

## Technostress, Career Commitment, Satisfaction with Life, and Work-Family Interaction Among Workers in Information and Communication Technologies

Tecno-estrés, compromiso con la carrera, satisfacción con  
la vida y la interacción trabajo-familia en trabajadores de  
la información y tecnologías de la comunicación

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**Abstract.** Technostress occurs when individuals experience negative psychosocial effects of technology usage and also demonstrate negative valence associated with ICT use. It is composed of four dimensions (Disbelief, Fatigue, Anxiety, and Ineffectiveness), which describe two aspects of technostress (Technoanxiety and Technofatigue). This study aimed to investigate the relation between technostress dimensions, career commitment, life satisfaction, and work-family interactions among ICT professionals. Variables including gender, age and length of employment were also considered. The sample was composed of 234 Brazilian individuals. It was found that work-family and family-work conflicts were associated with increased technofatigue and technoanxiety, and decreased career resilience. Age and gender differences were also identified. These differences emphasize the role of organizations and society in what refers to reduce inequalities in workplace and to support better preventive actions.

**Keywords.** Technostress, career commitment, life satisfaction, work-family interaction, Information and Communications Technologies.

**Resumen.** El Tecno-estrés se produce cuando las personas experimentan efectos psicosociales negativos por el uso de la tecnología y también demuestran valencia negativa asociada con el uso de las TIC. Se compone de cuatro dimensiones (incredulidad, fatiga, ansiedad, e ineficacia) que describen dos aspectos del tecno-estrés (tecno-ansiedad y tecno-cansancio). El objetivo de este estudio fue investigar la relación entre las dimensiones del tecno-estrés, compromiso con la carrera, satisfacción con la vida y la interacción trabajo-familia entre los profesionales de las TIC. También se consideraron variables como el sexo, la edad y la antigüedad en el empleo. La muestra se compuso de 234 individuos brasileños. Se encontró que el conflicto trabajo-familia y familia-trabajo se asociaron con una mayor tecno-fatiga y tecno-ansiedad, y una menor resiliencia en la carrera. También se detectaron diferencias de edad y género, lo que enfatiza en el papel de las organizaciones y la sociedad en reducir las desigualdades en el lugar de trabajo y apoyar mejores acciones preventivas.

**Palabras clave.** Tecno-estrés; compromiso con la carrera, satisfacción con la vida, interacción trabajo-familia, Tecnologías de Información y Comunicación.

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## Introduction

This study aimed to investigate the relation between technostress, career commitment, life satisfaction, and work-family interactions; and to analyze the relationships with variables such as gender, age, and length of employment among Information and Communication Technologies workers (ICT). Technology has become an organizational actor, rather than being just a simple resource; workers rely on it to reach goals, perform varied tasks, renew work patterns, and, as required, be more competitive (Karr-Wisniewski & Lu 2010).

Faced with a constantly changing technology context, the need to use and update knowledge and skills can be considered a key demand to enter and stay in the workplace. While new skills and demands are required from workers, there are subsequent implications that include greater work burden, stress and social pressure that can lead to psychosocial problems (Shah, Hassan & Embi, 2011), work-family conflict (Ayyagari, Grover & Purvis, 2011), higher pressure for performance/efficiency and less privacy (De Wet, Koekemoer & Nel, 2016), dissatisfaction at work and turnover (Callif, Sarker, Saker & Fitzgerald, 2015). In addition, ICT workers are frequently required to fulfil higher expectations regarding their productivity levels (Shu, Tu & Wang, 2011). The continuous and rapid development of technology has not only resulted in higher effectiveness and efficiency in most organizations, but also contributes to higher levels of technostress in the workplace (Ahmad, Amin, Ismail, 2012).

It is possible to leverage optimal levels of technology to help maximize productivity in the workplace (Karr-Wisniewski & Lu, 2010), but insofar as its use exceeds acceptable levels, it may become an important stressor, according to the organizational behaviour transaction-based model of stress (Ragu-Nathan, Tarafdar, Ragu-Nathan, 2008). This type of stress has been called technostress (Brod, 1984; Puig & Pons, 2015; Riedl et al., 2012). Technostress is a particular problem of adaptation that may occur if the user is unable to adapt to, or work effectively with ICT (Tarafdar,

Ragu-Nathan & Ragu-Nathan, 2007). The precise conceptualization of the technostress phenomenon is directly related to the negative psychosocial effects of the use of ICT and to the psychological feelings of negative valence associated with its use (Burke, 2009). Technostress refers to the negative impact that technology use, directly or indirectly, has on attitudes, thoughts, behaviours and even the biological systems of individuals (Agogo & Hess, 2015). Albeit computer-anxiety can be considered one factor of technostress, the latter is more comprehensible as it includes a variety of ICT devices and how individuals struggle to deal with technological overload, technological invasion, and technological complexity and uncertainty (Leung & Zhang, 2017). Rapid changes and improvements in technology are one of the major origins of this phenomenon (Shu et al., 2011).

When individuals are considered to be under technostress, typically if they are not able to cope with rapid changes in ICT they are often required to process information hurriedly and ineffectively, and have difficulty in identifying useful information, with little time to seek more creative or innovative ways to perform their tasks. As a result, these individuals tend to make more mistakes, thus decreasing their productivity levels (Tarafdar et al., 2011). Individuals also tend to experience lower levels of job satisfaction and they are more likely to negatively evaluate their work (Tarafdar et al., 2011; Pocinho & Garcia 2008). Several studies have indicated gender differences with respect to technostress, with males experiencing more technostress than females (Carlotto, 2010; Shu et al., 2011; Tarafdar et al., 2011). One possible reason for this is that males may be more inclined to voluntarily use ICT in situations where it is not entirely necessary, so they experience a greater number of technostress-creating conditions than females (Carlotto, 2010).

However, women in certain contexts have also been reported to be at risk of technostress. A survey aiming to identify factors associated with technostress among this population in Brazil by Carlotto (2010) identified that woman with children and high school degrees, who were exposed to ICT, including email and mobile

phones, when they were not working constituted a group at risk for technostress. Further more, older women with partners and children, who used cell phones and spend more time with ICTs when they were not working, were more likely to feel ineffective when using ICTs. Additionally, a study conducted by Pociño and Garcia (2008) aiming to investigate technostress and associated factors among workers in technology companies, has found that women developed more feeling of disbelief, and men develop more fatigue, anxiety and ineffectiveness. The same result was observed in the participants who are between 23 and 32 years old. Married workers presented higher levels of disbelief and fatigue, and single workers, higher levels of anxiety and ineffectiveness. Staying in front of a computer for more than 75% of one's working time was associated with all the dimensions of technostress. Researchers have also noted possible protective factors, including self-efficacy.

One important issue related to stress, which can also be thought of in the contexts of technostress, relates to these ICT workers' satisfaction with life, experience using ICT, as well as to the ways their careers are projected and their commitment to them. For example, Çoklar and Sahin (2011) study suggests that technostress can be higher in older individuals, which can be understood as a factor of more contact with ICT. Although age groups differences were found in the investigation, cultural influences were discussed. For instance, individuals aged 31 years-old or above may differ in comparison with younger ones because they may have less time to spend updating themselves. In addition, the amount of time spent with work-related activities may influence the ability to deal with ICT issues. Even though, in terms of gender, there is a better balance in domestic and family roles nowadays, reconciling the involvement with work and family demands is still a challenge for workers (Grzywacz & Marks, 2000). The constant connectivity makes it harder to distinguish home and work contexts, thus hindering the ability to balance work and life (Tarafdar et al., 2011). Previous study has shown that both work-family conflict and family-work conflict resulted in elevated problems with technostress (Leung & Zhang, 2017).

Other variables may shape the incidence of technostress, such as the level of acceptance of the use of technologies in the workplace, professional expectations, and the way one's career is built (Salanova et al., 1999). Such situations may also relate to the commitment and dimensioning that professionals attribute to their professional careers. Technostress-related conditions usually make professionals less committed to the goals and values of the organizations they work for. In addition, job dissatisfaction and lack of organizational commitment causes damages to the performance of employees and, therefore, represent a substantial increase in cost to companies. Even though ICT workers have received attention from different researchers, there is still a lack of knowledge about sociodemographic and labor issues, technostress, career and satisfaction with life among these professionals. The current study aimed to examine the incidence of technostress amongst a cross-section of adults, analyzing if there are gender and age differences on the study variables. Specifically, based on previous report showing a positive and reciprocal link between work and family conflicts to technostress (Leung & Zhang, 2017), it was also hypothesized that work-family and family-work conflicts would be associated with increased reporting of technostress.

## Methods

### *Participants and procedures*

This study recruited a sample of 234 Brazilian participants, working across a variety of jobs and levels. Participants age ranged from 18 to 60 years old ( $M=36.22$ ;  $SD=10.88$ ), and 58% were female. Of the whole sample, 55.5% were single, 59.8% had no children and 89.1% had a graduate degree. Occupational activity of the sample were technicians / programmers (30.5%), managerial roles (16.2%), teachers (17.2%), liberal professionals (e.g. individuals who perform their own professional activities as lawyers, clinical psychologists, etc.), (15%) administrative functions (14.6%) and trade workers (4.3%). Participants' average number of years of professional experience was 16 years ( $SD=10.69$ ) and 11 years of experience working

with ICTs ( $SD=7.64$ ). The average amount of daily hours working with ICTs in the organization was 7.26 ( $SD=3.37$ ). Participants were recruited using a Respondent Driven Sampling (RDS) method, in which the first participants (1st wave) sent the invitation to new participants (2nd wave), until the desired sample size was reached. This technique allows reaching a large number of participants with similar characteristics who have the technology required to access the instruments (Goel & Salganik 2009). Data collection occurred from April to August 2013. Research ethics committees of the Pontificia Universidade Católica do Rio Grande do Sul (Brasil) approved the study.

#### *Measures*

The following self-report instruments were used to achieve the goals of this study.

*Sociodemographic questionnaire* (e.g., gender, age, marital status, children, education) and working variables (e.g., occupation, time working, time working with ICTs, number of hours of daily work with ICTs);

*Scale of Technostress* (RED/TIC; Salanova et al., 2004), adapted for use in Brazil by Carlotto and Câmara (2010). The scale consists of sixteen items that assess technostress from a four-dimension theoretical model: a) Disbelief -feeling that the use of ICTs is not beneficial to one's work (four items;  $\alpha = .74$ ); b) Fatigue -evaluates mental and cognitive tiredness due to the continuous use of ICTs (four items;  $\alpha = .89$ ); c) Anxiety - tension regarding the use of ICTs (four items;  $\alpha = .77$ ); and d) Ineffectiveness - negative feelings about one's own abilities and competence to use ICTs (four items;  $\alpha = .80$ ). All items are scored on a seven-point Likert scale, ranging from 0 (not / never) to 6 (always / every day). The final score of each dimension is given by averaging the responses of its items. Technoanxiety consists of the mean scores for the dimensions of anxiety, disbelief and ineffectiveness, and Technofatigue consists of the dimensions fatigue, disbelief and ineffectiveness. This measure has shown robust replicability across different samples, confirming

its four-factor structure (Carlotto & Câmara, 2010; Salanova et al., 2004).

*Career Commitment Scale* (CCS; Carson & Bedeian, 1994), adapted for Brazil by Magalhães (2013), to assess individuals' motivation to contribute to their development as workers in a certain field of activity. The scale is composed of 12 items distributed among 3 dimensions: Planning (four items:  $\alpha = .74$ ), Identity (four items:  $\alpha = .77$ ) and Resilience to career (seven items:  $\alpha = .72$ ). Responses are indicated on a 5-point Likert scale, indicating different degrees of agreement with the statements, ranging from 1 (strongly disagree) to 5 (strongly agree). The resilience subscale contains inverted items, which means that higher scores on this dimensions represent less resilience to career. 4. Scale of Satisfaction with Life (SWLS; Diener et al., 1985), adapted to Brazilian context by Giacomoni and Hutz (1997). It is a unidimensional scale (five items;  $\alpha = .86$ ) that assesses how satisfied people are with their lives through a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). 5. Work-Family Interaction Scale (WFIS; Paschoal & Tamayo, 2005), which consists of fourteen items distributed between two factors: the impact of family on labour (seven items:  $\alpha = .78$ ) and the impact of work on the family (seven items:  $\alpha = .82$ ). Each factor consists of seven items evaluated on a frequency scale ranging from 1 (never) to 5 (often).

#### *Data analysis*

The statistical software PASW, version 17 (SPSS/PASW, Inc, Chicago, IL), was applied to perform the data analysis. Descriptive statistics were used to calculate frequencies, mean scores and standard deviations. We employed t tests to compare the groups considering the variables gender, age, and length of employment. The last two variables are categorized according to the median value, with the significant p value  $\leq 0.05$ . The effect size was calculated by the standardized mean difference between the two groups (Cohen's *d*), which considers 0.2 as a value that indicates a small effect; 0.5, a medium effect; and 0.8 a large-sized effect (Cohen, 1992).

## Results

Table 1 shows the means, standard deviations and alpha values of the variables under study. Higher mean values were found for the following dimensions: technoanxiety, identity with one's career and work-family interaction; Satisfaction with life has evidenced a high mean index. The means were evaluated considering the rating scale for each dimension.

Table 2 shows the association between the variables under study. Results show that the higher the technofatigue, the greater the technoanxiety. This is a strong and positive correlation. Insofar as career planning increases, there are smaller levels of technoanxiety and technofatigue and greater levels of career identification. It has also been found that the elevated reports of problems in the domain of Career/Resilience resulted in more technoanxiety and technofatigue, and less identify and planning towards the career. With increasing satisfaction with life, the three dimensions of commitment to the career also increase and technoanxiety and technofatigue decrease. Work-family and family-work conflicts increase the two dimensions of technostress and resulted also in more self-report problems with resilience.

The results obtained by comparing the groups reveal that compared with men, women have higher identity and planning regarding their careers, greater satisfaction with life and greater levels of conflict in work-family interactions. The effect size, calculated by Cohen's *d* for significant results, varied from .28 to .45, regarded as a medium effect (Table 3).

The comparison of the groups according to age group indicates that professionals in the age group from 35 to 60 years have higher identity with their career and satisfaction with life. The effect size, calculated by Cohen's *d* for significant results, may be regarded as medium (.48) (Table 4).

The comparative analysis of the groups considering the length of employment revealed that workers with over 10 years of work experience have greater identity with their career and higher levels of conflict in family-work interactions. The effect size, calculated by Cohen's *d* for significant results, ranged from .25 to .39, revealing a medium effect (Table 5).

When the variables of Career/Identity, Career/Planning, Career/Resilience Problems, Satisfaction with Life, Work-Family Conflict, and Family-Work Conflict were entered into multiple regression

Table 1  
*Descriptive statistics and Cronbach's alphas for all the variables (n = 234)*

Variables	<i>n</i>	<i>M</i>	<i>SD</i>	$\alpha$
Technostress (0 – 6 points)				
Technoanxiety	234	1.51	.90	.81
Technofatigue	234	1.33	.91	.78
Career Commitment (1- 5 points)				
Identity	233	4.11	.80	.73
Planning	233	3.91	.91	.80
Resilience Problems	233	2.98	1.08	.86
Satisfaction with Life (1- 7 points)	233	4.85	1.27	.85
Work-family Interaction (1-5 points)				
Work-Family Conflict	232	2.68	.74	.81
Family-Work Conflict	232	2.05	.60	.80

Table 2

*Correlations between technostress, career commitment, satisfaction with life and work-family*

Variables	1	2	3	4	5	6	7	8
1. Technoanxiety	1							
2. Technofatigue	.90**	1						
3. Career/Identity	-.04	-.06	1					
4. Career/Planning	-.23**	-.23**	.50**	1				
5. Career/Resilience problems	.42**	.40**	-.22**	-.28**	1			
6. Satisfaction with Life	-.22**	-.19**	.36**	.32**	-.03**	1		
7. Work-Family Conflict	.46**	.39**	.13	.03	.37**	-.09	1	
8. Family-Work Conflict	.24**	.23**	.03	.02	.21**	-.03	.38**	1

\*  $p < .05$ ; \*\* $p < .01$ 

Table 3

*Comparison between technostress, career commitment, satisfaction with life and work-family interaction according to gender*

Variables	Gender	N	M	SD	t	p	d
Technoanxiety	female	137	2.41	1.46	1.814	.07	.24
	male	96	2.07	1.37			
Technofatigue	female	137	1.71	1.26	-.115	.90	.01
	male	96	1.73	1.28			
Career/Identity	female	136	4.26	.74	3.390	.001	.45
	male	96	3.90	.85			
Career/Planning	female	136	4.02	.90	2.183	.02	.28
	male	96	3.76	.92			
Career/Resilience problems	female	136	3.00	1.14	.420	.67	.04
	male	96	2.95	1.01			
Satisfaction with Life	female	137	5.03	1.27	2.640	.00	.34
	male	95	4.59	1.27			
Work-Family Conflict	female	137	2.77	.73	2.119	.03	.28
	male	94	2.56	.75			
Family-Work Conflict	female	137	2.04	.59	-.388	.69	.05
	male	94	2.07	.60			

\*  $p < .05$ ; \*\* $p < .01$ ;  $d$  = Effect size Cohen's  $d$

models predicting technostress domains, interesting patterns emerged (Table 6). Specifically, for the model predicting technoanxiety, the variables work-family conflict ( $\beta = .48$ ), satisfaction with life ( $\beta = -.11$ ) and career/resilience problems ( $\beta = .14$ ) reached statistical significance ( $F(6,243)=21.39, p < .001, R^2 = .33$ ). For technofatigue, the significant predictors were work-family conflict ( $\beta = .40$ ) and career/resilience problems ( $\beta = .20$ ), explaining 27% of the variance ( $F(6,243)=16.02, p < .001, R^2 = .27$ ).

## Discussion

ICTs have become part of all social groups and have created new ways of working (Yan et al., 2013). Technological evolution is not limited only to the invention of products and to advancements due to new processes and equipment, it also relies on the thoughts and behaviours of those individuals who work with that technology. This study sought to better understand the incidence of technostress amongst a broad sample of adults, and aimed to identify the association between

Table 4.

*Comparison between technostress, career commitment, satisfaction with life and work-family interaction according to age*

Variables	Age (years)	N	M	SD	t	p	d																																																																																
Technoanxiety	18-34	120	1.43	0.81	-1.501	.13	.18																																																																																
	35-60	111	1.60	0.99				Technofatigue	18-34	120	1.25	0.82	-1.497	.13	.20	35-60	111	1.43	1.00	Career/Identity	18-34	120	3.94	0.89	-3.638	.00	.48	35-60	111	4.32	0.66	Career/Planning	18-34	120	3.87	0.95	-.806	.42	.11	35-60	111	3.97	0.88	Career/Resilience problems	18-34	120	2.95	1.07	-.458	.64	.06	35-60	111	3.02	1.12	Satisfaction with Life	18-34	120	4.69	1.25	-2.110	.03	.28	35-60	111	5.04	1.29	Work-Family Conflict	18-34	120	2.65	0.72	-1.006	.31	.13	35-60	111	2.75	0.77	Family-Work Conflict	18-34	120	1.99	0.61	-1.692	.092	.22
Technofatigue	18-34	120	1.25	0.82	-1.497	.13	.20																																																																																
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\*  $p < .05$ ; \*\*  $p < .01$ ;  $d$  = Effect size Cohen's  $d$

Table 5

*Association between technostress, career commitment, satisfaction with life and work-family interaction according to time working ICTs*

Variables	Timeworking ICTs (years)	N	M	SD	t	p	d																																																																																
Technoanxiety	0-10	129	1.43	.83	-1.304	.19	.17																																																																																
	+10	96	1.58	.91				Technofatigue	0-10	129	1.25	.82	-1.357	.17	.18	+10	96	1.41	.94	Career/Identity	0-10	128	4.03	.90	-1.950	.05*	.25	+10	96	4.23	.66	Career/Planning	0-10	128	3.95	.93	.701	.48	.10	+10	96	3.86	.91	Career/ Resilience problems	0-10	128	2.96	1.05	-.426	.67	.05	+10	96	3.02	1.12	Satisfaction with Life	0-10	128	4.80	1.28	-.646	.51	.08	+10	96	4.91	1.27	Work-Family Conflict	0-10	127	2.64	.77	-1.023	.30	.14	+10	96	2.74	.70	Family-Work Conflict	0-10	127	1.95	.57	-2.793	.001	.39
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	+10	96	1.41	.94				Career/Identity	0-10	128	4.03	.90	-1.950	.05*	.25	+10	96	4.23	.66	Career/Planning	0-10	128	3.95	.93	.701	.48	.10	+10	96	3.86	.91	Career/ Resilience problems	0-10	128	2.96	1.05	-.426	.67	.05	+10	96	3.02	1.12	Satisfaction with Life	0-10	128	4.80	1.28	-.646	.51	.08	+10	96	4.91	1.27	Work-Family Conflict	0-10	127	2.64	.77	-1.023	.30	.14	+10	96	2.74	.70	Family-Work Conflict	0-10	127	1.95	.57	-2.793	.001	.39	+10	96	2.17	.58								
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Note. \*  $p < .05$  \*\* $p < .01$ ;  $d$  = Effect size Cohen's  $d$

technostress, career commitment, satisfaction with life, and work-family interaction as between the variables gender, age, and time working with ICTs in workers on information and communication technologies.

Our results show that women have a greater identity with their careers and also higher planning regarding their careers than males. They also report greater satisfaction with life, but also greater conflict in work-family interactions than the males sampled here. According to Valenduc (2011), gender gaps among ICT professions need a fresh approach in terms

of occupational trajectories and life cycles, allowing better integration of issues concerning education and training, recruitment, working conditions, careers, and professional mobility. The current workplace has been increasingly incorporating more women in different ICT work contexts (Gillard et al. 2008). Women have described their work with technologies as being creative, exciting, and fascinating, and as a source of satisfaction and heavy investment in the conception of career with planning in terms of technical education and additional relational training, which has given them greater competitive advantage (Valenduc, 2011). The intrinsic



Table 6

*Predictors of technostress dimensions among workers in Information and Communications Technologies.*

	Technoanxiety				Technofatigue			
	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>
Constant	-.15	.61	-	.794	-.43	.55	-	.437
Career/Identity	.88	.11	.05	.430	.06	.10	.04	.515
Career/Planning	-.09	.09	-.06	.319	-.10	.09	-.08	.224
Career/Resilience problems	.20	.08	.14	.019	.24	.08	.20	.003
Satisfaction with Life	-.13	.06	-.11	.045	-.05	.06	-.05	.403
Work-Family Conflict	.93	.12	.48	.001	.66	.11	.40	.001
Family-Work Conflict	-.01	.14	-.02	.976	.05	.13	.02	.681

importance of occupational roles to individuals, which is a component of identity, associated with the dynamic, longitudinal efforts to pursue goals (planning dimension) may result into greater job satisfaction.

Greater satisfaction with life and vice versa can result from people's identification with their careers and job satisfaction (Iverson, 2000). On the other hand, an investment in career implies greater family conflict. Career fragmentation, according to Valenduc (2011), is more common in women mainly because of motherhood and childcare. The social context makes it more difficult for women to find the ideal balance between work and private or family life. The still unequal division of male and female roles in society in general, particularly in family matters, is unfavorable to women's careers in professions that require availability and predictability, such as those involving ICTs. Thus, technostress may be a possible consequence of the combination of women's roles in the family, organizational, and societal contexts.

Regarding age, results indicate that professionals between 35 and 60 years old report great identity with their career and higher satisfaction with life. ICT professionals often develop a strong personal involvement with their work and have a tendency to learn throughout life; they identify with a profession or a specialized field instead of a company or institution (Valenduc, 2011). Older workers with highly complex

jobs have also been reported to be better at staying focused on career opportunities (Zacher et al., 2010). These issues may explain a greater maturity in respect to the vocational option, resulting in better balance and greater satisfaction with life.

The comparative analysis of the groups considering the time worked revealed that workers with more than 10 years of work have greater identity with career and greater conflict in the work-family interaction. The longer time working in activities that involve technology may contribute to strengthen the conception of identity, which, as described by London (1983), refers to how much individuals define themselves through the work they do, the desire for growth and recognition in their field. In this sense, professionals' self-knowledge regarding their strengths and weaknesses result in a personal assessment that will be able to set realistic career goals to individuals.

Regression models showed that work-family conflict, satisfaction with life, and career/resilience problems significantly predicted technoanxiety. In this sense, elevated reports of work-family conflicts, reduced satisfaction with life and reduced resilience ability resulted in more technoanxiety. Similar pattern was identified in regards to resilience problems and work-family conflict in predicting technofatigue. Hence, our findings are in line with previous work linking technostress and work-family conflict (Harris et al., 2015; Lee et al., 2016). As

pointed out by Harris et al. (2015), the increased amount of information available, combined to the possibility of being reached almost instantly by the use of ICT's creates a scenario characterized by intense overload to workers. Therefore, a sense of being continuously connected to the organization leads to elevated complains regarding personal and familiar lives (Lee et al., 2016). We have also identified that workers who display less focus on attitudes and behaviour that seek to overcome problems at work and with less self-confidence to overcome adversities present higher technostress, both in terms of technofatigue and technoanxiety. However, what marks the difference between the predictors of technofatigue and technoanxiety is satisfaction with life.

#### *Limitations and strengths of the study and implications for practice*

The results of this study should be considered in the light of some limitations, such as the cross-sectional design and its exploratory nature. Future studies, preferably with longitudinal designs, should be conducted in order to identify possible casual effects between technostress and career commitment, satisfaction with life, and work-family interactions.

One of the strengths of the present study is that it utilized a strong theoretical basis, using reliable and valid instruments to collect data. Regarding sample size, it was sufficient to provide power for a significant effect size in the statistical analyses. Finally, the effect sizes found fit those recommended by Cohen (1988).

This investigation contributes to the development of theoretical knowledge in the area of work and ICTs and confirms findings from different cultures, making major developments to the scope of the study. Furthermore, the findings have important implications for occupational psychology, applied practitioners, and administrative managers working in the technologies context, mainly for Latin-American contexts and in Brazil particularly. The results might be used to shed light on possible applied interventions for workers in Information and Communications Technologies, targeting specific at-risk groups. Hence, our findings recommend preventive and intervening actions to develop a better management of

the relationship between work and family for women and people that have been working with ICTs for over 10 years. Additionally, issues regarding satisfaction with life seem to be particularly relevant for interventions with workers who are under 35 years old in this context. In addition, it has been identified that work-family conflict is the stronger predictor of both technofatigue and technoanxiety, and it also predicted disbelief and ineffectiveness. Hence, these issues might be particularly interesting in projecting interventions for ICT workers, and should be taken into account in further research.

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