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Teleworking in the context of the Covid-19 pandemic: advantages, disadvantages and influencing factors – the workers' perspective

Sofia Brandão[1]
Madalena Ramos[2]

Abstract

Purpose – This study analyses workers' perceptions of the advantages and disadvantages of teleworking in the context of the Covid-19 pandemic, identifies factors that influence these perceptions, and verifies workers' intentions to maintain this work arrangement after the pandemic.

Theoretical framework – By conducting a comprehensive literature review, we identified the advantages and disadvantages of teleworking and selected factors that have a significant influence over it.

Design/methodology/approach – This is an exploratory and quantitative study, with primary data collection using a survey to identify the context of the teleworking experience and workers' perceptions of the advantages and disadvantages associated with this work arrangement. The sample obtained was 304 individuals. The data collected were processed using descriptive and inferential statistical analysis.

Findings – The teleworking experience was essentially positive. Most workers intend to maintain this arrangement after the pandemic. The conditions offered by the organizations and the existence of an adequate workspace at home were factors that strongly influenced workers' perceptions of the advantages and disadvantages of teleworking.

Practical & social implications of research – Considering workers' perceived benefits and willingness to remain teleworking, organizations should implement and manage teleworking programs with the understanding that organizational factors greatly influence the teleworker's experience and are critical to the success of this practice.

Originality/value – This study provides additional data concerning the teleworking experience during the Covid-19 pandemic and, to the best of our knowledge, it is one of the first studies to focus on the perception of Portuguese workers regarding the advantages and disadvantages of teleworking and to identify influencing factors.

Keywords: Teleworking, telecommuting, Covid-19, advantages, disadvantages.

1. *Iscte-University Institute of Lisbon, School of Social and Human Sciences, Lisbon, Portugal*
2. *Iscte-University Institute of Lisbon, Center for Sociology Research and Studies, Lisbon, Portugal*

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1 Introduction

In March 2020, to prevent the spread of the Covid-19 pandemic, the Portuguese government decreed the need for confinement and the mandatory adoption of teleworking, if the nature of the work allowed it.

Thus, in the second quarter of 2020, 1 million and 38 thousand people used information and communication technologies (ICTs) to work from home, representing about 22% of the employed population (Instituto Nacional de Estatística, 2020). This figure is distant from the 6.5% of Portuguese workers who worked from home in 2019 (Eurostat, 2019).

The adoption of teleworking implies changes for organizations and workers, and these changes are fundamental to its success (Organização Internacional do Trabalho, 2020). However, considering the urgent nature of its implementation in the context of the pandemic, not all organizations and workers may have had the opportunity to make all the necessary adaptations, which may impact not only the effectiveness of workers' performance but also their perception of the advantages and disadvantages of teleworking.

Based on pre-Covid-19 pandemic research findings, teleworking has both advantages and disadvantages that can be observed across three levels: individual, organizational, and societal. This study focuses on the individual perspective (workers), collecting data related to teleworking experiences in the pandemic context, with the main objectives of analysing workers' perceptions regarding the advantages and disadvantages of teleworking from home, as well as identifying factors that may influence these perceptions, based on the approach of Baruch and Nicholson (1997), in the domains of the home/family interface, the individual, the job, and the organization. Additionally, we aim to verify the intention of workers to continue teleworking after the pandemic and in which modality: full-time or part-time.

2 Theoretical framework

In the 1970s, in response to the oil crisis, Jack Nilles (1975) introduced the concept of telecommuting, which consisted of working from home using telecommunications.

Telework (the designation used in Europe) is cumulatively based on the following assumptions: the use of ICTs, decentralization of task performance, regularity of the teleworking practice, and the existence of an employment relationship (Organização Internacional do Trabalho, 2020).

As pointed out by several authors, teleworking has advantages and disadvantages at the individual, organizational, and societal levels (Baruch, 2000; Mello, 2007) that vary according to the type of telework adopted (Kurkland & Bailey, 1999).

Some advantages for society can be found in its genesis, since teleworking arose from the need to reduce fuel consumption, traffic, and pollution (Belzunegui-Eraso & Erro-Garcés, 2020). In addition, it is essential to maintain economic activities in adverse conditions caused by extreme weather events, acts of terrorism, and epidemiological outbreaks (Organização Internacional do Trabalho, 2020). At the same time, it facilitates access to employment for people who do not live in urban centres, require accommodations, or have dependents, impeding health conditions or disabilities (Harpaz, 2002; Mello, 2007). However, it can also have disadvantages for society, such as isolation and the need to create specific labour legislation that establishes the obligation of formal teleworking contracts that include the rights and duties of workers and employers (Belzunegui-Eraso & Erro-Garcés, 2020; Pyöriä, 2011).

At the organizational level, the adoption of teleworking promotes productivity and increases talent retention and attraction (Eurofound and the International Labour Office, 2017; Organização Internacional do Trabalho, 2020; Ollo-Lopez et al., 2020; Pyöriä, 2011). However, there may be constraints in the creation of teamwork synergies, performance monitoring and evaluation, and workers' organizational commitment (Baruch, 2000; Organização Internacional do Trabalho, 2020).

2.1 Individual advantages and disadvantages associated with teleworking

Teleworking from home eliminates the need for daily commuting, reduces time and transport costs, and allows for savings on meals by cooking one's own food (Filardi et al., 2020; Ipsen et al., 2021).

However, working remotely may compromise feedback, networking, access to mentoring, and informal learning opportunities (Carillo, et al., 2020; Madsen 2003; Pyöriä, 2011), contributing to professional isolation and loss of career advancement opportunities and benefits (Filardi et al., 2020; Kurland & Cooper, 2002).

Thus, one of the main challenges for teleworkers is to meet their need for informal communication and casual interactions, which provide benefits such as social support, a sense of belonging, and integration into the organizational culture (Baruch, 2000; Carillo et al., 2020; Madsen, 2003; Organização Internacional do Trabalho, 2020).

Teleworking is also associated with a decrease in unwanted interruptions (Ipsen et al., 2021), allowing workers to use their time more efficiently and focus on their performance, adapting work rhythms to their preferences, positively influencing their productivity (Eurofound and the International Labour Office, 2017; Filardi et al., 2020; Nakrošienė et al., 2019). Thus, greater autonomy is provided, which allows for a decrease in stress, a reduction in family conflicts, and an improved work-life balance (Andrade & Lousã, 2021; Beckel & Fisher, 2022; Dima et al., 2019; Tavares, 2017).

The blurring of boundaries between work and private life, however, may have consequences for workers and their families (Organização Internacional do Trabalho, 2020). According to Tavares et al. (2021), in a study conducted in Portugal during the pandemic, 27.5% of respondents admitted to diverting their attention from work to focus on domestic chores or children.

Thus, although teleworking reduces work stress, it may increase the stress resulting from domestic and family issues, possibly due to difficulties in reconciling the demands of both spheres (Andrade & Lousã, 2021; Mustafa & Gold, 2013; Nakrošienė et al., 2019).

The adoption of teleworking may also foster the appeal of constant availability, preventing workers from disconnecting (Andrade & Lousã, 2021; Ipsen et al., 2021) and increasing working hours, since the time saved in commuting is often used for work (Maillot et al., 2022; Organização Internacional do Trabalho, 2020; Sousa-Uva et al., 2021).

2.2 Factors influencing teleworking from home

According to Baruch and Nicholson (1997), the main factors that affect the implementation and development of teleworking at home are integrated into four domains: the home/family interface, the job, the individual, and the organization.

The home/family interface domain: The success of teleworking depends on the quality of family relationships, the reconciliation of work and family, and the existence of an adequate workspace to avoid distractions and the dissolution of the boundaries between the personal/family sphere and work (Carillo, et al., 2020; Mustafa & Gold, 2013; Nakrošienė et al., 2019).

The workspace, preferably an office, should offer adequate ergonomic and comfort conditions (acoustic, thermal, and lighting) to avoid musculoskeletal injuries and other health problems (Organização Internacional do Trabalho, 2020). According to Carillo et al. (2020) and Blahopoulou et al. (2022), having adequate physical and mental conditions for teleworking is one of the most important factors in adjusting to mandatory teleworking due to the pandemic context. Similarly, Sousa-Uva et al. (2021) state that the work environment plays a key role in satisfaction with teleworking, as it is beneficial for well-being and productivity (Massoudi & Hamdi, 2017).

At home, the quality of ICTs should maintain the speed and efficiency of work (Ipsen et al., 2021), which can be problematic for families with fewer economic resources, or who live in areas where ICTs are not fully implemented (Nunes, 2005).

Additionally, the temporary closure of nurseries and educational establishments as a result of compulsory confinement has left many parents and caregivers with the challenge of balancing parental responsibilities with professional duties (Tavares et al., 2021). Consequently, the presence of young children may increase interruptions, decreasing workers' concentration and productivity (Baruch, 2000; Ipsen et al., 2021).

The job domain: Teleworking is defined as using ICTs in the performance of tasks and applies to occupations that (i) involve the creation, processing, and dissemination of information, (ii) can be performed without a physical presence, and (iii) involve a high level of autonomy (Tavares, 2017).

However, worker autonomy may represent an increase in flexibility or a limiting action in the context of teleworking. For specialists (professionals), the tendency is for autonomy to increase, but for administrative workers (clerks), autonomy tends to decrease (Bailey & Kurland, 2002).

At the same time, according to Beckel and Fisher (2022), job autonomy is positively associated with workers' health and well-being, as well as with a reduction in work-family conflict and stress. Similarly, flexibility is presented by Sousa-Uva et al. (2021) as a predictor of satisfaction with teleworking.

The individual domain: The predisposition and ability to adjust to teleworking derives from personal characteristics, needs, and individual skills; for example, the benefits of teleworking will be valued more by workers who appreciate autonomy and working alone than by individuals with a high need for affiliation, who may perceive greater isolation (Baruch, 2000; Doberstein & Charbonneau, 2022).

There are conflicting findings regarding differences in perceptions of the advantages and disadvantages of teleworking and motivations for its adoption. While some studies do not reveal gender differences (e.g. Baruch, 2000; Sousa-Uva et al., 2021), other studies report that women perceive more constraints in teleworking than men (Ipsen et al., 2021; Nakrošienė et al., 2019). If for some women child and household care is the main motivation for teleworking and it is considered advantageous (Eurofound and the International Labour Office, 2017), for others it means more domestic work, less availability for rest and/or leisure, and conflicts between family and professional demands (Organização Internacional do Trabalho, 2020).

The organization domain: The success of teleworking depends on the degree of commitment from the employer; it must be supported by the organizational culture and top management itself, whilst being strategically aligned with organizational goals (Baruch, 2000; Eurofound and the International Labour Office, 2017). Trust and support from management are key to promoting autonomy and flexibility (Andrade & Lousã, 2021; Organização Internacional do Trabalho, 2020), reducing workers' sense of isolation (De Vries et al., 2018), ensuring satisfaction with teleworking (Nakrošienė et al., 2019), and improving organizational performance (Kim et al., 2021).

During teleworking, the monitoring and evaluation of workers' performance is remote and should be based on results (Organização Internacional do Trabalho, 2020). In the study by Filardi et al. (2020), supervisors mostly focused on goal-oriented management and did not perceive difficulties in controlling or monitoring the teleworkers' performance.

Along the same lines, Kim et al. (2021) argue that results-based supervision positively influences both individual and organizational performance. For this to occur, the performance management criteria must be objective and feasible, stressing that employee performance should be frequently monitored.

In this way, the implementation of teleworking implies several changes and many specific variables must be addressed. Therefore, it is essential to provide the appropriate training for the various hierarchical levels and job positions, since the transition to teleworking implies changes in work dynamics, the use of new skills, the introduction of new tools for supervision and evaluation, etc. (Eurofound and the International Labour Office, 2017; Madsen, 2003; Kim et al., 2021; Organização Internacional do Trabalho, 2020).

In teleworking, it is essential to ensure secure and effective access to data, documents, software, and other resources (Tavares, 2017). In this sense, the study by Ipsen et al. (2021) reveals that access to equipment, information, and documents needed for teleworking in the context of the pandemic was ensured by most companies. In the same line, according to the study by Tavares et al. (2021), only 10.3% (n = 39) of the respondents revealed a lack of resources such as access to the internet or a printer.

In the present study, we focused our attention on some of the previously mentioned factors related to the different dimensions and tried to understand their relationship with workers' perceptions of the advantages and disadvantages of teleworking. In the organization and job domains, we considered the factors related to the conditions and resources offered by companies for teleworking. In the individual domain, we gave priority to the gender factor, given the frequency and contradictory results reflected in the literature. And in the home/family interface, we addressed factors such as the presence of children and the adequacy of a proper workspace at home, namely an office.

3 Methodology

3.1 Procedures and data collection

The present study is based on the collection of primary data through a survey that comprises 18 questions divided into three parts: the first part includes an initial block aimed at understanding the respondents' experiences of teleworking and their intention to continue it after the pandemic (Supplementary Data 1 – Questionnaire). The second block of the first part of the questions is related to the perception of the conditions of implementation of teleworking, presenting eight statements for which it was requested to indicate the degree of agreement/disagreement using a Likert scale with six points (1 = totally disagree to 6 = totally agree).

The second part of the survey was dedicated to gauging the perception of workers regarding 16 advantages and disadvantages associated with teleworking, in the form of statements, using the same Likert-type scale to answer (see Table 1).

The statements regarding the conditions of implementation of teleworking and the inherent individual advantages and disadvantages were selected according to the frequency with which they are referred to in the literature and their suitability to the pandemic context.

The last part of the questionnaire was designed to collect some socio-demographic information from the respondents.

The survey was implemented in the Qualtrics online platform, with the dissemination and call for participation being carried out in the social networks Facebook and LinkedIn, through a snowballing process, sharing anonymous links that allowed access to the questionnaire. The data collection took place between April and July 2021.

Univariate descriptive statistics (percentages, mean, standard deviation) and multivariate statistics (principal component analysis), correlation analysis (Pearson correlation coefficient, Spearman correlation coefficient, and Cronbach's alpha), and inferential statistics (t-test for equality of means and one-way ANOVA) were used for this data analysis.

3.2 Study sample

The questionnaire was answered by 304 individuals living in Portugal, although not all of them answered all the characterisation questions (the only ones whose answers were not compulsory), as they chose not to substitute the answers, which translates into a variation in the number of answers throughout the analysis (Supplementary Data 2 – Database). In terms of age, the respondents (n = 277) range from 19 to 69 years old, with approximately half (50.2%) aged 37 years or less and more than three quarters (76.7%) aged 45 years or less. The mean age is 38.6 years (SD = 10.2 years).

Table 1
Measurement Instrument (Dimensions and Items)

Dimensions	Items	Survey
Teleworking conditions (Scale: 1=totally disagree to 6=totally agree)	The training I received from the company to work from home was adequate	Q7_1
	In teleworking, my work has become more complex/demanding because I don't have access to all the information and/or documents I need	Q7_2
	There is less control from my superiors when I work from home	Q7_3
	My company provided me with all the necessary clarifications/information to prepare me for working from home	Q7_4
	My company provided me with the necessary financial support to work from home	Q7_5
	My company provided me with the necessary equipment to work from home	Q7_6
	My superiors have less confidence in my work when I do it from home	Q7_7
	My home doesn't provide good working conditions (adjustable desk and chair, sufficient lighting, good monitor, absence of noise, adequate space, etc.)	Q7_8
Advantages and disadvantages of teleworking (Scale: 1=totally disagree to 6=totally agree)	I contribute to reducing the risk of contracting and/or spreading the Covid-19 virus	Q8_1
	I have fewer interruptions	Q8_2
	I make more efficient use of my time	Q8_3
	My productivity is higher	Q8_4
	I feel more isolated and miss sharing work experiences with my colleagues	Q8_5
	I have a better work-life balance	Q8_6
	I have more difficulty "disconnecting from work"	Q8_7
	I save time on commuting	Q8_8
	I work more hours than at the office	Q8_9
	I prefer the atmosphere of my home for working	Q8_10
	I have more autonomy	Q8_11
	I save money on meals and/or transportation	Q8_12
	I experience less stress when working from home	Q8_13
	I can't disconnect from my personal/family problems	Q8_14
	I have additional household expenses (electricity, water, internet)	Q8_15
	It is more difficult to ask questions and/or obtain clarification from colleagues and/or superiors	Q8_16

As shown in Table 2, most participants are female (68.5%), and the most frequent level of education is graduate (54.8%), followed by master's degree (26.5%) and 12th grade (15.1%).

In terms of occupation, the majority are specialists in intellectual and scientific activities (61.4%), followed by technicians and intermediate-level professionals (15.4%) and administrative staff (13.2%).

Concerning the respondents' households (n = 276), the most frequent situation is a household with two people (35.3%), with an average of 2.9 people per household (SD = 1.11). Only 26.9% of the households have children up to 12 years old, with an average of 1.3 children per household.

More than half of the respondents share the space at home with other teleworkers (55.2%). Almost 70% of the respondents have their own workspace, but 41.2% have to share it with an average of 1.4 people.

4 Results and analysis

4.1 Context on the experience of teleworking during the Covid-19 pandemic

For most respondents (78.3%), teleworking was a new experience. Amongst the rest, 17.5% of the respondents had already experienced teleworking part-time and only 4.2% full-time.

Table 3 shows the workers' perceptions regarding the conditions for teleworking. It presents, for each of the eight corresponding items, the percentage distribution of the answers at the various points of the scale (from 1 = totally disagree/TD to 6 = totally agree/TA), as well as the mean and standard deviation values.

On average, the conditions provided by the employer for teleworking, in terms of training (4.3), clarifications/information (4.3), and equipment (4.4), were perceived as positive and fundamental to ensure a more efficient transition to this new working arrangement (Eurofound and the International Labour Office, 2017; Ipsen et al., 2021). Access to information and documents required for performance was also facilitated, hence why the complexity/demand of tasks did not increase (2.5). These findings may explain the rapid adaptation of Portuguese workers to teleworking presented in the study by Tavares et al. (2021).

The adoption of teleworking did not result in a decrease in managerial control (2.6), showing that with the right changes, it is possible to monitor workers' performance remotely (Filardi et al., 2020; Kim et al., 2021). Additionally, 76.5% of the respondents disagree that supervisor trust has decreased (M = 2.4), as also suggested by Sousa-Uva et al. (2021), whose study reveals that about 75% of workers felt their organization's trust in their teleworking performance during the pandemic.

Table 2
Respondents' Gender, Education, and Occupation

		Frequency	%
Gender	Female	191	68.5
	Male	85	30.5
	Other/Prefer not to answer	3	1.1
	Total	279	100.0
Education	9th grade	3	1.1
	12th grade	42	15.1
	Graduate	153	54.8
	Master's degree	74	26.5
	Doctorate	7	2.5
	Total	279	100.0
Occupation	Representatives of the legislative power and executive bodies, leaders, directors, and executive managers	18	6.6
	Intellectual and scientific specialists	167	61.4
	Technicians and mid-level occupations	42	15.4
	Administrative personnel	36	13.2
	Others	9	3.3
	Total	272	100.0

In line with other studies conducted in the context of the pandemic (Tavares et al., 2021; Sousa-Uva et al., 2021), 72% of the respondents consider that their home has good conditions for teleworking (2.6), which is considered to be a determining factor for the positive outcomes of teleworking (Blahopoulou et al., 2022).

The least positive aspect of teleworking conditions, perceived by 78% of the respondents, was the lack of financial support from the organizations (2.3).

4.2 Advantages and disadvantages of teleworking: the workers' perspective

Table 4 presents the respondents' answers regarding the advantages and disadvantages of teleworking.

On average, the workers surveyed confirm the advantages of teleworking identified in the literature; however, the decrease in the risk of contracting and/or spreading the Covid-19 virus (5.7), and saving time on travel (5.7) and money on meals and/or transportation (5.2), emerge more clearly, presenting the highest mean values, in line with Filardi et al. (2020) and Ipsen et al. (2021). However, the teleworkers reported an increase in household expenses, with 67.6% of respondents agreeing with the respective statement (4.2). This increase was perceived more strongly than in the study by Filardi et al. (2020), where the percentage of agreement was 41.8%.

With concordance values between 63.6% and 77.2%, and in line with other studies, the adoption of

Table 3
Perception of the Conditions for Teleworking (%)

Conditions for Teleworking (n=285)	Mean (SD)	1 (TD)	2	3	4	5	6 (TA)
Training	4.3 (1.87)	11.6	8.1	14.0	14.4	13.7	29.8
Clarifications/information	4.3 (1.70)	7.7	8.8	17.9	16.1	12.3	34.0
Equipment	4.4 (1.88)	14.7	6.3	8.1	10.9	14.4	44.2
Financial support	2.3 (1.91)	57.0	13.7	7.0	5.6	4.6	6.7
More demanding/complex work	2.5 (1.62)	36.8	23.2	14.0	10.5	8.4	6.0
Decrease in control	2.6 (1.78)	41.4	16.5	14.0	12.3	7.0	3.9
Decrease in trust	2.4 (1.84)	51.9	14.4	10.2	8.4	4.2	6.0
Inadequate working conditions	2.6 (1.58)	37.9	17.2	17.2	13.3	8.4	6.0

Legend: SD = Standard Deviation; TD = Totally Disagree; TA = Totally Agree

Table 4
Advantages and Disadvantages of Teleworking (%)

Advantages and Disadvantages of Teleworking (n=280)	Mean (SD)	1 (TD)	2	3	4	5	6 (TA)
Efficient use of time	4.6 (1.44)	5.5	3.9	12.9	18.9	23.9	35.0
Decrease in interruptions	4.3 (1.58)	6.4	9.7	17.1	15.7	20.0	31.1
Increase in productivity	4.6 (1.39)	3.9	4.3	14.3	19.3	25.0	32.9
Increase in autonomy	4.1 (1.63)	8.6	9.6	17.1	18.2	18.6	26.8
Better working environment	4.1 (1.51)	6.1	7.5	24.6	23.2	12.1	26.4
Decrease in stress	3.9 (1.80)	14.3	11.8	17.1	15.4	11.8	28.9
Better work-life balance	4.5 (1.69)	10.0	4.3	13.6	15.7	14.6	40.7
Increase in working hours	4.3 (1.73)	10.4	9.3	9.3	17.5	18.5	32.9
Difficulty in disconnecting from work	3.9 (1.73)	12.5	13.6	12.5	18.6	17.1	25.4
Difficulty in disconnecting from personal/family problems	2.5 (1.55)	36.1	20.0	16.8	14.6	7.1	4.6
Increase in household expenses	4.2 (1.62)	8.9	8.6	13.9	17.9	22.9	26.8
Feeling of isolation	4.3 (1.56)	6.1	10.0	13.9	19.3	20.4	30.0
Difficulty in resolving doubts	3.2 (1.67)	20.0	21.8	15.4	17.1	13.9	11.4
Time saving	5.7 (0.88)	0.7	1.8	2.5	2.1	11.1	81.4
Money saving	5.2 (1.36)	3.2	3.6	7.5	8.6	13.9	62.5
Decrease in the risk of the Covid-19 virus	5.7 (0.75)	0.0	1.4	1.8	2.9	12.1	80.7

Legend: SD = Standard Deviation; TD = Totally Disagree; TA = Totally Agree

teleworking promoted increased autonomy (Filardi et al., 2020; Organização Internacional do Trabalho, 2020) and higher productivity (Filardi et al., 2020; Nakrošienė et al., 2019) and reduced unwanted interruptions (Eurofound and the International Labour Office, 2017). Although less expressive, these results are also in line with the findings of Filardi et al. (2020), whose study shows concordance values for these advantages ranging between 85.7% and 93.9%.

A notorious disadvantage of teleworking was the increase in the number of working hours (4.3), in line with Sousa-Uva et al. (2021) and Tavares et al. (2021). Although less consensual, a high percentage (61.1%) of respondents agreed with the difficulty of "disconnecting from work" (3.9), in line with that found by Ipsen et al. (2021) (M = 3.11, SD = 1.34, using a five-point Likert scale), and with higher values than those of Sousa-Uva et al. (2021), where 50% of respondents reported difficulty in disconnecting.

Nevertheless, most respondents (61.7%, M = 4.1) consider the home environment to be conducive to work, as well as perceiving a better work-life balance (62%, M = 4.5) (Filardi et al., 2020; Nakrošienė et al., 2019; Sousa-Uva et al., 2021), associated with a more efficient use of time (53%, M = 4.6), as shown by Filardi et al. (2020), Ipsen et al. (2021), and Nakrošienė et al. (2019).

These results are also in line with Dima et al. (2019) and Tavares (2017), who state that the level of autonomy positively influences the work-life balance and reduces stress (3.9). Similarly, it was found that for 72.9% of the respondents, teleworking did not result in difficulties in disconnecting from personal/family problems. Although the values are lower, the results are in line with the study by Filardi et al. (2020), where more than 85% of the respondents did not report difficulties in concentration or conflicts between work and family life.

One of the most impactful disadvantages of teleworking was the feeling of isolation and lack of sharing work experiences with colleagues (4.3). As also revealed by Carillo et al. (2020), the lack of contacts and informal relationships with colleagues is one of the biggest obstacles to the adoption of teleworking. The results presented by Ipsen et al. (2021) reveal that the feeling of not seeing colleagues is the most significant disadvantage of teleworking (M = 3.8, SD = 1.12, on a five-point Likert scale). However, we cannot exclude the possibility that the context of mandatory confinement may have exacerbated the feeling of isolation (Carillo et al., 2020).

Despite the feeling of isolation, there was no increased difficulty in asking questions and/or obtaining clarifications from colleagues and/or supervisors (3.2), which contradicts issues raised by Carillo et al. (2020), Madsen (2003), and Pyöriä (2011). These results suggest that the teams were able to create channels that allowed them to maintain communication between elements and facilitate performance.

Based on the answers regarding the workers' perceptions of the advantages and disadvantages of teleworking, a principal component analysis (Field, 2017; Hair et al., 2014; Maroco, 2018) was performed after verifying its adequacy (KMO = 0.811), which allowed the extraction of five components. The item "Decreased risk of contracting and/or spreading the Covid-19 virus" was not included in the PCA as it is a single indicator of another theme (Contribution to public health).

Table 5 shows the relationship between the items and each of the five components extracted. According to the items that are most related to each of them, we can allow the definition of five thematically distinct components associated with teleworking: productivity, autonomy and well-being, work/life overlap, isolation, and saving time and money. However, given that two of the components had consistency values well below the desired value, i.e. below 0.7 (Field, 2017), it was decided in the further analysis to work only with the most representative item of each of them, namely, "I feel more isolated and miss sharing work experiences with my colleagues" and "I save time on commuting," respectively.

On average, the components present differences, with the lowest value (3.7) presented by the component work-life overlap, although with a value above the midpoint of the scale (3.5), which corresponds to a position of agreement, so not perceived as a disadvantage of teleworking. Also, the components productivity (4.5) and autonomy and well-being (4.1) as well as the item "Increased isolation and lack of sharing work experiences with colleagues" (4.3; SD = 1.68) show values above the midpoint of the scale, although not very high. The item "Saving time on commuting" has the highest mean value (5.7; SD = 0.88), revealing a clearly concordant positioning, which matches the item "Contribution to public health" (5.7; SD = 0.88), thus representing the two aspects perceived as the main advantages of teleworking.

4.3 Advantages and disadvantages of teleworking: the influencing factors

4.3.1 *Teleworking conditions (domains of the home/family interface, the organization, and the job)*

To understand whether the respondents' conditions for teleworking in the domains of the home/family interface, the organization, and the job are related to their perceptions of the respective advantages and disadvantages, Pearson correlation coefficients were calculated (Hair et al., 2014; Field, 2017; Maroco, 2018), and the results are presented in Table 6.

In the spheres of the organization and the job, the adequacy of the training offered by the company and the non-complexification of the job due to lack of access to information and documents are the factors that present the highest number of statistically significant correlations, both with the perception of productivity

Table 5
Components of Teleworking (Principal Component Analysis with Varimax Rotation and Summary Measures of the Components)

Components	Items
Productivity	Efficient use of time
Cronbach's alpha=0.842	Reduction of interruptions
Variance=17.2%	Increase in productivity
M=4.5 SD=1.29	
Autonomy and well-being	Increase in autonomy
Cronbach's alpha=0.759	Improved work environment
Variance=15.1%	Decrease in stress
M=4.1 SD=1.27	Better work-life balance
Work-life overlap	Increased working hours
Cronbach's alpha=0.663	Difficulty in disconnecting from work
Variance=12.8%	Difficulty in disconnecting from personal/family issues
M=3.7 SD=1.15	Increase in household expenses
Feeling of isolation	Increased isolation and lack of sharing work experiences with colleagues
Cronbach's alpha=0.497	Difficulty in asking questions and/or obtaining clarification from colleagues and/or superiors
Variance=11.2%	
Saving time and money	Saving time on commuting
Cronbach's alpha=0.383	Financial savings on meals/transportation
Variance=8.7%	
Total variance=65%	

Legend: M = Mean; SD = Standard Deviation

Table 6
Factors influencing the perception of the advantages and disadvantages of teleworking

Correlations (Pearson's r)	Productivity	Autonomy and well-being	Saving time	Feeling of isolation	Work-life overlap
Training	0.176**	0.191**	0.023	-0.124*	-0.165**
Clarifications/ information	0.096	0.182**	0.055	-0.098	-0.121*
Equipment	0.080	0.109	0.088	-0.110	-0.178**
Financial support	-0.027	0.066	-0.060	-0.104	-0.102
More demanding/ complex work	-0.311***	-0.211**	-0.159**	0.200***	0.289**
Decrease in control	-0.105	0.064	-0.025	0.116	0.085
Decrease in trust	-0.096	0.013	0.064	0.062	0.214**
Inadequate working conditions	-0.227***	-0.226**	-0.058	0.200***	0.230**

*p<0.05; **p<0.01; ***p<0.001.

and autonomy and well-being and with the reduction of the feeling of isolation and a work-life overlap. Training is one of the human resource management practices that most helped the shift to teleworking during the pandemic (Gonçalves et al., 2021).

These results are in line with Eurofound and the International Labour Office (2017) and Madsen (2003), who consider training as fundamental to take advantage of the full potential of teleworking and minimize possible risks, since training can solve some of the fundamental issues, such as: maintaining motivation, supporting performance, fostering teamwork, and helping in disconnecting from work (Organização Internacional do Trabalho, 2020).

Teleworking implies several adjustments, particularly to reorganize work, establish new ways of communicating, and adapt supervision mechanisms (Organização Internacional do Trabalho, 2020). In this sense, the results show that the adequacy of the clarifications/information offered by the company for teleworking is related to the perception of greater autonomy and well-being. The persistence of doubts regarding the necessary changes could contribute to the loss of autonomy and increased stress (Dima et al., 2019).

The way equipment is managed can help balance the boundary between work and personal life (Mustafa & Gold, 2013) and, in this sense, the results show that the higher the perceived availability of the necessary equipment, the lower the feeling of a work-life overlap.

Conversely, the greater the perceived decrease in managerial trust, the greater the feeling was of a work-life overlap. In parallel, according to Sousa-Uva et al. (2021), the trust shown by the organization is one of the major predictors of satisfaction with teleworking.

Integrated into the domain of the home/family interface, good working conditions provided by the home are positively related to perceptions of productivity and autonomy and well-being. In the absence of these conditions, there is a greater sense of isolation and a work-life overlap (Carillo et al., 2020; Mustafa & Gold, 2013; Sousa-Uva et al., 2021).

Finally, the only item that was not related to the perception of any advantage or disadvantage was the availability of financial support from the company and, therefore, it cannot be considered as an influencing factor of these perceptions.

4.3.2 *Gender (the individual domain)*

To verify whether gender differences could generate different perceptions of the advantages and disadvantages of teleworking, t-tests for equality of means were performed (Field, 2017; Maroco, 2018). The results revealed the existence of statistically significant differences (albeit small) only in the perception of advantages, with women on average perceiving greater productivity ($t(135) = 2.289$, $p = 0.024$) and greater time savings ($t(274) = 2.497$, $p < 0.001$) (Table 7). Thus, gender proved to be an influencing factor, but of little importance, since in the remaining aspects the differences between genders were not significant ($p > 0.05$). This issue is controversial, since some studies showed no differences between genders (Baruch, 2000; Sousa-Uva et al., 2021), while others showed opposite results (Ipsen et al., 2021; Nakrošienė et al., 2019).

4.3.3 *Presence of children and the home workspace (the home/family domain)*

To check whether the presence of children at home influences differences in the perception of the advantages and disadvantages of teleworking, two t-tests for equality of means were carried out: one to compare the perceptions of workers who had children aged up to 12 years old and those who did not, and the other to compare the perceptions of workers with babies aged up to 2 years old and those without. Both results obtained allowed us to conclude that the existence of babies or children up to 12 years old is not a factor that affects the perception of teleworking, as the differences are not statistically significant ($p > 0.05$). Thus, it was not possible to corroborate Ipsen et al. (2021), whose study reveals differences in the evaluations between individuals with and without children, and it was those with children who felt more limitations in terms of workspace and control over

Table 7
Advantages and disadvantages of teleworking according to sex (mean values)

Variables	Female	Male
Productivity*	4.6	4.2
Autonomy and well-being	4.2	4.0
Time saving*	5.8	5.5
Feeling of isolation	4.2	4.4
Work-life overlap	3.7	3.8

*$p<0.05$.

their work, although they felt more comfortable being at home than respondents without children. In the same vein, Blahopoulou et al. (2022) indicated that individuals with children felt less satisfaction with teleworking but reported more well-being. Although children posed a challenge to work-life management, they alleviated the sense of isolation caused by mandatory confinement (Blahopoulou et al., 2022).

To check whether the workspace influences differences in the perception of the advantages and disadvantages of teleworking, t-tests for equality of means were also performed. The existence of a workspace proved to be a significant differentiating factor, as it was the one that most influenced the perceptions of advantages and disadvantages (Table 8).

These results are in line with most studies (e.g., Carillo et al., 2020; Mustafa & Gold, 2013; Sousa-Uva et al., 2021) that consider a home office space as a key success factor of teleworking, namely by increasing productivity, reducing interruptions, allowing for better time management, and promoting a work-life balance.

4.4 Teleworking after the pandemic

Although teleworking was a new experience for most workers, when asked about their intention to opt for teleworking after the pandemic, only 10.2% would not opt for teleworking (Table 9), in line with the study by Sousa-Uva et al. (2021), where the majority of respondents were satisfied with teleworking, and 92% intended to maintain this practice in the future, preferably on a part-time basis (60%).

Table 8
Advantages and disadvantages of teleworking according to a home office space (mean values)

Variables	Home office space	
	Yes	No
Productivity *	4.6	4.2
Autonomy and well-being ***	4.3	3.8
Time saving	5.7	5.6
Feeling of isolation*	5.2	5.6
Work-life overlap ***	3.6	4.1

*p<0.05; ***p<0.001.

Table 9
Choosing to telework after the pandemic

Intention to telework after the pandemic (n=285)	%
Yes, part-time	67.4
Yes, full-time	22.5
No	10.2

5 Conclusion

Despite the pandemic context, the teleworking experience was positive for most workers. The most relevant factors influencing this perception relate to the domains of the home/family, the organization, and the job. Good working conditions and the existence of a home office had a positive influence on the workers' perceptions, namely by promoting more efficient performance and a better work-life balance.

Regarding the domains of the organization and the job, the factors that were rated positively were training, clarifications/information, equipment, and access to information/documents to perform the tasks. The existence of these factors proved to be beneficial for the perception of productivity and autonomy and well-being. Also, in the organizational sphere, the supervisor's trust proved to mitigate the work-life overlap.

Given these results, organizations played a key role in the teleworking experience, not only through the conditions, support, and resources they offer, but also through the organizational culture and the quality of leadership. It is shown that these factors can influence teleworking and help to respond to its challenges: maintaining/increasing productivity, promoting autonomy and well-being, and managing the work-life balance.

After identifying the main factors associated with how teleworking is perceived, this study provides significant guidance for the development of teleworking programs, aiming to optimize its advantages and benefits for both employees and organizations. At the same time, the current context of the need to save energy, combined with the willingness shown by most workers to continue teleworking (part-time), highlights the relevance of adopting this work arrangement.

This study contributes to the knowledge of teleworking experiences during the Covid-19 pandemic, highlighting the importance of organizations in this process. However, it is important to mention some limitations.

The first limitation stems from the small size and characteristics of the sample, which proved to be quite homogeneous, with the respondents having a high level of education, occupations with a high degree of autonomy/

proficiency, and very favourable conditions at home, factors that tend to be predictors of satisfaction with teleworking. It would be important to understand if the tendency of positive perceptions regarding teleworking is shared by other types of workers with different academic and professional backgrounds.

Another limitation relates to the national cultural context and the management of the pandemic, as different cultural contexts and/or different socio-economic impacts of Covid-19 may lead to different results.

Additionally, a longitudinal study with a diversified sample could provide additional information on the evolution of workers' perceptions and the determinants of satisfaction with teleworking.

Despite these limitations, this study offers valuable implications for human resource managers and policymakers, since it allowed us to draw a picture of the factors influencing the experience of compulsory teleworking and adds to the understanding of workers' perceptions regarding this new way of working, in an unprecedented context. This is especially the case when teleworking is presented as a work trend, allowing the continuity of economic activity in times of crises (not only pandemics) that may occur in the future (Carillo et al., 2020; Gonçalves et al., 2021).

With this in mind, we recommend that integration into a teleworking program should be voluntary, flexible, and with the possibility for the worker to return to the office when they wish, as not all people meet the necessary criteria. After all, teleworking is more an individual rather than a collective experience (Ipsen et al., 2021).

Teleworking programmes should prioritize the physical and mental health of workers, allowing for a good work-life balance and disconnection from work.

An organizational culture based on support and trust in the teleworker allows for the necessary autonomy and flexibility to achieve a balanced workflow. To manage teleworkers efficiently, it is important to communicate clear expectations regarding their performance and set realistic goals.

Training programmes should be adapted to include training in ICTs, ergonomics, health, and well-being.

Finally, to avoid isolation, it will be necessary to invest in new channels and platforms for communication, cooperation, and knowledge sharing to maintain interpersonal interaction and synergies within teams.

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Supplementary Material

Supplementary material accompanies this paper.

Supplementary Data 1. Questionnaire.

Supplementary Data 2. Database.

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Authors:
1. Sofia Brandão, Master in Human Resources Development Policies, Iscte-University Institute of Lisbon, School of Social and Human Sciences, Lisbon, Portugal.
E-mail: ana_sofia_brandao@iscte-iul.pt
2. Madalena Ramos, PhD in Education, Iscte-University Institute of Lisbon, Center for Sociology Research and Studies, Lisbon, Portugal.
E-mail: madalena.ramos@iscte-iul.pt

Authors' contributions:
1st author: definition of research problem; development of hypotheses or research questions (empirical studies); development of theoretical propositions (theoretical work); definition of methodological procedures; data collection; literature review; statistical analysis; analysis and interpretation of data; critical revision of the manuscript; manuscript writing.
2nd author: development of hypotheses or research questions (empirical studies); definition of methodological procedures; data collection; statistical analysis; analysis and interpretation of data; critical revision of the manuscript; manuscript writing.