, Desenvolvimento no trabalho e Satisfação no trabalho. A Satisfação no trabalho funcionou como mediadora entre as Demandas (quantitativas e cognitivas) e as dimensões de Descrença e Ansiedade.
Palavras-chave: tecnoestresse; fatores psicossociais; psicólogos.

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Abstract

This study had two objectives: to identify the predictive power of psychosocial factors at work on the dimensions of technostress, and to examine whether job satisfaction plays a mediating role between work demands and technostress dimensions among 146 clinical psychologists who provided online care. The instruments employed were the Technostress Scale (RED/TIC), the Copenhagen Psychosocial Questionnaire (COPSOQ I), medium version, and a sociodemographic and functional data questionnaire. The results of a linear regression analysis showed that the dimensions of technostress were explained by variables such as Demands (quantitative, cognitive, affective), Stress (behavioral, somatic, cognitive), Vitality, Development at work, Meaning of work, and Job satisfaction. Furthermore, Job satisfaction was found to mediate the relationship between Demands (quantitative and cognitive) and the dimensions of Disbelief and Anxiety.
Keywords: technostress; psychosocial factors; psychologists.

Resumen

Este estudio tuvo dos objetivos: el primero, identificar el poder predictivo de los factores psicosociales en el trabajo sobre las dimensiones del tecnoestrés; el segundo, verificar si la satisfacción laboral actúa como variable mediadora entre las demandas laborales y las dimensiones del tecnoestrés en 146 psicólogos clínicos que trabajan en línea. Como instrumentos de investigación se utilizaron la Escala de Tecnoestrés (RED/TIC), el Cuestionario Psicosocial de Copenhague (COPSOQ I), versión media, y un cuestionario de datos sociodemográficos y funcionales. Los resultados obtenidos mediante análisis de regresión lineal identificaron que las dimensiones del tecnoestrés fueron explicadas por las variables Exigencias (cuantitativas, cognitivas y afectivas), Estrés (conductual, somático y cognitivo), Vitalidad, Desarrollo en el trabajo y Satisfacción laboral. La Satisfacción laboral actuó como mediadora entre las Exigencias (cuantitativas y cognitivas) y las dimensiones de Incredulidad y Ansiedad.
Palabras clave: tecnoestrés; factores psicosociales; psicólogos.

Introduction

The advent of digital technologies has brought about a significant transformation in the nature of work, offering individuals the opportunity to engage in their professional activities from diverse locations, including their own

homes (Grant et al., 2013). The outbreak of the Covid-19 pandemic has further altered the work landscape, resulting in a substantial surge in the number of individuals practicing teleworking and a subsequent increase in work-related demands. These demands encompass various factors, such as the absence of defined working hours and an overwhelming workload, which, in turn, have been associated with heightened levels of stress and mental health issues (ILO, 2019). Notably, the increased use of digital technologies during the pandemic has particularly accentuated the risk of developing technostress (Gualano et al., 2023; Taser et al., 2022). Clinical psychologists are among the professionals that have been impacted by this new modality of work, being therefore at risk for the occurrence of technostress.

Technostress

The use of new technologies does not necessarily yield positive or negative impacts, since the effects of their use will depend on the interplay between individual and organizational resources, as well as stressors, within the work environment (Pansini et al., 2023). However, human-computer interaction has emerged as a potential stress-inducing factor, primarily due to the ongoing and increasing demand for proficient ICT (information and communication technology) skills among employees. That, associated with limited ICT resources available in organizations, may result in technostress (Pansini et al., 2023; Salanova Soria, 2003), which constitutes a specific form of stress attributed to the use of ICT (Ayyagari et al., 2011).

The term technostress was initially introduced by Brod (1982) to describe the challenges individuals face when adapting to the use of new technologies. Over time, this construct has been further developed conceptually and validated empirically by various researchers, including Tarafdar et al. (2007), who defined it as the inability of employees to effectively cope with new technologies in a healthy way. Technostress is characterized as a negative psychological state that arises from the perceived disparity between the demands associated with ICT use and the available resources. This imbalance leads to heightened levels of non-pleasurable psychophysiological activation and fosters the development of negative attitudes toward ICTs (Salanova Soria, 2003).

Tarafdar et al. (2010) proposed one of the most recent definitions of technostress, characterizing it as the stress experienced by users as a result of application multitasking, constant connectivity, information overload, frequent

system updates, and consequent uncertainty, continuous relearning, work-related insecurities, and technical problems associated with the organizational environment in the use of ICTs.

Salanova Soria (2003) proposed a model consisting of four dimensions: (1) Disbelief, characterized by disinterest and skepticism regarding the extent to which the use of ICTs contributes to one's work; (2) Fatigue, defined by feelings of exhaustion, tiredness and difficulty in relaxing after engaging in work involving ICTs; (3) Anxiety, marked by the presence of tension, irritability, impatience, and a heightened sense of concern about making mistakes or encountering difficulties that may result in the destruction or loss of important information due to inappropriate use of ICTs; (4) Inefficacy, due to the difficulty experienced by workers in using information and communication technologies (ICTs), leading to feelings of insecurity and ineffectiveness. This model will be used as a framework in our study.

The factors that lead to technological stress are linked to the effects of psychological and behavioral tension. The process through which the environment's demands ultimately exceed people's resources is what causes stress. As part of this process, tension is expressed in behavioral and psychological responses to environmental stressors. High technological levels may increase the workload and rate of work, while multiple tasks and ongoing interruptions may worsen long-term stress (Molino et al., 2020).

Technostress is associated with various work-related psychosocial risks, encompassing aspects of work design, management, and their social and organizational contexts that have the potential to cause psychological or physical harm (Leka & Cox, 2010). Notably, within the realm of technostress, the literature identifies several psychosocial risks, including work overload, expectations of round-the-clock availability for work and quick response, learning expectations, which comprise the constant need to learn and master new knowledge and skills in ICTs, challenges in transmitting and receiving information (Day et al., 2012), increased work complexity, excessive work engagement (Dragano & Lunau, 2020; Pansini et al., 2023), and conflicts between work and other life domains (Dragano & Lunau, 2020).

Technostress affects both the professional and private aspects of an individual's life. It can lead to a decline in overall life satisfaction, work satisfaction, and productivity (La Torre et al., 2020). Additionally, it is often associated with decreased levels of job satisfaction (Suh & Lee, 2017; Taser et al., 2022), compromised well-being in the workplace (Pansini et al., 2023), and increased prevalence of psychological and behavioral disorders (La Torre et al., 2020).

A study done with psychologists from thirty European countries showed that the Covid-19 pandemic crisis led to a significant increase in the use of digital technologies in healthcare. However, some professionals are still having trouble finding work in this field. The study found training requirements for conducting online consultations in order to help these professionals provide better services (De Witte et al., 2021).

Psychologists and online work

Clinical psychologists were among the professionals who started to provide clinical care remotely during the Covid-19 pandemic. During the isolation period, psychotherapists were compelled to adapt and change the environment of ongoing therapeutic processes (Cantone et al., 2021; García et al., 2022).

In Brazil, there has been a significant surge in the number of registered professionals offering remote clinical services. According to the CFP (Brazilian Federal Council of Psychology), between November 2018 and February 2021 there was a substantial increase (447%), resulting in a total of 31,000 registered professionals (CFP, 2020). Moreover, from March 2020 to August 2021 an additional 137,000 professionals joined the online service, bringing the total number of registered professionals to 168,000. This figure accounts for approximately 40% of the total 408,789 registered psychologists.

The profession of psychologist in Brazil, regulated in 1962, allows professional practice after completing the undergraduate course in psychology at a college or university authorized and recognized by the Ministry of Education and Culture, and requires registration with the CFP (Federal Council of Psychology). According to Brazilian legislation, clinical psychologists work specifically in the health area, contributing to the understanding of intra- and interpersonal processes using a preventive or curative approach, alone or in a multidisciplinary team in formal and informal institutions. They carry out research, diagnoses, psychological support, and individual or group psychotherapeutic interventions through different theoretical approaches (CFP, 1992).

In the United States, following the period of isolation due to the Covid-19 pandemic, most psychologists continued to provide some form of remote service (96%) and a large proportion of professionals adopted a hybrid approach (50%), combining in-person and remote modalities (APA, 2021). Despite the challenges, telehealth emerged as a valuable therapeutic tool, with 96% of psychologists utilizing it during the pandemic. Furthermore, a significant majority

(93%) expressed their intention to continue providing services remotely, even after the pandemic subsides (APA, 2021).

In Australia, the prevalence of telemedicine services witnessed a significant rise during the Covid-19 pandemic. Before the pandemic, approximately 53% of the population used telemedicine services in general, and this number increased to 92% during the pandemic. Furthermore, a notable proportion (79%) expressed comfort and satisfaction with using telemedicine and expressed their intention to continue utilizing it even after the pandemic subsides (Burgess, 2021). In the UK, telehealth was not a widespread practice before the Covid-19 pandemic. However, during the pandemic, the government invested 1.5 million pounds to implement and support teleconsultations.

De Witte et al. (2021) conducted a study involving 2,082 mental health professionals from multiple countries, including Austria, Belgium, Cyprus, France, Germany, Italy, Lebanon, Lithuania, the Netherlands, Norway, Portugal, Spain, and Sweden. The study findings revealed a high level of acceptance among mental health professionals regarding online consultations during the Covid-19 pandemic. Most professionals reported positive experiences with online consultations. However, the study identified certain obstacles that hindered the implementation of online consultations in a mental health context, including relational aspects, and practical issues, such as privacy and software security.

The shift to providing online consultations by clinical psychologists posed various challenges for professionals who previously exclusively conducted in-person sessions. These challenges encompassed the necessity to adapt the therapeutic setting to the online format, concerns regarding data confidentiality and security, establishing a connection with patients in the absence of face-to-face interaction, and adjustments to the working conditions of these professionals (Silvério Júnior et al., 2021). Professionals also reported the need for greater flexibility in practical aspects of the setting, such as the location, time, and frequency of sessions, and the need to maintain greater attention and concentration during online sessions (Cantone et al., 2021).

Most psychology professionals had little training and experience to conduct online consultations (Topooco et al., 2017), which was a triggering factor for stress. A high number of therapists demonstrated their concerns about ethical issues, training, and personal issues in relation to online care (Bao et al., 2020). In addition to the usual challenges of the profession, the introduction of technology-related hurdles further compounded the situation, potentially triggering the

development of symptoms related to technostress (Depolli et al., 2021), as well as impacting the well-being of psychologists.

Studies indicate that the profession of clinical psychologist presents stressors, such as the management of people with mental health issues, difficulties in setting professional boundaries, and the constant focus on patients' problems (Castro et al., 2018). However, a study conducted on the working conditions of psychologists providing online care during the Covid-19 pandemic showed positive attitudes towards this modality of care despite the stressful context. As psychologists gained more experience and proficiency in delivering online care, they reported increased confidence, suggesting that training and experience in online care can contribute to reducing stressors (Békés & Aafjes-van Doorn, 2020).

Research with teleworkers indicates that higher levels of perceived satisfaction decrease levels of psychological distress and increase engagement with their work, which can be positive in the case of clinical psychologists, who are usually involved in their work. However, it is important to note that social support and relationship levels may be compromised in remote work settings, potentially acting as triggering factors for psychosocial risks (Fonseca & Pérez-Nebra, 2012).

Although the authors recognize the value of these two perspectives, they emphasize the crucial mediating role of job satisfaction in the relationships between antecedent variables and outcomes (Crede et al., 2007). Job satisfaction has also been found to act as a mediating variable between occupational stressors and health issues (Wu et al., 2021).

Given the above, this study aimed to achieve two primary objectives. Firstly, it sought to identify the predictive power of psychosocial factors in the work environment on the dimensions of technostress. Secondly, the study aimed to verify whether job satisfaction works as a mediating variable between work demands and the dimensions of technostress.

From the literature review, the following hypotheses were outlined: H1: Quantitative demands (QD), Cognitive demands (CD), and Emotional demands (ED) are positively related to the dimensions of technostress; H2: Opportunity for development at work, Levels of freedom, Meaning of work, Commitment to work, and Job satisfaction are negatively related to the dimensions of technostress; H3: Job satisfaction acts as a mediating variable between work demands and the dimensions of technostress.

Method

Study design and participants

This study adopted a quantitative approach, employing an observational and explanatory design within a cross-sectional framework. The sample comprised 146 clinical psychologists who were selected using a non-random sampling method and focused on clinical psychologists who provided their services remotely. The sample calculation was performed using the G-Power software, and the database was estimated from the number of psychologists active in the CFP (Federal Council of Psychology) and active in online work. The effect size was 0.15, error 0.05, and power 0.95. This calculation resulted in a minimum number of 138 participants.

The participants in the study were predominantly women (*n*=108; 74.0%), age range between 26 to 35 years (*n*=74; 50.7%) and without children (*n*=102; 69.9%). The largest portion declared to be single (*n*=66; 45.2%). In relation to the services rendered, 82.2% (*n*=120) provided psychotherapy services from their homes, used cell phone and computer (*n*=111; 76.0%) and tablet (*n*=11; 7.5%).

Instruments

A *sociodemographic and functional questionnaire*, designed to verify the socioeconomic (monthly income), demographic (age, sex, marital status), social and working conditions of the psychology professionals (type of care provided, place of work, type of technology used) who are working online.

The *Technostress Scale* (RED/TIC), built by the researcher team at Work, Organization & New Technologies (WONT) and adapted for use in Brazil by Carlotto and Câmara (2010). This 16-item scale is subdivided into four dimensions: Disbelief (α=.74, e.g. "over time, I have lost interest in technologies"); Fatigue (α=.89, e.g. "when I finish working with ICTs, I feel exhausted"); Anxiety (α=.77, e.g. "I feel tense and anxious when working with technologies") and Inefficacy (α=.80, e.g. "I feel unsure of finishing my tasks effectively when using ICTs"). The final score of each dimension is given by the average of the responses to its items. All items are assessed on a seven-point Likert-type scale, ranging from zero (never) to six (always).

The *Copenhagen Psychosocial Questionnaire* (COPSOQ I), short version: the scale was developed by a group of researchers from the Danish National

Research Center for Work Environment Studies (Kristensen et al., 2005) and adapted for use in Brazil by Silva et al. (2017). For this study, three subscales were used to measure demands (1) Quantitative demands (α=.83, three items; e.g. "How often do you not have time to complete all your work tasks?"); (2) Cognitive demands (α=.87, three items; e.g. "Does your job require you to remember many things?"); (3) Emotional demands (α=.73, three items; e.g. "In your job, are you exposed to emotionally disturbing situations?"); four scales to measure resources: (4) Development opportunities at work (α=.87, three items; e.g. "Does your work allow you to use your skills or knowledge?"); (5) Levels of freedom (α=.88, three items; e.g. "At work, can you decide when to take a break?"); (6) Meaning of work (α=.81, three items; e.g. "Do you feel that the work you do is important?"); (7) Commitment to work (α=.82, three items; e.g. "Do you feel that the problems of your workplace are also your own?"); and one scale to measure interface with the job: (8) Job satisfaction (α=.91, four items; e.g. "I am satisfied with my work as a whole, taking into account the overall context."). All items of the scales from 1 to 8 were assessed by means of a score ranging from one (always) to five (never).

Data collection and analyses procedures

The research was submitted to and approved by the Research Ethics Committee of Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, da Universidade de São Paulo, under CAAE 40834820.2.0000.5407. Participants voluntarily completed the survey using the Google Forms platform. Prior to participation, participants indicated their agreement in the Informed Consent Form, on the initial page of the instrument.

Participant recruitment for this research study involved the dissemination of information on various channels, including the social media platforms of the Organizational and Labor Psychology Laboratory (Laboratório de Psicologia Organizacional e do Trabalho – LabPOT), as well as professional groups of psychologists on WhatsApp and Facebook. Furthermore, the research was promoted on platforms of online care, such as Zenklub, Psicologia Viva, and Central Psicologia. It is important to highlight that participants in the study were not acquainted with each other, and there was no use of the snowball method to achieve the desired sample. Data collection was conducted from April to July 2021.

The data analysis process involved quantitative analyses conducted using SPSS software, version 22.0. Initially, exploratory descriptive statistics were performed, which included data entry, identification of extreme cases, examination of missing cases, and assessment of variable frequencies and distributions. Descriptive analyses were then conducted, including the calculation of frequencies, percentages, means, and standard deviations. The assumptions for the linear regression analysis were tested, and adequate values were identified according to Marôco (2007) for the operationalization of the analysis. The absence of multicollinearity was verified, as all correlation values were below 0.68, Variance Inflation Factor (VIF) values were below four (range 1.01 to 1.87) and Tolerance values were below one (range 0.53 to 0.99). The analysis of the Durbin-Watson coefficient identified values close to two (range 1.85 to 1.91), thus indicating the independence of the distribution and the non-correlation of the residuals. Cook's distance showed values below one (0.007 to 0.013), revealing no atypical predictors and an adequate fit of the models.

A multiple linear regression analysis using the stepwise method was conducted to examine the relationship between the four dimensions of technostress (Disbelief, Fatigue, Anxiety, Inefficacy) as dependent variables and the eight subscales of COPSOQ I as independent variables. The mediation model identified the work demands (quantitative, cognitive, emotional) as independent variables, the technostress dimensions as the outcome, and Job satisfaction as the mediator variable.

Data availability statement

The datasets generated for this study can be found at Mendeley Data: https://doi.org/10.17632/dh3kfsypc7.1

Results

Descriptive analyses were conducted to examine the demands, resources, and dimensions of technostress. The results revealed that the highest mean score was observed in the Fatigue dimension of technostress. In relation to demands, the cognitive demand exhibited the highest mean score, and regarding resources, the highest mean score was observed in the meaning of work. These data are shown in Table 1.

Table 1 — Minimum and maximum score, mean, standard deviation, and alpha of study variables (*n*=146)

Variables	Scale	Min	Max	*M*	*SD*	α
Technostress	1–7					
Disbelief		1.00	5.75	2.40	1.10	.74
Fatigue		1.00	7.00	3.36	1.62	.92
Anxiety		1.00	7.00	2.28	1.19	.83
Inefficacy		1.00	5.50	1.78	0.92	.83
Psychosocial factors (demands)	1–5					.66
Quantitative demands		1.00	5.00	2.55	0.93	
Cognitive demands		1.00	5.00	3.81	0.91	
Emotional demands		1.00	5.00	3.54	1.01	
Psychosocial factors (resources)						.69
Development opportunities at work		2.00	5.00	4.46	0.55	
Levels of freedom		2.00	5.00	3.63	0.86	
Meaning of work		2.00	5.00	4.63	0.59	
Commitment to work		2.00	5.00	3.83	0.79	
Interface with the job						
Job satisfaction		1.00	5.00	4.01	0.72	

The findings from multiple linear regression analyses are presented in Table 2. The results revealed a predictor model for the Disbelief dimension, comprising the variables Job satisfaction and Emotional demands, which together explained 12% of this dimension. In this sense, the results demonstrated that lower levels of job satisfaction (β=–0.30) and higher levels of emotional demands (β=0.17), are associated with an increased sense of disbelief regarding the use of ICTs.

With regard to Fatigue, five variables explained 37% of the variability of the dimension. It appears that the higher the Quantitative (β=0.42) and Emotional (β=0.11) demands, and the lower the Job satisfaction (β=–0.22), the greater was the feeling of fatigue.

Anxiety presented a predictor model comprising three variables that together accounted for 23% of the variance within the dimension. The findings indicated that higher levels of Quantitative demands (β=0.27) and lower

levels of both Job satisfaction (β=–0.30) and Development opportunities at work (β=–0.32) were associated with increased levels of tension, irritability, and impatience when using ICTs.

As for the Inefficacy dimension, the variables that predicted it were lower Job satisfaction (β=–0.27) and Meaning of work (β=–0.23), which together explained 17% of the dimension.

The results reveal a magnitude of effect between medium (R^2=0.12) and high (R^2=0.37), according to the parameters recommended by Marôco (2007). In this sense, it indicates that the relationships identified may also be present in the target population of the study. It is important to highlight that the variable Job satisfaction was a predictor in all four models, relating in a way that decreased the dimensions of technostress.

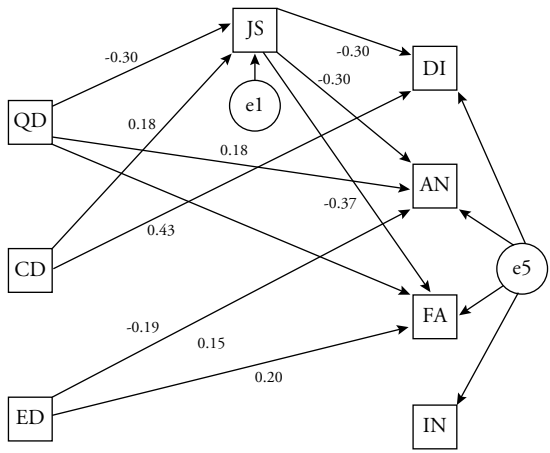
Table 2 — Multiple linear regression analysis for the dimensions of technostress (*n*=146)

Variables	*R*	Adj R^2	*B*	*SE*	*β*	*t*
Disbelief						
Job satisfaction	.32	.10	–0.46	0.12	–.30	–3.90**
Emotional demands	.36	.12	0.19	0.08	.17	2.24*
Fatigue						
Quantitative demands	.54	.29	0.74	0.12	.42	5.94**
Job satisfaction	.58	.33	–0.49	0.15	–.22	–3.20**
Emotional demands	.61	.37	0.31	0.11	.19	2.77**
Anxiety						
Job satisfaction	.36	.12	–0.50	0.16	–.30	–3.21**
Quantitative demands	.41	.16	0.35	0.10	.27	3.60**
Development opportunities at work	.47	.21	–0.70	0.18	–.32	–3.75**
Meaning of work	.50	.23	0.45	0.20	.22	2.27*
Inefficacy						
Job satisfaction	.37	.13	–0.35	0.10	–.27	–3.30**
Meaning of work	.42	.17	–0.39	0.14	–.23	–2.84**

Notes: * $p \leq 0.05$; ** $p \leq 0.01$.

Considering that the variable Job satisfaction was present in the four models, this variable was used to investigate its mediation effect between the demands (Quantitative, Cognitive, Affective) and the four dimensions of technostress (Disbelief, Fatigue, Anxiety, Ineffectiveness). The same strategy was used for the four models. Initially, a model was proposed with all possible effect relationships, encompassing both direct effects of the three demands on the dimensions of technostress and effects mediated by Job satisfaction (full model). The effects of each model were then evaluated and removed according to the highest *p*-value until only significant effects remained (final model), as shown in Figure 1. It was possible to observe that mediation occurs in relation to quantitative and cognitive demand in the dimensions of Anxiety, Fatigue and Disbelief.

Figure 1 — Final model



Notes: JS = Job satisfaction; QD = Quantitative demand; CD = Cognitive demand; ED = Emotional demand; DI = Disbelief; AN = Anxiety; FA = Fatigue; IN = Inefficacy.

Discussion

Regarding H1, which suggests that Quantitative, Cognitive and Emotional demands are positively related to the dimensions of technostress, the results partially supported the hypothesis, since it was found that only Emotional demand explained Disbelief. Quantitative and Emotional demands were related to Fatigue. The Anxiety dimension was positively associated with Quantitative demand, and the Ineffectiveness dimension was not associated with any of the three work demands.

As for the Disbelief dimension, its increase is related to higher levels of Emotional demand. According to Blut and Wang (2020), individuals tend to be more skeptical about the use of technology when they believe that it can lead to negative consequences. In the case of clinical psychologists, their work involves demanding labor contingencies that often entail a high emotional burden, making them vulnerable to stress (Roque & Soares, 2012). Therefore, it is possible to consider that participants who had to transition to remote appointments may have had concerns about potential negative impacts on the services they provide.

In the context of the Covid-19 pandemic, psychology professionals were compelled to shift to online care as a result of social distancing measures. One significant challenge arising from this situation, regardless of the therapist's therapeutic approach, is the establishment of a therapeutic bond with the patient, which had to be adapted to the online setting. Some professionals expressed concerns about their ability to form a strong therapeutic bond or ensure confidentiality in this model. However, many professionals and patients have embraced online therapy and believe that a therapeutic bond can indeed be established and maintained through this medium (Danzman et al., 2020).

Online care raises additional concerns regarding confidentiality and patient safety, as well as the preparedness of professionals who may not have received specific training for this type of care. Communication challenges arise due to the limitations in identifying non-verbal cues that are present in face-to-face sessions and expressed through the patient's body language. Emergency situations can be more challenging to address, as contacting the patient's family or providing immediate assistance may be more difficult. It is also important to consider patient characteristics, as online therapy may not be suitable for everyone, particularly individuals with severe conditions who may require alternative treatment modalities (Stoll et al., 2020).

The Fatigue dimension exhibited a positive association with an increase in Quantitative and Emotional demands. Working through video platforms in health care was found to require additional effort due to multitasking, resulting in increased stress and fatigue (Hilty et al., 2022). Regarding Emotional demands, García et al. (2022) state that psychotherapists had to manage new behavioral and emotional configurations in online psychotherapy that were different from face-to-face contact. It was also verified in a study by Mancinelli et al. (2021) that there was an increase in interventions during sessions as a way to compensate for physical distancing. Thus, it can be thought that the increase in quantitative and emotional demands causes feelings of exhaustion and fatigue.

In relation to the Anxiety dimension, a positive association was identified with Quantitative demands. According to González-López et al. (2021), anxiety

with the use of ICTs is related to the fear of making mistakes, the fear of thinking that information could be lost due to incorrect use of technology, and feeling uncomfortable, irritated, or impatient. The increase in anxiety with the increase in quantitative demands can be explained by the various changes that had to be made by psychotherapists, such as adapting the therapeutic environment, changing psychotherapeutic techniques (Smith & Gillon, 2021), and frequent monitoring of the device used regarding the quality of connection, audio, and video (Cantone et al., 2021). It is important to highlight that most professionals did not have training or experience in online services (Topooco et al., 2017), which may have been a source of insecurity and anxiety.

The Inefficacy was not related to work demands. Despite those studies suggesting that the provision of online care by clinic psychologists who previously provided only in-person care brought challenges related to the use of new technologies, that may have caused insecurity and difficulties in the psychologist's ability to carry out their work, besides being potential risk factors for symptoms related to technological stress (Bao et al., 2020; Depolli et al., 2021).

As for H2, in which Opportunity for development at work, Levels of freedom, Meaning of work, Commitment to work, and Job satisfaction are negatively related to the dimensions of technostress, this was partially substantiated, since the dimensions of Disbelief and Fatigue were negatively related only to Job satisfaction. Anxiety was related to Job satisfaction and Opportunity for development at work, and Ineffectiveness also had a negative relationship with Job satisfaction and Meaning of work.

As a result, it can be seen that the four dimensions of technostress decrease as job satisfaction rises. The findings support the literature that identifies job satisfaction as a key factor protecting against technological stress (Califf et al., 2020; Taser et al., 2022). This finding can be understood in the light of the characteristics of the clinical psychologist's job, which places a strong emphasis on interpersonal relationships, as well as the traits of self-employed clinical psychologists, who report higher levels of job satisfaction than those who have an employer (Litsardopoulos et al., 2023).

As for Opportunity for development at work to reduce anxiety, the result corroborates a study carried out during the Covid-19 pandemic in which psychotherapists reported that, although they had initial difficulties, the experience was, for the majority, considered challenging (Békés & Aafjes-van Doorn, 2020). Overall, psychologists evaluated the experience as positive, with many of them intending to keep the remote work model, considering that it can maintain their well-being and that of their patients. Another issue may be related to the control

that the psychologist has over the work and its social importance. According to Mishima-Santos et al. (2020), these aspects reinforce the feeling of autonomy and social value at work.

Regarding the Inefficacy dimension, the variable that predicted it was Meaning of work. Low familiarity with web-based media and technical issues can reduce a psychotherapist's feeling of efficacy (Poletti et al., 2021). One might think that when faced with this difficulty, psychologists may have diminished their sense of the meaning of their work. It is important to highlight that this modality of online psychotherapy was not a choice by the professional but a way of maintaining their commitment to work with their patients applying psychotherapeutic techniques that are not always appropriate to their epistemic orientation (Cantone et al., 2021).

H3, which tested whether Job satisfaction serves as a mediating variable between work demands and the dimensions of technostress, revealed significant results. The strength of the relationship between Quantitative and Cognitive demands, and the dimensions of Anxiety, Fatigue, and Disbelief was significantly reduced when Job satisfaction was added to the model, indicating the mediating role of Job satisfaction. These findings align with previous research that had highlighted high levels of job satisfaction in clinical psychologists working in private practice (Walfish & Coovert, 1990) and a factor protecting against technological stress (Califf et al., 2020; Taser et al., 2022). However, job satisfaction cannot be the only factor in this professional's work-related stress reduction. Additionally, it is advised to develop professional guidelines and guidelines that focus on well-being and self-care, for example, to prevent the development of cognitive overstrain.

Conclusion

The results identified explanatory models for the dimensions of technostress composed of a set of psychosocial factors: higher Quantitative demand, and lower Opportunity for development at work and Job satisfaction. Job satisfaction acted as a mediator between Quantitative and Cognitive demands in the dimensions of Anxiety, Fatigue, and Disbelief.

This study has some limitations to be considered when assessing its results. Firstly, the cross-sectional design restricts the ability to establish causal relationships. Secondly, the use of a non-probabilistic sampling method hinders the generalization of the results. Thirdly, the sample characteristics primarily comprised females engaged in caregiving responsibilities at home, thereby limiting the generalization of the findings to other occupational contexts. Finally,

it is important to acknowledge the impact of the pandemic period on the results obtained, since remote work may have occurred under emergency circumstances rather than being a discretionary choice for psychologists.

The results obtained indicate the need for further studies employing random samples, longitudinal and mixed designs, as well as the use of multi-methods that can reduce self-report bias. Furthermore, we recommend that new studies be conducted in the post-pandemic period to identify the stability of the models obtained and to enable comparative analyses of results.

Regarding possible interventions, we suggest that a psychologist who wants to work remotely get specialized training geared, for instance, toward controlling their auto-efficacy. In addition, graduate-level courses in psychology may include disciplines geared to the use of ICTs in clinical care processes to aid in the development of competencies geared toward the adaptations required for remote care. This study may also lead to a discussion about the occupational stress that a clinical psychologist is exposed to and the potential effects on both their professional and personal lives.

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No sources of funding were declared.

Received: 23 May, 2024
Accepted: 04 November, 2024