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ABSTRACT

Can't Leave You Now! Intimate Partner Violence under Forced Coexistence and Economic Uncertainty*

With the COVID-19 outbreak imposing stay at home and social distancing policies, warnings about the impact of lockdown and its economic consequences on domestic violence has surged. This paper disentangles the effect of forced coexistence and economic stress on intimate partner violence. Using an online survey data set, we find a 23% increase of intimate partner violence during the lockdown. Our results indicate that the impact of economic consequences is twice as large as the impact of lockdown. We also find a large increase of domestic violence when the relative position of the man worsens, especially in contexts where that position was already being threatened. We view our results as consistent with the male backlash and emotional cue effects.

JEL Classification: J12, I18

Keywords: intimate partner violence, lockdown, economic stress, COVID-19, coronavirus

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1. Introduction

As the spread of Covid-19 was taking place, people around the world were told to stay at home for their safety and everyone else's. But for many women and children being at home may not be a safe option. Few weeks after lockdowns started, dramatic increases in the calls to gender-based hotlines began to be reported in many countries[1], raising concerns about the possible surge of domestic violence.

However, and despite mounting initial evidence, existing theories of domestic violence yield ambiguous predictions about the effects of a lockdown. Consistent with violence as expressive behaviour (Tauchen, et al. 1991), a lockdown may increase intimate partner violence (IPV hereafter) due to an exposure effect (more time together) or due to an emotional cue if it is unexpected (Card and Dahl 2011). By contrast, a lockdown may curtail violence if it is used as an instrument for controlling behaviour (Gelles 1974; Dobash and Dobash 1979) as forced coexistence reduces the need to use violence to control a partner's behaviour.

To further complicate matters, forced coexistence came together with an economic shutdown, triggering additional factors of stress within households. That economic stress can have opposite effects on IPV depending on who (the woman or her partner) is more affected by the shock, with different theories again yielding different predictions. Bargaining models predicts an increase (decrease) of domestic violence if the relative position of the woman (man) worsens (Aizer 2010; Anderberg et al. 2016). A central element of these theories is the credibility of the threat of ending an abusive relationship if the husband's ability for compensating transfers decreases. But this may not be the case under a general lockdown, where the outside opportunities of women decrease even if the man is more adversely affected by the pandemic. Contrary to the bargaining models, the male backlash theory predicts an increase of violence if the man's relative position worsens, as this feeds his fears of losing the dominant position within the couple (Macmillan and Gartner 1999).

The main contribution of this paper is to help disentangle the effect of forced coexistence and economic stress on IPV. Understanding the role of each mechanism is crucial in order to develop any response to mitigate their impact and reduce its long-run effects on women and children.

[1] https://www.unwomen.org/en/news/stories/2020/4/statement-ed-phumzile-violence-against-women-during-pandemic

A growing body of research on the Covid-19 pandemic has estimated the effect of the coronavirus outbreak on violence against women and children (see Peterman et al. 2020 for a summary). The results are inconclusive, with some papers suggesting an increase, others showing mix results, and others suggesting no change or even a decrease of domestic violence.[2] Most of these studies rely on time series analyses of reported crime or service call data.[3] A limitation of these data sets is that they are based on reported events, but it is well-known that domestic violence suffers from an important misreporting problem[4], which may be exacerbated during a lockdown if women, justifiably or not, perceive a lack of access to support services in the health, police and justice departments. Besides, service call data usually includes calls for other reasons (legal or psychological counselling, issues related to the children visitation rights of parents during the lockdown), which may be difficult to separate from calls reporting an IPV event. Most importantly, aggregate data makes it difficult to identify the different mechanisms through which IPV was affected by the coronavirus outbreak, namely, the lockdown and the economic stress.

In this paper we attempt to overcome some of the limitations of the previous studies. To do this, we use individual level data from an ad-hoc online survey to more than 13,000 Spanish women, in which we asked them about situations typically related to IPV. By including both, reported and non- reported cases, this data allows us to get reliable estimates of changes on the prevalence of IPV during the lockdown. Besides, since we collect information about the mobility and the employment status of each member of the couple before and during the lockdown, we are able to identify the main mechanisms through which the covid-19 pandemic affects IPV. We complement this analysis with an event study of

[2] Beland et al. (2020) for Canada, Leslie and Wilson (2020) and Mohler et al. (2020) for US, and Rashid et al. (2020) for Bangladesh find an increase in domestic violence. Silverio-Murillo and Balmori de la Miyar (2020) for México find mix results. Campedelli, Aziani, and Favarin (2020) for US, Payne, Morgan, and Piquero (2020) for Australia and Gerell, Kardell, and Kindgren (2020) find no change or even a decrease of domestic violence.

[3] The only exceptions are Beland et al. (2020) for Canada and Rashid et al. (2020) for Bangladesh, which use primary data. However, Beland et al. (2020) measure IPV through an indirect question asking whether the individual is worried about domestic violence, while Rashid et al (2020) is a qualitative research based on 51 in-depth telephone interviews focused on vulnerable groups.

[4] Only a share of intimate partner violence victims seek help in emergency room departments (Frieze and Browne 1989). Using U.S. data over a four-year period, Rhodes et al. (2011) documents that less than 80 percent of female victims of intimate partner violence visit emergency departments, and 72 percent are not identified as victims of abuse.

monthly records of female homicides by intimate partners, to assess the short-run effects of the convid-19 pandemic on lethal violence.

The Spanish case offers an exceptional context in which it is possible to isolate the effect of the lockdown from the economic stress caused by the pandemic. Crucial to our study is the fact that Spain was one of the first countries to impose restrictions on mobility, and these restrictions were the strictest in Europe and affected citizens by surprise. Specifically, a national quarantine was imposed on the 15th of March. All non-essential businesses and shops were closed and the physical presence at work was limited to essential activities that could not be done from home. The national quarantine represented a drastic and unexpected change in the everyday live of millions of people. It occurred just a few days after it was imposed in Italy (9th March) and just a few days after mass demonstrations throughout the country to celebrate Women's Day. Compared to Italy, the first European country with extreme lockdown measures, Spaniards were not allowed to exercise outdoors or go for a walk for seven weeks. In addition, only one person per household could go out to do grocery shopping. The national quarantine has come along with a national economic crisis. According to most predictions, Spain's GDP will decrease this year between nine and thirteen percent, with unemployment figures rising rapidly as the devastating effects of the economic crisis threaten the survival of businesses. However, the quarantine and the economic crisis has affected individuals differently, depending on the possibilities to work from home and whether their activity was considered essential and/or subject to physical contact. This different exposure to the external and exogenous shock what constitutes our main source of identification for the analysis.

We find that during the quarantine, IPV increased significantly by 4.5 percentage points (pp, hereafter), a 23.38% of the pre-lockdown average, which is driven by an increase of the sexual and psychological types of abuses. Instead, we find no effect on the level of physical violence, the most severe type of abuse. This is consistent with a decrease in the number of female violent deaths during the lockdown. Our findings indicate that both the lockdown and the economic stress cause an independent from each other and significant increase in the level of IPV, with the largest effects occurring when both members of the couple are locked together (14-16%) and when both suffer from economic stress (25-33%). The increase in domestic violence is higher among couples with children,

couples with previous positive levels of violence and for low educated women. We also find larger increases of domestic violence when the relative position of the man worsens, especially in contexts where that position was already being threatened. We view our results as consistent with the male backlash and emotional cue effects.

2. Data

2.1 Online Survey on Intimate Partner Violence

To overcome the limitations of the available statistics and contribute to a better understanding of a phenomenon of such social importance, we have carried out an online survey and asked Spanish women about the relationship with their partner during confinement. This survey provides unique data on domestic violence episodes, reported or unreported to the police, on a national sample of 13,786 women in Spain. The survey contains two parts. In the first part, women aged 18 years and older were asked questions about their economic situation before and after the lockdown, in addition to other demographic characteristics. In the second part, the same women responded to questions about different situations that according to experts are strong indicators of mistreatment (Alberdi and Matas 2002), This set of questions allows us to construct a measure of "technical abuse". We included nine different situations, that were obtained from a larger set of situations in the last Survey on Violence Against Women in Spain.[5] We ask whether any of those situations has occurred before and during the lockdown and the frequency of occurrence. We define our main variable of interest, technical abuse, as a dummy variable that takes value 1 if any of these 9 indicators occurs "frequently" or "sometimes".[6]

The survey was carried out between May 17th and June 12th and was distributed only by Facebook through a page created for this purpose (independent of our contact list) and through the tool "boost post". This tool allows to distribute a publication randomly among Facebook users, establishing a target audience; in our case, women between 18 and 60 years old residing in Spain. Although the distribution of the survey is random, women can decide to participate or not after seeing the ad in her

[5] See Appendix Table A.1 for a description of each situation and the associated type of IPV.
[6] We follow the same criteria established by the Spanish Women's Institute and previously use in the literature (see for example, Brassiolo (2016)).

Facebook wall. Following the suggested protocols for conducting IPV surveys, it was boosted as a survey about the effects of the lockdown on women and their relationships, and not about domestic violence.[7]

In total, 13,786 women completed the survey, of which 78% were living with their heterosexual partner at that time. Due to voluntary participation and the primary selection of Facebook users, the survey is not necessarily representative of the target population. Even so, the sample obtained presents a distribution by women's characteristics very similar to that of the general population (see Appendix Table A.2). For example, according to the Spanish Labour Force Survey (a representative survey of the spanish population), the first quarter of 2020 the share of women aged between 18 and 60 with a college degree or more is 40% versus 39% in our sample. The share of women married is 49% versus 46% in our sample, and the proportion of women with children is 59% versus 56% in our sample. Yet, we reweighted our data on education, age and province of residence[8] to ensure that our statistics are representative of the Spanish women population aged between 18 and 60. This reweighting has no impact on the results.

Another concern with online surveys is the risk of attrition. Appendix Figure A.2 plots the proportion of women who did not finish the survey by question. As can be seen, 80% of the women left the survey in questions unrelated to domestic violence. The main drop, 49%, is seen in question 3, which asks the zip code, while only 1% of women drop the survey in the first question about IPV. This is important to minimize concerns about the representativeness of our survey due to selection of women based on their experience with domestic violence and their willingness to answer questions of that type.

In the regression analysis, we restrict the sample to women who had a male partner and was coexisting with him, so the final sample is of 8,951 women. On average, 19% of women in our sample had experienced some type of abuse from the intimate-partner before the lockdown.[9]

[7] Appendix Figure A.1 shows the screen shots of the Project's Facebook page and the boosted post.
[8] Spain has 52 provinces.
[9] According to the 2015 Macro-Survey on Violence against Women - whose broad sample makes it one of the most accurate portraits of the situation in Spain - 12.5% of women aged 16 and over have ever suffered physical and/or sexual violence from their current partners or ex-partners. Note that this measure does not include psychological violence, the most frequent type. Other estimates including psychological violence indicates an IPV of around 20% for this group of woman (see the 2012 FRA EU-wide survey of Violence against women and Ruiz-Pérez et al, 2017)

2.2 Female homicides by Intimate partners

To assess the effect of the Covid-19 pandemic on fatal IPV, we use monthly records of female intimate partner homicides. The Government Office on Gender-based Violence informs monthly on the femicides by province and victim-perpetrator relationship (current or former partner). We use data from January 2003 to June 2020. Between April and June of this year, there were a total of 7 female homicides, in contrast to the 25 occurred in the same months of the previous year and the average of 19 occurred in the same months of the last 5 years. The very substantial drop in intimate partner homicides during the quarantine is even more pronounced when seen in the context of the relatively high number of women murdered in the first months of 2020 (13 between January and February of 2020, compared to 9 on average during the same months of the five preceding years). In section 4, we carry out an event study analysis, controlling for seasonal changes, trends and province's characteristics.

3. Effects on Non-Extreme Violence

3.1 Empirical Approach

To assess how the current pandemic affect non-extreme IPV, we estimate the following equation using a probit model over a sample of women aged between 18 and 60 and, who have and live with a male partner:

$$IPV during\ lockdown_{ipd} = \alpha + \beta_1 ManL_{ipd} + \beta_2 WomanL_{ipd} + \beta_3 BothL_{ipd} + \beta_4 ManES_{ipd} + \beta_5 WomanES_{ipd} + \beta_6 BothES_{ipd} + \varphi IPV\ Before\ Lockdown_{ipd} + X'_{id}\,\mu_1 + Z'_{id}\,\mu_2 + \gamma_p + \theta_d + \varepsilon_{ipd}$$

where $IPV\ during\ lockdown$ is a dummy variable that indicates if woman *i,* who lives in province *p* and answered the survey at the date *d* has suffered IPV from her intimate-partner during the lockdown. *ManL, WomanL,* and *BothL* are dummies variables capturing which member of the couple is locked at home, taking the value 1 when *only* the partner, *only* the woman or both are locked at home, respectively. Locked at home is defined as to be working from home (teleworking) or not working. Note that due to

the strict mobility restrictions, all individuals not working during the quarantine were de facto locked in their homes. *ManES, WomanES, and BothES* indicates which member of the couple was negatively affected by the economic shock. *ManES, WomanES* and *BothES* take value 1 when *only* the partner, *only* the woman or both are economically stressed.[10] We define economic stress when the individual has either lost the job or clients (if self-employed) due to COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff.[11] Importantly, *IPV Before Lockdown* is a variable indicating the level of IPV suffered by woman *i* before the lockdown. By controlling for it, we avoid any biases that could arise if either the lockdown variables or the economic stress variables were correlated with some individual characteristics also correlated with the incidence of IPV. Even so, the vector *X* includes a range of individual characteristics known to influence IPV, such as age, marital status, presence of children younger than 18 years old in the household, household income, foreign-born status, education level, number of years with the current partner and employment status. In addition, the vector *Z* includes woman's partner characteristics, such as education and immigration origin. We also include province fixed effects (γ_p) to control for unobserved time-invariant province characteristics, as well as date-of-survey fixed effects, to take into account that answers can be affected by the distance of that date from the beginning/end of the lockdown. Observations are weighted by the women population in the (province, age, education) cell[12].

3.2 Results

We start by looking in Table 1 at the unadjusted change of the level of IPV during the lockdown. Column 1 in Panel A shows the percentage points change (marginal effects) in the level of IPV for couples where at least one of the members is locked or under economic stress (94.16% of the sample). We observe a significant 4.5 pp increase of the general level of IPV (a 23.38% of the pre-lockdown average, which is 19.24), which is driven by an increase of the sexual and psychological types of abuses (1.2 and 5.5 pp,

[10] See Table A3 for a detailed description of each variable.
[11] Temporary layoffs (ERTE, in Spanish law) have been very frequently used by firms during the pandemic thanks to regulatory changes.
[12] Results are robust to unweighted estimation.

respectively). Instead, we find no effect on the level of physical violence, the most severe type of abuse. As we will see later, this is consistent with a decrease in the number of female violent deaths during the lockdown. In Panels B and C we divide the general effect into two components: the lockdown (Panel B) and the economic stress (Panel C).We see that when at least one of the members of the couple is locked, the level of IPV increases by 2.4 pp (12%), while the economic stress of a member of the couple raises the level of violence by 3.0 pp (15%). Once again, the effects are driven by the increases in the sexual and psychological abuse.

In Table 2 we show the estimates of our main empirical specification, where we identify separately the effects of the lockdown and the economic stress of each member of the couple. Columns (1), (2), and (3) add controls progressively. The specification in column (3) has controls for the level of IPV before the lockdown, age dummies, date dummies, controls for the level of education of each member of the couple, the marital status of the woman, country of origin, number of years that the couple has been together, the level of income of the household, the employment status before and during the lockdown of each member of the couple and province fixed effects. The little effect on the results of adding controls is not surprising considering that we control for the level of violence before the lockdown. Column (4) shows the extensive margin effect, restricting the sample to couples with no previous violence, whereas column (5) shows the intensive margin effect and is restricted to couples with previous levels of violence. Finally, columns (6) to (9) show the effects by type of violence.

The first result from Table 2 is that the largest effects are found when both members of the couple are locked together and when both suffer from economic stress. The level of IPV increases between 2.8 and 3.1 pp (between 14% and 16%) when both members of the couple are locked. The effect is statistically significant in columns (1) and (2) but not in column (3). The economic stress of the couple causes an even larger increase of IPV, between 4.8 and 6.4 pp (25-33%), statistically significant at the 1% in all three specifications. In columns (4) and (5) we can see that these effects are driven by couples with previous levels of violence (intensive margin). Whereas the economic stress (lockdown) of the couple increases the level of IPV by 3.7 pp (1.0 pp) in the case of couples without previous violence, it raises IPV by 6.7 pp (5.2 pp) for couples with previous positive levels of violence.

We interpret these results as causal. This is so for two reasons. First, the event that gives rise to these effects, the COVID-19 pandemic, was largely unexpected and pervasive. For example, the correlation between the lockdown of the woman (man) and her (his) level of education is -0.067 (-0.005) (Appendix Table A.4). Equally low are the correlations between the level of education and economic stress: 0.006 (-0.059) for the woman (man). Second, we control in all specifications for the level of violence before the lockdown, which eliminates any biases that could arise if there was a correlation between heterogeneous effects of the lockdown and economic stress on the one hand and the previous level of violence on the other.

Columns (6) to (9) in the table distinguish between the more severe types of violence (physical and sexual) and the less severe ones (psychological). The effect of the lockdown on IPV is driven by the increase of the psychological abuse (between 3.5 and 4.0 pp, or 19-22%), with no effect on the physical-sexual one. Instead, the economic stress of the couple raises significantly both types: 1.2-1.4 pp (21-24%) in the case of the physical-sexual abuse and 6.1 pp (33%) in the case of the psychological one. Although it is difficult to establish definite reasons for these different effects, it is reasonable to assume that a lockdown situation reduces the need to use severe violence to exert control over a victim's actions, which could offset any increase in the level of physical or sexual abuse caused by the emotional stress.

The fact that the economic stress raises both types of abuse (physical-sexual and psychological) is consistent with an emotional stress augmented by a male backlash effect. This is visible in the contrast between the *ManES* and the *WomanES* coefficients. The contrast is particularly noticeable in the case of the more severe type of violence, where a man-only economic-stress situation significantly raises physical violence by 1.1 pp (19%), whereas a woman-only economic-stress situation has no significant effect on the level of physical violence.

The results in Table 2 run contrary to the hypotheses of the bargaining models of IPV, which predict that an improvement of the relative position of the woman reduces the level of violence. Recall that those models rely on the exit-threat effect, that is, a woman whose relative position has improved can credibly threaten to abandon a violent relationship and this threat will reduce the level of IPV. As discussed, the fact that we are looking at the short run effect of the pandemic and the fact that the

lockdown might have reduced the outside options of victims even when the economic situation of their partner has worsened, could be behind the lack of evidence of an exit-threat effect in our data.

To test the relevance of the male-backlash effect, we check in Table 3 the effect of a man-only economic-stress situation across different groups in the data. We perform three different analyses: in the first one, we split provinces in two groups, those with an above and a below average proportion of couples in which the man is the main source of income (*male breadwinner*); in the second analysis we split provinces according to the proportion of dual-earner couples; finally, in the third analysis we use the index by Tur-prats (2019) and split provinces in two groups according to the proportion of stem versus nuclear families. As noted in Macmillan and Gartner (1999), a deterioration of the relative position of the man may increase violence when the woman works, and the man feels that his dominant position is threatened. Consistent with this view, we find that the *ManES* coefficient is larger in provinces with a relatively weaker position of men, i.e., provinces with a lower proportion of men acting as the breadwinner (5.0 *vs* 0.3 pp), with a higher proportion of dual-earner couples (2.7 *vs* 1.7 pp) and with more nuclear families (3.2 *vs* -0.2 pp).

We move now to the subgroup analysis of Table 4. The table shows the results of our main specification by presence of children younger than 18 in the household, by age and by the level of education of the woman. With respect to the lockdown, the effects are driven by households with children (3.6 pp) and with women aged 30 or less (5.5 pp) in which both members are locked. There is also a large effect when the man is the only one locked and his partner has less than a college degree (6.5 pp).

The pattern is less clear in the case of the effects of the economic stress. When both members of the couple are affected, the level of IPV increases more for women with children (7.1 pp versus 4.8 pp without children) and older than 30 (7.7 pp versus 0 pp in the case of women younger than 30). There are, however, no significant differences between high and low educated women, with IPV increasing 6 pp in each case. The increase in the level of violence when the man is the only one economically affected by the pandemic is driven by men with children and living with women older than 50 and of a lower level of education.

4. Female Homicides by the Intimate Partner

We conduct an event-study to test the effects of the lockdown on female homicides. Specifically, we estimate the following regression:

$$(2) \qquad y_{p,m,y} = \sum_{a=3}^{-12} \alpha_a \; D\_L_{s,a} + \gamma_P + \theta_m + \rho_y + \varepsilon_{P,m,y}$$

Where $y_{p,m,y}$ is intimate partner homicides per 100,000 women in province p, month, m and year y. $D\_L_{s,a}$ is a dummy for a years prior/after the start of the lockdown (March 2020).[13] Periods that are at least 12 months before the lockdown are used as the base group.

Figure 1 displays the results from the event study (the lines represent robust 95 percent confidence intervals). The figure provides suggestive evidence of a break in the trend in intimate partner homicides after the start of the lockdown. The coefficients of interest oscillate around zero until the month of the lockdown (March, 2020) and start a declining trend thereafter. At the end of the period (month +3, June), the number of female homicides has decreased by 2.5 pp., or 113% of the mean pre-lockdown (0.022 femicides per 100,000 women).[14] As noted earlier, the magnitude of this effect is explained by the very substantial drop in the number of intimate partner homicides between April and June, but also by the fact that this happened in a year that, up until the lockdown, was showing a relatively high number of female homicides committed by their partners or ex-partners.

5. Conclusions

Domestic violence is a global public health problem and human rights violation with high economic and social costs[15]. Using a unique data at individual level, which includes both reported and unreported events of IPV, we find that as consequence of the Covid-19 pandemic, the incidence of IPV increases 24% during the 3 months of lockdown in Spain. This effect is bigger than recent estimates based on reported events[16] , which highlights the importance of taking into account unreported events.

[13] The omitted month is the month before the lockdown.
[14] Although not shown, we find that the drop is mainly driven by homicides committed by the current partner and not by ex-partners, who usually no longer share a home with the victim at the time of the crime.
[15] The direct costs of intimate partner violence against women exceeded an estimated $3.6 trillion (2014 U.S. dollars) in the U.S. and 226 billion euros annually in the European Union (Florence et al., 2018; Jourová, 2016)
[16] For example, Leslie and Wilson (2020) find an increase of 7.5% during the 12 weeks after the implementation of social distancing measures in US.

We also show that during the extreme circumstances of a pandemic, IPV increases due to two factors: the lockdown and the economic stress. It is important to unveil one unintended consequence of lockdowns, i.e., that a lockdown, *per se* and independent from economic stress, causes more violence against women. Specifically, force cohabitation increases psychological violence. Indeed, perhaps the only optimistic note of our research is that we find that a general lockdown leads to a reduction in the most severe forms of domestic violence, that is, feminicides. The reasons behind this are unclear yet and pose an important question for future research.

To conclude, our findings suggest that the end of the lockdown will not necessarily translate into a rapid decrease of IPV. By contrast, as the economic consequences of the Covid-19 pandemic becomes more evident, the incidence of IPV may increase for this reason. This is particularly worrisome taking into account that we find that economic stress increase both, the less and the more severe types of abuse. Special attention should be devoted to couples with previous levels of violence, with children and of a low socio-economic status, since these are the couples where we see the largest effects.

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Table 1: The Impact of the Lockdown and Economic Stress on Non-Extreme Violence. Unadjusted Estimates.

	All types (1)	Physical (2)	Sexual (3)	Psychological (4)
A. At least one member of the couple either locked or eco. Stressed	0.045**	-0.004	0.012*	0.055***
	(0.020)	(0.006)	(0.006)	(0.018)
B. At least one member of the couple locked	0.024*	-0.002	-0.001	0.034**
	(0.014)	(0.004)	(0.005)	(0.015)
C. At least one member of the couple economically stressed	0.030***	0.002	0.007**	0.042***
	(0.010)	(0.003)	(0.003)	(0.010)
N. obs	8,951	8,951	8,951	8,951
Mean dep. variable	0.192	0.040	0.026	0.185
Age and date controls	No	No	No	No
Demographics and empl. Status	No	No	No	No
Province fixed effects	No	No	No	No

Notes: effects of the independent variable of interest in probit regressions, expressed as percentage points difference from the value of the dependent variable before the lockdown. The sample includes all women who declare to live with a male partner and who are 60 or younger at the time of the interview. The dependent variable is a binary variable indicating whether the woman was subject to abuse, where the variable takes value 1 if the woman answers "sometimes" or "often" to any of 9 possible situations of abuse. All models control for the level of abuse before the lockdown. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: online survey.

Table 2: The Impact of the Lockdown on Non-Extreme Violence

	All types of abuse			Extensive versus intensive margin		Physical or sexual		Psychological	
				Extensive margin	Intensive margin				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Man only locked	0.024	0.027	0.026	0.018	0.019	-0.004	-0.003	0.043*	0.041*
	(0.022)	(0.023)	(0.022)	(0.013)	(0.050)	(0.007)	(0.006)	(0.022)	(0.022)
Woman only locked	0.014	0.009	0.009	0.003	0.026	-0.008	-0.008	0.018	0.017
	(0.016)	(0.017)	(0.016)	(0.010)	(0.038)	(0.005)	(0.005)	(0.016)	(0.016)
Both locked	0.031**	0.032*	0.028	0.010	0.052	-0.005	-0.006	0.040**	0.035**
	(0.016)	(0.017)	(0.017)	(0.010)	(0.041)	(0.005)	(0.005)	(0.016)	(0.016)
Man only economic stress	0.025*	0.022	0.022	0.008	0.047	0.011*	0.011**	0.022	0.022
	(0.014)	(0.016)	(0.015)	(0.009)	(0.034)	(0.006)	(0.006)	(0.015)	(0.015)
Woman only economic stress	-0.004	0.011	0.013	0.015	-0.012	0.003	0.004	0.017	0.019
	(0.015)	(0.017)	(0.017)	(0.010)	(0.039)	(0.006)	(0.006)	(0.017)	(0.017)
Both economic stress	0.048***	0.063***	0.064***	0.037***	0.067*	0.012*	0.014**	0.061***	0.061***
	(0.014)	(0.019)	(0.018)	(0.011)	(0.036)	(0.006)	(0.006)	(0.018)	(0.018)
N. obs	8,950	8,950	8,950	7,144	1,652	8,950	8,842	8,950	8,950
Mean dep. variable	0.192	0.192	0.192	0.192	0.192	0.056	0.056	0.185	0.185
Age and date controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographics and empl. Status	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province fixed effects	No	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Effects of the independent variable of interest in Probit regressions, expressed as percentage points difference from the value of the dependent variable before the lockdown. Column (4) is restricted to couples with no previous violence. Column (5) is restricted to couples with previous levels of violence. The sample includes all women who declare to live with a male partner and who are 60 or younger at the time of the interview. In The dependent variable is a binary variable indicating whether the woman was subject to abuse, where the variable takes value 1 if the woman answers "sometimes" or "often" to any of 9 possible situations of abuse. All models control for the level of abuse before the lockdown. Date controls are dummies indicating the day when the survey was completed. Demographics: level of education of the man and of the woman, immigrant origin of the man and of the woman, presence of children younger than 18 in the household, years with the current partner, marital status and household income level; employment status: a dummy variable that indicates whether the individual is working at the time of the survey and another dummy to indicate whether the individual was working before the lockdown; locked is a dummy variable that takes value 1 if the individual is either at home unemployed or working from home. Economic stress is a dummy that takes value 1 if the individual has either lost the job or clients due to the COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff (ERTE). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: Online survey.

Table 3: The Impact of the Lockdown on Non-Extreme Violence. Analysis by Type of Province According to the Relative Position of the Man in the Couple

	Male Breadwinner		Dual Earner Couples		Stem vs. Nuclear families	
	Provinces with % of male-breadwinner below average	Provinces with % of male-breadwinner above average	Provinces with % of dual-earner above average	Provinces with % of dual-earner below average	Provinces with % of stem below average (Nuclear)	Provinces with % of stem above average (Stem)
	(1)	(2)	(3)	(4)	(5)	(6)
Man only Economic Stress	0.050*	0.003	0.027	0.017	0.032*	-0.002
	(0.029)	(0.017)	(0.023)	(0.020)	(0.019)	(0.023)
N. obs	3,389	5,553	4,303	4,115	4,962	3,485
Mean dep. variable	0.201	0.186	0.190	0.194	0.194	0.193
Age and date controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographics and empl. Status	Yes	Yes	Yes	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

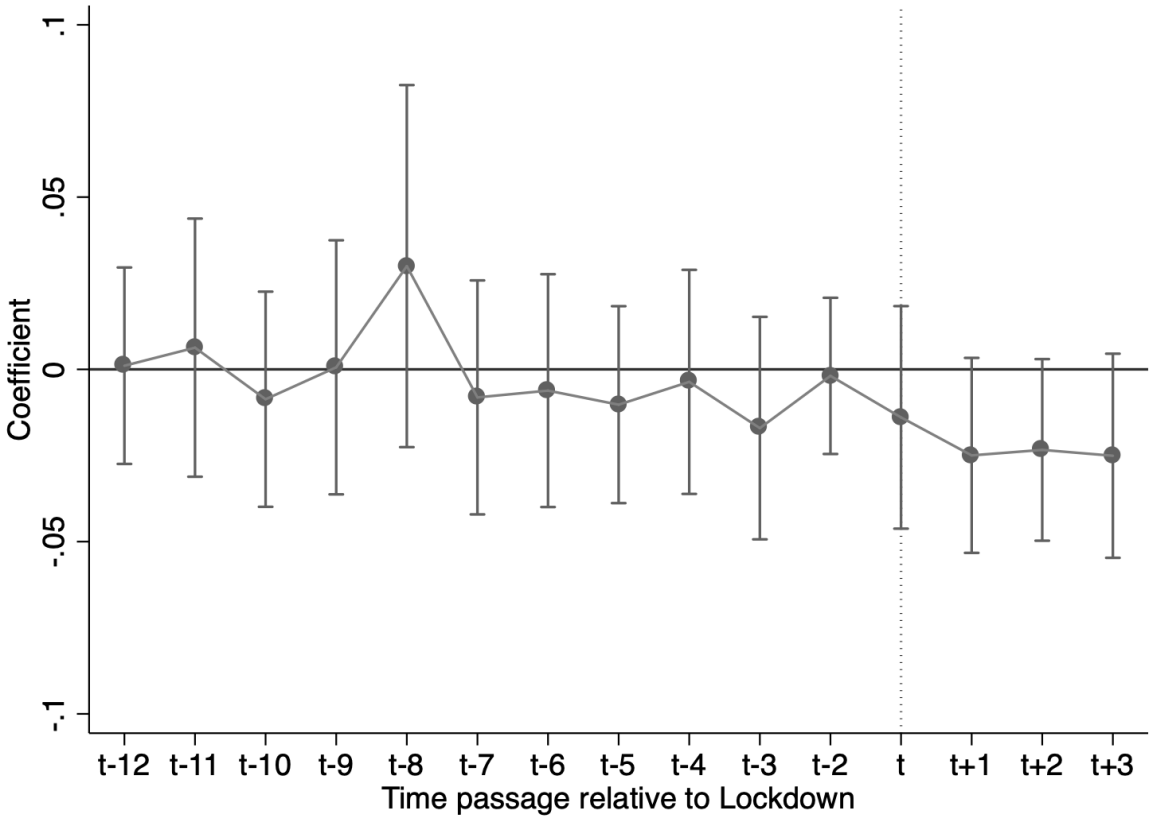
Notes: Provinces divided according to the % of couples in each category. Effects of the independent variable of interest in Probit regressions, expressed as percentage points difference from the value of the dependent variable before the lockdown. The sample includes all women who declare to live with a male partner and who are 60 or younger at the time of the interview. Separate regressions by type of province according to the specific indicator in each column. The specifications in columns (1) and (2) include a control for whether the partner of the interviewed woman is the breadwinner. The specifications in columns (3) and (4) include a control for whether the couple is a dual earner couple. The dependent variable is a binary variable indicating whether the woman was subject to abuse, where the variable takes value 1 if the woman answers "sometimes" or "often" to any of 9 possible situations of abuse. All models control for the level of abuse before the lockdown. Date controls are dummies indicating the day when the survey was completed. Demographics: level of education of the man and of the woman, immigrant origin of the man and of the woman, presence of children younger than 18 in the household, years with the current partner, marital status and household income level; employment status: a dummy variable that indicates whether the individual is working at the time of the survey and another dummy to indicate whether the individual was working before the lockdown; locked is a dummy variable that takes value 1 if the individual is either at home unemployed or working from home. Economic stress is a dummy that takes value 1 if the individual has either lost the job or clients due to the COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff (ERTE). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: Online survey.

Table 4: The Impact of the Lockdown on Non-Extreme Violence. Subgroup Analysis.

	By presence of children In the household		By age of the woman			By the level of Education of The woman	
	No child	Child	30 or less	31-50	51-60	Less than college	College or more
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Man only locked	0.013	0.029	0.025	0.027	0.027	0.065**	-0.036
	(0.029)	(0.027)	(0.048)	(0.031)	(0.032)	(0.031)	(0.025)
Woman only locked	-0.022	0.019	-0.005	0.010	0.010	0.007	-0.001
	(0.020)	(0.020)	(0.033)	(0.023)	(0.025)	(0.021)	(0.023)
Both locked	0.004	0.036*	0.055*	0.022	0.010	0.033	0.014
	(0.021)	(0.021)	(0.032)	(0.024)	(0.023)	(0.023)	(0.023)
Man only economic stress	-0.028	0.039**	-0.041	0.022	0.038*	0.036*	0.008
	(0.020)	(0.019)	(0.033)	(0.022)	(0.020)	(0.019)	(0.023)
Woman only economic stress	0.008	0.014	-0.030	0.015	0.048*	0.020	0.008
	(0.021)	(0.021)	(0.029)	(0.025)	(0.025)	(0.021)	(0.024)
Both economic stress	0.048**	0.071***	0.002	0.077***	0.078**	0.065***	0.063**
	(0.022)	(0.024)	(0.033)	(0.025)	(0.034)	(0.024)	(0.026)
N. obs	3,266	5,681	2,314	4,724	1,831	6,896	1,984
Mean dep. variable	0.146	0.210	0.176	0.206	0.171	0.203	0.177
Age and date controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographics and empl. Status	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Effects of the independent variable of interest in Probit regressions, expressed as percentage points difference from the value of the dependent variable before the lockdown. The sample includes all women who declare to live with a male partner and who are 60 or younger at the time of the interview. The dependent variable is a binary variable indicating whether the woman was subject to abuse, where the variable takes value 1 if the woman answers "sometimes" or "often" to any of 9 possible situations of abuse. All models control for the level of abuse before the lockdown. Date controls are dummies indicating the day when the survey was completed. Demographics: level of education of the man and of the woman, immigrant origin of the man and of the woman, presence of children younger than 18 in the household, years with the current partner, marital status and household income level; employment status: a dummy variable that indicates whether the individual is working at the time of the survey and another dummy to indicate whether the individual was working before the lockdown; locked is a dummy variable that takes value 1 if the individual is either at home unemployed or working from home. Economic stress is a dummy that takes value 1 if the individual has either lost the job or clients due to the COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff (ERTE). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: Online survey.

Figure 1: Event-Study Coefficient Plot



Note: Sample time period 2003 to June 2020. Period *t* represents the month after lockdown. Periods prior to *t*-12 are used as reference. The model includes province, month and year FE. Standard errors are clustered at the province level.

Appendix

Table A1. Measures of Technical Abuse

Indicator of Abuse	Type of Abuse
He decides what you can and cannot do	Psychological abuse
He takes the money you earn or does not give you what you need	
He prevents you from seeing your family or relating to friends and neighbours	
He tells you that you are not capable of anything	
He insults you or make you feel bad with yourself	
He insists on having sex even when he knows you don't want to	Sexual abuse
He frightens you	Physical abuse
He pushes or hits you	
He threatens you	

Table A2. National Representative Labour Force Survey compared with IPV Survey

	LFS-2020	IPV Survey Sample			LFS-2020	IPV Survey Sample	
		Unweighted	Weighted			Unweighted	Weighted
Panel A: Means Sample Characteristics							
High Educated	0.40	0.39	0.42				
Age Interval	35-39	31-35	35-39				
Married	0.49	0.46	0.52				
With Children	0.59	0.56	0.63				
Panel B: Women Distribution Across Areas							
Province				***Province***			
Alava	0.0065	0.0038	0.0063	Asturias	0.0201	0.041	0.0199
Albacete	0.0082	0.0085	0.008	Palencia	0.003	0.0048	0.003
Alicante	0.0387	0.0362	0.0374	Palmas (las)	0.0266	0.0254	0.0262
Almeria	0.0158	0.0126	0.0155	Pontevedra	0.0193	0.0281	0.019
Avila	0.0031	0.0056	0.003	Salamanca	0.0063	0.0118	0.0061
Badajoz	0.0139	0.0179	0.0133	Tenerife	0.0247	0.0272	0.0259
Baleares	0.0271	0.0265	0.0267	Cantabria	0.0118	0.014	0.0116
Barcelona	0.1191	0.0702	0.1248	Segovia	0.0031	0.004	0.003
Burgos	0.0069	0.0084	0.0069	Sevilla	0.0424	0.0579	0.0445
Caceres	0.008	0.0104	0.0078	Soria	0.0017	0.0029	0.0013
Cadiz	0.0267	0.0362	0.028	Tarragona	0.017	0.011	0.0168
Castellon	0.0124	0.0096	0.0117	Teruel	0.0026	0.0036	0.0024
Ciudad real	0.0102	0.0124	0.0099	Toledo	0.0143	0.0166	0.0139
Cordoba	0.0165	0.0263	0.016	Valencia	0.0542	0.0461	0.0532
Coruna (la)	0.0229	0.0377	0.0227	Valladolid	0.0104	0.0183	0.0103
Cuenca	0.0041	0.0047	0.0038	Vizcaya	0.0234	0.0141	0.0231
Girona	0.0163	0.0107	0.0157	Zamora	0.0031	0.0043	0.003
Granada	0.0197	0.0259	0.0194	Zaragoza	0.0199	0.0216	0.0195
Guadalajara	0.0056	0.0058	0.0054	Ceuta	0.0017	0.0024	0.0014
Guipuzcoa	0.0141	0.0076	0.0136	Melilla	0.0019	0.0013	0.0008
Huelva	0.0112	0.0141	0.0106				
Huesca	0.0043	0.0036	0.0039				
Jaen	0.0129	0.0147	0.0124				
Leon	0.0088	0.018	0.0086				
Lleida	0.009	0.0042	0.0081				
Rioja (la)	0.0065	0.008	0.0065				
Lugo	0.0062	0.0092	0.0062				
Madrid	0.1497	0.1125	0.1569				
Malaga	0.037	0.0373	0.0362				
Murcia	0.0322	0.0265	0.0312				
Navarra	0.0135	0.0084	0.0131				
Orense	0.0056	0.01	0.0055				

Figure A.1 Facebook's page and boosted post with the link to the survey

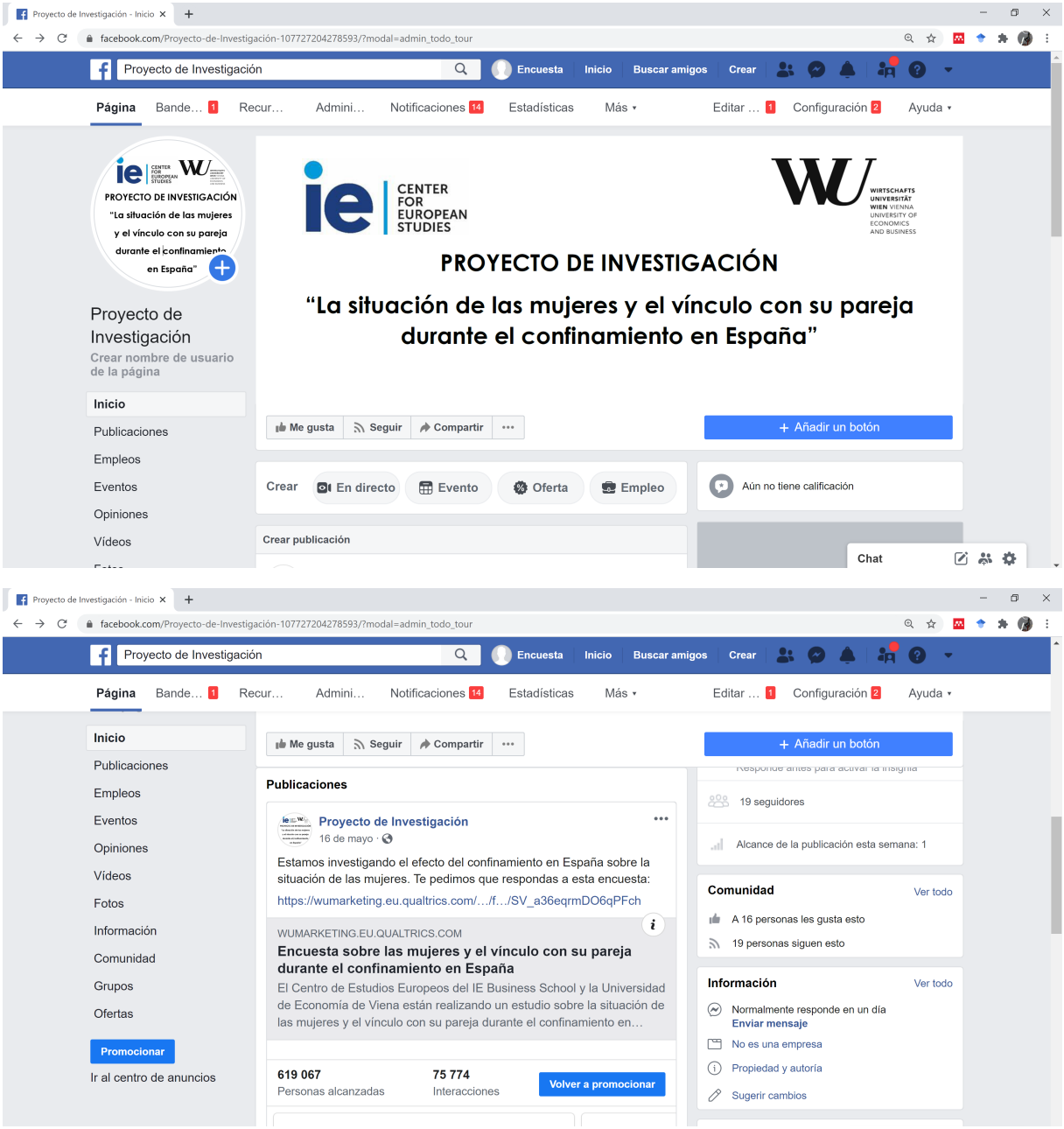
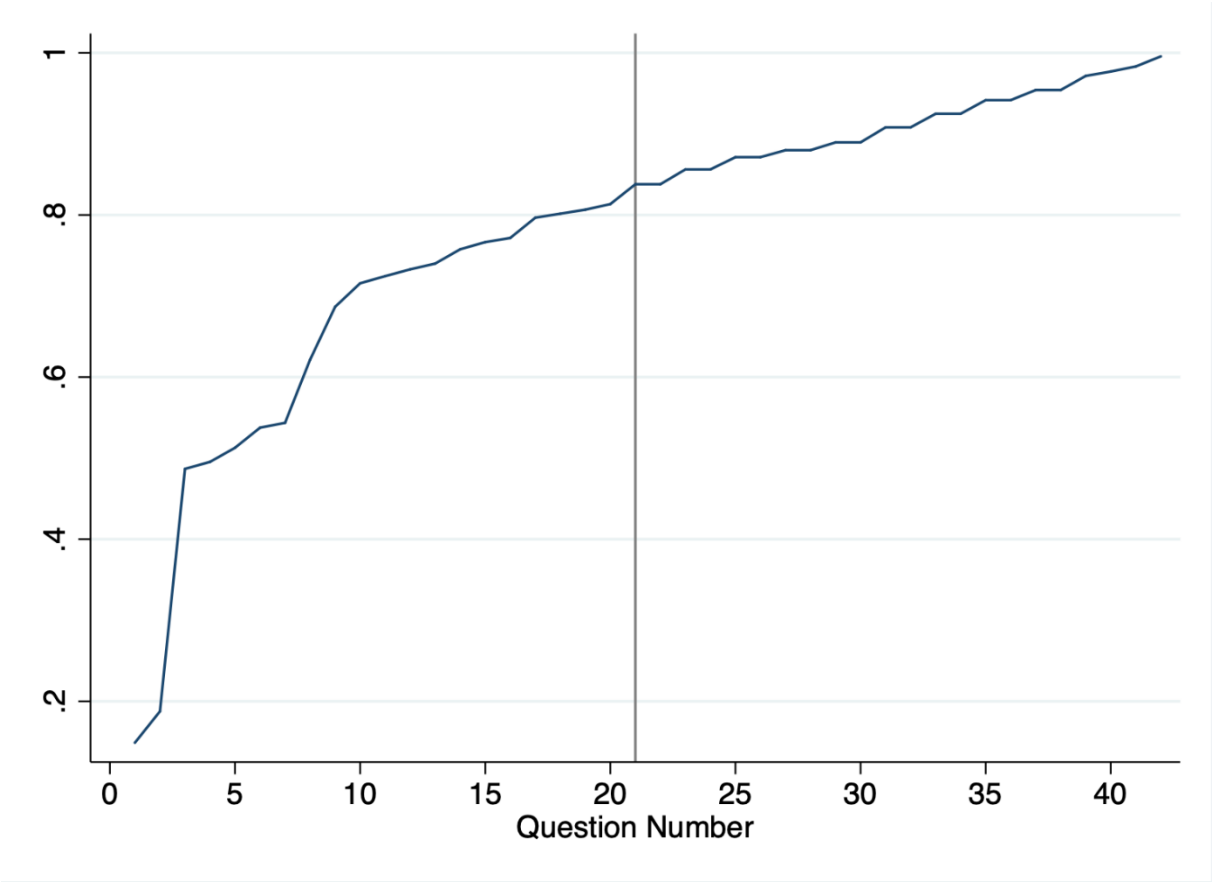


Figure A.2. Question where women left the survey



Notes: Vertical line shows the first question about domestic violence.

Table A.3. Definition of Key Variables

IPV During Lockdown	Dummy variable 1-if woman answers "sometimes" or "often" to any of 9 possible situations of abuse during the lockdown 0-Otherwise
Man only locked (ML)	Dummy variable 1- if the partner is either at home unemployed or working from home. 0-Otherwise
Woman only locked (WL)	Dummy variable 1- if the woman is either at home unemployed or working from home. 0-Otherwise
Both locked (ML)	Dummy variable 1- if the both are either at home unemployed or working from home. 0-Otherwise
Man only economic stress	Dummy variable 1- if the partner has either lost the job or clients due to the COVID pandemic, fears losing his job in the next months, or is affected by a temporary layoff 0-Otherwise
Women only economic stress	Dummy variable 1- if woman has either lost the job or clients due to the COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff 0-Otherwise
Both economic stress	Dummy variable 1- if woman and her partner have either lost the job or clients due to the COVID pandemic, expresses fears to lose his/her job in the next months, or is affected by a temporary layoff 0-Otherwise
IPV Before Lockdown	Dummy variable 1-if woman answers "sometimes" or "often" to any of 9 possible situations of abuse before the lockdown 0-Otherwise

Table A.4. Correlation coefficients of the variables of interest and covariates

	Man only locked	**Woman only locked**	**Both locked**	**Man only economic stress**	**Woman only economic stress**	**Both economic stress**	**College degree or more (woman)**	**College degree or more (man)**	**Employed before the lockdown (woman)**	**Employed before the lockdown (man)**	**Age of the woman**
Man only locked	1										
Woman only locked	-0.2209	1									
Both locked	-0.286	-0.6357	1								
Man only economic stress	0.0853	-0.019	0.0137	1							
Woman only economic stress	-0.0403	0.1576	-0.1135	-0.253	1						
Both economic stress	-0.0181	-0.1498	0.1647	-0.2827	-0.3001	1					
College degree or more (woman)	-0.0264	-0.0674	0.1109	-0.0176	0.0063	-0.0422	1				
College degree or more (man)	-0.0052	-0.1456	0.1824	-0.0596	0.0105	-0.0526	0.3755	1			
Employed before the lockdown (woman)	0.168	-0.1737	-0.07	-0.2563	0.2467	0.2832	0.1429	0.0452	1		
Employed before the lockdown (man)	-0.0825	0.2232	-0.2439	0.135	-0.0695	0.1285	0.0261	0.027	0.1018	1	
Age of the woman	0.0379	-0.0675	0.024	-0.0083	-0.0931	-0.1324	-0.0544	0.0017	-0.0551	-0.0673	1