Effect of covid-19 confinement on gender stereotypes and health

Efecto del confinamiento por la COVID-19 en los estereotipos de género y la salud

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Resumen
Son varios los efectos que la naturaleza pandémica de la COVID-19 y el consiguiente confinamiento forzado han tenido en la población en general y especialmente en las mujeres. Se ha hecho necesario conciliar las obligaciones laborales con el cuidado de los hijos, las personas a cargo y el trabajo doméstico. Estas tareas están tradicionalmente relacionadas con los estereotipos de género asignados a las mujeres. Este estudio se centra en analizar el impacto que puede haber tenido el encierro en las mujeres en relación con la internalización de las normas de género y si esta situación ha aumentado la ansiedad y la depresión en estas mismas mujeres. Participaron un total de 502 mujeres de 18 a 71 años, de las cuales 251 completaron los tres instrumentos de medición antes del confinamiento y las otras 251 los completaron tres meses después del inicio de la pandemia. Los resultados muestran una clara influencia del encierro sobre la ansiedad y depresión de las mujeres participantes, así como cambios en la percepción de algunos de los estereotipos de género tradicionalmente asignados a las mujeres.

Palabras clave
COVID-19; mujeres; ansiedad; depresión; estereotipos de género

Abstract
There are several effects that the pandemic nature of COVID-19 and the consequent forced confinement have had on the general population and especially on women. It has become necessary to reconcile work obligations with the care of children, dependents, and household work. These tasks are traditionally related to the gender stereotypes assigned to women. This study focuses on analysing the impact that confinement may have had on women in relation to the internalization of gender-based norms and whether this situation has increased anxiety and depression in these same women. A total of 502 women aged 18-71 years participated, with 251 completing the three measurement instruments before the confinement and the other 251 completing them three months after the confinement began. The results show a clear influence of confinement on the anxiety and depression of the participating women, as well as changes in the perception of some of the gender stereotypes traditionally assigned to women.

Keywords
COVID-19; women; anxiety; depression; gender stereotypes

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**Introduction**

From the moment the World Health Organization (WHO) recognized the pandemic nature of COVID-19, all countries understood the need to adopt measures aimed at the prevention and detection of the virus as well as intervention in the consequences of the pandemic at the health, social and economic levels (Instituto de la Mujer y para la Igualdad de Oportunidades, 2020).

On the other hand, measures taken to curb contagion have focused primarily on mandatory containment. Other previous pandemic situations resulted in an increase in psychological disorders (Brooks et al., 2020; Reynolds et al., 2008). It is expected that the confinement situation caused by the presence of COVID-19 will lead to an increase in anxious and depressive symptoms, given the need to adapt to a new situation with a high sense of uncertainty and, therefore, of helplessness. Some studies have already provided results in this regard (Holmes et al., 2020; WHO, 2020a; Zhang, Wang, Rauch, & Wei, 2020).

Different agencies and institutions are currently preparing reports related to the psychological consequences of quarantine caused by the presence of COVID-19 and the variables directly related to these consequences (WHO, 2020b). In this regard, the WHO stresses the need to take into account the impact that gender differences may have on the consequences of the response to the crisis.

The quarantine situation interferes in a special way with family relations and work life. There has been a change in lifestyle, both at the personal and family level, which has forced all family members to live together in a generally reduced environment (Kuper-Smith, Doppelhofer, Oganian, Rosenblau, & Korn, 2020) where it is necessary to reconcile work responsibilities with domestic tasks and childcare (Beauregard, Basile, & Canonico, 2019; Haleem, Javaid, & Vaishya, 2020). The data indicate that it is women who tend to spend more time on household care tasks, thus spending fewer hours on paid work outside the home (Casado & García-Carpintero, 2018; Sánchez & Sebastián, 2006). Similarly, it is women who are professionally engaged in care-related tasks such as nursing, direct care in pharmacies, psychology, assistance to elderly and dependent persons and cleaning tasks (Conway, Bourque, & Scott, 2013; Ferrer-Pérez, 2020; Wenham, Smith, & Morgan, 2020).

This form of personal and work organization is directly related to gender role stereotypes. Gender role refers to the set of norms, duties, permitted and disallowed behaviours from a social and cultural point of view based on biological sex (Ellemers, 2018; Perez-Viejo et al., 2011). The role assumption is directly related to the formation of gender stereotypes (Koenig & Eagly, 2014), making these stereotypes an important social control mechanism that has traditionally assigned women characteristics related to sensitivity, care, submission, warmth, solidarity and emotionality, among others (Dillon, Lopes-Franco, Kreimer, Struchiner, & Hannikainen, 2018), while men are related to characteristics such as power, strength, courage and leadership (Castillo-Mayén & Montes-Berges, 2014). The acceptance of gender stereotypes leads to inequality...
It has traditionally been thought that stereotypes remain unchanged or change very slowly throughout history, since they are social constructions. However, in relation to gender stereotypes, there are contradictory results. Some stereotypes, such as those related to maternity or care, are still in force (Castillo-Mayén & Montes-Berges, 2014), while others, mainly related to the workplace, seem to be flexible, and slight changes have been observed since the middle of the 20th century (Eagly, Nater, Miller, Kaufmann, & Sczesny, 2020; Koenig & Eagly, 2014). However, the gender stereotypes that tend to be most internalized in women themselves are related to motherhood (Casado & García-Carpintero, 2018); the couple’s relationship; the idea of romantic love ( Bareket, Kahalon, Shnabel, & Glick, 2018); the belief in being gifted for tasks involving care, greater affectivity and empathy (García-Calvente, Mateo-Rodríguez, & Maroto-Navarro, 2004); and the consequent renunciation of ambition and professional goals (Larrieta et al., 2015).

In line with the WHO’s guidelines (2020b), we see the need to propose studies that take into account the gender dimension and gender-based stereotypes in the analysis of the socio-health repercussions of the pandemic by COVID-19. The aim of this paper is to analyse whether the forced confinement for almost a full quarter that has been subjected in Spain due to an unexpected situation with dramatic consequences such as the COVID-19 pandemic has been able to affect the internalization of gender roles by women. It will also be analysed whether this confinement has been able to increase the levels of anxiety and depression in women.

We understand that it is important both to know the impact that confinement may have had on women in terms of internalizing gender-based norms and to check whether confinement increases anxiety and depression in women and whether this is related to the increased or decreased internalizing of gender-based norms.

We think that women could rethink their role or social role as women when there are circumstances that force them into confined living with their partner and children for several weeks without being able to leave the house and that require them to reconcile work and care. Therefore, we propose the following working hypothesis: a) confinement should affect women’s health, given the unexpected nature of the situation and the uncertainty it entails, and therefore, symptoms of anxiety and depression should increase; b) the situation of
confinement may have influenced women's self-perception of gender stereotypes, especially those related to the idea of romantic love and caregiving tasks; c) women with greater internalization of gender stereotypes or “norms” will have higher scores on anxiety and depression; and d) there will be differences in the internalization of social norms or gender stereotypes between younger and older women.

**Method**

**Participants**

The sample was composed of a total of 502 women aged 18 to 71. A total of 251 women completed all three measurement instruments before confinement, and the remaining 251 completed all three instruments months after confinement began. The first sample was randomly selected from a total of 4000 participants. The mean age was 33.88 years ($SD = 10.5$). A total of 34.7% were married, 36.3% were single with a stable partner, and 29% were single without a stable partner. In terms of whether they were mothers, 64.5% stated that they had children.

The second sample was randomly selected using a quota procedure to ensure that the characteristics of the participants in both studies were comparable. The mean age was 33.31 ($SD = 9.1$). Of the women, 34.7% were married, 36.7% were single with a stable partner, and 28.7% were single without a stable partner. In this second sample, 64.5% of the women stated that they had children.

There was a slight difference between pre- and post-age groups that was not statistically significant: $t(500) = -0.48, p = .50$.

**Instruments**

The Inventory of Anxiety Situations and Responses (ISRA; Miguel-Tobal & Cano-Vindel, 1988) was used to assess anxiety. It consists of 24 items scored on a 5-point Likert scale from 1 (almost never) to 5 (almost always). It is grouped into three subscales that assess cognitive, physiological, and motor responses to different situations. The reliability of Cronbach’s $\alpha$ for each subscale was as follows: $\alpha$ (total) = .95; $\alpha$ (cognitive) = .92; $\alpha$ (physiological) = .88; and $\alpha$ (motor) = .79.

To evaluate depression, the Three-Dimensional Questionnaire on Depression was used (CTD; Jiménez-García & Miguel-Tobal, 2003). It consists of 34 items scored on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). It evaluates three types of responses (physiological, cognitive, and motor) to certain situations, in addition to evaluating suicidal tendencies. The reliability of Cronbach’s $\alpha$ for each subscale was as follows: $\alpha$ (total) = .96; $\alpha$ (cognitive) = .92; $\alpha$ (physiological) = .87; $\alpha$ (motor) = .87; and $\alpha$ (suicidal tendency) = .91.

To measure the internalization of stereotypes based on gender roles, the Inventory of Hidden Social Violence against Women was used (acronym in Spanish, IVISEM; Vinagre-González, Aparicio-García & Alvarado-Izquierdo, 2020). It consists of 35 items scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). These items are grouped into seven factors related to gender roles: maternity (MAT), measured with items such as “being a mother is probably the most important event in a woman’s life”; romantic love and partner (PAR), with items such as...
“the ideal is to find a partner with whom to be happy forever”; care (CAR), with items such as “daughters are better prepared than sons to care for dependent elderly people”; laboral projection (PRO), with items such as “a job that involves spending many hours outside the home will not be suitable for a woman if she has small children”; attitudes and submission (SUM), with items such as “women are usually more submissive than men”; biology (BIO), with items such as “women are generally less spatially capable” and neosexism (NEO), with items such as “the inequality between men and women is exaggerated”. The reliability of the parcel scores of the IVISEM is Cronbach’s $\alpha = .84$

**Procedure**

A random sample of 502 women was used; this larger group was divided into two groups of 251 participants each. The first group responded to all three measurement instruments in December 2019, when the alert for COVID-19 had not yet been issued. The second group responded when three months had passed from the statement of alarm and the consequent confinement.

These women volunteered to participate in the study, the information for which was released on social networks. In both groups, participants had to read a text describing the research and had to explicitly indicate their consent to participate. All procedures in this study were carried out in accordance with the ethical standards of the institutional and/or national research committee and the 1964 Declaration of Helsinki and its subsequent amendments or comparable ethical standards.

**Data analysis**

The sample characteristics are described as the means and standard deviations. ANOVA and Structural equation modelling (SEM) were used to test the relationship between the three latent variables (IVISEM, depression and anxiety), including the variables for age and confinement status, with weighted least square mean and variance adjusted (WLSMV) estimators. Model fit was evaluated using goodness-of-fit indices, including the chi-square ($\chi^2$) statistic, root mean square error of approximation (RMSEA) (Steiger & Lind, 1980), Tucker-Lewis index (TLI) (Tucker & Lewis, 1973), comparative fit index (CFI) (Bentler, 1990), and standardized root mean residual (SRMR). We considered the following to indicate a well-fitting model: values of no more than twice the degrees of freedom; values of RMSEA and SRMR < .08; and CFI and TLI > .90 (Bollen, 1989; Kline & Santor, 1999)

**Results**

Table 1 presents the characteristics of all the variables included in this study. Since all the dimensions of IVISEM have the same number of items, we can see that the strongest gender stereotypes are those that refer to motherhood, Biology and Romantic love, this order was maintained after confinement, however, a weakening of stereotypes after confinement, a result that contrasts with the increase that occurred in measures of anxiety and depression.

As a first step in the analysis, a repeated measures ANOVA was performed to assess
whether the confinement had influenced significantly the measures of depression, anxiety and gender stereotypes, introducing age as a covariate. The results revealed a statistically significant main effect of containment $F(1.480) = 12.395$, $p < .001$, $\eta^2_{\text{Partial}} = .025$, of the three measures $F(2.960) = 27.442$, $p < .001$, $\eta^2_{\text{Partial}} = .054$ and of the covariate age $F(1.480) = 9.309$, $p = .002$, $\eta^2_{\text{Partial}} = .019$. In addition, as shown in Figure 1 there was interaction of confinement with the three measures $F(2.960) = 22.934$, $p < .001$, $\eta^2_{\text{Partial}} = .046$, and also of the covariate age with the three measures $F(2.960) = 54.838$, $p < .001$, $\eta^2_{\text{Partial}} = .103$.

Secondly, to explain the results of the ANOVA it was evaluated a structural equation

Table 1
Descriptive statistics for measured variables

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th></th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (Standard Error)</td>
<td>Skewness (Standard Error)</td>
<td>Kurtosis (Standard Error)</td>
</tr>
<tr>
<td>Maternity</td>
<td>12.86 (4.46)</td>
<td>0.22 (.15)</td>
<td>-0.57 (.31)</td>
</tr>
<tr>
<td>Romantic Love and Partner</td>
<td>10.92 (3.33)</td>
<td>0.72 (.15)</td>
<td>1.54 (.31)</td>
</tr>
<tr>
<td>Care</td>
<td>9.64 (4.22)</td>
<td>0.91 (.15)</td>
<td>0.12 (.31)</td>
</tr>
<tr>
<td>Laboral Projection</td>
<td>8.79 (3.01)</td>
<td>1.12 (.15)</td>
<td>1.70 (.31)</td>
</tr>
<tr>
<td>Attitudes and Submission</td>
<td>9.75 (3.51)</td>
<td>0.80 (.15)</td>
<td>0.50 (.31)</td>
</tr>
<tr>
<td>Biology</td>
<td>11.68 (4.01)</td>
<td>0.36 (.15)</td>
<td>-0.53 (.31)</td>
</tr>
<tr>
<td>Neosexism</td>
<td>8.62 (4.43)</td>
<td>1.23 (.15)</td>
<td>0.65 (.31)</td>
</tr>
<tr>
<td>Total Score IVI-SEM</td>
<td>72.26 (18.61)</td>
<td>0.68 (.15)</td>
<td>0.48 (.31)</td>
</tr>
<tr>
<td>Cognitive Depression</td>
<td>15.30 (10.67)</td>
<td>0.62 (.15)</td>
<td>-0.53 (.31)</td>
</tr>
<tr>
<td>Physiological Depression</td>
<td>13.02 (9.34)</td>
<td>0.70 (.15)</td>
<td>-0.21 (.31)</td>
</tr>
<tr>
<td>Motor Depression</td>
<td>10.25 (7.08)</td>
<td>0.40 (.15)</td>
<td>-0.61 (.31)</td>
</tr>
<tr>
<td>Suicidal Tendency</td>
<td>4.17 (6.33)</td>
<td>2.08 (.15)</td>
<td>4.06 (.31)</td>
</tr>
<tr>
<td>Total Score of Depression</td>
<td>42.64 (29.28)</td>
<td>0.94 (.15)</td>
<td>0.63 (.31)</td>
</tr>
<tr>
<td>Cognitive Anxiety</td>
<td>19.95 (8.67)</td>
<td>0.56 (.15)</td>
<td>-0.61 (.31)</td>
</tr>
<tr>
<td>Physiological Anxiety</td>
<td>14.07 (6.67)</td>
<td>1.49 (.16)</td>
<td>2.03 (.31)</td>
</tr>
<tr>
<td>Motor Anxiety</td>
<td>12.37 (5.52)</td>
<td>1.05 (.15)</td>
<td>0.51 (.31)</td>
</tr>
<tr>
<td>Total Score of Anxiety</td>
<td>46.10 (18.99)</td>
<td>0.96 (.16)</td>
<td>0.46 (.31)</td>
</tr>
</tbody>
</table>
model (SEM) that proposes an effect of IVISEM on depression and anxiety, and which includes moderating variables age and confinement using structural equation modelling (SEM) (see Figure 2).

The model showed good fit, as shown by the following goodness-of-fit indices: \( \chi^2 (96) = 319.991, p < .001; \) RMSEA = .07, 90% CI: .06, .08; CFI = .96; TLI = .95; and SRMR = .07. The loading for the three latent variables were adequate, as shown in Figure 2, with values for all indicators above .40.

Regarding the relationship between latent and observed variables, Figure 2 shows that IVISEM scores are negatively correlated with age and confinement, with statistical significance observed for its relationship with confinement. For health variables, both anxiety and depression are positively correlated with IVISEM scores and increase with confinement, while they are negatively correlated with age.

In this model, it is observed that both age and confinement explain part of the variability in IVISEM scores and in anxiety and depression, thus increasing confinement and depressive and anxious symptoms. Age is related to IVISEM scores (statements about gender stereotypes are shared more among older women), while age shows a negative relationship with anxiety and depression (younger women report fewer symptoms).

Figure 1. Average scores on instruments measuring Anxiety, Depression and Gender Stereotypes before (dashed line) and after confinement (continuous line).
Regarding confinement, this analysis shows that it had a statistically significant effect on both health variables and IVISEM scores. To further assess whether the changes observed after confinement were specific or general (occurring in all IVISEM dimensions), the significant path between confinement and IVISEM dimension were included in the model. The model’s goodness-of-fit was good and similar to that of the previous model, as shown by the following goodness-of-fit indices: $\chi^2(90) = 285.34$, $p < .001$; RMSEA = .07, 90% CI: .06, .08; CFI = .96; TLI = .95; and SRMR = .07. The loading for the three latent variables were adequate, as shown in Figure 3. Confinement mainly affected the maternity, romantic love and partner and neosexism dimensions ($p < 0.01$), with a decrease in scores in these three dimensions.

**Discussion**

In line with the findings of other recent research, these results show a clear influence of confinement on anxiety and depression, with higher scores for both variables in women (Balbuerka et al., 2020) and in the general popula-

![Figure 2. SEM for the three latent variables (IVISEM, depression and anxiety) including age and confinement.](image)

Mat=Maternity, BIO=Biology, SUM=Submission, PRO=Laboral Projection, CUI=Care, PAR=Partner, NEO=Neosexism

*p<.01; **p<.001
tion (Huang & Zhao, 2020; Li, Wang, Xue, Zhao, & Zhu, 2020). This result was to be expected, since these are emotional disturbances that tend to increase in situations of uncertainty, especially anxiety (Hebert & Dugas, 2019). Likewise, situations that cannot be controlled lead to an increase in the feeling of defensiveness, which becomes a risk factor for the presence of depressive symptoms (Trindade, Mendes, & Ferreira, 2020). However, our study reveals a relevant change in gender stereotypes as a result of confinement. Despite being a dimension that develops from childhood, in only three months of confinement, women report a change in IVISEM’s global scores and in some of its dimensions. Women seem to have reacted to this situation by rethinking some of their positions regarding the role of women in society. The maternity dimension that assesses whether this is one of the most important events in women’s lives has shown a significant change in the scores before and after confinement (Carlson, Pretts, & Pepin, 2020; Ferrer-Pérez, 2020). The data published these weeks indicate that women have taken care of the children the most and have also helped them with

![Figure 3. SEM for the three latent variables (IVISEM, Depression and Anxiety) including age and Confinement, and the statistically significant paths of confinement with IVISEM indicators (Maternity, Partner and Neosexism).](http://dx.doi.org/10.33776/amc.v47i176.4966)

Mat=Maternity, BIO=Biology, SUM=Submission, PRO=Laboral Projection, CUI=Care, PAR=Partner, NEO=Neosexism *p<.01; **p<.001
their homework (Carlson et al., 2020; Shafer, Milkie, & Scheibiling, 2020). Thus, the overload could explain this change in responses; they have been aware of the large amount of time dedicated to this role and the little time dedicated to themselves, which would explain the change in responses. The same is true for the romantic love and couple dimension, which focuses on exploring whether having a partner is the main goal of a woman's life. Coupled with the previous variable, three months in confinement with the same person may have caused women rethink whether this was what they wanted in their lives. Finally, neosexism, which explores whether women believe that equality has already been achieved, has also shown a decrease in scores. That is, women are aware that equality has not been achieved. The data are revealing because only these three dimensions of the questionnaire have been modified; the rest of the dimensions have not. Therefore, these findings indicate that confinement has made women reconsider only some of the gender stereotypes, those by which they have been most affected, and have left intact, for example, those that refer to biological or labour projection stereotypes and that are probably more strongly internalised. In any case, we consider of special relevance the greater awareness of equality that is revealed in the weakening of the neosexist stereotypes; this weakening seems to be filtering from the younger to the older generations.

The internalization of gender stereotypes is at the root of some of the forms of violence against women. The results of this study suggest that it is possible to become aware of these stereotypes and that they can be modified. This may be useful in planning programs to prevent violence against women. It would also be advisable to carry out longitudinal studies with the same sample to see how changes occur in extreme social situations.

It is observed that gender stereotypes, as a reaction to confinement, decreased in general, although some dimensions such as biological or attitudinal showed greater resistance. We do not know if this reaction was punctual and once the pandemic is over it will return to its previous levels. In any case, the effects on health and behavior during this long period of confinement will have lasting effects on health that will have to be evaluated in future studies. Among the a priori unpredictable consequences of confinement, there has been a reduction in the birth rate that could be associated with changes in gender stereotypes such as those documented in the present study. It is very different that stereotypes decrease due to greater social awareness or that it is due to a reaction to fear, stress and anxiety that causes an extraordinary risk situation, in the first case the effects can be positive, while in the second case the effects can be negative. Costs in health and well-being can be very negative, issues that we consider of special relevance for future research.

The main limitation of the study was not being able to apply a longitudinal design, failing which it was tried that the samples were similar in their sociodemographic characteristics, addressing the same population with participants from the same social networks. On the other hand, the results obtained are restricted
to the instruments applied, and it is necessary to establish in other studies the level of generalizability with respect to other health measures and gender stereotypes.

**Conclusion**

This work shows changes in gender stereotypes related to maternity, couple relationships and equality as a result of a sudden and dramatic event such as COVID-19, which forced the entire population to be confined for three months. This situation has led to increases in anxiety and depression, which were expected but not to the extent that there would be changes in mental structures that had been considered immutable for decades or that required decades or generations to change. These results highlight the enormous social impact that this event has had, leaving only the doubt as to whether this change will be permanent or whether it heralds an increase in social awareness and the overcoming of the gender stereotypes that attempt to perpetuate a social order whose adoption and indoctrination involve covert violence against women.

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