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**Review Article**

# Teleworking and its relationship with workplace technostress post COVID-19

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**RESUMEN**

The overwhelming use of information and communications technologies (ICT) that is being implemented in organizations makes it necessary to analyze the effects of teleworking on employees. The objective of this review was to analyze the scientific literature published on the relationship between teleworking and work-related technostress in the post-COVID-19 context. The method used had a qualitative approach, carrying out a systematic review that respected the PRISMA guidelines. 20 empirical investigations found in Scopus and Google Scholar were analyzed, published between 2019 and 2023. The results categorically indicate that there is a close relationship between teleworking and work-related technostress. The factors are social isolation, complex software, conflict between work and the personal environment, the absence of interpersonal relationships, and technological uncertainty. Therefore, it is suggested that organizations promote work autonomy and effective self-leadership, in addition to considering measures such as training in the use of digital platforms, the implementation of high-quality software that allows better interaction, and the organization of periodic face-to-face activities.

**Keywords:** teleworking; technostress; work performance; information; communications technology.

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## INTRODUCTION

In these times, where globalization has united the entire planet, now that all people are connected by networks and information flows between individuals and organizations, the use of these digital tools in the workplace is becoming increasingly common. During the COVID-19 pandemic, teleworking was intensified as a security measure to avoid contagion. This modality allowed remote work, considerably reducing deaths caused by this virus. The constant use of digital platforms brought with it some negative consequences on the health and performance of employees. In this research, the most relevant aspects of teleworking and its relationship with work-related technostress will be analyzed.

Teleworking is a way of working in which employees can connect via networks from different places, taking advantage of information and communications technologies to perform their tasks from any device (Metselaar *et al.*, 2022). From this concept, remote work is relevant for organizations and individuals in the current era of information and communications technology, offering benefits such as independence from work centers, reduction of long trips and the opportunity to exploit digital tools. (Wang *et al.*, 2021). Given these statements, it follows that teleworking can be very positive for companies. Regarding psychological indicators, noticeably positive effects related to autonomy and a lower disparity between work and family are observed (Gajendran & Harrison, 2007).

Likewise, more and more organizations are adopting this form of remote work, which, in most cases, obtains favorable results in terms of productivity. However, as pointed out by Wang *et al.* (2023), collateral effects in workers in the long term are not given the necessary importance, such as technostress and telepressure. It is important to clarify that the word telepressure is recognized by the Royal Spanish Academy. However, this term has gained notoriety in scientific research related to teleworking. Authors such as Barber and Santuzzi (2015) define it as the constant concern to respond quickly to messages from clients and colleagues. Van Laethem *et al.* (2018) found in their research that the greater the telepressure, the lower the work performance.

The use of information and communications technologies, excessively long working hours, work-life balance, social isolation, job autonomy, loneliness, anxiety, tendency to rotate, and software quality are variables that are interrelated with teleworking and technostress. In this sense, teleworking is closely related to technostress, which occurs when employees make constant use of technology (Rapaccioli *et al.*, 2021). Some alternatives to reduce technostress include adequate training that allows efficient use of the company's digital platforms, work autonomy consistent with the employee's time and responsibilities, and effective self-leadership (Adamovic, 2022).

Technostress perceived by employees substantially reduces work performance in organizations (Adekanmbi and Isioma, 2022). For people adapted to the traditional (in-person) work modality, the acceptance of technology in their daily tasks is a major effort that becomes a skillful alternative to mitigate telepressure and technostress (García-Salirrosas and Millones- Liza, 2023).

Teleworking, from several perspectives, has an impact on the work performance of individuals and organizations (Galanti *et al.*, 2021). Therefore, in organizations that promote teleworking, it is important to take into account mechanisms that improve work productivity (Kazekami, 2020). Some strategies to achieve this include adequate work hours, software quality, social incorporation, and training workshops.

Considering that we are in the fourth industrial revolution, which affects various aspects of life, but especially employment (Pernías Peco, 2017), organizations could take into account how technostress affects teleworking and evaluate actions to increase performance levels of their staff. The objective of this review was to analyze the scientific literature published regarding teleworking and its relationship with work technostress in the post-COVID-19 context.

This paper has some limitations. Firstly, the research was carried out during a specific

period, from the beginning of the pandemic to the present. Therefore, it cannot be assured that the conclusions are applicable to previous periods. Secondly, a qualitative-descriptive methodology was used that does not include numerical measurement of data. This means that no type of causal relationship between the variables could be determined. Finally, most of the selected papers come from the United States, Europe and Asia. Consequently, it cannot be assured that the results are applicable to other countries.

## METHOD

This research paper presents a systematic review of the published scientific literature on teleworking and its relationship with technostress in the post-COVID-19 context (Adamovic, 2022). For its preparation, the PRISMA statement guidelines were followed for an appropriate methodology of systematic reviews (Moher *et al.*, 2009).

The systematic search was carried out in Scopus due to its wide coverage (scientific journals from various subject areas), international recognition, high quality information and analysis tools (specific search of scientific literature), as well as Google Scholar as a download and translation facilitator of papers, taking into account the results in the period between 2019 and 2023. Term selection that led to better results in both search engines was the following: ("TECHNOSTRESS") AND ("TELECOMMUTING") AND PUBYEAR > 2019 AND PUBYEAR < 2024 AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (EXACTKEYWORD, "COVID-19")). 115 results were obtained in Scopus with the "paper" filter applied. Additionally, the Google Scholar platform was used as a tool to download the aforementioned research. Prior to the selection of papers, the inclusion and exclusion criteria were defined.

### Inclusion criteria

- **Type of investigation.** Only experimental research will be considered, bibliographic reviews, books and manuals are excluded.
- **Context**. The research must be oriented to the context of teleworking.
- **Use of digital tools.** The research must be related to the use of digital tools.
- **Impact.** The research must have been cited in at least 50 scientific publications.

### Exclusion criteria

- **Job performance.** Research that does not evaluate job performance in the context of teleworking is excluded.
- **Organizational productivity.** Studies that have no relationship between teleworking and organizational productivity are excluded.
- **Information technologies.** Studies that do not consider the use of information technologies are excluded.
- **Gender.** Research that does not consider the impact of teleworking on employees of both genders is excluded.

According to these criteria, and only by reading the title, 63 papers were selected as potentially relevant. Subsequently, the summaries of these papers were analyzed and 43 were excluded, mainly for focusing on contexts other than job performance, teleworking, and technostress. Finally, 20 papers that met the inclusion criteria were selected to carry out the systematic review.

## RESULTS

Below is an analysis that follows a sequential and logical order to facilitate the understanding and integration of the 20 selected papers. Most of these papers describe the overwhelming use of technological means in the workplace and, therefore, the development of technostress in workers.

Salazar-Concha *et al.* (2021) state that technostress originates from the emergence of new challenges and opportunities that allow workers to develop their skills to more quickly integrate into the use of new technologies. Tams *et al*. (2020), by collecting data from 601 workers, conducted a conditional process analysis, which integrates moderation and mediation analysis. The results describe the role

of mobile technology in work and life conflict. Furthermore, they mention the perceived interruption overload, as well as the conflict of technostress with the use of ICT.

On the other hand, Singh *et al.* (2022), using a sample of 306 employees, investigated how the excessive use of technology in both work and personal activities can cause technostress, inducing an increase in psychological tensions and a decrease in well-being. Harris *et al.* (2022), with a sample of 253 people who used technology to complete their work during two periods of time, revealed that technological overload and invasion are significantly related to greater turnover intentions, greater work-family conflict, and technostress invasion.

In the current context, marked by rapid technological advancement and the intensified use of the Internet that was enhanced during the COVID-19 pandemic, companies of all sizes and sectors are facing digital transformation. This process involves the creation of new jobs with a high digital component, which requires the implementation of technological solutions to achieve organizational efficiency and effectiveness (García-Salirrosas and Millones-Liza 2023, p. 208). Furthermore, Kniffin *et al.* (2021) mention that after the COVID-19 pandemic, with the work-from-home modality, social connections were lost, which negatively affected workers. However, more insidious than the loss of social connections is loneliness, as it is a painful emotion regarding intimate and social relationships.

Additionally, Taser *et al.* (2022) collected data from 202 workers using the survey method. This questionnaire contained four scales: Work life, technostress, loneliness, and work flow. The research results indicate that, in the context of teleworking and the circumstances forced by the COVID-19 pandemic, employees have been exposed to multiple technologies, which has created anxiety, loneliness and technostress. However, Wang *et al*. (2021), using survey data administered to 522 employees who worked from home during the pandemic, demonstrated that feelings of loneliness are a major challenge among teleworking people due to the reduction in informal social interactions. In addition, a surprising link was found between loneliness and job autonomy, since the latter improves people's motivation, strengthens confidence and encourages proactive behavior.

On the other hand, Torres (2021), with a sample of 360 employees who use ICT to carry out their tasks and functions full-time, describes five stressors:

- **Technological overload.** Constant exposure to more information than they can handle.
- **Technological invasion.** Digital reach anytime, anywhere.
- **Technological complexity.** Difficulty learning to use new technologies.
- **Technological insecurity.** Competitiveness regarding new knowledge in the use of ICT.
- **Uncertainty.** Constant ICT updates.

Similarly, Molino *et al.* (2020) investigated technostress generated by the COVID-19 pandemic, conducting an online survey of 749 participants. They found that three of the five factors found by Torres (2021) influence technostress: Overload, invasion and technological complexity. This confirms the need to address an analysis of the massive use of technologies for work purposes and its negative consequences.

From another perspective, Ewers and Kangmennaang (2023), after conducting a 20-minute, 79-question online survey of 1,450 working-age adults working remotely, found that teleworking has transformed the dynamics of work and living space. Moreover, to measure technostress, they took into account the harmful elements derived from problems with technology. The results showed that a quarter of workers experienced technological irritation or frustration, physical discomfort, and invasion of the boundaries between work and personal life. This negatively affected organizational performance, as studied by Adekanmbi and Isioma (2022). Their conclusion was that there is a significant impact between job insecurity and technostress in reducing the sustainabili-

ty of organizational performance. Therefore, it is recommended that managers promote workplace connectivity and adequate technological infrastructure to improve the well-being and productivity of companies.

Camarena and Fusi (2022), through surveys administered to 2,500 local government managers, analyze the impact of the use of ICT on technostress, considering both individual and organizational practices. The results indicate that the professional use of ICT increases technostress, although organizational policies and guidelines can mitigate it. Similarly, Boccoli *et al.* (2022), through a survey administered to 1,550 workers, addressed the challenges of remote work that arose during the COVID-19 pandemic and found that temporal flexibility and job autonomy improve workers' work and life balance. Likewise, Al-Kharabsheh *et al*. (2023) determined that skilled employees who are aware of their level of performance are motivated to exhibit higher levels of job performance.

From another perspective, Califf *et al.* (2020) investigate how technostress can be both positive and negative. They find that usefulness and facilitation of participation are related to high levels of positive psychological states, while overload and insecurity are related to high levels of negative psychological states. For Korzynski *et al.* (2021), the experience of technostress varies significantly between individuals due to personality differences. They propose addressing technostress when assigning responsibilities and creating guidelines when using ICT at work.

Adamovic (2022), through a three-round survey applied to 604 teleworkers, obtained the first finding that the impact of teleworking is related to the hierarchical level in the organization and the individualism of each employee. The second finding found was that working from home (teleworking) only generates technostress when there is social isolation.

However, Li *et al.* (2021) investigated the relationships between specific inhibitors of technostress (literacy facilitation, provision of technical support and participation facilitation) and creators (techno-overload, techno-complexity, techno-insecurity and techno-uncertainty) and their impacts on job performance. Spagnoli *et al.* (2020) state that authoritarian leadership could be detrimental and increase employees' technostress.

In summary, of the papers selected for the review, the following categories and subcategories were determined: information and communications technologies, excessively long hours, personal and work balance, social isolation, work autonomy, loneliness, anxiety, uncertainty and software quality. These categories and subcategories will be described in the following tables.

Table 1 shows references that demonstrate that employees who are working outside the formal work environment, through the use of mobile devices connected by networks, carry out their work obligations with intensive use of technology. However, they experience technostress due to work-related adapting problems, which negatively affects the productivity levels of organizations (Al-Kharabsheh *et al.,* 2023).

Furthermore, work technostress influences the efficiency levels of teleworking, since in this state of tension, employees carry out poor activities that will have a negative impact on their work performance indices (Kazekami, 2020). This state of mind will also have negative consequences on the health and well-being of staff, which is unfavorably related to the objectives of companies (Shirmohammadi et al., 2022).

In summary, it is vital to recognize the close relationship between teleworking and technostress to implement measures that can improve these variables and promote a healthy work modality. In this era of technological boom, one could consider holding training workshops on virtual platforms, holding regular in-person meetings, establishing connectivity limits on electronic devices, and defining appropriate work schedules (Gajendran et al., 2014).

It is important to note that people, by feeling overwhelmed by technological overload and participating in training on virtual platforms, could maintain an "active state" that would break the boundaries between their work and personal environments, which could affect

their health. According to Galanti et al. (2021), promoting self-leadership in conjunction with work autonomy could be an alternative solution so that the teleworking modality can be carried out in a planned manner based on objectives.

For all of the above, it is extremely important that managers link teleworking with technostress and adopt more effective control measures (Ewers and Kangmennaang, 2023). Organization leaders should establish teleworking norms or policies that mitigate the stressors that, according to Ragu-Nathan et al. (2008), include overload, invasion, complexity, insecurity, and technological uncertainty, which could result in better employee performance.

In line with Table 2, job autonomy is directly related to technostress, since people enjoy greater independence in the methods and decisions for carrying out their work. This form of flexible working allows employees to balance their personal and work lives, which translates into lower levels of technostress. According to Galanti et al. (2021), autonomy is positively associated with the commitment and work productivity of organizations (p. 7).

With the widespread use of teleworking, social connections between colleagues are also being lost, which are essential for good physical and mental health (Kniffin *et al*., 2021). Loneliness is a feeling of sadness that harms job performance and originates from the lack of interaction between workers, which also implies a lack of affection, appreciation and signs of recognition, which are elements of utmost importance.

Currently, organizations have a constant dependence on information and communications technologies; They are increasingly attentive to new digital platforms that can optimize their processes and improve production levels. However, these technological innovations mean that teleworkers are trained and, above all, subject to staying "active." This state of alert causes anxiety, a state of agitation, restlessness or anxiety, very common in these

**Table 1**
*Category and subcategories of teleworking*

| Category | Subcategory | Content |
|---|---|---|
| Teleworking | Information and communications technologies | Due to the nature of remote work and the new conditions of working on digital platforms, employees perceived greater technostress (Taser *et al*., 2022). |
| Teleworking | Too many hours | Too many hours affect the balance between work and domestic tasks, increasing technostress (Kazekami, 2020). |
| Teleworking | Personal and work balance | With teleworking, long trips, unsafe places and comfortable environments were avoided, allowing for more family-time and reducing technostress (Boccoli *et al.,* 2022) |
| Teleworking | Social isolation | Company managers must take into account social isolation as an obstacle to the work performance of their workers and as a facilitator of technostress (Galanti *et al*., 2021). |

*Note.* Adapted from Taser *et al*., 2022; Kazekami, 2020; Boccoli *et al.,* 2022; Galanti *et al*., 2021.

**Table 2**
*Category and subcategories of work technostress*

| Category | Subcategory | Content |
|---|---|---|
| Work technostress | Work autonomy | Teleworkers with greater autonomy, that is, with independence in the methods and decisions for their work, show greater job satisfaction and lower levels of technostress (Metselaar *et al*., 2022). |
| Work technostress | Loneliness | The rules of teleworking in organizations affect the increase or decrease in stress, which has a directly proportional influence on the level of loneliness (Taser *et al*., 2022). |
| Work technostress | Anxiety | Being "always active", teleworkers do not set limits between their work and personal sphere, generating anxiety and increasing technostress (Ewers and Kangmennaang, 2023). |
| Work technostress | Uncertainty | Teleworking subject to ICT is constantly changing, which creates technostress due to the uncertainty of technological innovations (Torres, 2021). |
| Work technostress | Software quality | Lower quality software provides people with lower levels of interaction and increases technostress (Kuruzovich *et al*., 2021). |

*Note.* Adapted from Metselaar *et al*., 2022; Taser *et al*., 2022; Ewers and Kangmennaang, 2023; Torres, 2021; Kuruzovich *et al*., 2021.

technological times, which affects the health of individuals (Fernández Sánchez *et al.,* 2018).

On the other hand, Torres (2021) suggests that uncertainty, as a factor of technostress, is supported by the fourth industrial revolution due to the overwhelming technological advance that causes a gap in employee updates. They feel that their knowledge can become obsolete because they are not sure how much effort and time it will take to learn new technologies and thus achieve job competitiveness in the market.

With the COVID-19 pandemic and the massive use of teleworking, organizational commitment and job performance have been negatively affected (Kuruzovich *et al*., 2021). Teleworking systems are deficient in their ability to facilitate social exchange. It is considered that high-quality software and telepresence could have a positive impact on employee technostress, by giving greater emphasis to virtual spaces shared through audio and video, thus improving social exchange that provides a broad vision to understand the employee's relationship with the organization.

From the previous paragraphs, a prevailing need is observed in these technological times: organizations must consider the relationship between teleworking and technostress. This consideration is crucial so that they can adopt alternatives that optimize teleworking, minimize technostress and prevent it from affecting people's work performance. It is important to remember that technology advances at an accelerated pace and the performance of the human factor is subject to it.

## DISCUSSION

Technostress is an increasingly relevant phenomenon in the workplace, especially in a context of rapid technological evolution. Salazar-Concha *et al*. (2021) point out that technostress arises as a result of new challenges and opportunities that require adaptation to new technologies. This phenomenon can influence work-life balance, as Tams *et al.* (2020) describe by highlighting the conflict generated by mobile technology in this aspect.

The COVID-19 pandemic has accelerated the adoption of digital technologies in the work environment, leading to increased exposure to technostress. García-Salirrosas *et al*. (2023) point out that digital transformation involves the creation of new digital roles and the need to implement technological solutions to improve organizational efficiency. Kniffin *et al*. (2021) highlight that, after the pandemic, loneliness and the loss of social connections have negatively impacted workers.

The excessive use of technology in both the work and personal spheres can trigger technostress, affecting the psychological well-being of individuals, as pointed out by Singh *et al*. (2022). Harris *et al*. (2022) find a significant relationship between technological overload and work-family conflict, which can lead to higher job turnover intentions.

Technostress management is crucial to improving work performance and employee well-being. Torres (2021) identifies stressors related to technology, such as overload, invasion, complexity, insecurity, and technological uncertainty. It is essential to address these aspects to mitigate the negative effects of technostress in the work environment and promote a healthy and productive work environment.

In the current context, where teleworking has become a valuable alternative for companies in terms of less commuting, space and taking advantage of the digital environment, subcategories are derived that the authors cited in Table 1 directly relate to information technology and communications. Such subcategories are personal and work balance, excessive working hours and social isolation. In turn, these subcategories have a significant impact on the levels of technostress, which could be controlled at minimum levels through the rules and policies adopted by organizational managers.

On the other hand, the psychological state called technostress is, without a doubt, a term that has been added to the vocabulary of new generations due to the intense and dependent use of ICTs. In this sense, the technostress analysis category is directly related to work autonomy, loneliness, anxiety, uncertainty and software quality, as described by the authors cited in Table 2. These subcategories, derived from findings in scientific papers, demonstrate a clear route that organizations that promote

teleworking and promote efficiency in employee performance must take into account.

## CONCLUSIONS

- According to the 20 scientific papers that met the inclusion criteria, it has been verified that 80% of the publications mention that these technological innovations have forced employees to undergo constant training and, above all, to remain active. creating a state of tension called technostress.
- Likewise, of the referenced publications, it was found that 100% describe that teleworking is attractive for all organizations due to the savings in space and time, which explains the constant growth of this type of employment.
- In the systematic review, it was observed that there is abundant research regarding work performance, teleworking, and technostress. However, 95% of the papers found come from countries in Europe and Asia, which represents the overwhelming technological industrial transformation that these countries are experiencing and the relevance they assume in the control of external factors due to the teleworking modality.
- Finally, this review has found that all scientific papers conclude that teleworking is positively associated with reducing conflict between work and family, increasing the well-being of employees from this perspective and according to appropriate work schedules.

## REFERENCES

Adamovic, M. (2022). How does employee cultural background influence the effects of telework on job stress? The roles of power distance, individualism, and beliefs about telework. *International Journal of Information Management*. 62. https://doi.org/10.1016/j.ijinfomgt.2021.102437

Adekanmbi, F., and Isioma, W. (2022). Organizational performance in the post-COVID-19 era: The predictors' impacts. *Problems and Perspectives in Management*. 20(3), 274–284. https://doi.org/10.21511/ppm.20(3).2022.22

Al-Kharabsheh, S.; Attiany, M.; Alshawabkeh, R.; Hamadneh, S., and Alshurideh, M. (2023). The impact of digital HRM on employee performance through employee motivation. *International Journal of Data and Network Science*. 7(1), 275–282. https://doi.org/10.5267/j.ijdns.2022.10.006

Barber, L., and Santuzzi, A. (2015). Please respond ASAP: Workplace telepressure and employee recovery. *Journal of Occupational Health Psychology*. 20(2), 172–189. https://doi.org/10.1037/a0038278

Boccoli, G.; Sestino, A.; Gastaldi, L., and Corso, M. (2022). The impact of autonomy and temporal flexibility on individuals' psychological well-being in remote settings. *Sinergie, italian journal of management*. 40(2). https://ojs.sijm.it/index.php/sinergie/article/view/1220

Califf, C.; Sarker, S., and Sarker, S. (2020). The bright and dark sides of technostress: A mixed-methods study involving healthcare it1. *MIS Quarterly: Management Information Systems*. 44(2), 809–856. https://doi.org/10.25300/MISQ/2020/14818

Camarena, L., and Fusi, F. (2022). Siempre conectados: el uso de la tecnología aumenta el tecnoestrés entre los gestores públicos. Revista Americana de Administración Pública, 52(2), 154-168. https://doi.org/10.1177/02750740211050387

Ewers, M., and Kangmennaang, J. (2023). New spaces of inequality with the rise of remote work: Autonomy, technostress, and life disruption. *Applied Geography*. 152. https://doi.org/10.1016/j.apgeog.2023.102888

Fernández Sánchez, A.; Estrada Salvarrey, M., and Arizmendi Jaime, E. (2018). Relación de estrés-ansiedad y depresión laboral en profesionales de enfermería. *Revista de Enfermería Neurológica*. 18(1), 29–40. http://www.revenferneurolenlinea.org.mx

Gajendran, R., and Harrison, D. (2007). The Good, the Bad, and the Unknown About Telecommuting: Meta-Analysis of Psychological Mediators and Individual Consequences. *Journal of Applied Psychology*. 92(6), 1524–1541. https://doi.org/10.1037/0021-9010.92.6.1524

Gajendran, R.; Harrison, D., and Delaney-Klinger, K. (2014). Are Telecommuters Remotely Good Citizens? Unpacking Telecommuting's Effects on Performance Via I-Deals and Job Resources. *Personnel Psychology*. 68(2), 353–393. https://doi.org/10.1111/peps.12082

Galanti, T.; Guidetti, G.; Mazzei, E.; Zappalà, S., and Toscano, F. (2021). Work from home during the COVID-19 outbreak: The impact on employees' remote work productivity, engagement, and stress. *Journal of Occupational and Environmental Medicine*. 63(7), E426–E432. https://doi.org/10.1097/JOM.0000000000002236

García-Salirrosas, E., and Millones-Liza, D. (2023). Aceptación de la tecnología y su relación con el desempeño laboral de los trabajadores. *Revista Venezolana de Gerencia*. 28(9), 199-214. https://doi.org/10.52080/rvgluz.28.e9.13

Harris, K.; Harris, R.; Valle, M.; Carlson, J.; Carlson, D.; Zivnuska, S., and Wiley, B. (2022), Technostress and the titled employee: impacts on work and family. *Information Technology & People*. 35(3), 1073-1095. https://doi.org/10.1108/ITP-07-2019-0348

Kazekami, S. (2020). Mechanisms to improve labor productivity by performing telework. *Telecommunications Policy*. 44(2). https://doi.org/10.1016/j.telpol.2019.101868

Kniffin, K.; Narayanan, J.; Anseel, F.; Antonakis, J.; Ashford, S.; Bakker, A.; Bamberger, P.; Bapuji, H.; Bhave, D.; Choi, V.; Creary, S.; Demerouti, E.; Flynn, F.; Gelfand, M.; Greer, L.; Johns, G.; Kesebir, S.; Klein, P.; Lee, S.; … van Vugt, M. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist.* 76(1), 63–77. https://doi.org/10.1037/amp0000716

Korzynski, P.; Rook, C.; Florent Treacy, E., and Kets de Vries, M. (2021). The impact of self-esteem, conscientiousness and pseudo-personality on technostress. *Internet Research*. 31(1), 59–79. https://doi.org/10.1108/INTR-03-2020-0141

Kuruzovich, J.; Paczkowski, W.; Golden, T.; Goodarzi, S., and Venkatesh, V. (2021). Telecommuting and job outcomes: A moderated mediation model of system use, software quality, and social Exchange. *Information and Management*. 58(3). https://doi.org/10.1016/j.im.2021.103431

Li, L.; Wang, X. (2021). Inhibidores y creadores de tecnoestrés y sus impactos en el desempeño laboral de los docentes universitarios en la educación superior. *Cogn Tech Work.* 23, 315–330 (2021). https://doi.org/10.1007/s10111-020-00625-0

Metselaar, S., den Dulk, L., and Vermeeren, B. (2022). Teleworking at Different Locations Outside the Office: Consequences for Perceived Performance and the Mediating Role of Autonomy and Work-Life Balance Satisfaction. *Review of Public Personnel Administration.* 43(3). https://doi.org/10.1177/0734371X221087421

Moher, D.; Liberati, A.; Tetzlaff, J.; Altman, D.; Antes, G.; Atkins, D.; Barbour, V.; Barrowman, N.; Berlin, J.; Clark, J.; Clarke, M.; Cook, D.; D'Amico, R.; Deeks, J.; Devereaux, P.; Dickersin, K.; Egger, M.; Ernst, E.; Gøtzsche, P.; … Tugwell, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine.* 6(7). https://doi.org/10.1371/journal.pmed.1000097

Molino, M.; Ingusci, E.; Signore, F.; Manuti, A.; Giancaspro, M.; Russo, V.; Zito, M., and Cortese, C. (2020). Wellbeing costs of technology use during Covid-19 remote working: An investigation using the Italian translation of the technostress creators scale. *Sustainability (Switzerland)*. 12(15). https://doi.org/10.3390/SU12155911

Pernías Peco, P. (2017). Nuevos empleos, nuevas habilidades: ¿estamos preparando el talento para la Cuarta Revolución Industrial? *ICE, Revista de Economía*. 898(17). https://doi.org/10.32796/ice.2017.898.1961

Ragu-Nathan, T.; Tarafdar, M.; Ragu-Nathan, B., and Tu, Q. (2008). The consequences of technostress for end users in organizations: Conceptual development and validation. *Information Systems Research*. 19(4), 417–433. https://doi.org/10.1287/isre.1070.0165

Rappaccioli Salinas, R.; Hernández Flores, F., and Zamora Madrigal, A. (2021). Repercusiones en la salud a causa del teletrabajo. *Revista Médica Sinergia*. 6(2), e641. https://doi.org/10.31434/rms.v6i2.641

Salazar-Concha, C.; Ficapal-Cusí, P.; Boada-Grau, J., and Camacho, L. (2021). Analyzing the evolution of technostress: A science mapping approach. *Heliyon*. 7(4). https://doi.org/10.1016/j.heliyon.2021.e06726

Shirmohammadi, M.; Au, W., and Beigi, M. (2022). Remote work and work-life balance: Lessons learned from the COVID-19 pandemic and suggestions for HRD practitioners. *Human Resource Development International*. 25(2), 163–181. https://doi.org/10.1080/13678868.2022.2047380

Singh, P.; Bala, H.; Dey, B., and Filieri, R. (2022). Enforced remote working: The impact of digital platform-induced stress and remote working experience on technology exhaustion and subjective wellbeing. *Journal of Business Research*. 151, 269–286. https://doi.org/10.1016/j.jbusres.2022.07.002

Spagnoli, P.; Molino, M.; Molinaro, D.; Giancaspro, M.; Manuti, A., and Ghislieri, C. (2020). Workaholism and Technostress During the COVID-19 Emergency: The Crucial Role of the Leaders on Remote Working. *Frontiers in Psychology*. 11. https://doi.org/10.3389/fpsyg.2020.620310

Tams, S.; Ahuja, M.; Thatcher, J., and Grover, V. (2020). Worker stress in the age of mobile technology: The combined effects of perceived interruption overload and worker control. *Journal of Strategic Information Systems*. 29(1). https://doi.org/10.1016/j.jsis.2020.101595

Taser, D.; Aydin, E.; Torgaloz, A., and Rofcanin, Y. (2022). An examination of remote e-working and flow experience: The role of technostress and loneliness. *Computers in Human Behavior*. 127. https://doi.org/10.1016/j.chb.2021.107020

Torres, C. (2021). Adaptation and Validation of Technostress Creators and Technostress Inhibitors Inventories in a Spanish-Speaking Latin American Country. *Technology in Society.* 66, agosto 2021, 10166066. https://doi.org/10.1016/j.techsoc.2021.101660

Van Laethem, M.; Van Vianen, A., and Derks, D. (2018). Daily fluctuations in smartphone use, psychological detachment, and work engagement: The role of workplace telepressure. *Frontiers in psychology*. 9, 399559.

Wang, B.; Liu, Y.; Qian, J., and Parker, S. (2021). Achieving Effective Remote Working During the COVID-19 Pandemic: A Work Design Perspective. *Applied Psychology*. 70(1), 16–59. https://doi.org/10.1111/apps.12290

Wang, J.; Xiong, Y.; Murad, M.; Chaudhary, N., and Waqar, H. (2023). Role of Online Time-Spatial Job Crafting and Leisure Crafting on Remote Work Performance through Telepressure and Techno-Self-Efficacy. *Sustainability (Switzerland).* 15(15). https://doi.org/10.3390/su151511936

**Conflict of interest**

The author has no conflicts of interest to declare.

**Author contributions**

Cristian Giancarlo Alvitez Sifuentes (lead author): conceptualization, formal analysis, research, methodology, visualization, writing (original draft, review and editing).