Work 79 (2024) 1951–1966
DOI:10.3233/WOR-230730
IOS Press

Adapting to COVID-19: Insights from Portuguese residents' home-based life

Ana Aguiar[a,b,c,*], Patrícia Soares[d,e], Pedro Barbosa[a,b,c], Raquel Duarte[a,b,c,f] and Marta Pinto[g]
[a]*EPIUnit – Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal*
[b]*Laboratório para a Investigação Integrativa e Translacional em Saúde Populacional (ITR), Porto, Portugal*
[c]*Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Porto, Portugal*
[d]*National Institute of Health Doutor Ricardo Jorge, Lisbon, Portugal*
[e]*NOVA National School of Public Health, Public Health Research Centre, Comprehensive Health Research Center, NOVA University Lisbon, Lisbon, Portugal*
[f]*INSA – Instituto de Saúde Pública Doutor Ricardo Jorge, INSA Porto, Porto, Portugal*
[g]*Faculdade de Psicologia e Ciências da Educação, Universidade do Porto, Porto, Portugal*

Received 14 December 2023
Accepted 20 June 2024

Abstract.
BACKGROUND: The COVID-19 pandemic led to widespread lockdowns and remote work and educational practices that have impacted the lives of many families.
OBJECTIVE: We aimed to investigate how parents and caregivers altered their routines due to online schooling and teleworking, exploring their association with increased anxiety and depression symptoms.
METHODS: We conducted an online cross-sectional study and collected data through snowball sampling. We asked questions about age, gender, dwelling area, educational level, and marital status, as well as an open-ended question about teleworking and homeschooling – "Did your routine change due to your children being forced to stay home and take online classes? If so, please explain how it has influenced your personal and professional life, both positively and negatively". Thematic analysis was used to analyse the responses.
RESULTS: A total of 181 respondents, primarily women (72.4%), averaging 36.6 years old, holding bachelor's degrees (44.2%), were included. About 78.5% reported routine adjustments. Four salient themes emerged: 1) Perceived changes in professional and personal life, 2) Perceived changes in learning methods, 3) Mental health issues and 4) Perceived advantages of working from home with children at online school. Regarding mental health, 25.4% exhibited symptoms of anxiety, and 7.7% displayed depression symptoms, predominantly linked (80%) to the pandemic's impact.
CONCLUSION: Family routines were disrupted, causing stress. In future crises, policymakers, public health experts, and researchers must acknowledge these challenges to mitigate negative consequences. Simultaneously, they should focus on strategies that enhance the positive aspects of restrictive measures and related policies.

Keywords: COVID-19, teleschool, teleworking, Portugal, mixed methods, parents, children

1. Introduction

During the COVID-19 pandemic, governments implemented several restrictions to control the transmission of the virus. Many countries imposed remote teaching and learning in an effort to reduce social contacts in educational facilities [1], with the means and methods of delivery being dictated by local conditions and resources [2]. Parents, teachers, and students adjusted their personal and professional lives to work and/or learn from home, decreasing engagement between educators and students, particularly face-to-face interactions [3, 4].

The amplification of digital differences formerly concealed by person-to-person connection challenged the employment of critical pedagogies such

*Address for correspondence: Ana Aguiar, EPIUnit – Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal. E-mail: ana.aguiar@ispup.up.pt.

as student participation and engagement [5] and increased inequity, with disparities in learning styles becoming more apparent [6]. Teleschool in Portugal began in 1965 as a television-based education system. It aimed to provide basic education to children and adolescents in rural and suburban areas with limited access to traditional classrooms. The programs were created and broadcast by the public television station, and monitors assisted students at reception desks. Although the Portuguese teleschool was discontinued in 2004, it was recognised as one of Europe's successful technical education methods [7]. However, due to the COVID-19 pandemic, Portugal reintroduced it in 2020. Even before the pandemic, education technology was experiencing rapid expansion and adoption. Many schools have already implemented measures to make their education delivery more flexible and accessible to fulfil the needs of their scholars. While blended learning incorporates some characteristics of online course delivery, other options include the hybrid model, which combines online course delivery with face-to-face sessions [8].

Telework was also established in the early 19th century during the Industrial Revolution in telecommunications and is known as remote work [9], working at a distance [10], teleworking [11], telecommuting [12], working from home [13], and, mobile work [14] in the literature. Additionally, according to Turja et al. (2022), telework can be defined as paid work done outside the premises of the employer and involves mutual agreement between all parties [15]. With recent technological advancements, a rising number of professionals are working from home regularly [15]. The International Labour Organization (ILO) estimates that 7.9% of the world's workforce (260 million workers) worked from home permanently before the COVID-19 pandemic [16]. Before the pandemic, between 5 and 10% of professionals worked from home in Portugal.

The impact of telework is under debate. Although several studies found that it may decrease the perceived physical and psychological workload [15], boost productivity by allowing employees to work outside of the office and avoiding interruptions from co-workers [17], others found the opposite due to family disturbances and social isolation [18]. The positive aspect of telework might depend on gender and the presence of children in the household. Women or caregivers might have more household duties and other home activities [19], exacerbated during the COVID-19 pandemic. Teleschool also affected children and adolescents since lockdowns influenced their emotional and social development [20]. Over 91% of students worldwide have been negatively affected by the widespread school and institution closures [21], reinforcing the notion that the educational institutions are optimal environments in which children can develop key competencies and numerous skills [1].

Evidence for the effect of telework and teleschool on mental health outcomes is still sparse, in contrast to the exponential growth and spread of information and communication technology prompted by the pandemic. According to some authors [22–24], before the COVID-19 pandemic, excessive use of information and communication technology may have consequences for well-being and mental health, causing anxiety or depression, a propensity for action in multitasking, and sleep problems at night, among other symptoms. In the context of the pandemic, the situation has become more complex. Excessive use of technology in combination with forced isolation may have negative synergistic effects that are currently unknown. This combination can intensify feelings of loneliness and isolation, potentially leading to more severe mental health issues. The lack of in-person social interactions, coupled with the constant digital engagement, may exacerbate stress, anxiety, and depression [25–27]. Moreover, the blurred boundaries between work or school and personal life can result in burnout and reduced overall life satisfaction [28, 29]. The interplay between increased screen time and limited physical social contact necessitates further research to understand the full scope of its impact on mental health.

The COVID-19 pandemic has caused people to re-evaluate globalisation and travel. Airspaces were shuttered, and video conferencing and meetings replaced them as practical and affordable options [30]. Many people started working from home regularly, and all levels of education—from elementary to higher education—were transferred to remote formats, at least for considerable periods and in many countries. Education is the driver of any economic system in terms of knowledge transfer and competence development, including the development of digital teaching competencies, so the lack of symmetry in education, along with rising unemployment [31] could create an educational crisis with consequences that cannot be ignored [32, 33].

Thus, we aimed to understand how parents and/or caregivers at home have changed their everyday routines due to online education and working from home and to examine the existing association with

increased anxiety and depression symptoms in a sample of Portuguese residents.

2. Methods

To address our general objective, we have defined the following specific objectives:

1. Assess the challenges and adaptations in individuals' daily routines to analyse their impact on personal and professional aspects.
2. Examine the effects of the shift to online learning on parental roles and its influence on children's education and well-being.
3. Investigate the mental health consequences of disrupted daily routines focusing on anxiety and depression symptoms.
4. Identify potential benefits of telework and online schooling.

2.1. Data collection

First, a brief description of the country's situation during the data collection period (from November 10, 2020, to February 10, 2021): on November 9, 2020, the state of emergency in Portugal was reinstated, along with a curfew between 23 : 00 and 05 : 00 in the most affected areas. Vaccination efforts began on December 27, after purchasing 22 million vaccine doses and identifying priority groups. In January 2021, Portugal experienced a surge in infections, becoming the country with the highest number of new cases per million inhabitants. As a result, schools were closed for 15 days to control the spread of the virus. By the end of February, Portugal remained under a state of emergency.

For the study, data were collected using a snowball sampling technique. As previously published, the questionnaire (created in Microsoft Forms) was initially distributed on social networking sites and channels and in the researchers' accounts [33]. Participants would necessarily be adults (18 years old or older) and residents in Portugal. The questionnaire is fully available for consultation in the research paper referent to the study protocol of the whole project [33].

We asked sociodemographic questions (age, gender, residential area of living, educational level, profession and marital status) and specific questions to determine who had worked from home and who had dependents taking classes from home:

1. Are there dependents in your household? (Yes, no answer);
2. (*If yes in the previous question*)
   2.1. How many are dependents of legal age ($\geq$18 years)?;
   2.2. How many are underage dependents (<18 years)?;
3. Are any dependents studying? (Yes, no answer);
4. Since schools were closed and since the mandatory confinement (applied between March 13, 2020 and May 4, 2020), have your children taken classes from home? (Yes, no answer).

If parents and/or caregivers answered "Yes" to question 4, they had the opportunity to answer an open-ended question regarding their experiences working from home and having dependents with classes at home – *Did the fact that your children were forced to stay at home and take distance classes cause any change in your routine? If so, please describe how it has positively and/or negatively influenced your personal and professional life*. If participants answered "No" in question 4, they were not questioned on the changes in routine. Respondents to the open-ended question had no restrictions in the number of characters or words or other constraints. All answers to the open-ended question were then thematically analysed following the techniques proposed by Braun and Clarke (2006) [34].

Furthermore, we used the validated Portuguese version of the Hospital Anxiety and Depression Scale (HADS) to measure the prevalence of anxiety and depression symptoms [35]. The HADS was developed by Zigmond and Snaith (1983) as a screening tool to detect clinically significant states of anxiety and depression in a non-psychiatric hospital setting [36]. The HADS contains 14 items: 7 for anxiety and 7 for depression. When the HADS scale score reaches 11, as Snaith (2003) recommends, the presence of anxiety and depressive symptoms is considered indicative of "caseness" to a mood illness [37]. Understanding that the HADS scale is a screening tool and does not provide a formal diagnosis is critical. Moreover, we have also assessed self-perceptions on the links between experiencing symptoms of anxiety and depression and the confinement measures by asking, first as an open-ended question "Taking into account the previous statements and their responses, to what extent do you relate what you described to the pandemic?" and then, for those who answered the open-ended question we asked for them to answer in the format of Likert scale

ranging from 1 "Nothing related" to 5 "Very much related" to "If you said yes to any of the previous statements, were any of these situations related to the infection? Please select from the scale below the option that best suits you".

2.2. Data analysis

Our study employed a mixed methods design to fully comprehend and portray the reality of our participants regarding telework and teleschool. Participant characteristics are described using absolute and relative frequencies for categorical variables and are compared using the Chi-square test or Fisher's exact test. For continuous variables, the Mann-Whitney U Test was used. These comparisons are made between participants who reported no alterations and those who reported experiencing alterations. Moreover, we employed Cramer's V to gauge the effect size for the chi-square test of independence, which assesses the strength of the association between two categorical variables. In our analysis, we adhered to the classification proposed by Rea and Parker (1992) [38]: values from 0.00 to just under 0.10 indicate a negligible association; 0.10 to just under 0.20 signify a weak association; 0.20 to just under 0.40 denote a moderate association; 0.40 to just under 0.60 indicate a relatively strong association; 0.60 to just under 0.80 suggest a strong association; and values from 0.80 to just under 1.00 represent a very strong association.

Braun and Clarke's (2006) thematic analysis was adopted to analyse the answers following an initial reading of all responses [34]. Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) in data. The material as a whole can be comprehended by analysing the components, but the parts can only be understood in connection to the whole, according to these types of analysis [39]. The approach includes identifying relevant themes specific to the study focus, research question, context, and theoretical framework. This method enables data to be explained and interpreted for meaning [40].

First, we translated the participants' answers from Portuguese to English and organised them in Word and then, in a shared Excel file. Secondly and to support trustworthiness during thematic analysis, we followed the steps proposed by Nowell et al. (2017) [41] considering each phase of thematic analysis: *1) familiarise oneself with the data* – initially the researchers AA, PB and PS immersed themselves in the data by reading each participant's response multiple times. This process helped to gain a comprehensive understanding of the content and nuances within the data, ensuring that all potential themes were identified; *2) generating initial codes* – the next step involved developing initial codes based on the content of each answer. AA led this phase by creating the first draft of codes. These codes were essential for organizing the data into meaningful groups. Subsequently, MP, PS, and PB reviewed the initial codes, making necessary alterations and corrections to ensure accuracy and relevance. This collaborative effort ensured that the coding was thorough and reflective of the data; *3) looking for themes* – after coding the data, the team looked for recurring themes that emerged from the participant responses. This step involved identifying patterns and connections between the codes, leading to the formulation of broader themes that encapsulated the core messages from the data; *4) reviewing themes* – once the initial themes were identified, MP and RD undertook a thorough review process. This step was crucial for verifying that the themes accurately represented the data and were internally coherent and distinct from each other. MP and RD's review helped to refine the themes further and ensure their validity; *5) themes were defined and named* – in this phase, the final themes were clearly defined and named. This involved a detailed analysis of each theme to ensure that it captured the essence of the data it represented. The names given to the themes were reflective of their content and provided a clear understanding of the themes' significance; lastly *6) production of the report* – in the final phase, the report was produced, encapsulating the thematic analysis and the resulting discussion. This report included a detailed explanation of the themes and their implications, ensuring that the findings were presented comprehensively and coherently.

Additionally, we applied Lincoln and Guba's (1985) refined concept of trustworthiness, which encompasses *credibility, transferability, dependability, and confirmability* [42]. For the first, credibility, we could not validate data interpretation with participants through member checking due to the anonymity of the questionnaire. To address this, we used data triangulation by involving multiple researchers in the analysis; To enhance transferability and the applicability of our findings to other contexts, we included the open-ended questions and the thematic analysis table with defined themes. This allows other researchers to replicate our methods and generalize our results to similar contexts, considering participant characteristics; in terms of dependability, we

acknowledged the specific timing of our data collection during the COVID-19 pandemic and the general lockdown in Portugal, which may not be replicable now. However, we provided detailed documentation of our process to ensure it was logical and traceable. Another researcher, given the same data, perspectives, and circumstances, could reach the same or similar conclusions; finally, since we established credibility, transferability, and dependability, confirmability was achieved. Although we did not provide additional documentation of theoretical and methodological decisions, we ensured confirmability by following the six steps outlined above.

All analysis was done manually without the use of any software.

3. Results

3.1. Sample characteristics

A total of 181 participants answered the open-ended question, "Did the fact that your children were forced to stay at home and take distance classes cause any change in your routine? If so, please describe how it has positively and/or negatively influenced your personal and professional life." Study participants' inclusion criteria for the present study can be assessed in Fig. 1.

The majority were women (72.4%), with a mean age of 36.6 years and higher education (70.2%) (Table 1). Moreover, 75.1% were married or in a civil partnership, and the household had three or more persons (88.4%). Also, concerning dependents, the majority have underage (<18 years) children under their responsibility. Moreover, we looked at the presence of anxiety and depression symptoms and found a prevalence of 25.4% and 7.7%, respectively and a total of 19.3% usually use anxiolytics and antidepressants.

Furthermore, regarding mental health outcomes, anxiety symptoms were significantly higher in women ($p = 0.006$) with a moderate effect size (measured using Cramer's V). Similarly, depression symptoms were also higher in women compared to men ($p = 0.033$), though this association was weak.

About 22.1% of the 181 individuals who participated in the study said that they did not perceive or experience any changes in their daily routines because of telework or their dependent's online classes. Comparing these two groups (Table 2), we observed that those who reported any changes in their daily routines because of telework or due to their dependent's online classes ($n = 141$) were relatively younger ($p = 0.017$) with a moderate effect size association. Moreover, participants were more frequently married ($p = 0.036$, weak association), with 2 or more older dependents ($p < 0.001$, moderate association), and those who reported having 2 or more underage dependents ($p < 0.001$, moderate association). Also, those who reported changes, presented a higher percentage of participants with anxiety symptoms (28.4% vs 15.0%, $p = 0.028$, weak association) and with depression symptoms (2.6% vs 9.5%, $p = 0.025$, moderate association). Moreover, those in the group who report changes have more frequently a bigger household size with ≥ 3 persons ($p = 0.041$, week association).

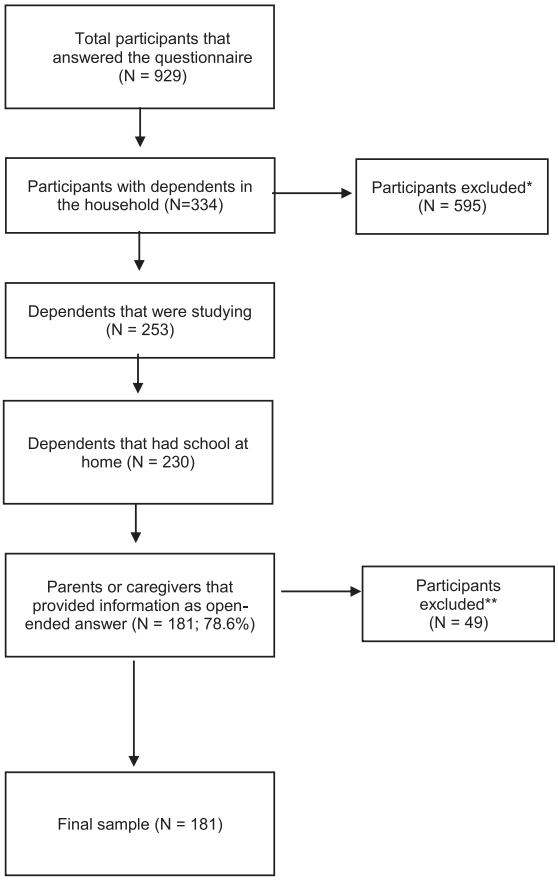

Fig. 1. Flowchart of study participants inclusion. *Participants were excluded because there were no dependents in the household. **Participants excluded because they didn't answer the open-ended question, "Did the fact that your children were forced to stay at home and take distance classes cause any change in your routine? If so, please describe how it has positively and / or negatively influenced your personal and professional life."

Table 1
Characteristics of study participants ($n = 181$)

	N (%)
Gender	
Female	131 (72.4)
Male	50 (27.6)
Age (mean, SD)	43.5 (7.74)
Education	
≤12 years	51 (28.2)
Higher education	127 (70.2)
Missing	3 (1.7)
Marital status	
Married/in a civil partnership	136 (75.1)
Not married	45 (24.9)
Designation of workers by collar colour	
White-collar	128 (70.7)
Blue-collar	34 (18.8)
Unemployed	9 (5.0)
Missing	10 (5.5)
Older dependents (≥18 years)*	
0	108 (59.7)
1	43 (23.8)
2	19 (10.5)
3	1 (0.6)
Missing	10 (5.5)
Underage dependents (<18 years)*	
0	24 (13.3)
1	74 (40.9)
2	67 (37.0)
3	10 (5.5)
4	1 (0.6)
Missing	5 (2.8)
Household income perception	
Insufficient	13 (7.2)
Need to be careful about expenses	56 (30.9)
Enough to meet needs	49 (27.1)
Comfortable	60 (33.1)
Missing	3 (1.7)
Household size	
2 persons	20 (11.0)
≥3 persons	160 (88.4)
Missing	1 (0.6)
Anxiety symptoms	
Non-anxiety	93 (51.4)
Moderate anxiety	42 (23.2)
Anxiety symptoms	46 (25.4)
Depression symptoms	
Non-depression	126 (69.6)
Moderate depression	35 (19.3)
Depression symptoms	14 (7.7)
Usual use of anxiolytics and antidepressants	
Yes	35 (19.3)
No	142 (78.5)
Relation between the statements in the HADS scale and the COVID-19 pandemic	
Nothing related	36 (19.9)
A little related	53 (29.3)
Related	32 (17.7)
Very related	17 (9.4)
Very much related	9 (5.0)

*Variables: "older dependents" and "underage dependents" are non-mutually exclusive categories.

Table 2
Characteristics of study participants in relation to mental health features by report of perceived and experienced changes in daily routines due to teleschool and telework

Variable	Not perceived or experienced any changes in daily routines ($N=40$)	Perceived experienced any changes in daily routines ($N=141$)	p-value	Cramer's V$^{\mp}$
Gender				
Female	27 (67.5)	104 (73.8)	0.435	0.058
Male	13 (32.5)	37 (26.2)		
Age (mean, SD)	45.18 (9.44)	43.08 (7.16)	**0.017**	0.273*
Education				
≤12 years	14 (35.9)	37 (26.6)	0.257	0.085
Superior education	25 (64.1)	102 (73.4)		
Marital status				
Married/in a civil partnership	25 (62.5)	111 (78.7)	**0.036**	0.156
Not married	15 (37.5)	30 (21.3)		
Designation of workers by collar colour				
White-collar	6 (17.6)	28 (20.4)	0.566	0.082
Blue-collar	25 (73.5)	103 (75.2)		
Unemployed	3 (8.8)	6 (4.4)		
Older dependents (≥18 years)				
0	15 (37.5)	93 (71.0)	**<0.001**	0.309
1	19 (47.5)	24 (18.3)		
≥2	6 (15.0)	14 (10.7)		
Underage dependents (<18 years)				
0	12 (32.4)	12 (8.6)	**<0.001**	0.332
1	18 (48.6)	56 (40.3)		
≥2	7 (18.9)	71 (51.1)		
Household income perception				
Insufficient	4 (10.0)	9 (6.5)	0.195	0.162
Need to be careful about expenses	16 (40.0)	40 (29.0)		
Enough to meet needs	12 (30.0)	37 (26.8)		
Comfortable	8 (20.0)	52 (37.7)		
Household size				
2 persons	8 (20.0)	12 (8.5)	**0.041**	0.152
≥3 persons	32 (80.0)	128 (91.5)		
Anxiety symptoms				
Non-anxiety	28 (70.0)	65 (46.1)	**0.028**	0.199
Moderate anxiety	6 (15.0)	36 (25.5)		
Anxiety symptoms	6 (15.0)	40 (28.4)		
Depression symptoms				
Non-depression	34 (89.5)	92 (67.2)	**0.025**	0.205
Moderate depression	3 (7.9)	32 (23.4)		
Depression symptoms	1 (2.6)	13 (9.5)		
Usual use of anxiolytics and/or antidepressants				
Yes	7 (17.9)	28 (20.3)	0.746	0.024
No	32 (82.1)	110 (79.7)		
Relation between the statements in the HADS scale and the COVID-19 pandemic				
Nothing related	10 (25.0)	26 (18.4)	0.790	0.115
A little related	12 (30.0)	41 (29.1)		
Related	7 (17.5)	25 (17.7)		
Very related	2 (5.0)	15 (10.6)		
Very much related	1 (2.5)	8 (5.7)		

*Cohen's D test; Bold values correspond to p-value <0.05; $^{\mp}$ Measure of association – effect size cut offs based on Rea, LM, Parker, RA (1992). *Designing and conducting survey research.San Francisco, CA: Jossey– Bass*: 0.00 and under 0.10 – negligible association; 0.10 and under 0.20 – weak association; 0.20 and under 0.40 – moderate association; 0.40 and under 0.60 – relatively strong association; 0.60 and under 0.80 – strong association and; 0.80 and under 1.00 – very strong association).

3.2. Thematic analysis

Considering the participants who report any changes in their daily routines because of telework or due to their dependent's online classes ($n = 141$), and taking into consideration thematic analysis of the discourses, four main themes were identified: 1) Perceived professional and personal life changes; 2) Perceived changes in learning methods; 3) Mental health issues; and 4) Perceived advantages in work from home with children at teleschool (Table 3). The results will be presented following the defined themes for easier comprehension.

1) Perceived professional and personal life changes

Most of the responses centered on the challenges of adjusting home routines to work and school routines, highlighting the difficulty of separating these contexts.

> "*It implied a greater management of daily routines as a mother, wife, worker, caregiver simultaneously and in the same physical space*" (ID: 292)

Parents and children shared household duties, work projects, childcare responsibilities, and school activities.

> "*(...) We live running and working uninterruptedly. The house became offices, and mealtimes became chaotic. I left telecommuting straight to domestic chores. I stopped working to advance lunch because of the differentiated schedules. The worst part was not being able to separate work and housework and not having a break moment (. . .)*" (ID: 312)

Most participants considered the experience of working at home and having dependents at home with online classes a negative one since the house environment was not prepared to accommodate a classroom and office. The participants stressed the challenges of monitoring their dependents' online classes, which are often incompatible with their work schedule.

> "*My professional life was deeply affected because I had to work after hours to compensate for the time accompanying the study. Sometimes I was unable to compensate, which translated into a decrease in income*" (ID: 751)

The demands of their jobs suddenly required parents to change their schedules and living arrangements, attend to their children's needs, and take on a greater part of their formal education while attempting to manage the effects of remote learning. Participants also reported a lack of supplies necessary for class participation (which sometimes resulted in increased family expenses) and constraints connected to external causes (such as internet connection difficulties).

> "*Insufficient internet network for two students in distance learning plus two adults teleworking*" (ID: 454)

2) Perceived changes in learning methods

Given that the COVID-19 pandemic arose unexpectedly and demanded a rapid response to mitigate the virus transmission, schools were forced to rethink their teaching methods and instruments while trying to maintain a positive learning environment.

> "*Reorganisation of home and routines so that it was possible to attend classes and telework*" (ID: 865)

This change required more participation from parents, who were in charge of creating an adequate learning environment at home, following up and monitoring their dependents' participation in online classes, responding to difficulties felt and perceived, and answering questions/doubts about the classes and the content taught.

> "*It changed the routine a lot as I had to provide a lot of support to the girls in school assignments*" (ID: 690)

Participants emphasised that, on top of their work, they were now responsible for most of the aspects regarding their dependent´s education (e.g., preparation of home spaces to accommodate online classes, homework and other works required, school calendar and exam dates, etc.).

> "*My routine got worse due to being alone with a two-year-old son, trying to keep up with the other son who was studying, and considering the numerous distractions in the house. It became quite complicated the level of accompaniment that was needed to keep my son studying*" (ID: 169)

> "*My children (1st and 4th grade) needed support with schoolwork. They had no classes, just a weekly meeting with the teacher, so all the tutoring and teaching was done by us parents. This, combined with the extra time spent on household chores, meant that I had no time or concentration*

Table 3
Thematic analysis

Main themes	Theme	Codes	Definition	Quotes
Perceived professional and personal life changes	Professional and personal life	1. Work out of hours 2. Reconciliation of telework with teleschool support 3. Mixing professional and personal life	In this theme, we describe the mixture between work from home, personal life and school support	"(...) there was an accumulation of tasks without separation of spaces: telecommuting (no schedules), home-schooling. There was also an accumulation of different roles without distance, especially in relation to home-schooling: mother, father, teacher, colleague, friend, etc..." (ID: 207)
	Changing routines	1. Lack of social life 2. Change in diet and physical activity 3. Difficulty in concentrating 4. Transforming the home into an office	In this theme, the highlight is on the changes concerning dependents habits and also the house physical structure	"(I dealt) negatively, dealing with the two realities simultaneously, work and domestic activities, working out the lunches in articulation with working hours. Children think that because we are at home, we are not "exactly" working" (ID: 520) "We all hate teleschool" (ID: 726)
Perceived changes in learning methods	Distance learning difficulties	1. Unmotivated children 2. Less attention and more help needed with homework 3. Lack of extracurricular activities 4. Expenditure on material and/or reorganisation of time on the computer	In this theme, difficulties in distance learning and resources are discussed	"My daughter didn't have classes daily, just worksheets and things to do daily (1st grade), which made her very dependent on our monitoring" (ID: 799) "Yes, it forced a technological coordination with the educational institution, and until a pedagogical plan was established it was the parents who carried out the educational activities (. . .) Keeping the child entertained and the uncertainty about the future situations were constant concerns" (ID: 668) "Spending on materials to provide distance learning classes. Availability to resolve technical issues. Greater physical, psychological and monetary effort" (ID: 880) "I feel that teleschool has contributed nothing to my son/daughter's learning. And without family support, I don't know if he/she would have been able to learn the content on his/her own" (ID: 877)
Mental health issues	Increased anxiety in children and caregivers	1. Increased anxiety in children 2. Increased anxiety in parents and/or caregivers	In this theme, the highlight is on mental health, namely anxiety symptoms referred	"It forced us as a couple to have more availability to "teach" the children, increased stress and anxiety, added to all the domestic and work tasks we had" (ID: 552) "It didn't change my life because my dependent is studying at university and no longer depends on me to help him with his studies. But his routines have changed, and it has had a negative impact on his life. More anxiety and stress!" (ID: 232) "It negatively influenced my daughter's routine mainly (...) Not being with the children of her age, playing, running and all the activities that school has, were missed on a personal level and growth... this is my opinion regarding this matter, because the little ones like to be at home but also the friendliness with their peers (...)" (ID: 860)
Perceived advantages of working from home with children at teleschool	Beneficial changes or no changes	1. Autonomous children 2. Greater proximity to children	In this theme, the positive aspects are presented and discussed	"Positive: spend more time with them" (ID: 686) "We prepared the house so that everyone could attend the online classes at different times. If everyone was well, I could also be well in my work." (ID: 332)

to devote to my work, and had to postpone certain deadlines" (ID: 814)

Not only did the school closure result in an overwhelming burden to parents but the lack of extracurricular activities (most of them were cancelled) meant that children had more free time, frequently becoming bored with their routines and demanding more attention from their parents.

"*Not being with the boys of his age, playing, running and all the activities that the school has were missed on a personal level and growth (. . .) that is my opinion regarding this matter because the little ones like to be at home but also the socialising with their peers (. . .)*" (ID: 860)

One participant also reported that she felt that their dependent´s academic development was hampered:

"*Yes, it negatively affected my son's academic development, he was depressed and unmotivated and dropped his grades. He had few classes and support. He missed socialising with his classmates and going out to have fun. It was a hassle and sadness to have to stay at home (. . .)*" (ID: 494)

Moreover, the participants reported reduced number of classes and support given by teachers, the lack of social interaction and play-based learning, and the stress induced by routine changes had a meaningful impact on the learning capacity, motivation, and performance.

"*He stopped socialising with peers and exercising*" (ID: 708)

As previously mentioned, the transition to online classes entailed extra expenses. Some participants reported needing to buy new materials, such as computers, tablets, or other technological gadgets required by schools.

"*There were no computers for everyone and class schedules clashed with our work schedules*" (ID: 423)

Participants also stressed that they felt the need to be always available to solve technical problems (such as internet connection problems), which were an added burden and also, one participant stated that he was against teleschool.

"*The time spent by us (parents) in supporting school activities became difficult to reconcile with telework. Also logistically, we had to borrow computers to allow all 4 of us to be online simultaneously*" (ID: 44)

"*I am against teleschool. Human interaction between pupils, teachers, and peers of the same age and socialising is fundamental. It is not the same with a computer and is unhealthy*" (ID: 494).

3) Mental health issues

Earlier, it was mentioned that 25.4% of the participants showed signs of anxiety, and 7.7% displayed symptoms of depression, indicating a fragile condition in their mental health. Factors such as the abrupt disruption of daily routines, the introduction of new measures to curb the virus, and the challenges of balancing work and family responsibilities could have contributed to increased stress levels among certain individuals. In this sense, only 20% of the participants did not associate these symptoms with the pandemic and the changes it brought to their lives. Additionally, concerns about the future and the safety of oneself and loved ones further intensified the reported adverse effects on mental well-being.

"*Influenced negatively, generated anxiety in the children and difficulties in consolidating professional and domestic tasks and supporting the study of the minors*" (ID: 498)

Conversely, the additional time spent together facilitated more social interaction among the participants and their dependents, with some of them reporting it as an added benefit and a positive consequence of the felt changes.

"*It generated positively, greater conviviality of the family nucleus by having all meals together*" (ID: 278)

Children were also disproportionately affected by negative emotions due to the pandemic and the disturbance to their lives, with uncertainty and stress adding to startling levels of loneliness, anxiety, and melancholy.

"*Daughter at age 5 had behavioral changes: becoming impatient, somewhat aggressive and hyper-reactive. Son with 9 years old required almost continuous monitoring in his studies, showing disengagement from school, lack of proactivity, extreme difficulty in concentration and many negative interactions with his sister*" (ID: 455)

Also, in the discourse of one of the participants, some gender tasks and pre-defined roles are seen as negative and showing that some pre-concepts concerning the rule of mother and father continue in these days:

> "*It negatively affected him/her (dependent), as the fact that the child was autistic and had to change routines suddenly did not help, also affecting the mother psychologically*" (ID: 715s)

4) Perceived advantages of working from home with children at teleschool

Although most reported disruptions of daily life as negative, there were perceived benefits to the changes felt, contrasting with the previous findings.

> "*It was positive, we felt we were safe*" (ID: 200)

Some participants reported that, despite the anxiety-inducing situation and the unprecedented context of the health crisis, a positive feeling about being at home with dependents, which translated to more family time, and a sense of safety was also highlighted in our study.

> "*The good part was keeping them safe, the not-so-good part was combining work with school support*" (ID: 639)

Furthermore, some participants highlighted the cost savings related to reduced commuting expenses (e.g., driving to and from work; taking children to school):

> "*Positively on the issue of saving gasoline to drive/bus to school (. . .), negatively they had too much free time to be distracted by technologies*" (ID: 672)

4. Discussion

There is no denying that the COVID-19 pandemic has altered daily life, resulting in numerous adjustments in how people communicate, socialise, work, and learn, along with various difficulties and barriers. Our study highlighted that parent and/or caregivers perceived these changes as disruptive, impacting their productivity and organizational skills. Furthermore, the results indicate difficulties in coping with the increasing demands and responsibilities of work and family, which, in some cases, could had led to worsening mental health outcomes.

In Portugal, in response to the implemented measures to reduce virus transmission, there was a need to rethink employment and education. This led to the adoption of teleworking (where possible) and teleschooling. The country entered its first lockdown period during the first wave of COVID-19 on March 18, 2020, with telework becoming mandatory from March 19 until early July 2020 [43]. For most people, this new digital approach to work was a novelty.

Findings from studies conducted before the COVID-19 pandemic indicated that telework could have favorable and unfavorable consequences based on teleworkers' job profiles, employment quality metrics, employers' support, individual preferences, and family structure [44]. Telework has been the focus of previous studies that have called attention to some perceived benefits such as more flexibility of work schedules; increased control over work pace, with teleworkers being able to personalise their work priorities [45]; decreased expenses related to commuting to and from work; and reduced stress and professional burnout [46]. In addition to these added benefits that were, to some extent, reported by the study participants, the increased family quality time was also highlighted. However, these benefits were underreported when compared to the negative consequences of work changes and disruption due to COVID-19.

COVID-19 abruptly transitioned millions of employees to telework, necessitating that they work from home. Many struggled with this shift, as they had to perform job duties in environments lacking clear boundaries within the home while simultaneously managing the presence of a spouse, children, or other dependents around the clock [47–50]. They often had no distinct space reserved for work tasks and no set time exclusively for family responsibilities. Consequently, working from home required employees to be physically at home but psychologically or behaviorally engaged in their job roles, constantly switching between family duties and job demands. Some studies even indicate an increased workload from job responsibilities during the COVID-19 pandemic [51]. Our findings corroborate this, showing that most participants reported difficulties in reconciling family and work responsibilities, heightened work burden, and deterioration of mental health due to increased stress, anxiety, and depression symptoms.

According to Parent-Lamarche and Boulet (2021) the work disruption - the work-life imbalance, workload - during the COVID-19 pandemic were

associated with lower levels of wellbeing [52]. Switching to telework might have exposed employees to varios physical and psychological threats to their health and safety at work [46]. Carillo et al. (2021), highlighted the consequences on teleworkers, derived from the COVID-19 pandemic, that lead to professional isolation, a complex work environment, and increased work and stress [53, 54]. Telework was also associated with increased working hours and effort to complete work tasks (resulting in higher resource consumption) [55, 56], occupational stress, less happiness, anxiety, and depression [57], and resource loss [58, 59] (which, in turn, elevated already high-stress levels), as we observe in our study. Furthermore, due to overlapping home and office spaces [60], the barrier between the two domains becomes blurred [61], resulting in additional burdens, distractions, interruptions, and disruptions to work [62].

The world passed through the most sweeping school closures ever experienced. To fight the spread of the COVID-19 virus, more than 180 countries legislated temporary school closures, leaving, at its peak in early April 2020 close to 1.6 billion children and youth out of school [63]. Researchers in the Netherlands discovered a widening disparity in the country as early as April 2020, when youngsters from better-off families received more parental assistance and had better study settings for distant learning [64]. While COVID-19 mitigation measures were frequently referred to as remote learning, it is critical to clarify that what many school districts put out was emergency response teaching [65]. This was then supplied using a range of remote learning modalities that we found in the analysis of the discourses, including paper-based assignment sheets, television, and the Internet, both instructor-directed and self-paced. In this sense, we found in the participants' answers related to students, the increased anxiety levels in students, the lack of socialising with peers, and implications on academic development. Despite the attempts made, 40% of global students have completely lost communication with their educators [66]. Those from underprivileged backgrounds have been particularly impacted, relying on schools for digital tools and IT proficiency.

The results observed in our study emphasise these negative aspects of telework. Most of the participants who reported changes in their lives mainly highlighted the negative impact that telework and teleschooling had. This included (a) reported difficulties in reconciling family and work responsibilities, (b) heightened work burden associated with the work schedule flexibility needed to attend to their dependent's needs, (c) extra expenses due to lack of technological supplies required to attend work and school, and (d) deterioration of their mental health related to an increased stress, anxiety and depression symptoms. Additionally, with childcare services and schools closed, workers have had to combine teleworking and childcare. This circumstance may have exacerbated the degradation of the balance between professional and personal life [67–69], as we reported in this study.

The previously mentioned consequences do not appear to be experienced uniformly by all subjects, as some gender-related differences were observed in the participants' discourse. Even though the participants did not specifically identify them as such, these differences appear to be caused by culturally defined gender roles. According to Giurge et al. (2021), when compared to men, women (especially mothers) devoted more time to household chores and caretaking tasks during the COVID-19 pandemic [70]. This additional burden was associated with lower levels of happiness, which may have been caused by the struggle to balance being an ideal employee and a good parent simultaneously [70]. The results of our study support these findings in that, in reality, there appears to be a challenge in balancing the various activities for the female participants [70]. Given the limitations of our investigation, this conclusion should be regarded with care, nevertheless. Given that women made up the majority of respondents (72.4%), it is difficult to contrast the responses given by the two sexes.

Women, although they represent the majority of our sample, exhibited a higher mean score of anxiety and depression symptoms than men, according to our findings. Other recent research has found that the lockdown produced by COVID-19 influenced people's mental health but that women were substantially more burdened [56]. Furthermore, women who work from home tend to take on more household activities and assist their relatives, which adds responsibility and impacts the balance of work and personal life [62].

The organisation of the house as offices and classrooms presented great challenges concerning extra financial expenditures, the mixture of work and house/family environment, which increased anxiety, lack of social life, and decrease in physical activity. It demanded to some parents or caregivers the need to be working and helping the dependent with classes and studying. Families' routines were disrupted, producing tension in many homes.

Moreover, it helps in preparedness for future crises since the COVID-19 pandemic has exposed vulnerabilities in various aspects of society, including healthcare systems, work arrangements, and education systems. It is crucial to learn from these challenges and be better prepared for future crises. This may involve investing in healthcare infrastructure, developing contingency plans for remote work and education, and ensuring equitable access to resources and support during emergencies.

In conclusion, the public health implications highlighted in this discussion emphasize the need for a comprehensive and proactive approach to address the physical, mental, and social well-being of individuals and families during and after the COVID-19 pandemic. Lessons learned from this crisis can inform policies and strategies to build a more resilient and equitable future.

4.1. Implications for the future

Based on the discussion presented, there are four implications that we can highlight for the future namely, i) changes in work culture, ii) gender disparities, iii) impacts on mental health, and iv) educational challenges. Concerning the changes in work culture, the pandemic has forced organisations to rethink their approach to work, and in the future, there may be a shift towards more flexible work arrangements, but careful consideration will be needed to address the potential negative impacts on employees' well-being. Moving to point ii, the pandemic has highlighted existing gender disparities, particularly concerning caregiving responsibilities. Women, especially mothers, have faced additional burdens balancing household chores, childcare, and work responsibilities. This has led to lower levels of happiness and increased mental health issues among women. Future policies and initiatives should address these gender disparities and support women in achieving a better work-life balance. Concerning the impact on mental health (iii), the disruption of daily routines, social isolation, and the pressure to juggle multiple responsibilities have contributed to these mental health challenges. In the future, there will be a need for increased focus on mental health support and resources to help individuals cope with the long-term impacts of the pandemic. Lastly, thinking of the educational challenges (iv), the lack of access to proper study settings, reduced social interaction with peers, and increased anxiety levels have affected academic development. Policymakers and educational institutions can learn from this experience and develop strategies to address educational challenges during crises. This could involve improving remote learning infrastructure, providing better support for students, and managing the disparities in access to resources among different socioeconomic groups.

4.2. Limitations of the study

The data collected relied on self-reports from the participants, which could be subject to recall bias or social desirability bias, potentially affecting the accuracy of the reported experiences. Although the study acknowledged gender-related differences, it did not delve deeply into the nuanced experiences of men and women, and the conclusions drawn regarding gender roles should be interpreted cautiously. Lastly, the study primarily relied on self-reported symptoms of anxiety and depression without utilising standardised diagnostic tools, which may limit the accuracy and clinical interpretation of mental health outcomes. Moreover, bias is an inherent aspect of research, and it may occur due to the influence of a researcher's subjective perspectives, beliefs, and expectations on the study's process and outcomes, which lead to research bias. However, we believe that this issue was minimized because the information was triangulated by different researchers. Lastly, and considering that data collection occurred 2 years ago, we believe that the results are still of great importance, since the mental health repercussions of telework on parents and teleschool on children changed the normal routines. This compares with repercussions currently experienced such as an increase in the time in front of screens and the lack of socialization with peers which is known to affect the global development of the children (58).

4.3. Strengths

Although we have limitations, strengths should also be highlighted: the real-life context in which we collected data, namely, the captured experiences of parents or caregivers during the COVID-19 pandemic, providing insights into the real-life challenges and disruptions caused by telework and teleschooling. The use of mixed methods allowed, not only for the quantification of variables of interest and the study of their relation, but also, for a comprehensive exploration of participants' perceptions, offering rich and detailed descriptions of their experiences and the negative impacts they faced. Also, the study's

findings were consistent with previous research, which identified challenges and negative consequences associated with telework, teleschooling, and the blurring of work-life boundaries. Moreover, the study included a substantial number of participants, since it is a qualitative study, enhancing the robustness and dependability of the findings within the context of the sample finally, the study acknowledged gender-related differences, highlighting the additional burden faced by women and mothers, contributing to the existing literature on gender disparities during the pandemic.

5. Conclusion

The COVID-19 pandemic has fundamentally transformed daily life, particularly in the realms of work and education. Our study underscores the profound impact these changes have had on parents and caregivers, who reported significant disruptions to their productivity and organizational skills. The transition to telework and teleschooling presented numerous challenges, including difficulties in balancing work and family responsibilities, increased workload, financial strain from technological needs, and deterioration in mental health. These effects were more pronounced among women, who shouldered a disproportionate share of household and caretaking duties. The global school closures exacerbated educational inequalities, with students from underprivileged backgrounds being particularly affected. The long-term consequences of these disruptions on both educational outcomes and mental health will likely persist, necessitating continued attention and intervention. Our findings highlight the need for comprehensive strategies to support work-life balance, mental health, and equitable access to education during and beyond crises. Future policies should focus on building resilient systems capable of mitigating the adverse effects of such unprecedented disruptions.

Ethical approval

The Ethics Committee of the University of Porto's Institute of Public Health granted ethical permission to conduct the study (Reference: CE20166). Each participant was given a number (ID) and no personal information that could be used to identify them was recorded.

Informed consent

Participants grant agreement to participate by accessing the online questionnaire and clicking the box indicating that they agree to participate. The notification appears after reading the study's details.

Conflict of interest

None to declare.

Acknowledgments

We would like to thank all participants who accessed the questionnaire and volunteered to participate, as they provided us with valuable data for research and debate.

Funding

This work received financial support from the Portuguese Funds through FCT – Foundation for Science and Technology, I.P., under the projects UIDB/04750/2020 and LA/P/0064/2020 and DOI identifiers https://doi.org/10.54499/UIDB/04750/2020 and https://doi.org/10.54499/LA/P/0064/2020. It was also partially supported by FCT (reference: CEECINST/00049/2021/CP2817/CT0001 and DOI: 10.54499/CEECINST/00049/2021/CP2817/CT0001). The corresponding author, Ana Aguiar, was supported by her PhD Grant (Reference: 2020.09390.BD; DOI: https://doi.org/10.54499/2020.09390.BD), co-funded by the Fundação para a Ciência e a Tecnologia (FCT) and the Fundo Social Europeu (FSE) Program. The funders were not involved in the study's design, data collection and analysis, publication decision, or manuscript preparation.

References

[1] Lehmann J, Lechner V, Scheithauer H. School closures during the COVID-19 pandemic: Psychosocial outcomes in children – a systematic review. International Journal of Developmental Science. 2021;15:85-111.

[2] Meinck S, Fraillon J, Strietholt R. The impact of the COVID-19 pandemic on education International evidence from the Responses to Educational Disruption Survey (REDS). UNESCO. 2022. ISBN: 978-92-3-100502-2.

[3] Hollister B, Nair P, Hill-Lindsay S, Chukoskie L. Engagement in online learning: Student attitudes and behavior during COVID-19. Frontiers in Education. 2022;7.
[4] Dhami H. Adrift in a pandemic: Survey of 3,089 students finds uncertainty about returning to college [Internet]. 2021. Available from: https://tophat.com/press-releases/adrift-in-a-pandemic-survey/
[5] Wallengren-Lynch M, Dominelli L, Cuadra C. Working and learning from home during COVID-19: International experiences among social work educators and students. Int Soc Work. 2023;66(4):1045-58.
[6] Dingel J, Neiman B. How many jobs can be done at home? Journal of Public Economics. 2020;189:104235.
[7] Infopédia. Telescola [Internet]. s.d. Available from: https://www.infopedia.pt/artigos/$telescola
[8] Meydanlıoğlu A, Arıkan F. Effect of hybrid learning in higher education. World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering. 2014;8:1292-5.
[9] Barsness Z, Diekmann K, Seidel M-D. Motivation and opportunity: The role of remote work, demographic dissimilarity, and social network centrality in impression management. Academy of Management Journal. 2005;48:401-19.
[10] Hamblin H. Employees' perspectives on one dimension of labour flexibility: Working at a distance. Work Employment & Society. 1995;9:473-98.
[11] Haddon L, Lewis A. The experience of teleworking: An annotated review. International Journal of Human Resource Management – Int J Hum Resour Manag. 1994;5:193-223.
[12] Butler E, Aasheim C, Williams S. Does telecommuting improve productivity? Commun ACM. 2007;50:101-3.
[13] Rupietta K, Beckmann M. Working from Home. Schmalenbach Business Review, Springer. 2018;70(1):25-55.
[14] Chatterjee S, Chakraborty S, Sarker S, Sarker S, Lau F. Examining the success factors for mobile work in healthcare: A deductive study. Decision Support Systems. 2009;46:620-33.
[15] Turja T, Krutova O, Melin H. Telework and perceived workload: Learnings prior to the COVID-19 upheaval. Human Systems Management. 2022;41:251-5.
[16] International Labour Organization. Working from home – From invisibility to decent work. International Labour Office – Geneva. 2021.
[17] McCormack G. Mitigating the work–safety trade-off [Internet]. Iza.org. 2020. Available from: https://wol.iza.org/opinions/mitigating-the-work-safety-trade-off
[18] Jackson L, Fransman E. Flexi work, financial well-being, work–life balance and their effects on subjective experiences of productivity and job satisfaction of females in an institution of higher learning. S Afr J Sci. 2018; 21(1):a1487.
[19] Xiao Y, Becerik-Gerber B, Lucas G, Roll SC. Impacts of Working From Home During COVID-19 Pandemic on Physical and Mental Well-Being of Office Workstation Users. J Occup Environ Med. 2021;63(3):181-90.
[20] Singh S, Roy D, Sinha K, Parveen S, Sharma G, Joshi G. Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. Psychiatry Res. 2020;293:113429.
[21] Lee J. Mental health effects of school closures during COVID-19. Lancet Child Adolesc Health. 2020;4(6):421.
[22] Gradisar M, Wolfson AR, Harvey AG, Hale L, Rosenberg R, Czeisler CA. The sleep and technology use of Americans: findings from the National Sleep Foundation's 2011 Sleep in America poll. J Clin Sleep Med. 2013;9(12):1291-9.
[23] Rosen L, Carrier LM, Miller A, Rokkum J, Ruiz A. Sleeping with technology: cognitive, affective, and technology usage predictors of sleep problems among college students. Sleep Health. 2016;2(1):49-56.
[24] Upreti A, Musalay P. Fear of Missing Out, Mobile Phone Dependency and Entrapment in Undergraduate Students. In book: Applied Psychology Readings. 2018:39-56.
[25] Nath P. Digital Overload: The Effects of Technology on Mental Health. J Ment Health Technol. 2021;15(2):233-45.
[26] Killgore WDS, Cloonan SA, Taylor EC, Dailey NS. Loneliness: An overlooked side effect of social distancing during COVID-19. Psychiatry Res. 2020;290:113117.
[27] Pera A. The psychology of extreme loneliness: Exploring the psychological dynamics of the COVID-19 pandemic. Front Psychol. 2020;11:2243.
[28] Nippert-Eng CE. Home and Work: Negotiating Boundaries through Everyday Life. Chicago: University of Chicago Press; 1996.
[29] Dienlin T, Johannes N. The impact of digital technology use on adolescent well-being. Nat Commun. 2020;11(1):4855.
[30] Michel J, Murugasampillay S, Sauter TC, Tanner M. Teleeducation: Pandemic proofing global education. Int J Public Health. 2022;67:1604872.
[31] Watson I. The youth labour market: From education to work before and after the global financial crisis. Journal of Industrial Relations. 2020;62:33-57.
[32] Guillen-Gamez F, Fernández MJ. Quantitative-comparative research on digital competence in students, graduates and professors of faculty education: an analysis with ANOVA. Education and Information Technologies. 2020;25.
[33] Aguiar A, Pinto M, Duarte R. Psychological Impact of the COVID-19 Pandemic and Social Determinants on the Portuguese Population: Protocol for a Web-Based Cross-sectional Study. JMIR Res Protoc. 2021;10(10):e28071.
[34] Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3:77-101.
[35] Pais-Ribeiro J, Silva I, Ferreira T, Martins A, Meneses R, Baltar M. Validation study of a Portuguese version of the Hospital Anxiety and Depression Scale. Psychol Health Med. 2007;12(2):225-35; quiz 35-7.
[36] Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983;67(6):361-70.
[37] Snaith RP. The hospital anxiety and depression scale. Health Qual Life Outcomes. 2003;1:29.
[38] Rea LM, Ñames, Parker RA, Allen R, editors. Designing and conducting survey research 2016.
[39] Tashakkori A, Teddlie C. SAGE Handbook of Mixed Methods in Social and Behavioral Research. 2002.
[40] Roberts K, Dowell A, Nie JB. Attempting rigour and replicability in thematic analysis of qualitative research data; a case study of codebook development. BMC Med Res Methodol. 2019;19(1):66.
[41] Nowell L, Norris J, White D, Moules N. Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative. 2017;16.
[42] Lincoln Y, Egon G. Naturalistic inquiry. Sage. 1985. Available from: https://books.google.pt/books?id=2oA9aWlNeooC&printsec=frontcover&hl=pt-PT&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
[43] Sousa-Uva M, Sousa-Uva A, MM ES, Serranheira F. Telework during the COVID-19 epidemic in Portugal and determinants of job satisfaction: a cross-sectional study. BMC Public Health. 2021;21(1):2217.

[44] Charalampous M, Grant C, Tramontano C, Michailidis E. Systematically reviewing remote e-workers' well-being at work: a multidimensional approach. European Journal of Work and Organizational Psychology. 2018;28:1-23.
[45] Kossek E, Lautsch B, Eaton S. Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. Journal of Vocational Behavior. 2006;68:347-67.
[46] Türkeş M, Vuta D. Telework: Before and after COVID-19. Encyclopedia. 2022;2:1370-83.
[47] Fisher J, Languilaire JC, Lawthom R, Nieuwenhuis R, Petts RJ, Runswick-Cole K, et al. Community, work, and family in times of COVID-19. Community Work Fam. 2020;23(3):247-52.
[48] Hertz R, Mattes J, Shook A. When paid work invades the family: Single mothers in the COVID-19 pandemic. J Fam Issues. 2021;42(9):2019-45.
[49] Petts RJ, Carlson DL, Pepin JR. A gendered pandemic: Childcare, homeschooling, and parents' employment during COVID-19. Gend Work Organ. 2021;28(S2):515-34.
[50] Zamarro G, Prados MJ. Gender Differences in couples' division of childcare, work and mental health during COVID-19. Rev Econ Househ. 2021;19(1):11-40.
[51] MTI Consulting. Business Impact of COVID-19 & Beyond – Based on Interviews with Sri Lanka's Top Business Leaders, MTI's International Experience & Thought Leadership [Internet]. Sri Lanka: MTI Consulting; 2020. Available from: https://www.mtiworldwide.com/wp-content/uploads/2021/08/Business-Impact-of-COVID-19-Beyond-1.pdf
[52] Parent-Lamarche A, Boulet M. Employee well-being in the COVID-19 pandemic: The moderating role of teleworking during the first lockdown in the province of Quebec, Canada. Work. 2021;70(3):763-75.
[53] Ahmadi F, Zandi S, Cetrez ÖA, Akhavan S. Job satisfaction and challenges of working from home during the COVID-19 pandemic: A study in a Swedish academic setting. Work. 2022;71(2):357-70.
[54] Carillo K, Cachat-Rosset G, Marsan J, Saba T, Klarsfeld A. Adjusting to epidemic-induced telework: empirical insights from teleworkers in France. European Journal of Information Systems. 2020;30.
[55] Grant CA, Wallace LM, Spurgeon PC. An exploration of the psychological factors affecting remote e-worker's job effectiveness, well-being and work-life balance. Employee Relations. 2013;35(5):527-46.
[56] Kelliher C, Anderson D. Doing more with less? Flexible working practices and the intensification of work. Hum Relat. 2010;63(1):83-106.
[57] Magnavita N, Tripepi G, Chiorri C. Telecommuting, off-time work, and intrusive leadership in workers' well-being. Int J Environ Res Public Health. 2021;18(7):3330.
[58] Rudolph CW, Allan B, Clark M, Hertel G, Hirschi A, Kunze F, et al. Pandemics: Implications for research and practice in industrial and organizational psychology. Ind Organ Psychol. 2021;14(1-2):1-35.
[59] Vitória BA, Ribeiro MT, Carvalho VS. The work-family interface and the COVID-19 pandemic: A systematic review. Front Psychol. 2022;13:914474.
[60] Oakman J, Kinsman N, Stuckey R, Graham M, Weale V. A rapid review of mental and physical health effects of working at home: how do we optimize health? BMC Public Health. 2020;20(1):1825.
[61] Olson-Buchanan JB, Boswell WR. Blurring boundaries: Correlates of integration and segmentation between work and nonwork. J Vocat Behav. 2006;68(3):432-45.
[62] Jostell D, Hemlin S. After hours teleworking and boundary management: Effects on work-family conflict. Work (Reading, Mass). 2018;60(3):475-83.
[63] Azevedo JP, Hasan A, Goldemberg D, Geven K, Iqbal SA. Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates. World Bank Res Obs. 2021.
[64] Bol T. Inequality in homeschooling during the Corona crisis in the Netherlands: First results from the LISS Panel. 2020.
[65] Hodges C, Moore S, Lockee B, Trust T, Bond M. The Difference Between Emergency Remote Teaching and Online Learning. 2020.
[66] Harvard University, Harvard Graduate School of Education. Education Continuity: Planning the Transition to Distance Learning [Internet]. Cambridge, MA: Harvard Graduate School of Education. 2020. Available from: https://globaled.gse.harvard.edu/files/geii/files/education_continuity_v3.pdf
[67] Birimoglu Okuyan C, Begen MA. Working from home during the COVID-19 pandemic, its effects on health, and recommendations: The pandemic and beyond. Perspect Psychiatr Care. 2022;58(1):173-9.
[68] Gerding T, Syck M, Daniel D, Naylor J, Kotowski SE, Gillespie GL, et al. An assessment of ergonomic issues in the home offices of university employees sent home due to the COVID-19 pandemic. Work (Reading, Mass). 2021;68(4):981-92.
[69] Tavares F, Santos E, Diogo A, Ratten V. Teleworking in Portuguese communities during the COVID-19 Pandemic. J Enterprising Communities People Places Global Economy. 2020.
[70] Giurge LM, Whillans AV, Yemiscigil A. A multicountry perspective on gender differences in time use during COVID-19. Proc Natl Acad Sci U S A. 2021;118(12).