

PERCEIVED GENDER EQUALITY IN CAREGIVING AND MENTAL HEALTH: THE IMPACT OF THE COVID-19 HEALTH CRISIS IN A SAMPLE OF ANDALUSIAN WOMEN¹

IGUALDAD DE GÉNERO PERCIBIDA EN EL REPARTO DE CUIDADOS Y SALUD MENTAL: IMPACTO DE LA CRISIS SANITARIA POR COVID-19 EN UNA MUESTRA DE MUJERES ANDALUZAS

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Abstract

The restrictions during COVID-19 seem to have had an unequal impact on the mental health and habits of the population in terms of gender. The literature states that crises such as this have a more negative impact on women. We explored perceived overload due to household chores and informal caregiving in a sample of Andalusian women, their perception of an increase in this overload after the pandemic, and its possible effect on mental health. To do this, we administered an online

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retrospective questionnaire to explore the perception of 166 women on care economy variables by estimating hours, effort, overload, and sharing of chores at three different times: before the onset of the pandemic, during lockdown, and at the time of data collection (one year after lockdown). We also measured depression, anxiety, stress, and life satisfaction at the time of data collection through validated scales. Results showed that women estimated significantly more time and effort on household chores and caregiving for the lockdown period. The retrospective estimation of the sharing of tasks was similar over the three moments but women perceived that they did more than their heterosexual partners. One in four women perceived an increase in caregiving overload after the pandemic. Women who felt mental overload due to caregiving scored higher in depression than those who felt physical overload. Considering these findings, and despite the limitations of this study, the pandemic may have led to an increase in informal caregiving overload for many women. Furthermore, the relation between depression and overload one year after lockdown was demonstrated. Measures are required to reduce the impact of gender in crises by designing prevention policies and programs that promote co-responsibility.

Keywords: gender; overload; housework; informal caregiving; COVID-19; mental health.

Resumen

Las restricciones vividas durante la COVID-19 parecen haber causado un impacto diferencial de género en la salud mental y en los hábitos de gran parte de la población. Asimismo, la literatura indica que las situaciones de crisis como la vivida tienen peor impacto en las mujeres. El objetivo de este trabajo es explorar la sobrecarga percibida por las tareas del hogar y cuidados informales en una muestra de mujeres andaluzas, su percepción de un incremento en la misma tras la pandemia, y su posible relación con variables de salud mental. Para ello se administró un cuestionario online para explorar la percepción de 166 mujeres en variables de economía de cuidados estimando retrospectivamente las horas, esfuerzo, sobrecarga y reparto de tareas del hogar para el momento de recogida de datos (un año tras el confinamiento), para el momento previo al inicio de la pandemia y durante el confinamiento. También se administraron instrumentos validados para medir depresión, ansiedad, estrés y satisfacción vital en el momento de recogida de datos. Los resultados mostraron una percepción de mayor dedicación y esfuerzo debido a los cuidados y tareas del hogar estimado para el momento de confinamiento. El reparto de tareas se estimó similar para los tres momentos sobre los que se preguntó, y percibieron que ellas hacían más estas tareas que sus parejas heterosexuales. Una de cada cuatro mujeres percibió un aumento de la sobrecarga debida a cuidados tras la pandemia y los niveles de depresión fueron mayores en mujeres que sentían una sobrecarga mental debida a los cuidados, por encima de quien identificó sobrecarga física. Aun considerando

las limitaciones de este trabajo, la pandemia ha podido suponer un incremento en la sobrecarga por los cuidados informales para muchas mujeres y, evidenciada la relación entre depresión y sobrecarga, podría entenderse que esta relación también se diera durante el confinamiento. Se requieren medidas que reduzcan el impacto de género en situaciones de crisis y políticas y programas de prevención que fomenten la corresponsabilidad.

Palabras clave: Género; Sobrecarga; Tareas del hogar; Cuidados; COVID-19; Salud mental.

1. INTRODUCTION

In March 2020, a global pandemic was declared as a result of COVID-19. To prevent the spread of the virus, most countries implemented lockdown and social distancing measures that seem to have affected the mental health of the population. This negative effect could already be seen in early studies with general population from different regions in China, where 53.8% of the sample rated the psychological impact as moderate or severe and 16.5%, 28.8% and 8.1% reported depressive, anxious and stress symptoms at moderate or severe levels (Wang et al., 2020). The extent of restrictions also correlated positively with levels of loneliness, psychosocial distress and lower life satisfaction in the German population (Benke et al., 2020).

In Portugal, three weeks after the first confirmed case, 42% of an online-survey sample of 10529 participants already showed moderate or severe psychological impact, with 11.7%, 16.9% and 5.6% reporting moderate to severe symptoms of depression, anxiety and stress, respectively (Paulino et al., 2020). These data, like those obtained in a study conducted in mid-March 2020 in the Basque Country both previously and at the beginning of lockdown (Ozamiz-Etxebarria et al., 2020), reflected less psychological impact than in China. This could have been due to cultural factors, lack of knowledge of the virus or the greater severity of restrictive measures and lockdown in China, since, as the period of restrictions increased, so did the symptomatology. Similar results to those obtained in China were obtained in another longitudinal study in Spain: in the first data collection during the first weeks of strict lockdown, 18.7% of the sample revealed a possible diagnosis of depression and 21.6% were likely to be diagnosed with anxiety

(González-Sanguino et al., 2020a). After six weeks of lockdown there was a significant increase in depressive symptoms, but no differences were found regarding anxiety (González-Sanguino et al., 2020b).

Some research has also shown varying impact depending on certain socio-demographic characteristics. For example, in another study conducted in Spain (Justo-Alonso et al., 2020), differences were found depending on age, with people over 60 having lower levels of stress and anxiety than those aged between 18 and 45. Furthermore, people between 18 and 25 years of age scored significantly higher in depression than those aged 45 and over. This could be due to several factors: this age group mainly consists of students where the absence of a routine was more common, the effect of limited social contact was greater at an age where social interaction is so important, and the effect of moving back to their parents' house in many cases. Other research (López-Núñez et al., 2021) found greater life satisfaction in people aged 18 to 30, and this was related to factors such as employment status and a greater number of people living together.

Although both studies show that age and living situation moderate the psychological impact of the pandemic, they are not the only relevant variables. Several studies point to other factors, such as being a woman or having a low level of education, which are associated with increased symptoms of depression, anxiety and stress. Meanwhile, an economic situation perceived as positive and older age would act as protective factors against the psychological consequences of the pandemic (European Commission, Directorate-General for Research and Innovation & Oertelt-Prigione, 2020; Paulino et al., 2020).

Some of the specific factors of vulnerability that have been related to a greater impact on women are working in the health sector (a predominantly female group) or being a victim of gender-based violence (Castellanos-Torres et al., 2020). Furthermore, on a general level, women in Spain were harder hit in terms of well-being, feelings of loneliness, and symptoms of anxiety and stress as the lockdown progressed (González-Sanguino et al., 2020a). Specifically, in research with adults residing in Spain carried out during strict lockdown (Jacques-Aviñó et al., 2020), one third of the women in the sample were found to be suffering from anxiety and depression, compared to 17% of men. This impact was greater in women with lower socio-economic

circumstances. However, these data are limited to the period of lockdown, and it is not known how they have evolved and what factors might be influencing gender differences.

Research by López-Núñez et al. (2021) found that people with poorer mental health also had more family and work conflicts. There were significantly higher values for this variable in women, reflecting difficulties in work-life balance which was particularly affected during strict lockdown by the closure of schools, education going online and the suspension of the service provided by formal carers, cleaners or day centres. This increased the need for informal care of dependants and children, as well as housework over a prolonged period of time due to the reduction of social contact.

Women perform the (vast) majority of these tasks (Addati et al., 2018) or care economy tasks in addition to their own working hours, generating gender inequalities in the sharing of leisure and free time, which has been easier for men (e.g., Kurowska, 2020). In almost half of EU countries, women spend at least twice as much time as men on housework and caregiving (Blaskó et al., 2020). On average and under general conditions, women spend 4 hours and 25 minutes on these tasks compared to 1 hour and 23 minutes for men (Pozzan & Cattaneo, 2020). An unequal distribution of these tasks between men and women brings physical, emotional, labour, monetary and time costs (Addati et al., 2018), especially for those women who have been forced to perform domestic and productive work simultaneously during the pandemic period resulting in endless workdays (Heggeness, 2020).

Specifically, research with 274 heterosexual couples in the United States, with both partners working full-time and at least one young child, found that, although couples with more egalitarian strategies showed better levels of well-being and work performance, up to 36.6% of women were responsible for all or most of the care during school closures (Shockley et al., 2020). However, although some studies point to this overburdening of women with household and care tasks as one of the possible causes of gender differences in the psychological impact of the pandemic, this is not taken into consideration as a variable of analysis (Ausín et al., 2021) and the impact it may have had on their health and physical and/or mental overload is unknown.

Despite the above mentioned, the pandemic can be seen as an opportunity for long-term change in care-related gender roles as a result of teleworking,

the increased physical presence of parents at home and the high feminisation of the professions bearing the brunt of the health crisis (Blaskó et al., 2020). This opportunity exists insofar as there is a tendency for people to maintain changes from their previous habits, providing an opportunity for systemic changes for the care economy to be considered and recognised at political, social and economic levels (Power, 2020).

However, while the pandemic may have meant that many fathers have become co-responsible for caregiving, this is by no means universal (Lewis, 2020). Other reasons for this include prevailing gender roles and differential gender socialisation that perpetuate the structure that undervalues what is associated with «femininity», such as caregiving (Cortés & Parra, 2009). The report by UN Women on the 2008 economic crisis and gender equality highlighted how services associated with unpaid work related to care suffered major cuts, with the burden of this work falling more heavily on women, even in developed countries where a certain level of balance had been achieved (e.g., UN Women, 2014). And specifically, in some of the past health crises that ignored gender differences, policy responses actually exacerbated conditions of inequality, persisting beyond the end of the emergency situation itself (Davies & Bennett, 2016). Thus, failure to incorporate a gender perspective in decision-making and in assessing the impact of health crises may leave health systems vulnerable in the face of future pandemics and reliant on the care economy at the expense of the health and overload of many women (Harman, 2016).

Even when the Lancet Gender and Covid-19 Working Group asked governments to consider the direct and indirect effect of sex and gender on the pandemic, only 26 out of 55 countries provided sex-disaggregated data (Castellanos-Torres et al., 2020) and they did not necessarily analyse the impact of gender, focusing instead on immunological differences in the virus or higher mortality in men (Wenham et al., 2020). Despite evidence of an association between manifestations of gender inequality and poorer levels of mental health in women (e.g., de Sousa & de Araújo, 2012), and how the unequal division of labour in the household shows that women fare worse in this regard (e.g., Bird, 1999), few studies have addressed the consequences of the pandemic from a gender perspective.

A recent study in the UK showed that, in couples with children, women spent more hours than men on unpaid care, and as the number of hours spent

on this work increased, so did the psychological distress (Xue & McMunn, 2021). With these previous findings, it appears that unequal caregiving during the pandemic may have had an effect on women's mental health. However, to our knowledge no similar research has been done in Spain, nor has there been research into how factors related to the invisible economy of unpaid work during lockdown have been perceived by women in terms of the consequences for their mental health. This study examines the perceived effect of the pandemic on equality and care sharing and its impact on mental health and life satisfaction. To this end, we have drawn up the following objectives:

1. Determine perceived inequality in the women of the study sample through a descriptive analysis of variables referring to overload arising from household chores and informal care. We will also analyse potential differences in these variables when comparing their estimated perception for the pre-pandemic moment, lockdown and time of data collection;
2. Analyse descriptively the variables of mental health (depression, anxiety and stress) and life satisfaction in the women in the sample, and study their relationship with the socio-demographic variables of age and the situation of cohabitation;
3. Explore the relationship between these variables of mental health and life satisfaction with those relating to overload and caregiving estimated for the time of data collection;
4. Last, we shall study the relationship between perceived overload and mental health variables and life satisfaction, depending on whether or not an increase has been perceived in this overload after the pandemic.

According to the literature review, we stated two hypotheses. Regarding Objective 2, worse mental health is expected for younger women. Regarding Objective 3, worse mental health is expected the greater the perceived overload, the greater the effort involved in caregiving, the greater the number of hours per day dedicated to caregiving and in situations of unequal sharing of tasks in cohabiting couples.

2. METHOD

2.1. Participants

The research was carried out through a non-probability snowball sampling using an online survey that gave us access to a total sample of 179 people, after eliminating those who did not meet one of the inclusion criteria ($n = 13$): identifying as a woman, being over 18 years of age and residing in the autonomous region of Andalusia. The final sample ($N = 166$ women) were aged between 18 and 71 years ($M = 36.43$, $SD = 13.95$). Of these, 61.40% were women residing in different Andalusian cities, mostly Seville (81.90%), while 38.60% lived in villages.

In terms of educational level, 10.20% of women had basic or intermediate studies, 9.60% had finished secondary education, 59% had degrees and 21.10% had postgraduate studies. The socio-economic level of the family unit of the participants was defined as high in 3.60%, medium-high in 52.40%, medium-low in 40.40% and low in 3.60%. In this respect, it should also be noted that 41% of the sample was inactive at work (including sick leave, unemployment, students, retired, etc.) while 59% were in active employment, with 2.40% of this group on furlough at the time of data collection.

As far as their relationships were concerned, 80.70% of the sample had a partner, and 56% of these cohabited. Of the stable cohabiting couples, 98.77% were heterosexual. In terms of cohabitation status, and only among those whose situation remained unchanged since the beginning of the pandemic ($n = 141$), 6.40% lived alone or with flatmates, 58.20% with a partner and/or children, 31.90% with their family of origin (mothers, fathers, siblings or other relatives) and 3.5% had other different situations. Another relevant variable for this research is that the women in the sample had on average 0.73 dependents ($M = 0.73$; $SD = 1.02$).

2.2. Instruments

The data collection instrument was an online questionnaire that was completed on the Microsoft Forms platform and included ad hoc items and validated scales. Subjects were informed of the purpose of the research and the estimated completion time (15 minutes) at the beginning. The items of this instrument were distributed in different sections.

One section included several socio-demographic questions to describe the sample of participants: whether or not they identified themselves as women, place of residence, age, level of education, level of income and employment status. Questions were also included on their relationship status and family situation to find out whether or not they had a partner when they answered the questionnaire, who they lived with before and during the lockdown, as well as when answering the questionnaire and the number of dependents in their care.

Another section included the Spanish version of the Depression, Anxiety and Stress Scale (DASS-21, Lovibond & Lovibond, 1995, cit. in Daza et al. 2002) which measures three of the variables of interest coinciding with the three dimensions of the scale. The score for each subscale is obtained through the sum of 7 four-point Likert-type items (0 = *not at all applicable to me* to 3 = *very applicable to me/applicable most of the time*), with a total of 21 points. The scale has good psychometric properties and in the current study the internal consistency was $\alpha_{\text{Cronbach}} = .92, .84$ and $.86$ respectively for depression, anxiety and stress.

We also used the Spanish version of the Life Satisfaction Scale (Diener et al., 1985, cit. in Vázquez et al., 2013) with 5 Likert-type items (1 = *strongly disagree*, 7 = *strongly agree*). The total score ranges from 5 to 35, with higher scores indicating higher levels in the construct. The scale showed good internal consistency in the sample of the current study ($\alpha_{\text{Cronbach}} = .83$).

Finally, there was a section with 18 questions with both quantitative and categorical multiple-choice and Likert-type scales to explore: the perception of the division of tasks between the members of cohabiting couples, the number of hours dedicated per day to care and household chores, the perceived effort involved in these chores and whether this effort was perceived as an overload (none, physical, mental, both). These questions asked participants for an estimate of the time prior to the pandemic, during lockdown and at the time of data collection, thus providing three measures for each variable. They were also asked whether they had perceived a change in their overload as a result of the pandemic (no change, increase, or decrease in overload).

2.3. Procedure

This research obtained approval for its development from the Andalusian Biomedical Research Ethics Coordinating Committee (Protocol 2726-N-20). Before starting data collection, the questionnaire was piloted with 9 women to check that it was intelligible and error-free. Data collection was via a link to the questionnaire for online access. The application was individual, and the dissemination was carried out through social networks specifying the inclusion criteria and requesting the participation of women with diverse socio-demographic characteristics and their forwarding to other women, following a non-probabilistic snowball sampling.

When participants started the questionnaire, they accessed the first part which specified the objective of the research, the contact details of the researchers, their consent and voluntary participation, the right to leave the study and the confidentiality and anonymous treatment of their data. Each section of the questionnaire contained instructions for the correct completion of the instrument, which appeared in the order indicated in the previous section.

2.4. Data analysis

The data analysis was carried out with the SPSS 26 statistical package, using a significance level of .05 in all cases. The variables taken into account for the analyses are detailed in Table 1, bearing in mind that socio-demographic variables such as: area of origin, level of studies, level of income, number of dependents and employment status were only considered for the description of the sample.

Table 1
Analysis of variables^a with measurement scale and values

Sociodemographic variables	Age (quantitative)
	Cohabitation status: <i>alone or with flatmates, with a partner and/or children, with family of origin</i>
Variables related to perceived overload, care, and housework	* Estimated hours per day spent on care and household chores (quantitative)
	* Estimated effort involved in care and household chores: (1 = No effort at all and 5 = Maximum effort for me)
	* Estimate of overload associated with care/chores: <i>none, physical, mental, both types</i>
	* Perceived division of chores: <i>I do everything, I do more, equal sharing, my partner does more, my partner does everything.</i>
	Perception of a change in perceived overload after the pandemic: <i>No perceived change, increase in overload, decrease in overload</i>
Mental health variables	Score in depression
	Score in anxiety
	Score in stress
	Score in life satisfaction

Note: ^a Certain variables were recategorised for some analyses, as detailed in the results for each case; *Variables for which an estimate was obtained for three different points in time during the pandemic based on the retrospective perception of participants at the time of data collection: before the pandemic, during lockdown, and at the time of data collection (one year after lockdown).

For the descriptive analyses (Objectives 1 and 2), means and standard deviations were obtained for quantitative variables, and percentages and frequencies for categorical variables. The analysis of the possible change in the estimate made for the three moments of the pandemic in the quantitative variables (Objective 1) used Friedman's *F* test because the assumption of normality was not met for the quantitative variable of interest or because the

variable of interest was an ordinal categorical variable. If differences were found, ex-post comparisons were developed using the Wilcoxon test with Bonferroni adjustment ($\alpha/3 = .017$). R^2 was taken as a measure of effect size, considering small, medium and large levels (.01, .06 and .14, respectively). In the case of analysis of the possible change between these three moments for the categorical variables (Objective 1), McNemar's chi-square was used, taking Cramer's V as effect size, being small, medium and large according to the values .10, .30 and .50, respectively.

For relational analyses between two categorical variables for independent samples (Objective 1), Pearson's chi-square was used, using Cramer's V as the effect size. When the objective required comparing means between groups to study the relationship between a categorical and a quantitative variable (Objectives 1 and 3), we conducted analyses of variance using Snedecor's F if the homoscedasticity assumption was met and Welch's F if not, together with Tukey's and Games-Howell's multiple comparisons tests, respectively. R^2 was again taken as the effect size.

We performed the analysis of the relationship between quantitative variables (Objective 1 and 3) using Spearman's correlation when the assumption of normality was not met in the variables or when one of them was ordinal, considering in both cases r_{sp} as a measure of effect size with small (.10), medium (.30) or large (.50) levels.

Regarding Objective 2, we detected covariation between the sociodemographic variables of age and cohabitation status, so both variables were studied in relationship to the dependent variables (mental health and life satisfaction) by using Multiple Linear Regression analyses (MLR) to control both predictors and to test the interaction effect between them. We developed simultaneous models, centering the quantitative predictor (age) to reduce collinearity problems. We coded the cohabitation status as a dummy variable (0-1) considering «living with the partner and/or children» as the reference group. None of the models showed multicollinearity problems, according to tolerance indices higher than zero and the factor inflation of the variance (FIV < 10). We took R^2 as the effect size for the complete predictive model and ΔR^2 for each predictor.

For analyses regarding Objective 4 that required testing main and interaction effects between two categorical variables (IIVV) and one quantitative

variable (DV) in a factorial between-groups design, we ran a factorial between-groups ANOVA with effect sizes of R^2_{partial} . This was after testing that the assumption of homoscedasticity for the dependent variables of mental health and life satisfaction was met.

3. RESULTS

The following section presents the main² results obtained for each of the proposed objectives.

3.1. Objective 1

The descriptive analysis of variables related to overload and care showed that, with cohabitation status remaining unchanged through the pandemic since data collection, the estimate of hours per day spent on these tasks was a mean of 4.29 before lockdown ($SD = 4.36$), of $M = 5.51$ estimated hours by the time of lockdown ($SD = 4.99$) and $M = 4.76$ ($SD = 5.17$) by the time data were collected one year after lockdown. The Friedman test showed that the estimate of hours per day spent on care and household chores varied between these estimates, ($\chi^2_F(2) = 52.53, p < .001$). The Wilcoxon a posteriori test indicated that differences were found between the estimate of hours per day during lockdown (*Mean range* = 2.34) compared to before lockdown (*Mean range* = 1.75), with large effect size ($p < .001, R^2 = .24$). Differences were also found in the estimate of effort for the time during lockdown (*Mean range* = 2.34) and at the time of data collection (*Mean range* = 1.91), in this case with medium effect size ($p < .001, R^2 = .10$). The estimate of hours per day of the current time was also higher than the previous time, although with a small effect size ($p = .009, R^2 = .05$).

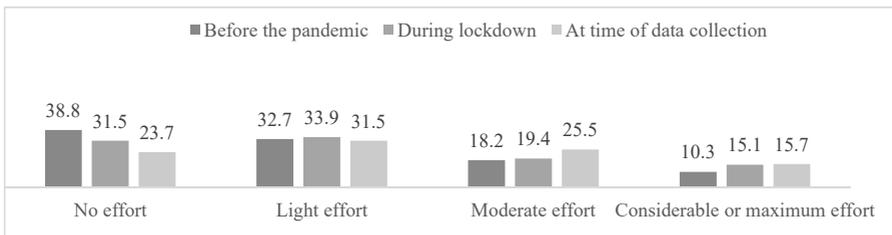
The effort involved in this care as estimated by the participants for the three points in time of the pandemic is illustrated in Figure 1. It shows that the percentage of women who felt that these tasks involved considerable or maximum effort increased by 5 percentage points from their pre-pandemic

2. For reasons of space, results where no statistical significance and small effect sizes were found are not included, since these confirmed the non-existence of a relationship between variables in the study sample.

estimate to their estimate of effort during lockdown. Considering again only cases where cohabitation remained unchanged, the Friedman test showed differences in the estimate of effort ($\chi^2_F(2) = 24.91, p < .001$), and the Wilcoxon test showed that differences were found between the estimate of effort before the pandemic (*Mean range* = 1.83) and the time of data collection (*Mean range* = 2.12), in this case with effect size close to large ($p < .001, R^2 = .13$). Differences were also found in the estimate of effort during lockdown (*Mean range* = 2.05) compared to before (*Mean range* = 1.83), although with small effect sizes in this case ($p = .015, R^2 = .04$).

Figure 1

Percentage of women according to perceived^a effort for household chores and care work as estimated before and during lockdown, and at time of data collection



Note: ^aWe recoded the variable due to the scarcity of data for the «maximum effort» value, pooling this data in the «considerable effort» value; data refers to a retrospective estimate of their perceived effort for the three moments of the pandemic at the time of data collection.

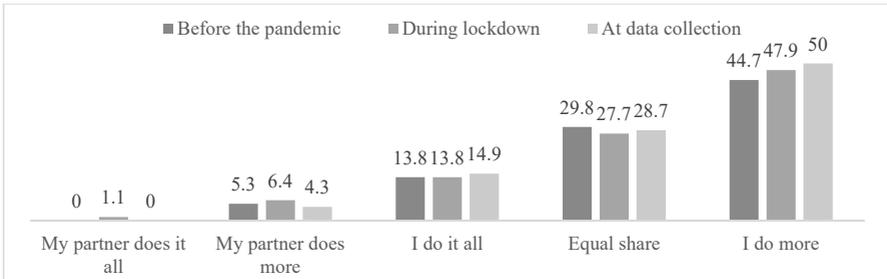
Regarding their perception of how this effort was overloading them, it was found that 32.7% indicated physical and/or mental overload in the period prior to the pandemic as a result of these tasks. This figure rose to 40.6% for the time during lockdown and remained unaltered at the time of data collection (40.7%). Of the women whose cohabitation status remained unchanged throughout the study, 26.1% ($n = 141$) perceived a subjective increase in overload as a consequence of the pandemic. When we analysed whether the estimated overload for the three points in time of the pandemic differed,

the results were inconclusive. No statistical significance appeared when comparing overload before-during lockdown ($p = .071$, $V = .54$); during lockdown-data collection time ($p = .690$, $V = .63$) and before-data collection time ($p = .115$, $V = .70$), but large effect sizes were obtained. Descriptively, of the total number of women who at the pre-pandemic time had indicated having no burden at all, 22.3% went on to identify physical or mental overload, or both during lockdown, and 14.9% went on to identify overload at the time of data collection.

Looking at the perception of the sharing of care and household chores in cohabiting couples ($N = 94$), and as can be seen in Figure 2, the perception was that this work was carried out mostly by the women in the sample, and not by their partners or in an equal manner. To analyse the change in perceived sharing at the three points in time, providing that cohabitation remained unchanged, we recategorised the task sharing variable into three values (I do more or all; equal sharing; and my partner does more or all) to homogenise the comparison groups. No significant differences were found, although large effect sizes were obtained both when comparing sharing between the time before the pandemic and during lockdown (McNemar's $\chi^2 (2) = 0.41$, $p = .815$, $V = .70$), as well as when comparing the estimate during lockdown with the data collection time (McNemar's $\chi^2 (3) = 1.44$, $p = .695$, $V = .69$), and when comparing the pre-pandemic time with the data collection time (McNemar's $\chi^2 (3) = 3.67$, $p = .160$, $V = .87$). These effect sizes would appear to indicate a problem of insufficient statistical power probably due to a sample size that, had it been larger, could have been significant.

Figure 2

Percentage of women according to their perceived share of housework and care between cohabiting partners



Given that the variable related to caregiving overload would be a variable of interest for further analysis in relation to mental health, we studied the extent to which this overload was related to family cohabitation status for those whose situation had remained unchanged. Pearson's chi-square test showed a significant relationship ($\chi^2 (2, N = 136) = 29.78, p < .001$), with effect size close to large ($V = .47$). Analysis of the residuals showed a higher than expected percentage of perceived overload in women who lived with their partner and/or children (57.30%, $SR = 5.4$). In contrast, the highest proportion was of no perceived overload in both women living alone and/or with roommates (100%, $SR = 2.5$) and women living with their families of origin (86.70%, $SR = 4.3$).

Given these results, we explored whether cohabitation status was related to other variables related to caregiving at the time of data collection. We found that mean hours per day spent on caregiving differed depending on cohabitation status, with a large effect size (Welch's $F (2.25.76) = 21.77, p < .001, R^2 = .18$). Games-Howell post-tests showed more hours when living with a partner and/or children ($M = 7.10, SD = 6.70$) than when living alone or with roommates ($M = 2.22, SD = 1.39$) ($p < .001$) or when living with the family of origin ($M = 1.98, SD = 1.32$) ($p < .001$). Similarly, effort associated with caregiving tasks was also related to cohabitation status, with a large effect size ($F (2.133) = 21.33, p < .001, R^2 = .24$). Tukey's post hoc comparisons showed that mean effort was higher among those living with a partner and/

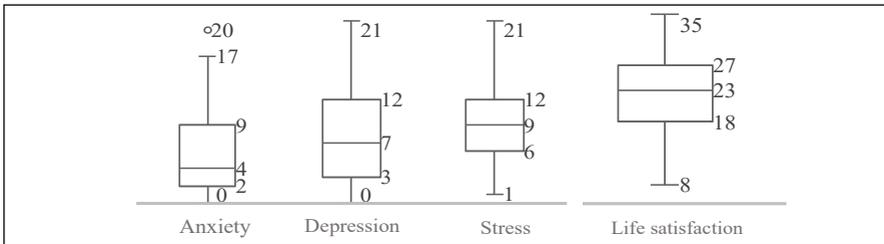
or children ($M = 2.72$, $SD = 1.00$) than those living alone or with roommates ($M = 1.67$, $SD = 0.87$) ($p = .004$) and those living with their families of origin ($M = 1.67$, $SD = 0.77$) ($p < .001$). Cohabitation status and task sharing were not found to be related and the effect size was small ($\chi^2(4, N = 86) = 4.42$, $p = .351$, $V = .16$).

3.2. Objective 2

The descriptive analyses in Figure 3 showed low mean scores for anxiety, depression and stress, considering the maximum possible scores (21 points). Life satisfaction showed intermediate scores in a more symmetrical distribution than the other variables. In general, this is a sample in which mental health problems were not predominant at the time of data collection.

Figure 3

Box plots on the distribution of the mental health criterion variables: anxiety, depression, stress and life satisfaction.



Note. Descriptives of variables: Anxiety ($M = 5.72$, $SD = 4.64$); Depression ($M = 7.99$, $SD = 5.89$); Stress ($M = 9.60$, $SD = 4.52$); Life satisfaction ($M = 22.37$, $SD = 6.14$).

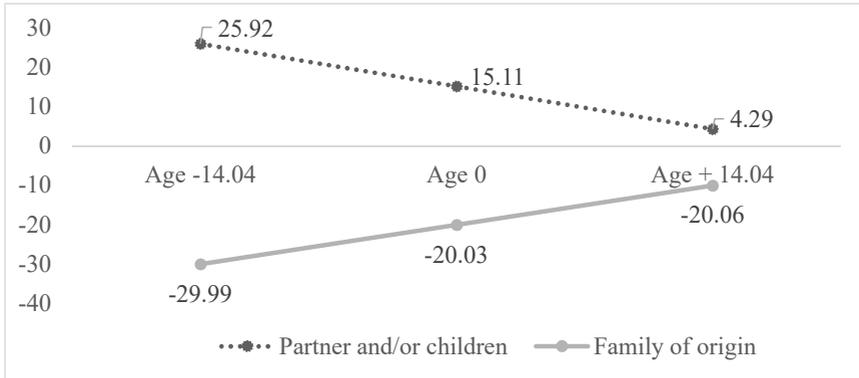
Given that the sample was homogeneous in terms of high level of studies (undergraduate or postgraduate) and with a medium socioeconomic level, the relationship between these variables and mental health was not analysed. However, this was done for the variables age and cohabitation status. However, age and cohabitation status covaried in our sample (Welch's $F(2,20.82) = 71.18$, $p < .001$, $R^2 = .52$), so testing the relationship between each of these variables with each dependent variable of mental health and

life satisfaction was carried out by MLR analyses, considering not only both predictors but also the interaction between them. To control the effect of variations in the cohabitation status through the three times at which estimates were asked about (before the pandemic, during lockdown and a year after lockdown), we only considered those participants whose cohabitation situation remained unchanged at the three moments.

Findings showed that life satisfaction could not be predicted by age or cohabitation status ($F(5,130) = 1.47, p = .204, R^2 = .02$), neither could the scores in anxiety be predicted ($F(5,130) = 1.91, p = .097, R^2 = .03$). The model for predicting the score in depression did reach statistical significance with medium effect size ($F(5,130) = 2.59, p = .028, R^2 = .06$) but none of the predictors in the model were statistically significant on their own. Regarding stress, not only did the model reach statistical significance with large effect size ($F(5,130) = 5.78, p < .001, \Delta R^2 = .15$), but the three predictors in the model showed a statistically significant relationship with the stress score: age ($\beta = -.29, t(130) = -2.02, p = .045, \Delta R^2 = .03$); the dummy variable comparing cohabitation with partner and/or children and cohabitation with family of origin, with medium effect size ($\beta = .47, t(130) = 3.49, p = .001, \Delta R^2 = .08$); and the interaction between both predictors, again with medium effect size ($\beta = .49, t(130) = 3.37, p = .001, \Delta R^2 = .07$). Given that the interaction effect was significant, it was not appropriate to interpret the principal effects of each predictor, even if they were significant. Thus, as shown in Figure 4, the higher the age, the higher the stress score for those cohabiting with their family of origin, while the relationship inverted for those living with their partner and/or children, for whom stress increased as age decreased.

Figure 4

Interaction effect between age and cohabitation status (with partner and/or children vs. family of origin) for predicted centered stress scores



3.3. Objective 3

In this case, we studied the relationship between mental health variables and variables related to overload and care. Once again with the proviso that cohabitation status had remained unchanged at the three moments of the pandemic, of all the analyses we performed, a significant relationship was only found between perceived overload (with levels: none, physical, mental, both) and the score in depression, according to the ANOVA test, with medium effect size ($F(3, 137) = 2.99, p = .033, R^2 = .06$). Differences were only found by Tukey's test in scores for depression when comparing between the group who perceived both mental and physical overload ($M = 5.33, SD = 4.15$) and those who perceived mental overload ($M = 10.33, SD = 6.35$).

3.4. Objective 4

After testing that the homogeneity of variances were assumed, a 2x2 between-groups factorial ANOVA was performed to analyse the main effect of perceived overload at the time of data collection (recoded in two levels: yes or no) and of change in perceived overload after the pandemic (two levels: no change perceived and perceived a change with increasing overload), as

well as the interaction between the two on scores in depression, anxiety and stress. No main effect was found for perceived overload, change in overload, or the interaction between the two, and effect sizes were small in all cases, although descriptively depression and anxiety levels were somewhat higher for those who did not perceive overload but felt that there had been an increase in their burden (see Table 2). In the case of life satisfaction, the interaction alone was found to be significant, although the effect size did not reach the medium level ($F_{\text{interaction}}(1, 135) = 4.08, p = .045, R^2_{\text{partial}} = .03$).

Table 2

Means (M) and standard deviations (SD) in depression, anxiety, stress and life satisfaction for each condition of the between-groups factorial design

	Perceived overload (physical and/or mental)			No perceived overload		
	Global ^a	No change	Increase	Global	No change	Increase
Depression	8.70 (5.81)	9.03 (5.73)	8.11 (6.00)	7.60 (5.70)	7.07 (5.52)	9.71 (6.11)
Anxiety	5.81 (4.34)	6.06 (4.53)	5.37 (4.03)	5.39 (4.54)	4.97 (4.49)	7.06 (4.48)
Stress	10.00 (4.41)	10.00 (4.57)	10.00 (4.23)	9.22 (4.40)	8.69 (4.34)	11.35 (4.06)
Life satisfaction	22.48 (6.57)	21.26 (6.98)	24.74 (5.17)	22.68 (5.56)	22.93 (5.57)	21.71 (5.61)

Note: ^aGlobal: indicates descriptives (M and SD) for the main effect of perceived overload (yes or no).

4. DISCUSSION

The aim of this study was to explore the perception of women's overload due to informal care and household chores, as well as the perception of change in this estimated by the women in the sample at different times of the COVID-19 pandemic and how this relates to mental health and life satisfaction variables. To this end, the first objective consisted of finding out the sample's perception of a set of variables related to the sharing of chores and care and the associated perceived overload.

The results show that the average number of hours spent by the women in the sample at the time the data were collected is in line with the average for European women, at around four and a half hours per day (Pozzan & Cattaneo, 2020). However, their estimate rose significantly to more than five hours a day for the months of lockdown. In addition, women who lived with their partners and/or children reported that they did most of the housework and cared for dependents before the pandemic, during lockdown and at the time of data collection – one year after lockdown. These results are more discouraging than those of the US study of heterosexual couples, where 36.6% of women performed all or most of these tasks during pandemic lockdown (Shockley et al., 2020).

We observed an increase in the unequal distribution of these tasks from the time prior to lockdown to the time of data collection, as the large effect sizes found for these analyses indicate a clear trend that could have been significant had a larger sample been available. In this sense, not only did the perceived trend of inequality in the sharing of household chores increase when it was estimated for the lockdown period, but once lockdown had ended and the women had gone through it, it may have meant a reversal in gains made in terms of equality in the domestic sphere. The fact that there was a high dedication and unequal distribution of household and care tasks may have led to high physical, emotional, labour and time costs for women (Addati et al., 2018). This is confirmed by the fact that 41% of women participants considered that these tasks were an overload that affected them physically and/or mentally.

In addition, 41.60% of the sample also acknowledged that these tasks were moderately to maximally demanding, and even more striking is that they estimated an increase in this effort in the lockdown period. That is, care had taken a toll on these women in this particular period. While the perception of estimated overload at different times during the pandemic did not show a significant change, the effect size indicates such a trend. Had the sample size been larger, a significant effect could have been found in terms of an increase in the percentage of women who identified some form of overload during lockdown or after the pandemic, compared to before the pandemic. These results are not conclusive, and more research is needed in this line of research, though. In any case, in addition to this negative trend for women,

it is worth recalling that more than one in four women perceived that their care and household work overload had increased as a result of the pandemic.

Considering these results globally, and taking into account that the sample consisted almost entirely of heterosexual women, it is clear that there continues to be gender inequality in the division of these tasks (Addati et al., 2018) and in the time spent doing them compared to their partners (Blaskó et al., 2020). There has also been a perceived increase in unpaid work for women during the pandemic, as indicated in previous crisis reports (UN Women, 2014) and in other European countries (Xue & McMunn, 2021). Moreover, ex-post analyses also revealed a greater dedication of hours a day spent on household chores and care for the group of women who lived with their partner and/or children, as already noted (Power, 2020). Again, this points to the idea that women have borne the brunt of this excess workload. While not denying the possibility that some men may have taken on caring responsibilities during the COVID-19 crisis, this has certainly not been the case in general, in line with the predictions of some authors (Lewis, 2020, cit. in Power, 2020). It is also possible that there may have been an underestimation of the variables studied, due to the questionnaire being completed one year after the lockdown or other problems with using retrospective data (Hipp et al., 2020).

The set of results for the first objective illustrates that this crisis situation has not been, as some studies suggested, an opportunity for change towards greater equality in the family sphere (e.g., Blaskó et al., 2020). On the contrary, this inequality and the perpetuation of traditional gender roles seem to have been exacerbated in society in general and in the context of family socialisation, which is essential for learning and imitating gender roles (Cortés & Parra, 2009). Traditionally, gender socialisation has taught girls to put others' needs before their own, despite the serious costs that this might have for women's mental health (Jack, 2011). It is therefore essential to intervene to stop the generational transmission of these gender inequalities, while at the same time emphasising the need for public policies that, in crisis situations, prevent the care economy from falling even more heavily on women's shoulders (UN Women, 2014). It would be interesting to explore the real involvement of men in these tasks in future studies on new crises

and to design programmes for the reconstruction of gender roles towards equality based on co-responsibility, especially in crisis situations.

Another consequence of this inequality in care and the sharing of household tasks are the mental health costs traditionally borne by women. These were the focus of the second and third objectives of this research. In our assessment of the mental health status of the sample, in general we found low levels of depression, anxiety, stress and high levels of life satisfaction. This could be due to protective factors such as a good homogeneous socio-economic level in the medium-high range. But it may also have been the result of the prevailing mood when data collection was conducted. There was less uncertainty and sense of fear due to a greater understanding of the virus, vaccination campaigns were starting (Jacques-Aviñó et al., 2020; Ozamiz-Etxebarria et al., 2020), and restrictive measures were being eased, and a year had passed since the outbreak of the pandemic itself. These factors may have mitigated the first higher-level impact on the sample's mental health (González-Sanguino et al., 2020a). The floor effect of the mental health variables could partly explain the absence of relationships with many of the independent variables. A relationship was found with age and the type of perceived overload associated with caregiving.

With respect to age, we hypothesized worse mental health the younger the women were, in line with previous research. Our findings showed this relationship only for the stress score and only for those cohabiting with their partner and/or children. However, when they cohabited with their family of origin, the older they were, the higher they scored in stress. To our knowledge, this moderating effect of cohabitation status on the relationship between age and mental health has not been tested in previous studies. Previous research acknowledged that limited social contact or returning to the family home in younger women might explain worse levels of mental health for these age groups (Justo-Alonso et al., 2020; López-Núñez et al., 2021). This does not seem to explain our results. While we understand that other factors may be involved, lower stress in younger women living with their families of origin could be due to less exposure to the responsibilities of the care economy. These responsibilities increase with age when, for instance, there is a need to care for dependent people in the family of origin. It seems that understanding the relationship between age and mental health

calls for future studies to look into this moderating effect of cohabitation status, as well as exploring gender differences in future crisis situations similar to the one recently experienced.

The second variable related to mental health, specifically depression, was the type of perceived overload at the time of data collection. Levels of depression were significantly higher when the perceived overload was of a mental type, compared to when it was perceived to be of a physical type. Although no interaction or main effects of either variable were observed when dichotomising this variable and studying it together with the perception of increased overload after the pandemic, descriptively a slight increase in depression, anxiety and stress was observed in those women who, while not perceiving an overload of care, reported having noticed an increase in work overload after the pandemic. Thus, the simple relationship between caregiving overload and depression is conclusive and shows that, at the time of data collection, the perception of caregiving overload has an impact on mental health, which has already been corroborated by numerous studies, including outside the pandemic context (e.g., Bird, 1999; de Sousa & de Araújo, 2012).

This work is not without its limitations. As this is a correlational study between mental health variables and the subjective perception of overload or a change in overload after the pandemic, it rules out establishing a causal relationship retrospectively. It also means that results that associate variables at different points in time, which in reality are estimates made one year after the lockdown, should be interpreted with caution. Research with longitudinal designs is needed to explore all the variables discussed here over time in future crises or emergencies. On the other hand, non-probabilistic sampling was used, which prevented the sample from being representative and heterogeneous. It would also be interesting to expand the sample and explore caregiving overload in both partners of heterosexual couples, looking at the relationship between overload and mental health as a function of gender in crisis situations. In addition, we were not able to obtain validated instruments on the burden of informal caregiving and housework as a function of the distribution of these tasks.

Despite all the above, this research is a first approach to the problem of the impact of a crisis in terms of gender equality in the care economy and

its effect on mental health. Despite its limitations, there is evidence of an accentuation in the inequality that women feel. The fact that the unequal sharing of chores has increased after the pandemic requires further follow-up analysis of these inequalities and specific interventions to avoid a setback on the slow path towards co-responsibility. Similarly, poorer mental health was found in those who reported that caregiving led to mental overload. Once again, this highlights the importance of gender-sensitive policy measures not only for the promotion of equality but also to curb the gender impact of crisis situations, which we know are cyclical historically. Just as European societies were beginning to recover from the COVID-19 health crisis in 2022, they were hit by another in the form of the war in Ukraine and the resulting economic crisis. As in past and future crises, we must be alert to investigate and intervene on the negative impact these crises have on women in particular.

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