

Title: Determinants of maternal stress during COVID-19 outbreak in Italy and Spain: a cross-cultural investigation

Michele Giannotti,^{1†*} Noemi Mazzoni,^{1†} Maria Facchini,^{1,3} Simona de Falco,¹ Paola Venuti,¹ Giuseppe Iandolo^{2,3}

1. Department of Psychology and Cognitive Science, Laboratory of Observation, Diagnosis and Educational (ODFLAB), University of Trento, 38068 Rovereto (Trento), Italy.
2. Department of Psychology, School of Biomedical Sciences, European University of Madrid. Calle Tajo S/N. (Urb. El Bosque), Villaviciosa de Odón (Madrid), 28670 Madrid, Spain.
3. Observation and Functional Diagnosis Division. PSISE Clinical and Developmental Psychological Service. Calle Albendiego 7, 28029 Madrid, Spain

† These authors contributed equally to this work

***corresponding author** – Dr. Michele Giannotti, Ph.D – michele.giannotti@unitn.it - +393273704148

Abstract

The current study aims to investigate cross-cultural differences and similarities in maternal and children's adjustment to COVID-19 restrictions in Spain and Italy, with reference to determinants of maternal stress. A total of 950 mothers (45.4% from Spain, $n = 432$, $M_{\text{age}} = 39.6$, years old, $SD = 5.2$ and 54.5% from Italy, $n = 518$, $M_{\text{age}} = 40.5$, years, $SD = 6.4$) of children aged 3 to 17 years old completed questionnaires on sociodemographic and COVID-19 contextual factors, parenting-related variables, and children externalizing behaviors using an online survey. We examined determinants of parental stress in both countries. Mothers reported a significant increase in parental stress and child externalizing behaviors during COVID-19 home confinement, with more remarkable perceived changes in the Spanish group. Hierarchical linear regressions showed that child age and externalizing behaviors, maternal psychological distress, quality of co-parenting and pre-COVID-19 levels of parental stress significantly predicted parental stress in both Italian and Spanish mothers during the pandemic. Results confirmed the negative psychological impact of COVID-19 home confinement on parents and children across countries and revealed common underlying factors responsible for parental stress in Italy and Spain. These findings highlighted the need for communitarian preventive programs to reduce mental health difficulties and parental stress in mothers and behavioral difficulties in children during pandemic restrictions. Particular attention should be paid to young mothers and children, and the key role of positive partner support and co-parenting relationships should be considered.

Keywords: maternal stress; child behavioral difficulties; co-parenting; COVID-19; cross-cultural.

**Determinants of maternal stress during COVID-19 outbreak in Italy and Spain: A
cross- cultural investigation**

Since the WHO (2020) has defined the COVID-19 - a serious disease caused by the virus SARS-CoV-2 – as a global pandemic, governments worldwide have imposed different levels of restrictions to contain the infection spread, modulating them according to the fluctuating epidemiological severity. Increasing research has shown that facing the challenges associated with the COVID-19 pandemic and the related emergency measures has led to negative consequences for mental health in the general population, such as increased psychological stress, anxiety, depression, and post-traumatic stress symptoms (Brooks et al., 2020; Cénat et al., 2021; Horesh & Brown, 2020; Liu et al., 2020). In general, recent findings have also revealed that parents reported higher levels of stress than non-parents in response to the global COVID-19 outbreak (Park et al., 2020; Russell et al., 2020). Specifically, during home confinement, parents were exposed to additional stress and emotional burden derived from the need to balance unsupported child rearing and home-schooling with work and personal life, as well as from increased concerns for family's economic support and children's safety (Lauri Korajlija & Jokic-Begic, 2020; Spinelli et al., 2020).

Moreover, the period of strict home confinement has implied drastic and sudden changes in parents and children's routines, which required a process of reorganization within the family context. Thus, a better understanding of the cultural, individual, familial, and contextual factors that have influenced parental experience during COVID-19 outbreak may be useful to identify and respond adequately to family needs in case of future waves of the pandemic. In this regard, since COVID-19 diffusion has been global, it is important to

consider the role of cultural variations that may have influenced the impact of COVID-19 containment measures on families' well-being.

Over the course of the first wave of the pandemic, Italy and Spain were the most affected countries in Europe, with stringent containment measures, such as home confinement. Precisely, starting from the 9th and the 13th of March, leaving home was prohibited in both countries. In addition, schools and universities stopped, shops were closed, and all sports and artistic events were canceled. Such strict emergency measures lasted more than two months, after which there was a gradual resumption to normality in both countries.

Cross-cultural Comparisons of COVID-19 Effects in Italy and Spain

Previous research on parenting has suggested that cultural variations may shape parenting practices and cognitions (Bornstein, 2012). At the macro level, Mediterranean countries such as Italy and Spain, tend to share a similar approach to parenting and child-rearing practices (Palut, 2009; Germani et al., 2020). Moreover, both countries are considered “horizontal” cultures with respect to power distance (e.g., how people expect and accept inequalities and power distribution), since egalitarian rather than hierarchical relations are prioritized in these contexts. On the other hand, it should be considered that other relevant cross-cultural dimensions differ between the two countries.

Although Italy and Spain tend to share cultural tendencies, they also show differences on specific dimensions such as collectivism and uncertainty avoidance. According to a cross-cultural perspective (Hofstede et al., 2010), Spain culture shows higher levels of collectivism and uncertainty avoidance. Specifically, a higher level of collectivism, which implies interdependence and meeting the obligations of “a good citizen,” may have emphasized the perception of stress and anxiety during the COVID-19 outbreak. By contrast, Italian culture is more related to individualism, which has been linked to lower levels of state anxiety (Fischer

& Boer, 2011). In addition, higher levels of uncertainty avoidance - which characterized Spanish culture - may have led to great concern for changing and undefined situations, as it was the case of the initial stage of the first wave of the COVID-19 pandemic.

To date, only a few studies (Francisco et al., 2020; Orgilès et al., 2020; 2021) investigated the cross-cultural psychological effect of COVID-19 home confinement in Italy and Spain, focusing almost exclusively on children and adolescents' well-being. While results showed increased children's psychological and behavioral symptoms in both countries, Spanish parents perceived more behavioral difficulties in their children than Italian parents (Francisco et al., 2020; Orgilès et al., 2021). The authors ascribed this result to the different types and timing of restrictions adopted by the two countries, since Italy showed higher flexibility than Spain allowing parents to take children for a short walk also during the initial stage of the first wave of the pandemic. Differences between countries may also be expected on parenting dimensions. While a recent cross-cultural investigation on maternal mental health confirmed that COVID-19-related stress was a shared risk factor across different nations (Guo et al., 2021), little is known about potential cross-cultural similarities and differences in Italy and Spain during the period of COVID-19 home confinement with respect to the specific factors that contributed to parental stress in mothers. To fill this gap, our study aimed to investigate the role of cultural and COVID-19 related factors in predicting maternal stress.

Parental Stress During COVID-19 Home Confinement: Findings from Italy and Spain

Parental stress is defined as an aversive psychological response resulting from the imbalance between perceived specific demands of parenting and the available resources to manage them (Deater-Deckard, 1998). According to traditional parenting literature (Abidin, 1992), the growing body of research on COVID-19 also suggested that multiple factors, including cultural, parenting, and child dimensions, may potentially contribute to parental

stress. Firstly, parental stress can be influenced by cultural tendencies and specific environmental circumstances, as in the case of global pandemics, due to their impact on family everyday life. Previous studies revealed that the measures adopted to contain different pandemics spreading - such as home confinement and social isolation - may have led to serious strain for a consistent percentage of families (Sprang & Silman, 2013). Consistently, recent findings on the psychological effects of the COVID-19 pandemic have shown that home confinement has seriously increased parental burden (Marchetti et al., 2020; Russell et al., 2020; Spinelli et al., 2020).

Focusing on Italy and Spain, a cross-cultural study showed that parents perceived the situation due to COVID-19 as serious or very serious in both countries, and one-third of them reported being stressed or very stressed (Orgilès et al., 2020). Moreover, initial findings showed that children's externalizing problems during COVID-19 were significantly associated with higher parental stress levels (Giannotti et al., 2021; Romero et al., 2020; Spinelli et al., 2020) in line with traditional parenting literature (Crnic & Low, 2002; Deater-Deckard & Panneton, 2017). So far, no research has yet compared the parenting stress during the COVID-19 in Italy and Spain. However, research in individual countries (Mazza et al., 2020; Rossi et al., 2020; Sandín et al., 2020) and broader cross-cultural studies (Alzueta et al., 2020; Kowal et al., 2020) investigating factors associated with distress related to the pandemic showed that the psychological impact of the COVID-19 was higher in younger people and women, with mothers being more severely affected (Marchetti et al., 2020; Cusinato et al., 2020). Importantly, these results suggested that motherhood may be a risk factor for psychological well-being (Lauri Korajlija & Jokic-Begic, 2020; Mazza et al., 2020) and, in turn, parental stress during the COVID-19 pandemic. In this regard, it is essential to consider that mothers can be more affected by COVID-19 restrictions, since they are often more involved in childcare than fathers, even when both parents are employed (Calasanti &

King, 2007). Moreover, difficulties in balancing work and child rearing may have amplified demands for mothers during the pandemic, constituting a significant source of maternal stress.

Women are overrepresented in caregiving professions (Halper et al., 2019) that are associated to higher risk of infection and fewer opportunities to work remotely during the ongoing pandemic. In addition, past research has widely acknowledged that high work-family conflict may negatively affect individual mental health (Gröpel & Kuhl, 2009; Grzywacz & Bass, 2003). In this regard, research on COVID-19 effects has clearly shown a worsening in maternal mental health, with an increased risk for psychopathology (Davenport et al., 2020). Notably, a recent study revealed that both anxiety and depression were directly and positively related to parenting distress (Romero et al., 2020), confirming the detrimental role of parental mental health difficulties on parental stress also during the pandemic. In addition to mental health, other risk factors associated with parental stress and exhaustion during home confinement in Italy have been described, such as having children with special needs, lower quality of co-parenting, a greater number of children, and younger age of children (Bentenuto et al., 2021; Fontanesi et al., 2020; Marchetti et al., 2020). Furthermore, contagion in relatives/close acquaintances, going to work, and working at home were positively related to parenting distress (Romero et al., 2020).

Taken together, these findings suggested the importance of understanding parental stress during home confinement, which can be influenced by cultural tendencies, contextual factors, individual, couple as well as children and adolescents' well-being. However, as in the case of traditional literature on parenting (Williford et al., 2007), recent research on family adjustment to COVID-19-related stress mainly has considered parental stress a predictor of child outcome (e.g., Morelli et al., 2020), and little attention has been paid to the underlying factors which could influence parental stress. To fill this gap, in the present study, we sought

to elucidate the factors that can escalate or mitigate the experience of parenting demands during the pandemic using a cross-cultural perspective and considering either familial or COVID-contextual factors as possible determinants.

Aims and Objectives

The present study aimed to investigate the parental adjustment in Italian and Spanish mothers with respect to the March-June 2020 COVID-19 restrictions. Firstly, we sought to explore the potential differences between countries in perceived changes across time (from before to during the COVID-19 home confinement period) in child externalizing behaviors and parental stress. According to previous studies (Francisco et al., 2020; Orgilés et al., 2021), we hypothesized that Spanish mothers would perceive a higher increase in children externalizing behaviors and parental stress than Italian mothers. Although prior cross-cultural studies only reported changes in child behavioral problems (Francisco et al., 2020; Orgilés et al., 2021), we expected to extend this result to maternal stress, since the relationship between child externalizing behaviors and parental stress has been well established by parenting literature (Deater-Deckard & Panneton, 2017). Moreover, the Spanish collectivistic cultural background (Hofstede et al., 2010) characterized by higher levels of uncertainty avoidance and interdependence may have intensified stress response to COVID-19 during the initial stage of the pandemic outbreak.

Next, we aimed to examine the predictive effect of specific sociodemographic (child age, maternal education), contextual variables (outdoor spaces, contagion), relevant parenting dimensions (maternal psychological distress and co-parenting), child externalizing behaviors, and pre-COVID parental stress. Despite the potential effect of some distinct factors, we hypothesized that parenting stress determinants during the COVID-19 pandemic would be similar across countries, since both tend to endorse a similar approach with respect to parenting (Rodríguez-González, et al., 2020). Specifically, according to prior research, we

expected to find that rearing a younger child, not having outdoor spaces, higher maternal psychological distress, low quality of co-parenting, and higher child externalizing behaviors would have significantly increased mothers' stress in Italy and Spain.

Method

Participants

The current study is based on a sample of 950 mothers, 518 (54.5%) from Italy and 432 (45.5%) from Spain. Data were collected through a web-based cross-sectional survey focused on parenting during the first wave of the COVID-19 outbreak (March-June 2020). Parents older than eighteen years old with at least one child aged younger than 18 years old could participate in the study. In total, 867 Italian and 576 Spanish parents completed the survey. In line with the present study aims and the clear association with parenting stress, we only selected mothers of children aged between 3 and 17 years without physical or intellectual disabilities and neuroatypical development. Characteristics of the study participants for both countries are displayed in Table 1.

Measures

Socio-demographic and Contextual Factors

Socio-demographic characteristics were collected, including maternal age, education, employment status, and the number of children. Besides, the survey contained specific questions on other relevant contextual factors such as the possibility to use outdoor spaces during the lockdown, having or knowing someone tested positive to COVID-19, defined as “experience of contagion”.

Psychological Distress

As a measure of maternal psychological distress, we used the General Health Questionnaire-12 (GHQ-12; Goldberg, 1988), a widely used unidimensional validated self-administered questionnaire. It consists of 12 items rated on a four-point scale (i.e., *less than*

usual, no more than usual, rather more than usual, or much more than usual) investigating whether the respondent manifested a change in specific symptoms or behavior (e.g., depression, anxiety) during the last two weeks. The Likert scoring method (0-1-2-3) was used in the study. The Italian and Spanish version of the GHQ-12 has shown good psychometric properties (Piccinelli et al., 1993; Rocha et al., 2011), with alpha Cronbach coefficients ranging from .84 (Italy) to .83 (Spain) in the current study.

Co-parenting

Co-parenting was assessed using the Brief Coparenting Relationship Scale (B-CRS, Feinberg et al., 2012). It is a validated self-reported questionnaire composed of 14 items focused on several domains of the co-parenting relationship (e.g., child-rearing, agreement, co-parental support/undermining). Participants were asked to rate the response that best described how they and their partner worked together as parents, using a 7-point Likert-type scale (*0 = Not true for us; 6 = Very true for us*; total score range 14-84). Three researchers translated the Co-parenting Relationship Scale's brief form into Spanish independently, and another three researchers into Italian, then, a consensus translation was reached. It was checked through back-translation by a native English-speaker. Prior research documented that the CRS's brief-form has good reliability, construct validity, and stability (Feinberg et al., 2012). In this study, Cronbach alpha values ranged from .83 (Italy) to .85 (Spain).

Parental Stress

We assessed parental stress in mothers by using 10 items of the Parental Stress Scale (PSS, Berry, & Jones, 1995). A pool of items was selected to evaluate the specific demands and rewards of parenting during the Covid-19 outbreak). The PSS focuses on feelings and perceptions related to parental role and experiences (e.g., stressors, loss of control). Participants were asked to indicate their agreement on a 5-points Likert scale (*1=strongly disagree, 5=strongly agree*; range 10-50). For the Italian version of the scale, we translated

the selected items using a back-translation procedure, while the Spanish version of the instrument was available (Oronoz et al., 2007). The full version of the PSS revealed satisfactory psychometric properties (Louie et al., 2017). In our sample, the shortened version showed acceptable internal consistency, with Cronbach alpha values ranging from .65 (Italy) to .71 (Spain).

Child Externalizing Behavior

To assess child externalizing behavior, we used 10 items from The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), a widely used parent-reported questionnaire to assess mental health in children aged between 3 and 17 years. In this study, we selected two subscales of the questionnaire, the "hyperactivity/inattention" (5 items) and the "conduct problems" scales (5 items). The sum of these two subscales generates an externalizing score which ranges from 0 to 20 that we used in the analyses. Participants were asked to rate their response on a three-point Likert scale ($0 = \textit{not true}$; $1 = \textit{somewhat true}$; $2 = \textit{completely true}$). Both the Italian (Tobia & Marzocchi, 2018) and Spanish (Rodríguez-Hernández et al., 2014) versions of the questionnaire have shown good psychometric properties. In the current study, Cronbach alpha values ranged from .78 (Italy) to .77 (Spain).

Procedures

An anonymous web-based cross-sectional survey was collected between the 20th of April and the 13th of June 2020 using Qualtrics software. This period included both the stricter lockdown and the gradual resumption of activities in both countries. Respondents were recruited by using a snowball sampling method and promoting the survey on social media both in Italy and Spain. In the first section of the survey, the study design and methods were explained in detail, and informed consent was obtained. Participants could withdraw from the study at any time by closing the form. In the case of multiple children, participants were asked to refer to their youngest child to fill out the questionnaires. All the items of the

PSS and SDQ were repeated twice. On the first line (Test 1), we asked to refer to the current moment, while on the second line, we asked to refer to the four weeks before the COVID-19 outbreak (retrospective baseline).

To minimize the dropout of the participants, we prioritized the brevity of the data collection by creating a survey that would not exceed 15 minutes for completion. All the participants volunteered and were informed that they could withdraw at any time. This should have limited the possibility that some participants completed questionnaires just to receive compensation. Finally, parents ($n = 39$) who completed the questionnaire in less than 500 seconds were excluded. The research project was registered to the Department of Psychology and Cognitive Science, University of Trento, and no additional ethical approval was required as participation did not imply any risk nor a required collection of personal/identifiable information. The study was conducted in line with the standards of the National Code of Ethics for Research in Psychology of the Italian Psychological Association (<http://www.aipass.org/node/11560>). Moreover, data were collected, treated, and stored anonymously, according to the current European regulation (European General Data Protection Regulation - GDPR UE 2016/67), as disclosed to the participants.

Statistical Analysis

The percentage of participants that completed the survey during the strict lockdown and the gradual resumption was compared between the two countries using Chi-square analysis. Descriptive statistics (Table 1 and Table 2) and bivariate correlations (see Supplementary materials) are shown separately for Italian and Spanish participants. Initially, we checked for potential differences between countries on control variables such as maternal age, education and employment status, number of children, child gender and age, the possibility to use outdoor space, and experience of contagion, by using t-test for continuous variables and chi-square test for categorical variables.

Next, we examined changes across time on parental stress and child externalizing symptoms. To this aim, we generated two variables (Δ PSS and Δ SDQext) by subtracting the total score at baseline (responses referred to the period pre lockdown) from the total score total at Test 1 (responses referred to the period during the lockdown). Then, we conducted Mann-Whitney tests to explore potential group differences between Italian and Spanish mothers. According to the measurement invariance assumption (Tucker et al., 2006), we did not compare the total scores of questionnaires between countries. Therefore, Δ PSS and Δ SDQext were used, given that they were calculated considering within-group baseline values. Pre-post differences within groups on PSS and SDQ were tested using paired t-tests. Moreover, we performed two separate hierarchical linear regressions to investigate the predictors of parental stress in both countries. In the first block, we introduced socio-demographic variables, including child age and maternal education. We entered contextual variables in the second block (i.e., possibility to use outdoor spaces and experience of contagion), co-parenting and maternal psychological distress in the third block, child externalizing behavior as perceived by the mother in the fourth block, and pre-COVID-19 level of parental stress in the last block.

Transparency and Openness

We report how we determined our sample size, all data exclusions, and all measures in the study. Data, analysis code, and research materials are available by emailing the corresponding author. Data were analyzed using SPSS 25 (IBM Corp. 2017). This study's design and its analysis were not pre-registered.

Results

Preliminary Analyses

All the study variables showed good skewness and kurtosis values (ranging from -1 to +1) except for Δ PSS and Δ SDQext, for which we used non-parametric statistics. The

percentage of respondents who completed the survey during the strict lockdown and the gradual resumption to normality was similar between countries ($\chi^2 = .91, p = .35$). Firstly, significant differences between group (Italy vs Spain) emerged on child age ($t = 3.40, p = .001$) and experience of contagion ($\chi^2 = 40.02, p < .001$), which were higher in the Spanish sample, and maternal age ($t = -2.24, p = .025$) and maternal education ($t = 12.54, p < .001$) which were lower in Spanish participants. (See Table 1). Besides, Spanish respondents reported having less possibility of using outdoor spaces during COVID-19 lockdown than the group of Italian mothers ($\chi^2 = 121.9, p < .001$). Differences between groups were not observed for child gender, number of children, and employment status ($p > .05$). Correlations are displayed in Supplementary Materials.

Changes in Child Externalizing Behaviors and Parental Stress from Before to During the COVID-19 Home Confinement

Descriptive statistics of the variables of interest for both countries are displayed in Table 2. Mothers perceived a significant increase in parental stress during COVID-19 pandemic compared to the period before the home confinement in both Italian ($t(517) = -7.5, p < .001, d = .33$) and Spanish mothers ($t(431) = -12.62, p < .001, d = .60$). Similarly, mothers reported higher levels of child externalizing behaviors during home confinement compared to before the COVID-19 pandemic both in the Italian ($t(517) = -8.24, p < .001, d = .36$) and in the Spanish sample ($t(431) = -9.75, p < .001, d = .47$). Focusing on the first study aim, group comparisons between countries highlighted significant differences, with Italian mothers reporting lower perceived change across time on parental stress ($Z = -5.16, p < .001$) and child externalizing behavior ($Z = -2.76, p < .01$) than Spanish mothers.

Predictors of Parental Stress During COVID-19 Lockdown in Italian Mothers

We examined the predictive effect of specific socio-demographic, contextual, and parenting-related variables on parental stress experienced during COVID-19 in both

countries. To this aim, two separate regression models were performed for the Italian and Spanish samples. Results from the hierarchical regression on the Italian sample highlighted that the overall model was significant ($F(8,511) = 99.73, p < .001$) and the adjusted R^2 , which summarizes the overall model fit on a scale from 0 to 1.00, was equal to 0.60 (Table 3). In the first block, child age showed a significant negative predictive effect on parental stress during the COVID-19 outbreak, whereas maternal education was not significant. The second block, including the possibility of using outdoor spaces and experience of contagion, did not significantly contribute to the overall model ($p = .40$). Conversely, the third block added 29% of variance to the overall model ($p < .001$). Both psychological distress ($\beta = .47, p < .001$) and quality of co-parenting relationship ($\beta = -.21, p < .001$) showed a significant predictive effect on parental stress. Next, in the fourth block, maternal perception of child externalizing behaviors emerged as a significant predictor ($\beta = .18, p < .001$), with greater symptoms in children associated with higher parental stress. In addition, child age ($\beta = -.19, p < .001$), maternal psychological distress ($\beta = .43, p < .001$), and co-parenting ($\beta = -.20, p < .001$) were also significantly associated with parental stress in the fourth block. This model explained 38% of variance ($F(7,511) = 43.70, p < .001$). Finally, in the last block, pre-COVID-19 parental stress in mothers emerged as a significant positive predictor of the outcome ($\beta = .43, p < .001$), but without changing the predictive effect of the other explanatory variables reported in the fourth block.

Predictors of Parental Stress During COVID-19 Lockdown in Spanish Mothers

We replicated the hierarchical regression analysis with parental stress as a response variable on the Spanish sample. The results indicated that the overall regression model was significant ($F(8,430) = 75.07, p < .001$) with an adjusted R^2 equal to .58 (Table 4). In the first block, we observed a significant negative predictive effect of child age on parental stress ($\beta = -.27, p < .001$) but not of maternal education. The second block did not contribute

significantly to the overall model ($p = .09$), despite the significant coefficient of experience of contagion ($\beta = .10, p < .05$). The third block significantly increased the overall explained variance (R^2 change = $.27, p < .001$). We found respectively a significant positive effect of psychological distress ($\beta = .47, p < .001$) and a negative contribution to the quality of co-parenting in predicting parental stress scores in mothers ($\beta = -.15, p < .001$). In the third block, data revealed no significant effect of other independent variables such as maternal education and the possibility to use outdoor spaces, except for child age ($\beta = -.17, p < .001$). The fourth block highlighted the negative effect of child age ($\beta = -.16, p < .001$), and co-parenting ($\beta = -.14, p < .001$) as well as the significant positive coefficients of maternal education ($\beta = .08, p = 0.03$), psychological distress ($\beta = .43, p < .001$) and child externalizing behavior ($\beta = .17, p < .001$). Moreover, the possibility to use outdoor spaces was not a significant predictor of parental stress in mothers, whereas the experience of contagions only approached statistical significance ($\beta = .072, p = .063$). This model was statistically significant, explaining 36% of variance ($F(7,430)=36.24, p < .001$). Finally, in the last block, pre-COVID-19 parental stress was found to be a positive significant predictor of parental stress during COVID-19 ($\beta = .48, p < .001$). Nevertheless, the predictive effect of the other explanatory variables (e.g., child age, co-parenting, maternal psychological distress, and child externalizing behavior) remained significant after adjusting for pre-COVID-19 levels of maternal stress, while the effect of maternal education became not significant ($\beta = .06, p = .064$).

In general, for both study groups, the overall model, including child age, maternal education, the possibility to use outdoor spaces, the experience of contagion, psychological distress, quality of co-parenting, child externalizing behaviors, and pre-COVID-19 parental stress as independent variables constituted the best models, showing similar explained variance between countries.

Discussion

The present study aimed to investigate Spanish and Italian cross-cultural differences and similarities in determinants of maternal stress during the first wave of COVID-19 pandemic, considering sociodemographic, contextual variables, parenting dimensions, pre-COVID-19 maternal stress level, and child externalizing behavior. Indeed, we know from more broadly parent-child literature that children's mental health and well-being are in part predicted by parental health and vice versa. Previous cross-cultural studies on the impact of COVID-19 on families in Italy and Spain (Francisco et al., 2020; Orgilès et al., 2020; Thorell et al., 2021) mainly focused on children and adolescents. Thus, to the best of our knowledge, this is the first cross-cultural study to examine changes in parental stress from before to during the COVID-19 home confinement, as well as its determinants in mothers from Italy and Spain.

Increase in Child Externalizing Behaviors and Parental Stress in Italian and Spanish mothers

Firstly, our results confirmed the negative psychological impact of the COVID-19 pandemic on both parents and children across countries. Mothers from Italy and Spain reported a significant increase in child externalizing behaviors and parental stress during home confinement compared to the period before COVID-19 restrictions, albeit at a different magnitude. Our findings are consistent with previous Italian (Di Giorgio et al., 2021; Liang et al., 2020; Marchetti et al. 2020) and Spanish (Becerra et al., 2020; Erades & Sabuco, 2020) studies at national level as well as with prior cross-cultural evidence on children and adolescents' behavioral difficulties (Francisco et al., 2020). In this regard, it is plausible that routine changes derived from COVID-19 restrictions may have significantly impacted the mental health of children, who may have expressed their discomfort showing externalizing behaviors such as hyperactivity, inattention, and conduct problems (Marchetti et al., 2020;

Singh et al., 2020). Alternatively, mothers in both countries may have overreported behavioral difficulties in their children, given the higher parental stress level they perceived during COVID-19 home confinement. Notably, according to longitudinal findings (Hofstra & Verhulst, 2000; Hofstra et al., 2002; Thompson et al., 2011), externalizing behaviors in children and adolescents may persist across time or be predictive of later psychopathology, posing considerable risks to healthy development.

Focusing on maternal stress, our findings at national level are in line with previous Spanish and Italian studies showing that COVID-19 home confinement has seriously impacted families (Cusinato et al., 2020; Fontanesi et al., 2020; Orgilès et al., 2020), increasing the risk of experiencing parental burnout and exhaustion in mothers (Marchetti et al., 2020). In the context of COVID-19 home confinement, mothers could have perceived higher aversive responses to parental obligations and less psychological resources to meet the multiple and escalating demands of home confinement. Specifically, it is relevant to note that during the COVID-19 pandemic in both Italy and Spain, women were more likely to lose their job compared to men or were often forced to ask for hours reduction or special leave to care for their children (INE, 2020; ISTAT, 2020). Another important aspect is that working mothers are often caregivers employed in the informal sector in social and health care, which implies higher risk in terms of contagion and fewer possibilities to work remotely (Fisher & Ryan, 2021). Taken together, these conditions related to gender inequalities may have posed further challenges for mothers during the pandemic, increasing their psychological distress (Gausman & Langer, 2020). Moreover, we collected data during the first wave of the pandemic, when the reorganization of educational and work activities was only at an early stage in both countries. It may have intensified feelings of uncertainty in mothers, as they could have perceived more difficulties in balancing different responsibilities and child-rearing activities without a predictable external support.

Perceived Changes in Child Externalizing Behaviors and Maternal Stress from Before to During COVID-19: Cross-cultural Differences

With respect to cross-cultural differences, our results highlighted a more significant perceived change across time in Spanish mothers for parental stress and child externalizing behaviors. Our result expanded previous cross-cultural findings on children (Francisco et al., 2020; Orgilés et al., 2020), showing that a similar detrimental response to COVID-19 confinement in Spain can also be observed for maternal stress. According to Romero et al. (2020), differences in rules and timing of restrictions between the two countries may explain this result. For instance, Italian children could go out for a short walk with one adult nearby their house even during lockdown, whereas the loosening of restrictions in Spain comes only after six weeks of home confinement. Besides, as highlighted by recent studies (Francisco et al., 2020; Orgilés et al., 2020), Spanish houses are characterized by the lower presence of outdoor spaces (e.g., garden, yard, balcony, roof terrace) and this may have increased children's psychological distress. Consistently, in the present study, Spanish respondents reported having less possibility of using outdoor spaces during COVID-19 lockdown than the group of Italian mothers. Therefore, Spanish children may also have been perceived by their mothers as more challenging to manage, considering the more extended restrictions imposed during the first wave of the pandemic.

However, our regression analyses did not show a significant effect of the use of outdoor spaces on parental stress. The lack of significance could be due to poor variability in our sample as well as to the way we measured this variable in our questionnaire, since we did not ask for information about the house and outdoor space dimensions or the number of people living. Notwithstanding, our result is in line with previous evidence in the Italian population, showing that the dimension of houses and the presence of gardens or terraces were not related to parenting stress (Spinelli et al., 2020). Notably, in our sample, Spanish

mothers and children were younger as compared to the Italian ones. Thus, according to previous findings on the pandemic's psychological impact (Francisco et al., 2020), they may have been more affected by COVID-19 restrictions. Finally, the horizontal-collectivistic orientation which characterizes Spanish parenting may have increased the perception of vulnerability for themselves and their children concerning COVID-19 confinement, since it implies a higher interconnectedness among family members also in terms of mental and physical health (Germani et al., 2020). Similarly, higher uncertainty avoidance may have made Spanish mothers less comfortable in ambiguous and undefined situations, as was the case of the initial stage of the first wave of COVID-19 pandemic.

Predictors of Parental Stress During COVID-19 in Italian and Spanish Mothers

In regression analyses, we found similar effects in the two countries for the determinants of parental stress in mothers during COVID-19 home confinement. Specifically, child age and child externalizing behaviors, maternal psychological distress, and co-parenting emerged as significant predictors in both study groups. Moreover, mothers of younger children reported a more significant increase in parental stress across countries. This result corroborates prior research on Italian parents' distress during the pandemic (Di Giorgio et al., 2021) and suggests that developmental needs of children of younger age may be perceived as stressful and demanding during home confinement (Giannotti et al., 2021, Marchetti et al., 2020). Indeed, greater parental involvement is required during home confinement, when young children rely almost exclusively on their caregivers. Our results extend Italian findings on a cross-cultural dimension, suggesting that rearing young children could pose more challenges and, in turn, be perceived as more overwhelming by mothers, regardless of culture.

Interestingly, we also found that higher levels of co-parenting significantly reduced the perceived parental stress in both countries' mothers. Our finding is consistent with recent

studies (Bentvenuto et al., 2021; McRae et al., 2021), extending this result to the Spanish population. Furthermore, we confirmed the importance of cooperative co-parenting across cultures, showing that it can positively influence parental well-being and increase parental resilience in stressful conditions such as home confinement.

Furthermore, our findings revealed that maternal psychological distress was the stronger predictor of perceived parental stress across countries. This association has been confirmed mainly by traditional parenting literature (Crnic & Low, 2002). Nonetheless, we replicated this result showing its cross-cultural significance in the pandemic period. This is of relevance given that home confinement has seriously impacted the mental health of parents (Marchetti et al., 2020; Sahithya et al., 2020), who reported increased symptoms such as anxiety, depression, and poor sleep (Brown et al., 2020). Notably, according to a recent Spanish study on COVID-19 impact (Romero et al. 2020), parents' psychological vulnerabilities may have a negative influence on children's outcomes through the mediation of parenting stress. However, because of the structure of the study, we acknowledge as a study limit that the direction of the effect is difficult to be disentangled. In this study, we focused mainly on parental stress, and we did collect measures of stress both pre and during COVID-19 lockdown, but we measured the parents' psychological distress only during COVID-19. Therefore, we did not have enough information to investigate the direction of their relationship. Possibly, longitudinal studies that investigate and measure these two constructs over a longer period could help to better explore the direction of the effect.

Another critical factor contributing to parenting stress in both countries is the level of children externalizing behaviors as perceived by their mothers. Our finding is consistent with a large body of literature that has documented the significant association between children's behavioral difficulties and maternal stress before and during the COVID-19 (Giannotti et al., 2021; Spinelli et al., 2020). Moreover, we expanded previous findings showing that this

effect is similar across countries during COVID-19 home confinement. This becomes especially relevant considering the higher occurrence of child behavioral difficulties documented in Italy and Spain during the first wave of the pandemic. Externalizing behaviors were already considered one of the most common forms of child maladjustment, and pandemic restrictions may have further undermined children's adaptive functioning, leading to a significant worsening of parental well-being regardless of culture.

Furthermore, we accounted for the pre-COVID-19 level of maternal stress, which emerged as a significant positive predictor of parental stress during the COVID-19 pandemic both in Italy and Spain. Although it is important to consider the methodological weaknesses of retrospective measures, this finding highlighted that mothers who perceived higher levels of parental stress pre-COVID-19 were more likely to report higher parental burden and demands even during the first wave of the pandemic. Thus, our result suggests that the restrictions of the first wave of the pandemic may have been perceived as a cumulative source of stress, accentuating parenting difficulties in more vulnerable mothers. On the other hand, after accounting for the pre-COVID-19 level of parental stress, the impact of concurrent variables (child age, co-parenting, maternal psychological distress, and child externalizing symptoms) remained significant, suggesting that the perception of individual health, cooperative parenting, as well as of child difficult behaviors may impact parenting stress regardless of the level of maternal stress prior to the pandemic.

In addition, we did not observe a significant effect of the maternal education, the experience of contagions, and outdoor spaces on maternal stress. In this regard, it is essential to note that we did not collect information on the illness course and severity of COVID-19. Thus, this methodological drawback may have limited the effect of this factor on parental stress. Surprisingly, also the possibility of using outdoor spaces was not found to be predictive of parental stress, in contrast with previous studies that revealed that having

outdoor spaces in the house contributed to lower levels of symptomatology in children (Francisco et al. 2020, Orgilès et al., 2020). However, it is important to note that the poor variability (96% of Italians had access to outdoor spaces) may explain the lack of association with maternal stress. In addition, as mentioned above, this lack of significance could be due to the way we measured this variable in our questionnaire, or to a more homogeneous distribution of external spaces within the proper home in our samples, compared to the samples included in previous cross-cultural studies.

Overall, maternal stress during COVID-19 home confinement in both countries was predicted by the same explanatory variables. These findings are consistent with traditional parenting literature highlighting the association between maternal mental health, quality of co-parenting relationship, child externalizing behaviors, and parental stress (Durtschi et al., 2017; Williford et al., 2007). In general, it is plausible that the experience of the COVID-19 home confinement has accentuated the influence of partner and child dimensions on maternal psychological state. On the one hand, this could have had a negative impact on parental stress in mothers, since they could perceive higher levels of maladjustment in their children, overrating their difficult behaviors in response to the COVID-19 restrictions. On the other hand, following a risk and resilience approach to family functioning, partner cooperative parenting seems to mitigate the adverse effects of the pandemic on parental stress of mothers, constituting a prominent protective factor.

In sum, this study significantly contributes to the ever-growing body of literature on family adjustment to COVID-19-stress by examining the determinants of parental stress in mothers from Italy and Spain using a cross-cultural lens. Overall, both similarities and differences between countries emerged. Spanish mothers perceived a higher change in parental stress from before to during lockdown than Italian mothers, probably due to different policies adopted by Spain during the first wave of the pandemic, as well as the higher

collectivism which characterized Spanish culture. Nevertheless, as expected, the same determinants of maternal stress were found in both countries. Taken together, these findings underlined the significant psychological impact of the pandemic perceived by the mothers, suggesting that it could vary according to cultural models and containment strategies and interventions. Importantly, the factors that intervene in shaping the perception of maternal stress during the pandemic in Italy and Spain are overlapping, and seem to be mainly related to individual, couple, and child functioning rather than other contextual aspects.

Conclusions and Limitations

Importantly, further studies should replicate these results in other European or non-Western countries with different cultural models to confirm a common and widespread psychological impact of the pandemic on families' well-being. Nonetheless, our results confirmed the urgency of activating measures and interventions aimed to support practically and psychologically parents and children during future lockdowns in Italy and Spain. Preventive programs and tailored interventions, that take into consideration also the importance of partner support and co-parenting relationships, should be implemented to reduce mental health difficulties and parental stress in mothers and behavioral problems in children across countries. Particular attention should be paid to young mothers and children who seem to be more vulnerable to the burden imposed by COVID-19 home confinement in the most affected European countries. Timely psychosocial interventions and preventive programs should address maternal-specific stressors documented by empirical evidence. Public policies and containment interventions that promote an equal distribution of family care responsibilities, as well as an easy access to public resources for childcare, are highly recommended. Given that our study highlighted the presence of common underlying factors responsible for parental stress in Italy and Spain, shared and cooperative networks are needed to implement community policies to support families caring for children and adolescents

during the pandemic crisis. At European level, greater efforts should be paid from the community policy system to define and implement coordinated and shared support programs aimed, to the one side, to prevent similar effects in future COVID-19 waves (or other virus spreading) and, to the other side, to take care of those families that have suffered the most from the condition imposed to face pandemic.

As a final note, despite the novelty of our findings, some limitations need to be acknowledged. Critically, the stressful situation related to the pandemic could have biased the participants' retrospective measures. Future studies should investigate the predictors of parenting and child dimensions' changes using longitudinal designs, according to a developmental perspective. Moreover, given the changes made to the original questionnaires, it was not possible to ascertain the construct comparability for the measures used for this study. This prevented us from investigating differences between groups of the questionnaire total scores, but we compared the groups using the difference scores (delta) between pre and during lockdown. Consequently, the use of measurement invariance is recommended for further studies to adopt more rigorous statistical methods and to allow questionnaire total scores group comparisons between different cultures.

In addition, although data were collected both during the stricter lockdown and the gradual resumption of activities, we did not test whether the timing of participation completion affected the results. Finally, the COVID-19 restrictions prevented us from performing interviews in person, and during lockdown, the surveys were the most suitable solution to collect data from a community sample. Although this method allowed us to collect data from all the Italian and Spanish regions, helping to increase the representativeness of our sample, we acknowledge that this may have limited the participation only to those parents who are familiar with digital devices and with social media. Thus, low-income families could be underrepresented in this study.

References

- Abidin, R. R. (1992). The determinants of parenting behavior. *Journal of Clinical Child Psychology, 21*(4), 407-412. https://doi.org/10.1207/s15374424jccp2104_12
- Alzqueta, E., Perrin, P., Baker, F. C., Caffarra, S., Ramos-Usuga, D., Yuksel, D., & Arango-Lasprilla, J. C. (2020). How the COVID-19 pandemic has changed our lives: A study of psychological correlates across 59 countries. *Journal of Clinical Psychology, 77*(3), 556-570. <https://doi.org/10.1002/jclp.23082>
- Becerra, I. G., Contreras, J. M. F., Romero, M. P. A., López, P. S., & Torres, M. F. (2020). Evolución del estado psicológico y el miedo en la infancia y adolescencia durante el confinamiento por la COVID-19. *Revista de Psicología Clínica con Niños y Adolescentes, 7*(3), 11-18. https://www.revistapcna.com/sites/default/files/004_0.pdf
- Bentenuto, A., Mazzoni, N., Giannotti, M., Venuti, P., & de Falco, S. (2021). Psychological impact of Covid-19 pandemic in Italian families of children with neurodevelopmental disorders. *Research in Developmental Disabilities, 109*, Article 103840. <https://doi.org/10.1016/j.ridd.2020.103840>
- Berry, J. O., & Jones, W. H. (1995). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships, 12*(3), 463-472. <https://doi.org/10.1177/0265407595123009>
- Bornstein, M. H. (2012). Cultural approaches to parenting. *Parenting, 12*(2-3), 212-221. <https://doi.org/10.1080/15295192.2012.683359>
- Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet, 395*(10227), 912- 920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)

- Brown, S. M., Doom, J. R., Lechuga-Peña, S., Watamura, S. E., & Koppels, T. (2020). Stress and parenting during the global COVID-19 pandemic. *Child Abuse & Neglect, 110*, Article 104699. <https://doi.org/10.1016/j.chiabu.2020.104699>
- Calasanti, T., & King, N. (2007). Taking 'women's work' 'like a man': Husbands' experiences of care work. *The Gerontologist, 47*(4), 516-527. <https://doi.org/10.1093/geront/47.4.516>
- Cénat, J. M., Blais-Rochette, C., Kokou-Kpolou, C. K., Noorishad, P. G., Mukunzi, J. N., McIntee, S. E., Dalexis, R. D., Goulet, M. A., & Labelle, P. R. (2021). Prevalence of symptoms of depression, anxiety, insomnia, posttraumatic stress disorder, and psychological distress among populations affected by the COVID-19 pandemic: A systematic review and meta-analysis. *Psychiatry Research, 295*, Article 113599. <https://doi.org/10.1016/j.psychres.2020.113599>
- Crnic, K., & Low, C. (2002). Everyday stresses and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Practical issues in parenting* (pp. 243–267). Lawrence Erlbaum Associates Publishers. <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.457.3309&rep=rep1&type=pdf>
- Cusinato, M., Iannattone, S., Spoto, A., Poli, M., Moretti, C., Gatta, M., & Miscioscia, M. (2020). Stress, resilience, and well-being in Italian Children and their parents during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health, 17*(22), Article 8297. <https://doi.org/10.3390/ijerph17228297>
- Davenport, M. H., Meyer, S., Meah, V. L., Strynadka, M. C., & Khurana, R. (2020). Moms are not OK: COVID-19 and maternal mental health. *Frontiers in Global Women's health, 1*, 1. <https://doi.org/10.3389/fgwh.2020.00001>

- Deater-Deckard, K. (1998). Parenting stress and child adjustment: Some old hypotheses and new questions. *Clinical psychology: Science and Practice*, 5(3), Article 314.
<https://psycnet.apa.org/doi/10.1111/j.1468-2850.1998.tb00152.x>
- Deater-Deckard, K., & Panneton, R. (2017). Unearthing the developmental and intergenerational dynamics of stress in parent and child functioning. In *Parental stress and early child development* (pp. 1-11). Springer, Cham.
http://dx.doi.org/10.1007/978-3-319-55376-4_1
- Di Giorgio, E., Di Riso, D., Mioni, G., & Cellini, N. (2021). The interplay between mothers' and children behavioral and psychological factors during COVID-19: An Italian study. *European Child & Adolescent Psychiatry*, 30(9), 1401-1412.
<https://doi.org/10.1007/s00787-020-01631-3>
- Durtschi, J. A., Soloski, K. L., & Kimmes, J. (2017). The dyadic effects of supportive coparenting and parental stress on relationship quality across the transition to parenthood. *Journal of Marital and Family Therapy*, 43(2), 308-321.
<https://doi.org/10.1111/jmft.12194>
- Erades, N., & Sabuco, A. M. (2020). Impacto psicológico del confinamiento por la COVID-19 en niños españoles: un estudio transversal. *Revista de Psicología Clínica con Niños y Adolescentes*, 7(3), 27-34.
https://www.revistapcna.com/sites/default/files/006_0.pdf
- Feinberg, M. E., Brown, L. D., & Kan, M. L. (2012). A multi-domain self-report measure of coparenting. *Parenting*, 12(1), 1-21. <https://doi.org/10.1080/15295192.2012.638870>
- Fischer, R., & Boer, D. (2011). What is more important for national well-being: Money or autonomy? A meta-analysis of well-being, burnout, and anxiety across 63 societies. *Journal of Personality and Social Psychology*, 101(1), 164-184.
<https://doi.org/10.1037/a0023663>

- Fisher, A. N., & Ryan, M. K. (2021). Gender inequalities during COVID-19. *Group Processes & Intergroup Relations*, 24(2), 237-245.
<https://doi.org/10.1177%2F1368430220984248>
- Fontanesi, L., Marchetti, D., Mazza, C., Di Giandomenico, S., Roma, P., & Verrocchio, M. C. (2020). The effect of the COVID-19 lockdown on parents: A call to adopt urgent measures. *Psychological Trauma: Theory, Research, Practice, and Policy*. 12(S1), S79. <http://dx.doi.org/10.1037/tra0000672>
- Francisco, R., Pedro, M., Delvecchio, E., Espada, J. P., Morales, A., Mazzeschi, C., & Orgilés, M. (2020). Psychological symptoms and behavioral changes in children and adolescents during the early phase of COVID-19 quarantine in three European countries. *Frontiers in Psychiatry*, Article 1329.
<https://doi.org/10.3389/fpsyt.2020.570164>
- Gausman, J., & Langer, A. (2020). Sex and gender disparities in the COVID-19 pandemic. *Journal of Women's Health*, 29(4), 465-466. <https://doi.org/10.1089/jwh.2020.8472>
- Germani, A., Buratta, L., Delvecchio, E., & Mazzeschi, C. (2020). Emerging adults and COVID-19: the role of individualism-collectivism on perceived risks and psychological maladjustment. *International Journal of Environmental Research and Public Health*, 17(10), 3497. <https://doi.org/10.3390/ijerph17103497>
- Giannotti, M., Mazzoni, N., Bentenuto, A., Venuti, P., & de Falco, S. (2021). Family adjustment to COVID-19 lockdown in Italy: Parental stress, coparenting, and child externalizing behavior. *Family Process*. 00, 1–19. <https://doi.org/10.1111/famp.12686>
- Goldberg, D. P. (1988). *User's guide to the General Health Questionnaire*. Windsor, NFER-Nelson.

- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581-586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>
- Gröpel, P., & Kuhl, J. (2009). Work–life balance and subjective well-being: The mediating role of need fulfilment. *British Journal of Psychology*, 100(2), 365-375. <https://doi.org/10.1348/000712608X337797>
- Grzywacz, J. G., & Bass, B. L. (2003). Work, family, and mental health: Testing different models of work-family fit. *Journal of Marriage and Family*, 65(1), 248-261. <https://doi.org/10.1111/j.1741-3737.2003.00248.x>
- Guo, J., De Carli, P., Lodder, P., Bakermans-Kranenburg, M. J., & Riem, M. M. (2021). Maternal mental health during the COVID-19 lockdown in China, Italy, and the Netherlands: A cross validation study. *Psychological Medicine*, 1-11. <https://dx.doi.org/10.1017%2FS0033291720005504>
- Halper, L. R., Cowgill, C. M., & Rios, K. (2019). Gender bias in caregiving professions: The role of perceived warmth. *Journal of Applied Social Psychology*, 49(9), 549-562. <https://doi.org/10.1111/jasp.12615>
- Hofstede, G., Hofstede G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind. Revised and Expanded 3rd Edition*. McGraw-Hill. <https://www.mhprofessional.com/9780071664189-usa-cultures-and-organizations-software-of-the-mind-third-edition-group>
- Hofstra, M. B., & Verhulst, F. C. (2000). Continuity and change of psychopathology from childhood into adulthood: a 14-year follow-up study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(7), 850-858. <https://doi.org/10.1097/00004583-200007000-00013>

- Hofstra, M. B., Van Der Ende, J. A. N., & Verhulst, F. C. (2002). Child and adolescent problems predict DSM-IV disorders in adulthood: a 14-year follow-up of a Dutch epidemiological sample. *Journal of the American Academy of Child Adolescent Psychiatry, 41*(2), 182-189. <https://doi.org/10.1097/00004583-200202000-00012>
- Horesh, D., & Brown, A. D. (2020). Traumatic stress in the age of COVID-19: A call to close critical gaps and adapt to new realities. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(4), 331-335. <http://dx.doi.org/10.1037/tra0000592>
- IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. IBM Corp.
- Instituto Nacional de Estadística. (2020). *Mujeres y hombres en España*.
https://www.ine.es/ss/Satellite?L=es_ES&c=INEPublicacion_C&cid=125992482288&p=1254735110672&pagename=ProductosYServicios%2FPYSLayout¶m1=PYSDetalleGratis¶m2=1254735350965¶m4=Mostrar
- Istituto Nazionale di Statistica. (2020). *Attività conoscitiva preliminare all'esame del Documento di economia e finanza 2020*.
<https://www.istat.it/it/files/2020/04/DOSSIER-Emergenza-e-diseguaglianze.pdf>
- Italian Psychological Association. (2015). *Code of Ethics for Research in Psychology*
<http://www.aipass.org/node/11560>
- Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaib, A., Pankowski, D., Lieberoth, A., & Ahmed, O. (2020). Who is the most stressed during the covid-19 pandemic? Data from 26 countries and areas. *Applied Psychology: Health and Well-Being, 12*(4), 946-966. <https://doi.org/10.1111/aphw.12234>
- Lauri Korajlija, A., & Jokic-Begic, N. (2020). COVID-19: Concerns and behaviours in Croatia. *British Journal of Health Psychology, 25*(4), 849-855.
<https://doi.org/10.1111/bjhp.12425>

- Liang, L., Ren, H., Cao, R., Hu, Y., Qin, Z., Li, C., & Mei, S. (2020). The effect of COVID-19 on youth mental health. *Psychiatric Quarterly*, *91*(3), 841-852.
<https://doi.org/10.1007/s11126-020-09744-3>
- Liu, N., Zhang, F., Wei, C., Jia, Y., Shang, Z., Sun, L., Wu, L., Sun, Z., Zhou, Y. Wang, Y., & Liu, W. (2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. *Psychiatry Research*, *287*, Article 112921. <https://doi.org/10.1016/j.psychres.2020.112921>
- Louie, A. D., Cromer, L. D., & Berry, J. O. (2017). Assessing parenting stress: Review of the use and interpretation of the parental stress scale. *The Family Journal*, *25*(4), 359-367.
<https://doi.org/10.1177/1066480717731347>
- Marchetti, D., Fontanesi, L., Mazza, C., Di Giandomenico, S., Roma, P., & Verrocchio, M. C. (2020). Parenting-related exhaustion during the Italian COVID-19 lockdown. *Journal of Pediatric Psychology*, *45*(10), 1114-1123.
<https://doi.org/10.1093/jpepsy/jsaa093>
- Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: Immediate psychological responses and associated factors. *International Journal of Environmental Research and Public Health*, *17*(9), Article 3165.
- McRae, C. S., Overall, N. C., Henderson, A. M., Low, R. S., & Chang, V. T. (2021). Parents' distress and poor parenting during a COVID-19 lockdown: The buffering effects of partner support and cooperative coparenting. *Developmental Psychology*, *57*(10), 1623–1632. <https://doi.org/10.1037/dev0001207>
- Morelli, M., Cattelino, E., Baiocco, R., Trumello, C., Babore, A., Candelori, C., & Chirumbolo, A. (2020). Parents and children during the COVID-19 lockdown: The

influence of parenting distress and parenting self-efficacy on children's emotional well-being. *Frontiers in Psychology*, *11*, Article 2584.

<https://doi.org/10.3389/fpsyg.2020.584645>

Orgilés, M., Francisco, R., Delvecchio, E., Espada, J. P., Mazzeschi, C., Pedro, M., & Morales, A. (2021). Psychological Symptoms in Italian, Spanish and Portuguese Youth During the COVID-19 Health Crisis: A Longitudinal Study. *Child Psychiatry & Human Development*, 1-10. <https://doi.org/10.1007/s10578-021-01211-9>

Orgilés, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J. P. (2020). Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. *Frontiers in Psychology*, *11*, Article 2986.

<https://doi.org/10.3389/fpsyg.2020.579038>

Oronoz, B., Alonso-Arbiol, I., Balluerka, N. (2007). A Spanish adaptation of the parental stress scale. *Psicothema*, 687-692. <http://www.psicothema.com/pdf/3417.pdf>

Palut, B. (2009). A review on parenting in the Mediterranean countries. *Cumhuriyet Üniversitesi Edebiyat Fakültesi Sosyal Bilimler Dergisi*, *33*(2), 242-247.

<https://dergipark.org.tr/en/pub/cumusosbil/issue/4341/59338>

Park, C. L., Russell, B. S., Fendrich, M., Finkelstein-Fox, L., Hutchison, M., & Becker, J. (2020). Americans' COVID-19 stress, coping, and adherence to CDC guidelines. *Journal of General Internal Medicine*, *35*(8), 2296-2303.

<https://doi.org/10.1007/s11606-020-05898-9>

Piccinelli, M., Bisoffi, G., Bon, M. G., Cunico, L., & Tansella, M. (1993). Validity and test-retest reliability of the Italian version of the 12-item General Health Questionnaire in general practice: A comparison between three scoring methods. *Comprehensive Psychiatry*, *34*(3), 198-205. [https://doi.org/10.1016/0010-440X\(93\)90048-9](https://doi.org/10.1016/0010-440X(93)90048-9)

- Rocha, K. B., Pérez, K., Rodríguez-Sanz, M., Borrell, C., & Obiols, J. E. (2011). Propiedades psicométricas y valores normativos del General Health Questionnaire (GHQ-12) en población general española. *International Journal of Clinical and Health Psychology, 11*(1), 125-139. <https://www.redalyc.org/pdf/337/33715423008.pdf>
- Rodríguez-González, M., Lampis, J., Murdock, N. L., Schweer-Collins, M. L., & Lyons, E. R. (2020). Couple adjustment and differentiation of self in the United States, Italy, and Spain: A cross-cultural study. *Family Process, 59*(4), 1552-1568. <https://doi.org/10.1111/famp.12522>
- Rodríguez-Hernández, P. J., Betancort, M., Ramírez-Santana, G. M., García, R., Sanz-Alvarez, E. J., & De las Cuevas-Castresana, C. (2014). Puntos de corte de la versión española del Cuestionario de Cualidades y Dificultades (SDQ). *Revista de Psiquiatría Infanto-juvenil, 31*(3), 23-29. <https://www.aepnya.eu/index.php/revistaaepnya/article/view/169>
- Romero, E., López-Romero, L., Domínguez-Álvarez, B., Villar, P., & Gómez-Fraguela, J. A. (2020). Testing the effects of COVID-19 confinement in Spanish children: The role of parents' distress, emotional problems, and specific parenting. *International Journal of Environmental Research and Public Health, 17*(19), Article 6975. <http://dx.doi.org/10.3390/ijerph17196975>
- Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., Di Marco, A., Rossi, A., Siracusano, A., & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Frontiers in Psychiatry, 790*. <https://doi.org/10.3389/fpsyt.2020.00790>
- Russell, B. S., Hutchison, M., Tambling, R., Tomkunas, A. J., & Horton, A. L. (2020). Initial challenges of caregiving during COVID-19: Caregiver burden, mental health, and the

parent–child relationship. *Child Psychiatry and Human Development*, 51(5), 671-682.

<https://doi.org/10.1007/s10578-020-01037-x>

Sahithya, B. R., Kashyap, R. S., & Roopesh, B. N. (2020). Perceived Stress, Parental Stress, and Parenting During COVID-19 Lockdown: A Preliminary Study. *Journal of Indian Association for Child Adolescent Mental Health*, 16(4), 44-63.

<https://jiacam.org/ojs/index.php/JIACAM/article/view/583/339>

Sandín, B., Valiente, R. M., García-Escalera, J., Chorot, P. (2020). Impacto psicológico de la pandemia de COVID-19: Efectos negativos y positivos en población española asociados al periodo de confinamiento nacional. *Revista de Psicopatología y Psicología Clínica*, 25(1).

<https://doi.org/10.5944/rppc.27569>

Singh, S., Roy, M. D., Sinha, C. P. T. M. K., Parveen, C. P. T. M. S., Sharma, C. P. T. G., & Joshi, C. P. T. G. (2020). Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, Article 113429.

<https://doi.org/10.1016/j.psychres.2020.113429>

Spinelli, M., Lionetti, F., Pastore, M., & Fasolo, M. (2020). Parents' stress and children's psychological problems in families facing the COVID-19 outbreak in Italy. *Frontiers in Psychology*, 11, Article 1713.

<https://doi.org/10.3389/fpsyg.2020.01713>

Sprang, G., & Silman, M. (2013). Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster Medicine and Public Health Preparedness*, 7(1), 105-110.

<https://doi.org/10.1017/dmp.2013.22>

Thorell, L. B., Skoglund, C., de la Peña, A. G., Baeyens, D., Fuermaier, A. B., Groom, M. J., Mammarella, I. C., van der Oord, S., van den Hoofdakker, B. J., Luman, M., de Miranda, D. M., Siu, A. F. Y., Steinmayr, R., Idrees, I., Soares, L. S., Sörlin, M., Luque, J. L., Moscardino, U. M., Roch, M., Crisci, G., & Christiansen, H. (2021). Parental experiences of homeschooling during the COVID-19 pandemic: Differences

between seven European countries and between children with and without mental health conditions. *European Child Adolescent Psychiatry*, 1-13.

<https://doi.org/10.1007/s00787-020-01706-1>

Thompson, R., Tabone, J. K., Litrownik, A. J., Briggs, E. C., Hussey, J. M., English, D. J., &

Dubowitz, H. (2011). Early adolescent risk behavior outcomes of childhood externalizing behavioral trajectories. *The Journal of Early Adolescence*, 31(2), 234-

257. <https://doi.org/10.1177/0272431609361203>

Tobia, V., & Marzocchi, G. M. (2018). The strengths and difficulties questionnaire-parents

for Italian school-aged children: psychometric properties and norms. *Child Psychiatry & Human Development*, 49(1), 1-8. <https://doi.org/10.1007/s10578-017-0723-2>

Tucker, K. L., Ozer, D. J., Lyubomirsky, S., & Boehm, J. K. (2006). Testing for measurement

invariance in the satisfaction with life scale: A comparison of Russians and North Americans. *Social Indicators Research*, 78(2), 341-360.

<https://doi.org/10.1007/s11205-005-1037-5>

Williford, A. P., Calkins, S. D., & Keane, S. P. (2007). Predicting change in parenting stress

across early childhood: Child and maternal factors. *Journal of Abnormal Child Psychology*, 35(2), 251-263. <https://doi.org/10.1007/s10802-006-9082-3>