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Effects of teleworking on wellbeing from a gender perspective: a systematic review

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Telework has been seen as a crucial tool for enhancing work-home balance, and potentially boosting employee wellbeing. However, contradictory findings highlight the necessity of integrating a gender perspective. This study aims to find out the psychosocial effects of teleworking on wellbeing from a gender perspective through a systematic review since 2010 till 2022. We used PRISMA, SPICE and PICOS models to finally select 37 studies, considering both quantitative and qualitative design perspectives. More than half of the reviewed articles (22) found that telework has negative effects on work-family interaction and work-family balance; and, as expected, these negative effects were greater for women, such as increasing dissatisfaction with work, life and free time. Studies reviewed show that women teleworkers report increased work-family conflict and traditional gender roles relating to household and family care responsibilities. We have found also that 10 studies observed positive effects of telework for both men and women, whilst five papers report both positive and negative effects on wellbeing. Lastly, we discuss the advantages and disadvantages of teleworking from a gender perspective considering the results we have found.

KEYWORDS

systematic review, teleworking, gender, psychosocial risks, work-life balance, job satisfaction, wellbeing

1 Introduction

Telework is generally understood as a modality of work in which employees use communication technologies to perform work tasks away from the employer's facilities (Nilles, 1997). When teleworking was initially introduced, it was generally considered as a tool for improving work-life balance of employees by offering greater flexibility and autonomy and a reduction in work-family conflict (Green and Roberts, 2010). Despite teleworking experienced significant growth in several sectors before 2019, the COVID-19 global pandemic forced many companies to adapt to a necessary and accelerating implementation of teleworking for maintaining production and employee safety (Fontaneda et al., 2023). Consequently, telework has experienced significant transformations worldwide. Data reveal gender disparities in telework adoption along with variations across different sectors and age groups. During 2020, the inaugural year of the pandemic, the prevalence of telework within the European Union saw a notable increase, contrasting with the figures from 2015 where only 5.2 percent of women and 4.6 percent of men engaged in telework, to reaching 13.0 percent of women and 11.2 percent of men in 2020 (European Parliament, 2022). This surge underscores telework enhanced flexibility and autonomy, yet it also brings to light the challenges in balancing professional and family

life, and particularly impacting women's health, especially those with children who more frequently opt to telework from home (OECD, 2023).

Telework has been seen as a crucial tool for enhancing work-home balance (Marx et al., 2021). In this sense, there are several recent systematic reviews that have sought to respond to the relationship between telework and wellbeing (e.g., Charalampous et al., 2019; Oakman et al., 2020; Buomprisco et al., 2021; Chirico et al., 2021; Beckel and Fisher, 2022; Crawford, 2022). So, while many of these studies acknowledge the significance of gender considerations, they often only address it as a sociodemographic factor within the sample, rather than exploring it in depth. For example, Buomprisco et al. (2021) highlight how the underrepresentation of women in numerous professional fields might skew research outcomes. On the other hand, it is worth mentioning the study by Crawford (2022), who dedicates a section to the relationship between gender and wellbeing (in relation to Sustainable Development Goal 5: Gender equality). Stemming from 8 studies this author provides a description of wellbeing issues and the most frequent stressors by gender. For example, women perceived more advantages and disadvantages, higher workload, emotional exhaustion, workaholism, depression and stress than men, but also higher relaxation levels and lower loneliness. But working remotely entails some challenges and risks also, such as lack of social interaction, a higher difficulty when setting boundaries between work and personal life, the need for adequate technological infrastructure and remuneration, and may extend working hours longer than recommended, even working while sick, which can have cumulative negative effects on health (Ferreira et al., 2022).

Consequently, we can see that telework may be considered as a double sword in terms of wellbeing when taking gender into consideration.

1.1 Theoretical framework: telework and family balance

To analyze the relationship between telework and wellbeing from a gender perspective, it is necessary to refer to theories and concepts that analyze the relationships between work and family life (see Zhang et al., 2020). Specifically, we need to call the concept of role (Martin and Wilson, 2005), which refers to a set of duties, obligations and expectations that are related to the position and status of the individuals who in their daily life play multiple roles (mother, employee, wife...), all of them demanding them time and psychological effort, so they could become incompatible. Moreover, from the role conflict perspective, we identify time, stress and behavior as substantial aspects related to the conflict between personal and working life (e.g., Greenhaus and y Beutell, 1985). This shows us two directions of conflict: work-family conflict (WFC), in which work interferes with family roles and responsibilities, and family-work conflict (FWC), in which family life interferes with work responsibilities (Gutek et al., 1991).

Furthermore, to delve into why men and women continue to adhere to stereotypically male (productive sphere) and female (reproductive or caregiving sphere) roles even when teleworking, it is necessary to turn to gender role theory (Eagly and Wood, 2012).

1.2 Telework, wellbeing and gender

Prior to the emergence of SARS-CoV-2, many workers had already chosen to telework in the belief that better work-life balance would also improve job satisfaction and commitment to work (Felstead and Henseke, 2017); yet several studies indicated an opposite effect both prior (Sarbu, 2018; Song and Gao, 2020) and subsequent to the pandemic (Kaugars et al., 2021). However, it was the pandemic that would prove to be a turning point. Telework became an urgently necessary and even compulsory measure for most workers, which could bring to light the dark side of teleworking, as previous studies had shown that it was related to work-home conflict when it was non-voluntary, and workers perceive work and domestic pressure (Delanoeije and Verbruggen, 2019) as well. With society returning to post-pandemic normality, there is an even greater need for research that analyzes the relationship between telework and wellbeing (Anderson and Kelliher, 2020; Kniffin et al., 2021). Some studies question the advantages of teleworking (Kniffin et al., 2021; Wang et al., 2021), given the risks resulting from the changes imposed on the context and practices of family and work routine. Pandemic-era teleworking often proved counterproductive to reducing work overload. In the absence of fixed working hours, many workers reported a greater sense of availability and surveillance. The blurring of the boundaries of the working day led to long working hours that even included work at night and the weekend (Yeves et al., 2022). Studies also indicate that lower levels of wellbeing were related to social factors in the home, such as lack of space or inability to separate work from domestic tasks (Catana et al., 2022).

Focusing on potential impacts of telework on wellbeing, Hu et al. (2021) proposed ICT-related constructs that may affect occupational health strain outcomes, such as family conflict and work-life-conflict. Work-family conflict negatively affects job satisfaction and worker productivity (Becerra-Astudillo et al., 2022), and high levels of teleworking result in a significant reduction in psychological detachment from work and adverse effects on wellbeing (Cheng and Zhang, 2022). Wellbeing (WB) can be seen as a wide-ranging concept that has evolved over time, becoming the work environment an important factor, that is, teleworking in this case. The wide-ranging nature of WB may explain the lack of a single unified definition and indicator (Forgeard et al., 2011). WB at work can be defined as an affective state dependent on the degree to which individual pleasure is activated and experienced in the work environment (Wright and Doherty, 1998). This perspective highlights the close interconnection between worker WB and broader health considerations (Park et al., 2018). Work characteristics and management practices play a key role in determining WB at work, acting as risk factors that increase the likelihood of adverse health outcomes (García-Izquierdo and Castaño, 2022). Studies have shown that inadequate WB can have detrimental effects on both employees and organizations, including diminished performance, increased absenteeism, deteriorating health and the onset of long-term mental health complications (e.g Parker et al., 2017).

Recent research reviews have addressed these issues focusing on job, organizational and family conditions. Charalampous et al. (2019) concluded that the principle negative aspects of teleworking

are social isolation and hindered professional development. Buomprisco et al. (2021) highlighted unavailability of ergonomic work equipment, risk of work overload, and the psychosocial implications of working from home as the main adverse effects on teleworker health. Finally, Oakman et al. (2020) found that the degree to which telework impacts on health outcomes is strongly influenced by the degree of organizational support, colleague support, social connectedness (outside of work), and levels of work-to-family conflict.

However, only several studies focused on the consequences of teleworking on health considering the gender perspective, and when they did, they encountered with contradictory results. Allen et al. (2013) conclude that there is little evidence to suggest that gender influences the relationship between telework and different outcomes. Gajendran and Harrison (2007) found no evidence to suggest that gender plays a role in the relationship between telework and job satisfaction, job performance, work-family conflict, or work stress. However, they also conclude that remote workers may be expected to assume more household responsibilities since they are, by definition, "staying at home". This rationale affects women more than men. Hammer et al. (2005) found that flexible work arrangements (location and timing flexibility) were positively reported in wives' reports of family interferences with work one year later, but not in husbands' reports. Similarly, Rodríguez-Modroño and López-Igual (2021) found that the different way in which men and women use flexible working opportunities leads to different outcomes for wellbeing, work-life balance and work intensification. They also concluded that women teleworkers are more likely than men to perceive job insecurity, which is widely recognized as a significant cause of stress (Green, 2020). In the pandemic context of lockdowns, widespread remote work and constant coexistence of children and adults, it was foreseeable that women would assume greater responsibility for household duties, childcare and education while simultaneously carrying out their own professional activity in the same space than men (Aguado et al., 2020). We can posit two main reasons why women may report more conflict when teleworking. First, women experience more interference because they are more likely to telework at home than men (Eurofound, 2020); and second, women poorer working conditions make it more difficult to negotiate telework conditions and manage the flexibility and control that teleworking requires (Groen et al., 2018).

Thus, a key gender-related variable in teleworking is work-life balance. While work-home interference was the most common issue brought up by teleworkers during the pandemic (Wang et al., 2021), research results are contradictory. Some studies found increased work-home interference (Sousa-Uva et al., 2021), while others found the opposite (e.g., Sandoval-Reyes et al., 2021).

The results found during the COVID-19 pandemic lockdown must take into account that some advantages and positive experiences that teleworking could offer may turn into new social and family demands as the lack of school support and the need to share space in the home for both work and study among the members of the family unit were determinants factors. Family roles coexist with occupational roles in the home environment. This required every family member to adjust to sharing the same space 24 h a day, seven days a week. In some cases, spouses, or parents and children have to share equipment (i.e., computers) and rooms that were not designed for working. The most critical family variable that influences work conflict levels seems to be having children. The pandemic led to higher workloads and additional parental burdens for families with children (helping with homework, etc.) (Kaugars et al., 2021). Women were more negatively affected because they often found it more difficult to establish boundaries between work and family demands (Shockley et al., 2017). According to Eagly and Wood (2012) differing socialization processes and the assumption of gender roles help to explain why women have a more fluid perception of these boundaries and cross them more easily than men (Ashforth et al., 2000), especially if they have children (Zhang et al., 2020). Boundaries are more explicit for men, who tend to act in a more segmented way (Frone, 2003). In terms of generating conflict, the perception of blurred boundaries is more important than the amount of telework carried out (Jostell and Hemlin, 2018).

So, reviewed research raises two critical issues. First, it seems that teleworking may have a differential effect on women's wellbeing comparing to men's. Second, it seems that women take advantage of teleworking to a lesser degree than their counterparts men. However, these results have not been subject to thorough and systematic analysis.

All of the above highlights the need for research on how teleworking affects work-family conciliation as a key issue to explain men and women teleworker's wellbeing. Theoretical investigation from a gender perspective can provide data and conclusions that will assist in the future development of teleworking. Consequently, our study seeks to establish the degree to which teleworking serves to maintain or generate gender inequality, and the extent to which gender roles affect women's wellbeing.

For all that, the objective of this study is analyze how telework affect worker's wellbeing from a gender perspective, mainly considering how gender roles might affect work-home boundaries of women and men while teleworking by means of a systematic review.

2 Method

2.1 Literature research

This systematic review is performed according to standardized procedures and was reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA: Page et al., 2021), formulating questions for evidence-based practice according to the Setting-Perspective-Intervention/exposure/phenomenon of interest -Comparison-Evaluation (SPICE: Booth, 2004), and the Population-Intervention-Comparision-Outcomes-Study design (PICOS: Booth, 2004). The literature search was performed using the title-keywords-abstract method (e.g., Van Essen et al., 2023).

We searched the SCOPUS, WOS, PsycINFO and PubMed databases first on 28 January 2022, and at the end of December 2022 to include all studies published in 2022. The search terms were those in the following equation: ("work-family" or "work-life") and ("conflict" or "balanc*" or "conciliation") and ("remote work*" or "telework*" or "home-based work*" or "e-work*") and ("gender" or "women") and ("effects" or "impact" or "risks" or "psychosocial

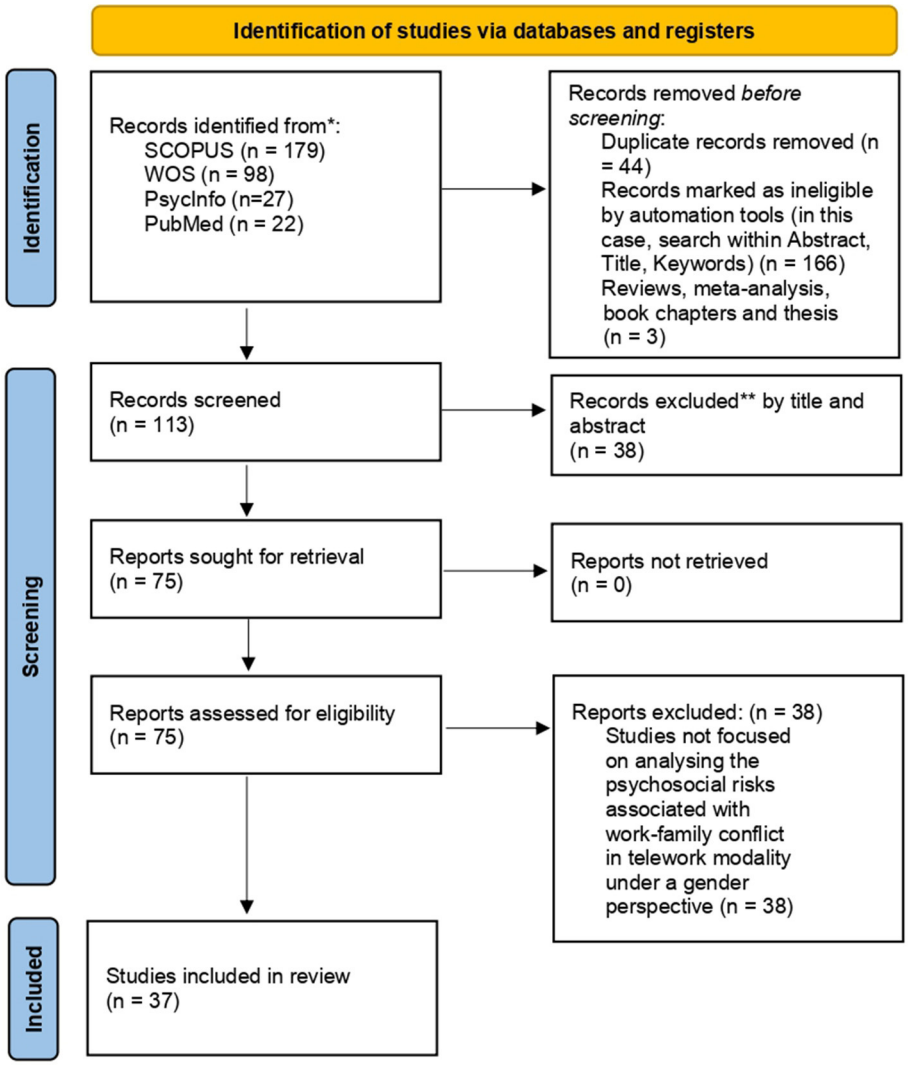

FIGURE 1
PRISMA flow diagram.

risks" or "health" or "stress*" or "technostress" or "wellbeing" or "wellness" or "burnout" or "quality of life") (Figure 1).

2.2 Inclusion and exclusion criteria

We selected studies that met the following criteria: (i) published in scientific journals, (ii) in English and Spanish, (iii) hypotheses focusing on a gender perspective and results analyzing the situation of women in telework and/or the differences between women and men, (iv) effects of telework on work-family/family-work conflict, women's health or wellbeing, or women's job, family or life satisfaction, (v) published between 2010 and 2022. We excluded studies that met the following exclusion criteria: (i) languages other than English or Spanish, (ii) reviews, meta-analyses, dissertations and book chapters (Table 1). The inclusion and exclusion criteria were very strict, in the sense that: (i) only the concept of teleworking (including remote work, home-based work, and e-work) was considered and no other forms of "flexible work arrangements," such as, for example: "flex-time," "part-time works," "compressed workweeks," which are not related to telework or work from home; (ii) the articles included women, or men and women, in the sample; and (iii) the effects were related to work- family conflict/family-work conflict. Reviews and meta-analyses were excluded because it cannot be guaranteed that the articles included in a meta-analysis or in a review meet all the inclusion criteria of the present systematic review, as, for instance, primary studies can be heterogeneous - in terms of design, study population, interventions or outcomes measured, or the information available on primary studies is insufficient or incomplete, and therefore it may be difficult or inappropriate to include them.

Finally, the main objective of the review is to summarize and synthesize the available evidence instead of combining the results quantitatively.

TABLE 1 Inclusion and exclusion criteria by SPICE and PICOS model.

Research question	Gender differences of teleworking effects on wellbeing outcomes	
	Inclusion criteria	Exclusion criteria
Setting	Telework	Other flexible work arrangements
Perspective/ population	Women in telework	Gender variable not relevant
	Women and men in telework	Workers only in non-telework
Study design	Quantitative and qualitative studies	
Intervention	Effects of telework on wellbeing outcomes for women	Effects of telework on other outcomes
Comparator	Gender Presence of children Marriage status	Other comparators
Evaluation/outcomes	Work-family conflict/Family-work conflict and wellbeing outcomes	Other outcomes

3 Results

The PRISMA flow diagram in Figure 1 shows the study selection process. Table 1 outlines the inclusion and exclusion criteria according to SPICE and PICOS models. The initial search of the databases identified 326 records. After mark as ineligible by automation tools and removing duplicates, 113 records were screened on the basis of title and abstract. The remaining 75 records were then screened on the basis of the readiness of the full text. Of these, 37 studies met our selection criteria.

3.1 Descriptive analysis

Seven of the articles included in the review were published by the International Journal of Environmental Research and Public Health, which has an impact factor of 4.614 and 4.5 in CiteScore. The rest of the journals have published only two or one articles (only four journals published two articles each) (Table 2).

3.2 Psychosocial wellbeing related outcomes

In terms of the research objectives, 35 of the 37 articles focus on the relationship between telework (considered as total or partial form of work activity on a regular or occasional basis) and some aspect of wellbeing, whether work-family conflict, satisfaction and/or health. While the two remaining articles by Cortis and Powell (2018) and by Currie and Eveline (2011) do not consider telework as such, they do consider home-based technologically assisted complementary work and its impact on work-life balance.

20 articles analyzed teleworker experiences during the COVID-19 crisis, with 16 concluding that teleworking negatively affected wellbeing during the pandemic and lockdown. Some relevant results indicate that family responsibility fell mainly on women, regardless of whether they had dependents or not, generating more stressful situations for them, especially during the COVID-19 pandemic lockdown period (Soubelet-Fagoaga et al., 2021). During this same period, the relationship between productive and care work was related to stress in both men and women, and workers with and without dependents (Soubelet-Fagoaga et al., 2022). Specifically, Lonska et al. (2021) found that women aged 18-44 and respondents with young children had difficulty maintaining work-life balance while teleworking during the COVID-19 pandemic.

We have found 35 articles where a gender perspective is shown in their theoretical approaches, objectives, hypotheses and/or discussion. Gender comparisons consider factors such as differing socialization, discrimination against women, and the way in which household responsibilities and family care are assigned to women.

Two papers (Céspedes et al., 2021; Ipsen et al., 2021) do not consider the gender perspective. While these studies do reference sex differences in their segregated results, they do not take a gender perspective into account.

The most common comparison in the papers is between men and women (31 articles). This is followed by articles differentiating outcomes for teleworkers with and without children (26 articles), and articles comparing teleworking (or working from home) with working on the organization's premises (five papers). Six studies analyze all-women samples. Two studies (Dockery and Bawa, 2018; Derndorfer et al., 2021) focus on teleworking cohabiting couples.

Four studies make specific comparisons: employed and self-employed workers (Desai et al., 2011; Reuschke, 2019); formal and informal teleworking arrangements (Troup and Rose, 2012); teleworking and teletraining (Romeo et al., 2021).

Broken down by economic sector, we found four studies on civil servants: those of Troup and Rose (2012), Bae and Kim (2016), Cortis and Powell (2018), and Thulin et al. (2019); one study on knowledge workers by Sherman (2019); one study on academic staff, that of Currie and Eveline (2011); and one study on the financial sector (Hilbrecht et al., 2013). However, 81% of our review articles considered the working population as a whole.

Five studies compared participants from two or more countries and 32 studies focused on just one individual country.

The findings of our study focus on the way in which telework affects wellbeing, with results classified on the basis positive or negative effects on work-family balance/conflict, satisfaction, health, and the extent to which these effects differ between women and men (Tables 3–7). In this sense, 22 articles find that telework has a negative impact on wellbeing. Some of them conclude that women find it more difficult to reconcile family and work than men (Currie and Eveline, 2011; Kurowska, 2020; Zhang et al., 2020; Carvalho et al., 2021; Derndorfer et al., 2021; Soubelet-Fagoaga et al., 2021; Giedrė Raišiene et al., 2022; Kuśnierz et al., 2022) devote more time to unpaid work than men (Nakrošiene et al., 2019), are more likely to do complementary work outside regular hours (Cortis and Powell, 2018), do more double shifting (Wheatley, 2012), have heavier workloads (Lonska et al., 2021). Findings also show that women teleworkers suffer from poorer mental health (Kuśnierz et al., 2022); lower levels of job satisfaction (Bae and Kim, 2016); higher levels of stress, tension and/or anxiety (Hilbrecht et al.,

TABLE 2 Journal Impact Factor (WOS), CiteScore (SCOPUS) and number of articles analyzed.

Journal	Journal impact factor (2021)	CiteScore (2021)	No. articles analyzed
International Journal of Environmental Research and Public Health	4.614	4.5	7
Frontiers in Psychology	4.232	4.0	2
New Technology, Work and Employment	4.182	7.5	2
Sustainability	3.889	5.0	2
PLoS One	3.752	5.6	2
Transportation Research Part a-Policy and Practice	6.615	10.6	1
Management Science	5.667	7.7	1
Gender Work and Organization	5.428	4.6	1
Human Resource Management Journal	5.039	7.7	1
The American Review of Public Administration	4.929	5.8	1
Group and Organization Management	4.290	6.2	1
Work, Employment and Society	4.249	6.8	1
BMC Public Health	4.135	6.1	1
Higher Education	3.947	7.2	1
Environment and Planning A: Economy and Space	3.790	6.2	1
Gender in Management	3.337	3.8	1
International Journal of Manpower	3.295	3.2	1
Personnel Review	3.228	4.6	1
Journal of Industrial Relations	3.189	3.7	1
Social Indicators Research	2.935	4.7	1
Journal of Occupational and Environmental Medicine	2,306	3.3	1
International Labour Review	1.297	2.4	1
RAE Revista de Administração de Empresas	1.100	1.4	1
Community, Work and Family	0.96	3.5	1
Problems and Perspectives in Management	-	2.2	1
Journal of International Women's Studies	-	0.5	1
Ciencia y enfermería [Science and Nursing]	-	0.4	1

2013; Céspedes et al., 2021; Parent-Lamarche and Boulet, 2021; Romeo et al., 2021; Subha et al., 2021); higher score on depressive symptoms, and lower resilience compared to fathers (Brym et al., 2022); and are less likely to pay attention to healthy habits (Giedrè Raišiene et al., 2022). Teleworking can also make women feel disengaged from professional work, make their employment situation more precarious, and consolidate their roles as traditional housewives (Çoban, 2021). In addition, three articles report a negative impact of telework on both sexes. One study describes the way in which women find it difficult to manage domestic work-life balance despite handling core household and care responsibilities (González Ramos and García-de-Diego, 2022). Strong work-family integration (i.e., lack of borders) has a particularly harmful effect on work-family conflict for male teleworkers, while a strong inability to disengage from work has an especially harmful effect on work-family conflict for female teleworkers (Eddleston and Mulki, 2017). Finally, teleworking during the COVD-19 pandemic increased perceived stress and adversely affected work-life balance and job satisfaction in both sexes (Sandoval-Reyes et al., 2021).

However, 10 articles report that telework has positive impact on work-family balance: seven on both men and women, and three articles only on women. This can be explained because teleworking more easily allows women to switch between personal and career roles while working at home (Wheatley, 2012; Rathnaweera and Jayathilaka, 2021); and especially when they have children because of caring tasks (Sherman, 2019).

Although in the other seven studies men and women both report a positive impact, for women teleworking has more drawbacks. Women perceived the limitations of the home office more than the male respondents (Ipsen et al., 2021). As Dockery and Bawa (2018) stated, telework facilitates better work-family balance but, when male employees work from home there is a tendency for their female partners to feel less satisfied with the division of household tasks. This suggests that when men work from home, they do not increase their contribution

TABLE 3 Quantitative studies on the effects of teleworking on work-family conflict or family-work conflict.

References	Country	N (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Giedrė Raišiene et al. (2022)	Lithuania	475 teleworkers (359 women and 116 men)	*Ad hoc* questionnaire	Correlational	Telework	*WFC	Women are more likely to feel exhausted ($p < 0.01$). Women are more likely than men to feel irritable ($p = 0.011$). Having children (r = 0.211, $p < 0.01$) feel more difficulties to distance themselves from personal worries at work, and more conflict with their families (r = 0.180, $p < 0.01$) Women report bad habits because of the stress of teleworking ($p = 0.009$)	Working from home increases the likelihood that women will be less concerned about healthy living habits. Having children increases WFC and FWC
Kuśnierz et al. (2022)	Poland and Ukraine	726 adults (486 women, 505 parents, 276 had children below 12 years of age)	-Six Dimensional Work-Family Conflict Scale (Carlson et al., 2000) -The satisfaction with life scale (Diener et al., 1985). -A global measure of perceived stress (Cohen et al., 1983). -A brief measure for assessing generalized anxiety disorder: The GAD-7 (Spitzer et al., 2006) -The PHQ-9: Validity of a brief depression severity measure (Kroenke et al., 2001) - Remote work assessment scale (RWAS) - General self-rated health (GSRH) (DeSalvo et al., 2005)	Cross sectional	Telework	Stress, anxiety, WFC, **FWC, depression	Women WFC ($p = 0.020$, d = −0.18), stress ($p < 0.001$, d = −0.28), anxiety ($p < 0.001$, d = −0.32), and depression ($p < 0.001$, d = −0.33) Parents caring for children under 12 WFC ($p < 0.001$, d = −0.29), FWC ($p < 0.001$, d = −0.47) stress ($p = 0.005$, d = −0.21), anxiety ($p = 0.003$, d = −0.23), and depression ($p = 0.005$, d = −0.22)	Parents of children under 12 and women are the most vulnerable groups for increased WFC, FWC, and worse mental health and wellbeing
Derndorfer et al. (2021)	Austria	1,116 workers (79.6% women)	-Multiple Burdens under COVID19 (Derndorfer et al., 2021) -Statistics on Income and Living Conditions microdata 2004–2018 (EUROSTAT. EU, 2020) -Standard-Dokumentation Metainformationen (Statistics Austria, 2016)	Correlational	Telework	WFC (domestic work and childcare tasks)	Both parents (β = 0.11, n.s.) or only mothers (β = −0.04, n.s.) working from home does not alter the probability of men taking on more childcare tasks	Mothers were more likely to find themselves stressed, working overtime, working at weekends, and with blurred boundaries between work and family time
Ipsen et al. (2021)	29 European countries	5,748 workers (59.2% women, 34.6% had children)	*Ad hoc* questionnaire	Correlational	Telework	WFC	Gender (d = 0.66231); Presence of children (d = 0.66035)	Women and men perceived the improved work–life balance in the same way

(Continued)

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TABLE 3 (Continued)

References	Country	N (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Rathnaweera and Jayathilaka (2021)	Sri Lanka	270 workers (51.9% women)	*Ad hoc* questionnaire	Correlational	Telework	WFC	Gender and children 0.40% effect on work- life balance ($p < 0.001$)	Gender and number of children will mainly impact the work-life balance. In telework women need to pay careful attention to childcare tasks
Soubelet-Fagoaga et al. (2021)	Spain	332 workers (178 in telework) (65% women 20.3% with children)	-WorkBAT: Spanish version (Boada-Grau et al., 2013) -A general measure of work stress: The Stress in General Scale (Stanton et al., 2001)	Correlational	Telework	WFC, job stress	WFC and gender (d = 0.278). Job stress and gender (d = 0.144)	During the lockdown period, family responsibility (with or without dependents) fell mainly on women, leading to more stressful situations for women
Kurowska (2020)	Poland and Sweden	1,358 men and 1,471 women	Generations and Gender Survey (Generations and Gender Programme, 2012–2015)	Correlational	Telework	*WFC balance	Women in Poland (β = 1.36; $p < 0.01$). Men (β = 2.02; $p < 0.01$). Women in Sweden (β = 1.65; $p < 0.01$) Men (β = 1.87; $p < 0.01$)	Teleworker mothers, above all in Poland, will have lower capability to balance *WFC with childcare and household tasks
Zhang et al. (2020)	Germany	188,081 workers (59.23% men)	German Microcensus 2010 (Statistical Offices of the Federation and the Federal States, 2018)	Correlational	Gender, marital status, presence of children, telework	*WFC	Married females with children aged 0–5 years are more likely to telework (β = −0.118 p = 0.001)	Female parents during intense child caring demand stages trade off career demands for their family responsibilities more often, tend to endure high family-to-work conflict over high work-to-family conflict by more telework participation
Sherman (2019)	England	187 workers (52% women, 37% had children)	-Development and validation of work-family conflict and family-work conflict scales (Netemeyer et al., 1996). -Michigan organizational assessment questionnaire (Cammann et al., 1983)	Correlational	Telework	**FWC, job satisfaction	**FWC for parents (β = −0.105; $p < 0.10$) driven by mothers (d = 0.57; $p < 0.01$). Fathers (β = 0.098, n.s.) Job satisfaction for men (β = 0.203, $p < 0.01$). Woman (β = 0.0172, n.s.)	Mothers reported reduced **FWC during remote work
Cortis and Powell (2018)	Australia	14,789 workers (54.8% men, 28% had carer responsabilities	Australian Public Service Employee Census [Australian Public Service Commission (APSC), 2014]	Correlational	Telework	*WFC	Supplementary work in women with children (***OR= 1.5; p<0.001). Men (***OR= 1.2; p<0.5)	****HbW women with caring responsibilities are more likely to carry out complementary tasks after hours
Maruyama and Tietze (2012)	United Kingdom	394 teleworkers (70% male, 52.5% with children)	Questionnaire created with Mokhtarian et al. (1998) variables	Correlational	Telework	*WFC, career visibility, cope with caring responsibilities	For female telework increased *WFC ($X^2 = 7.093$, p = 0.029), and reduced career visibility ($X^2 = 17.252$, $p < 0.001$)	Female teleworkers report that teleworking made it easier to cope with caring responsibilities but reduces career visibility and lack of career development opportunities

*WFC, Work-family conflict; **FWC, Family-work conflict; ***OR, Odds ratio; ****HbW, Home based Work.

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TABLE 4 Quantitative studies on effects of teleworking on satisfaction.

References	Country	*N* (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Li and Wang (2022)	United Kingdom	34,484 workers (18.904 women, 81.87% with children)	University of Essex, Institute for Social and Economic Research, NatCen Social Research, Kantar Public (2020) General Health Questionnaire (GHQ-12) (Goldberg and Williams, 1988)	Longitudinal	Telework as work-family initiatives	Job satisfaction	For women in telework ($\beta = 0.98$, $p < 0.001$). Not in telework ($\beta = 0.71$, $p < 0.001$) For men in telework (n.s.). Not in telework ($\beta = 0.39$, $p < 0.01$)	Telework increases job satisfaction for women and men, and better mental health for women
Petcu et al. (2022)	Romania	440 workers (294 women and 146 men)	*Ad hoc* questionnaire	Correlational	Wellbein telework	Job satisfaction, *WFB	Wellbeing and *WFB (for women $\beta = 0.2269$, for men $\beta = 0.0693$) job satisfaction and wellbeing for women ($\beta = 0.6659$) and for men ($\beta = 0.3661$)	There is a positive correlation between work-life balance and wellbeing at the sample level, statistically significant for women who perceive the impact more acutely. Higher incidences are generated by job satisfaction on women's wellbeing
Nakrošiene et al. (2019)	Lithuania	128 distance workers (56% women, 50.8% had children)	*Ad hoc* questionnaire	Correlational	Telework	Overall satisfaction, career opportunities, perceived advantages of teleworking	Cope with caring responsibilities effect on satisfaction with telework ($\beta = -0.25$; $p < 0.05$). Women perceive less advantages of teleworking ($\beta = 0.32$; $p < 0.101$)	Women do not value telecommuting more, since it does not really offer them real opportunities because they are dedicated to more domestic tasks than men
Reuschke (2019)	United Kingdom	15,614 men and 18,104 women	United Kingdom Household Longitudinal Study (Understanding Society, 2009–2010)	Correlational	Telework	Life and leisure time satisfaction	Life satisfaction for women ($\beta = 0.232$; $p < 0.001$), for men ($\beta = 0.036$; n.s.) Leisure time satisfaction, for women ($\beta = 0.148$; $p < 0.01$), for men ($\beta = 0.272$; $p < 0.001$)	Homeworking is positively related with leisure time satisfaction of men and women
Dockery and Bawa (2018)	Australia	26,625 women and 29,338 men	Australian Household Panel Data (Melbourne Institute, 2001–2013)	Correlational	Telework	Satisfaction with division of household tasks and with division of childcare tasks	Satisfaction with household task for women ($\beta = 7.09$; n.s). For men ($\beta = 7.94$; n.s.). Satisfaction with division of childcare tasks ($\beta = 7.84$; $p < 0.001$). For men ($\beta = 7.99$; n.s.)	With children, working from home allows equitable distribution of responsibilities associated with childcare
Wheatley (2016)	United Kingdom	5,000 households	British Household Panel Survey and Understanding Society (Institute for Social and Economic Research, 2001–2011)	Correlational	Telework	Job satisfaction	Women ($\beta = 0.429$; $p < 0.01$). Men ($\beta = -0.05$; n.s.)	Positive impacts of homeworking on job and leisure satisfaction for men and women

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TABLE 4 (Continued)

References	Country	*N* (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Bae and Kim (2016)	USA	219,450 workers (52.1% women)	Federal Employee Viewpoint Survey (U.S. Office of Personnel Management, 2013)	Correlational	Telework	Job satisfaction	Women job satisfaction ($\beta = -0.053$; $p < 0.05$, OR = 0.948). Men ($\beta = 0.093$; $p < 0.001$, OR = 1.097)	Female teleworkers have lower levels of job satisfaction
Troup and Rose (2012)	Australia	856 workers with children	Household Income and Labour Dynamics Survey in Australia (Melbourne Institute, 2009)	Correlational	Formal and informal telework arrangements	Job satisfaction and satisfaction with distribution of childcare tasks	Formal **HbW and job satisfaction for women ($\beta = 0.39$; $p < 0.001$), informal **HbW ($\beta = 0.60$; $p < 0.001$). Formal **HbW and satisfaction childcare tasks distribution, for women ($\beta = 0.23$; $p < 0.05$), informal **HbW ($\beta = 0.09$; n.s.)	Formal telework arrangements increase job satisfaction for women. Informal arrangements predicted better satisfaction with distribution of childcare for women
Wheatley (2012)	United Kingdom	1,000 people	British Household Panel Survey (Institute for Social and Economic Research, 1993–2009)	Correlational	**HbW	Satisfaction with job, leisure time and use of leisure time	Women satisfaction with job ($\beta = 0.183$; $p < 0.001$). Men ($\beta = 0.251$, $p < 0.001$). Woman satisfaction with leisure time ($\beta = 0.163$; $p < 0.05$). Men ($\beta = 0.297$; $p < 0.001$). Women satisfaction with use of leisure time ($\beta = 0.145$; $p<0.001$). Men ($\beta = -0.056$; n.s.)	For women, housework represents a particular time constraint, reflecting continued presence of the "double shift". **HbW women report greater levels of satisfaction with job, and amount and use of leisure time
Desai et al. (2011)	India	200 working women and 100 housewives	The life satisfaction scale (Andrews and Withey, 1973), Job satisfaction questionnaire (Galginaitis, 1994)	Correlational	**HbW	Job satisfaction and life satisfaction	Job satisfaction ($\beta = -0.64$; $p<0.01$). Job satisfaction and perceived self-esteem ($\beta = 0.51$; $p<0.01$)	**HbW women reported more satisfaction than working women, but less self-esteem

*WFB, Work-family balance.; **HbW, Home-based work.

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TABLE 5 Quantitative studies on effects of teleworking on health.

References	Country	*N* (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Brym et al. (2022)	Germany	Working mothers ($n = 191$) and fathers ($n = 261$)	Subscale for work-privacy conflict (WPC) of the Copenhagen Psychosocial Questionnaire (Kristensen et al., 2005). Effort-Reward Imbalance (ERI) Questionnaire (Siegrist et al., 2009). Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003). Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1996)	Correlational	Telework	Psychosocial work stress, depressive symptoms and individual resilience	Gender interaction with work-privacy conflict and resilience ($\beta = -0.089$, $p = 0.034$, 35.1% of variance in depressive symptoms). Gender interaction with effort reward imbalance ratio and resilience explained 30.8% of variance in depressive symptoms ($\beta = -0.117$, $p = 0.007$) Depressive symptoms [$M_{mothers} = 7.03$, $M_{fathers} = 4.88$; $t_{(450)} = 4.914$, $p < 0.001$] Resilience [$M_{mothers} = 25.41$, $M_{fathers} = 27.19$; $t_{(426)} = -3.293$, $p = 0.001$]	Mothers had a higher mean of depressive symptoms compared to fathers. Fathers showing greater resilience compared to mothers. Gender was a significant confounder including the interaction term, both work-privacy conflict and resilience. Gender was a significant confounder including the interaction term, both the effort-reward imbalance ratio and resilience remained significant predictors of depressive symptoms
Soubelet-Fagoaga et al. (2022)	Spain	328 workers (54.6% were women, and 20.6% of workers had children)	A General Measure of Work Stress: The Stress in General Scale (Stanton et al., 2001)	Correlational	Telework	Job stress	Caregiving and rumination explained 18% in the variance of job stress [$R2 = 0.18$, $F_{(3,100)} = 7.37$, $p = 0.002$, $f2 = 0.22$]. In the relationship between work–family conflict and stress, caregiving and gender did not moderate this relationship in any population analyzed	During lockdown, the relationship between productive and reproductive work has predicted stress in both men and women and in those without dependents
González Ramos and García-de-Diego (2022)	European countries	92,269 workers (52.6% women)	EUROFOUND April to July 2020 survey "Living, Working and COVID-19"	Correlational	Telework	Life satisfaction	Association between the life satisfaction of workers and the gender of respondents (0.000 $F = 34.01$), where men have higher life satisfaction than women	Men self-report high life satisfaction across Europe compared to women, who were more concerned with work-life conflict. Both men and women teleworkers reported difficulties with managing work–life balance at home, despite women handling core care and household tasks
Carvalho et al. (2021)	Portugal	456 home-based workers (73.5% women, 50% workers had children)	-Boundary violations items (Hunter et al., 2019)—Boundary segmentation behavior items (Powell and Greenhaus, 2010)—Work–family balance items (Allen and Kiburz, 2012; Greenhaus et al., 2012) -Burnout Measure (SMBM) (Shirom and Melamed, 2006)	Correlational	*WFC, **FWC (boundary violation) in telework	Burnout	*WFC and burnout ($\beta = 0.62$, $p < 0.001$) **FWC and burnout ($\beta = -0.68$, $p < 0.001$) FWC and burnout ($\beta = -0.48$, $p < 0.001$)	Relationship between boundary violations from work-to-family and segmentation behavior was stronger for females than for males

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TABLE 5 (Continued)

References	Country	*N* (population)	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Statistical support	Results
Céspedes et al. (2021)	Chile	225 workers (76,2% women, 55,2% workers had children)	Stress from remote work, life-work balance and teleworking items from Madero Gómez et al. (2020); Madero Gómez and Flores Zambada (2009, p. 201)	Correlational	Telework	Job satisfaction, job stress, *WFC	Job satisfaction for women (r = 0.381). Job stress and *WFC for women (r = −0,408)	Teleworking in women produces stress, but they have a positive attitude toward this change in the work modality
Parent-Lamarche and Boulet (2021)	Canada	459 workers (81.9% women)	Single item (How has the COVID-19 crisis affected your stress level?)	Correlational	Telework, work-life balance	Stress	Negative contribution of work–life balance dissatisfaction (β = 0.267, $p <$ 0.01). Teleworking (β = 0.154, $p < 0.01$). Gender (woman) (β = 0.137, $p < 0.05$) to worker stress	Teleworking, work–life balance dissatisfaction and gender (women) appeared to be associated with stress
Romeo et al. (2021)	Spain	1,328 workers (69.5% women)	The Survey Work-Home Interaction–Nijmegen for Spanish Speaking Countries and the Positive and Negative Affect Schedule. Classification and Regression Trees	Correlational	Telework	Health, work-home interaction	Effects of teleworking for women's health [$t_{(1,288)} = -2.06$, $p = 0.04$] Work-home interaction for women [$t_{(1,287)} = -4.34$, $p < 0.001$]	Women exhibited more negative effects of teleworking
Sandoval-Reyes et al. (2021)	Colombia and Ecuador	1,285 workers (65.9% women, 49.3% workers had children)	-Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory (Spector and Jex, 1998). -Work Stress Questionnaire (Folkman and Lazarus, 1985)	Correlational	Telework	Stress, *WFC, job satisfaction	Stress for women (β = 0.266; $p = 0.652$), for men (β = 0.290; $p = 0.652$). *WFC for women (β = −0.217; $p =$ 0.469), for men (β = −0.261; $p = 0.469$). Job satisfaction for women (β = −0.160; $p =$ 0.112), for men (β = −0.257, p=0.112)	No significant differences between women and men
Subha et al. (2021)	India	425 women	*Ad hoc* questionnaire	Correlational	Telework	Job stress	R = −0.762	Extended period of work from home can disturb women and their mental health as they try to strike a work-life balance
Thulin et al. (2019)	Sweden	456 home workers (70.6% women, 60.5% without children)	*Ad hoc* questionnaire	Correlational	Telework	Perceived time pressure in everyday life	Women (β =-0.407; $p < 0.10$). Parents (β = 0.406; $p < 0.001$)	Women and workers with children experience the highest levels of time pressure in everyday life, regardless of telework practice
Eddleston and Mulki (2017)	USA	132 women and 167 men in telework	- WFC and FWC were assessed with measures developed by Netemeyer et al. (1996). - Work-family integration from Kreiner's (2006) measure - Job Stress was assessed with a measure created by House and Rizzo (1972) and by Netemeyer et al. (2005)	Correlational	Remote work, *WFC	Job stress Disengage from work	WFC and stress job (β = 0.54; t = 6.84). Gender moderates *WFC and disengage from work ($X^2 = 3.84$; $p = 0.05$)	Inability to disengage from work increases the *WFC of women

*WFC, Work-family conflict; **FWC, Family-work conflict.

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TABLE 6 Qualitative studies on effects of teleworking on work-family conflict or family-work conflict.

References	Country	*N (population)*	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Results
Çoban (2021)	Turkey	18 women	Semi-structured interviews	Observational	Telework	*WFC	Teleworking regulations implemented due to the pandemic risk detaching women from professional work, making their work more precarious, and consolidating their roles as traditional housewives. Having children makes teleworking preferable for women, due to traditional gender roles. Women who save time through teleworking do not transfer this time to their personal or career goals, but to childcare or sometimes household care
Lonska et al. (2021)	Latvia	204 men and 802 women, half in telework	Evaluation of Overcoming the Coronavirus Crisis in Latvia and Recommendations for Societal Resilience (CoLife), (2020)	Observational	Telework	Work lifebalance	Women in the 18–44 age group and respondents with small children were more likely to face work–life balance difficulties during COVID-19 telework
Soubelet-Fagoaga et al. (2021)	Spain	30 workers	Semi-structured interviews	Observational	Telework	*WFC, job stress	Women have had to bear the burden of double working hours. Gender roles lead to women assuming more care responsibilities compared to their male counterparts, greater experiences of guilt or assumption of responsibility in relation to leaving home. Women in telework also reported that they were particularly vulnerable to the inability to combine care with telework, which created stressful and tense situations
Da Costa et al. (2020)	Brazil	14 distance working women	Interview	Observational	Telework	*WFC	For women whose partners do not collaborate with housework, teleworking did not allow them family-work balance, and they experienced a heavy workload. For some women, teleworking during lockdown mitigated the conflict. Possibly accustomed to managing work overload, these women consider that the advantages of the proximity of the family allowed by the new routine outweighs the disadvantages resulting from increased workload
Collins et al. (2013)	United Kingdom	13 women in telework	Qualitative interview	Observational	Telework	*WFC	Woman workers with and without children used temporal flexibility to carry out domestic work at home, in line with traditional gender roles
Currie and Eveline (2011)	Australia	44 women academics	Online questionnaire and qualitative interviews	Observational	Telework	*WFC balance (privacy)	Women reported that teleworking caused an invasion and intrusion of technologies into their homes. They felt the need to set limits to separate work and family life

*WFC, Work-family conflict.

TABLE 7 Qualitative studies on effects of teleworking on satisfaction.

Refernce	Country	*N (population)*	Instruments	Study design	Independent variable(s)	Dependent variable(s)	Results
Hilbrecht et al. (2013)	Canada	51 teleworkers (43 women, 8 men)	Semi-structured interviews	Observational	Telework	Satisfaction with leisure activities	Women teleworker's self-identify was related to normative behavior of 'good' mothers. This decreases their time for personal leisure or affect the quality of the experience and, indeed, and they reported feelings of time stress. For men, having more time with children seemed to enhance feelings of work-life balance but did not appear as closely connected to social expectations of a more intensive involvement in children's daily routines

to household chores by as much as their partners think they should.

Other studies show that telework increases satisfaction (Troup and Rose, 2012; Wheatley, 2012, 2016; Reuschke, 2019; Sherman, 2019; Li and Wang, 2022; Petcu et al., 2022). It should be noted that in the case of the study of Sherman (2019), results show that telework increases women's satisfaction since it does not penalize them at work, as other labor flexibility measures do (for example, reduction of working hours). However, Reuschke (2019) found that women do not show higher job satisfaction than men when working from home. In the case of men, the advantage of homeworking with respect to job satisfaction is associated with autonomy and control of work, while for women is related to the flexibility that allows them to combine work and private/family life. Results from Troup and Rose (2012) show that informal arrangements predicted better satisfaction with the division (between women and men) of childcare for women than formal arrangements. This finding may be related to expectations that formal telework arrangements also formalize women's greater responsibility for childcare. In contrast, such gendered expectations that formal telework arrangements entail greater responsibility for childcare might not be as strong for men who use formal telework arrangements.

Five papers found that telework has both positive and negative effect on wellbeing. Desai et al. (2011) link teleworking with lower stress and increased satisfaction, but also lower self-esteem. Although home based working ensured flexibility, it affected women's ability to work full-time, to consolidate their economic independence, and not fall behind their husbands in terms of work. Da Costa et al. (2020) report that for some women, teleworking during lockdown mitigated the conflict, but for women whose partners do not collaborate with housework, teleworking did not allow them to reach a family-work balance, so they experienced a heavy workload. Collins et al. (2013) concluded that the flexible nature of telework allows more time for leisure or training activities; but women use teleworking more to carrying out domestic work along traditional gender lines and reported that teleworking caused an invasion and intrusion of technologies into their homes, thus they felt the need to set limits to separate work and family life. Also, in deciding to work at home, the majority of women homeworkers either accepted a demotion or gave up a promotion to be able to work at home. Maruyama and Tietze (2012) found that teleworking allows women (especially those with dependent children or those who spend more than 50 per cent of their working hours at home) to cope with caring responsibilities but reduces career visibility and lack of career development opportunities. The results found in the Thulin et al. (2019) article did not correlate telework with high levels of time pressure and time use control, but the latter variable does correlated with having young children in a way that relates to less time use control. It should be noted that most studies highlight parenthood as a key factor when determining the impact of telework on wellbeing.

4 Conclusion and discussion

This review has analyzed empirical evidence of the effects of telework on wellbeing from a gender perspective. While this is

generally lacking in other studies, some research does highlight the importance of the role of variables that especially affect working women, such as social isolation and difficulties in advancing professional development (Charalampous et al., 2019), lack of autonomy (Oakman et al., 2020), and family situation (Lunde et al., 2022).

We have found 22 studies showing that telework has negative effects on work-family interaction and work conditions, which particularly affect women. However, we have found 10 studies with observed positive results of telework on satisfaction for both men and women, but only three articles show positive results specifically for women, that is, do not affect men or the results for men are not significant. Finally, five articles reported both positive and negative effects for women.

As expected, our study confirms that literature research indicates that telework has a greater negative effect on women. Also, these negative results for women have been found to be accompanied by maintenance of gender roles in the sharing of household responsibilities and family care, reduced visibility and promotion at work, and even lower self-esteem.

The results found can be explained in terms of wellbeing: work-family balance/conflict, job satisfaction (Beckel and Fisher, 2022), and health (Oakman et al., 2020; Lunde et al., 2022). Some research also suggests women working at home may be more likely to use the teleworking due to the flexibility it offers where children and significant household responsibilities are present (Sullivan and Lewis, 2001; Sullivan and Smithson, 2007). This implies the adoption and/or maintenance of stereotypical gender roles associated with household responsibilities and family care (as postulated by the gender social role theory, by Eagly and Wood, 2012), and consequent increased exposure of women to the negative effects of telework on wellbeing. Regarding work-family interaction, difficulties reconciling work and family life partly during lockdown explains lower female teleworker productivity, because they became the main responsible for household chores and caring for dependent people (King and Frederickson, 2021; Krukowski et al., 2021; Farré et al., 2022). This lack of co-responsibility was even observed in Iceland, which has had the best results in the Gender Gap Index for several years. Even in this country, it would seem that unprecedented situations like COVID-19 reveal and accentuate strong gender norms and expectations with regard to the role of mothers (Hjálmsdóttir and Bjarnadóttir, 2021).

As explained above, results indicate that teleworking serves to perpetuate the maintenance of gender stereotypes associated with domestic activities and childcare (Eagly and Wood, 2012). As women telework more than men, they assume a more significant burden of unpaid work at home. This also implies interrupted professional careers, loss of benefits and promotion, lower career visibility, and ultimately a disconnection with the employment relationship that increases gender inequality in the workplace. Following Çoban (2021), telework strengthens gender stereotypes.

Regarding wellbeing, studies showing that teleworking negatively affects women's job, life and leisure time satisfaction run contrary to the idea that teleworking leads to improved leisure time or an opportunity to spend more quality time with the family. This is clearly related to the above-mentioned difficulties that teleworking creates in connection with work-life balance and the double working day. Some recent studies have also systematically reviewed evidence on the relationship between teleworking and employee physical and mental health (Lunde et al., 2022). Focusing on mental/psychosocial health, these authors found little or very little evidence when considering gender. However, the authors did not consider the way in which teleworking may alter the work-home interface and the role that gender played in all these relationships.

In conclusion, teleworking is a double-edged sword that is particularly problematic for women's wellbeing. Considering the findings in relation to the theory of work demands and resources (Bakker and Demerouti, 2017), teleworking is presented as a type of work resource that offers greater flexibility, autonomy and work-life balance. However, by assuming traditional gender roles that are still present in our society with regard to domestic and care responsibilities (Eagly and Koenig, 2021), women perceive teleworking as a work-related and personal demand, which puts their wellbeing at risk in a more specific way. Finally, telework does not directly resolve work-family conflicts since traditional gender roles, structures and spaces related to childcare and domestic work, continue to be reproduced (Beigi and Shirmohammadi, 2017).

As a contribution, this review considers a gender perspective when analyzing the results of the studies included. It not only values the results that analyze possible differences between women and men but also applies a gender perspective to hypotheses, results and/or conclusions. As a result, we believe that differing socialization processes, stereotypes and gender roles (e.g., Castaño et al., 2019) that maintain the unequal distribution of household responsibilities and family care (Cerrato and Cifre, 2018) should be considered as one of the factors leading to differences in the effects of teleworking between women and men.

This review has shown that teleworking has led to important changes affecting the mutually related family and work environments. Future research should conduct an in-depth analysis of the sociodemographic, family and work variables that can affect the consequences of teleworking.

4.1 Limitations and future research

One of the main limitations is the disparity of the articles included in the review, especially with regard to their methodology and assessment instruments. Many of the studies used *ad hoc* questionnaires, which makes it difficult to carry out subsequent meta-analysis and ascertain their reliability and validity.

Differences have also been found in the way in which the studies define and/or classify telework. Some refer to telework within a package of measures defined as flexible work arrangements, together with other work arrangements, such as flextime and part-time work, which makes it difficult to know if the findings are more related to telework or to the other forms of flexible work included in the studies. Some studies also differentiate between formal and informal telework, making it difficult to unify these concepts. We therefore conclude that it would be valuable to carry out empirical studies to measure the effect of telework on these variables for the same type of work and the same employment status.

Given that having children has been shown to be an important variable, there is a need for in-depth research into its influence and why this has a more negative impact on women. Having children is important because it is more difficult for mothers to escape from family responsibilities and increases the number of working hours from home or outside the home. Studies should consider the number of children and their age. Looking after young children is not the same as adolescents. Older children have greater autonomy (for example, they do not need to be taken to and from school or can stay at home without the presence of an adult) and no longer require adjustments to working hours to take their needs into account.

In addition to childcare, women are also more likely to assume responsibility for caring for other adults in the family. Finally, attention should be given to the type of family: both members of the couple telework; one member of the couple teleworks; and above all, single-parent families.

Research should also consider the type of work, conditions of work, and especially work status. Differences may be found with respect to level of status, degree of supervision, the degree to which work is interesting, and levels of responsibility and autonomy.

In conclusion, this study provides information to make us aware that teleworking continues to be a double sword for women mainly due to their social role of main responsible for the household and defendant relatives. It is still needed a change in the mindset of our society, that may allow and encourage men to share these responsibilities. Only with a real co-responsibility at home can teleworking become a great arrangement for all teleworkers, regardless of gender. So, the need for policies and practices that address gender differences, working conditions, and appropriate regulations to support all workers in this changing environment becomes a must.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

NC-T: Writing – original draft, Writing – review & editing, Data curation, Formal analysis, Validation. MZ-V: Formal analysis, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. AO: Funding acquisition, Supervision, Writing – original draft, Writing – review & editing. EC: Funding acquisition, Supervision, Writing – original draft, Writing – review & editing. AG-I: Conceptualization, Funding acquisition, Supervision, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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