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#### **ORIGINAL ARTICLE**



# Perceived stress, resources and adaptation in relation to the COVID-19 lockdown in Spanish foster and non-foster families

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#### **Abstract**

The lockdown imposed as a result of the COVID-19 pandemic has placed unprecedented stress on families. The family is a key system in relation to child development, and when birth families are unable to meet their child's needs, foster carers become an important source of support in their development. The Double ABC-X Model of family stress and adaptation considers that a family's capacity to cope with stressful situations is influenced by pile-up of stressors, family resources and perception of the situation. Following this model, the study aimed to determine the impact of the COVID-19 lockdown on family stress and functioning. The sample comprised 347 Spanish adults (100 with foster families and 247 with non-foster families) who completed a survey during lockdown. The results showed that certain sociodemographic variables (gender, income, working from home, characteristics of the home and children with special educational needs) were associated with stressors during lockdown, perception of the lockdown, and family adaptation to stress during lockdown. Associations were also found between stressors, family resources, perception of lockdown, and family adaptation in foster and non-foster families, with the former having a more positive perception of the lockdown experience. The relevance of the results and their implications are discussed.

#### KEYWORDS

adaptation, COVID-19, foster families, perceived stress, resources

#### 1 | INTRODUCTION

In December 2019, there was an epidemic outbreak of pneumonia of unknown cause in Wuhan, China. After rapid spread, the World Health Organization (2020) recognized the novel coronavirus disease (COVID-19) as a global pandemic.

Spain has been one of the worst affected countries in Europe, so on 14 March 2020, the Spanish Government declared a State of Alarm over COVID-19 (Real Decreto 463/2020, of 14 March) and

ordered a home lockdown of the Spanish population that lasted 99 days. Despite the biomedical benefits of this action, it is essential to consider the implications of the lockdown on the family relationships and the well-being of the Spanish families and to know the family variables related to a greater adaptation to the lockdown (Sprang & Silman, 2013).

According to the ecological model of Bronfenbrenner (1979), and subsequent contributions by other authors (Álvarez, 2003; Arranz, 2004), the family is a life support system that is influenced by

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context. The model considers that the child, the family, and their environment are connected through bidirectional or transactional influences, and this ecological perspective broadens the concept of the family and the analysis of its basic elements. Hence, for Corsi (2003), 'the family is a shared life project based on a common set of rules and values to which there is a strong emotional commitment' (p. 207), and it provides a context in which all its members can develop in a space of intergenerational encounters and agreements, at the same time as offering them a support network, both internal and external, to which they can turn in times of transition or crisis.

There are occasions when, despite the importance of the family system for a child's psychosocial development, the family circumstances are such that it is not advisable for a children to remain with their birth parents. In such cases, one of the options that will be considered by child protection agencies is family foster care. If a child is considered to be at risk, then fostering offers greater protection than would a family support programme, while remaining a less drastic measure than adoption, which implies a permanent separation between the children and their birth family (Urbano & Bernedo, 2016).

Thus, the main aim of foster care is to provide safe, protection and stability to children and youths who are removed from their birth families due to their history of maltreatment. As Berrick and Skivenes (2012) demonstrated, being a foster family implies typical good parenting practices and other practices that go above and beyond the general population, derived from unique circumstances of children in care such as being under ward, being a temporary of a family and being shared between two families (birth family and foster family). They describe this specific parenting task as 'Parenting +'. Foster cares have to manage behavioural, emotional and social problems of children in care resulting from their history of trauma (Bernedo et al., 2014; Brown, 2015; Farmer et al., 2005; Pecora et al., 2009; Salas et al., 2015). Also, these children had an increase likelihood of presenting developmental problems, disabilities and academic difficulties (Bernedo et al., 2014; Brown & Rodger, 2009; Fuentes et al., 2010; Stahmer et al., 2005). Therefore, foster cares must interact not only with the Child Protection System, but also with educational, mental and medical systems. Moreover, they have to learn how to cope with contact visit between foster children and their birth parents, collaborate and build a positive relationship.

In this sense, being a foster family involves adding new members to the family and, to a greater or lesser extent, continuous changes in the dynamics of the family system (Geiger et al., 2016; Lietz et al., 2016). In addition, as it was mentioned above, these families experience stressors that all families may face, such as normative transitions (from childhood to adolescence), caring for an ageing, or during the COVID-19 pandemic, taking care for family member with the virus, for example.

Despite these stressors, as Lietz et al. (2016) showed in their study, foster families are able to maintain healthy family functioning thanks to their strengths, such as mutual support and connectedness, commitment or family communication. Also, facing and overcoming difficult challenges related to their role as foster carers encourages

them to give support to other foster families. In this way, they not only receive support from the socials workers but also they have the strong desire to provide it.

In our country, Spain, prospective foster families are required by law (Law 1/1996, subsequently modified by Law 26/2015) to undergo training by child protection agencies. Several such programs are available (Amorós et al., 1994, 2002; Regional Government of Cantabria, 2011), although the content is generally adapted by each child protection agency to the specific needs of the foster families in question. Typically, the programs address communication and affective skills, conflict resolution, emotion management, and the life history of the fostered child, among other aspects, and all family foster placements are monitored by social workers (Bernedo et al., 2019). Taking into account these circumstances, it seems to be relevant to study if the lockdown has affected the foster and non-foster families in a different way.

A model that can be useful to understand stress and adaptation of the Spanish families is the Double ABC-X Model (McCubbin & Patterson, 1983). It considers that a family's capacity to cope with stressful situations is influenced by three factors: (1) pile-up of stressors and demands (A); (2) existing and new resources (B); and (3) the definition and perception of the situation (C). Family resources include the personal resources of each family member (financial status, education, physical and mental health, coping strategies, self-esteem, etc.), the resources of the family system (cohesion, adaptability and communication), and community resources (formal and informal social support). These resources mediate stressors and a family's response to crisis, since they can reduce the impact of the demands being placed on the family and help it to make changes so as to adapt to the stressful event. A family's definition and perception of a stressful situation may also vary, from a positive outlook (seeing it as a challenge and an opportunity) to a negative view (as a desperate situation that is impossible to manage). According to Antonovsky (1987); McCubbin et al., 1998), a family's perception of a stressful event includes the capacity to understand and accept the event; the capacity to perceive that the crisis and the pile-up of stressors can be managed and controlled; and the capacity to give meaning to the stressful event and the demands that must be faced. The perception of stressful events also mediates the relationship between the pile-up of demands and the family's adaptation to the situation. The Double ABC-X Model also distinguishes between two stages: the pre-crisis stage, in which the family must respond to a specific stressor at a given point in time, and the post-crisis stage, in which the family has to respond to the pile-up of demands in order to adapt to the situation (X) (Lavee et al., 1985).

The Double ABC-X Model postulates that (a) the magnitude of a stressor during a crisis is heightened by the presence of other stressors in the family; (b) the level of family adaptation to the crisis is attenuated by the magnitude of accumulated stressors; (c) a family with more personal, family, and social resources will be better able to adapt to the pile-up of stressors; (d) a family with more personal, family, and social resources will experience less tension as a result of the pile-up of demands; and (e) a family with a more positive perception

of the pile-up of stressors and of its capacity to manage them will adapt more adequately. Due to its relevance here, mention should also be made of resilience, the process whereby a person or family is able to adapt positively to adverse circumstances, including of a severe nature, and to situations of exposure to significant risk (Luthar, 2006; Luthar et al., 2000). In sum, the impact of stressors on a family depends not only on the pile-up of stressors, and on their nature and intensity, but also on the family's resources and their perception of these stressors. When stressors overwhelm a family's resources and when their perception of the situation is negative, it is highly likely that the family's capacity for adaptation and their children's adjustment will be affected (Lorence et al., 2009, 2013).

Regarding to family resources, both the Circumplex Model (Olson et al., 1983), one of the most important theoretical approaches to family functioning (Martínez-Pampliega et al., 2011), and research by Hobfoll and Spielberger (1992) propose that families have three basic resources for dealing with stressors: (a) Cohesion, which refers to the emotional bonding that family members have with one another; (b) Adaptability, which is the ability of a family or marital system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress; and (c) Communication, which refers to the communication skills employed within the family (Olson, 2011). According to the Circumplex Model, families that are well balanced in terms of cohesion and adaptability will generally function more adequately, have more positive communication skills, and experience fewer problems that will families who are extreme (unbalanced) in terms of cohesion and/or adaptability (Olson et al., 1979, 1983). The model likewise postulates that balanced families will also change their cohesion and adaptability in order to deal with situational and developmental stress across the life cycle, whereas extreme families will resist change over time (Carter & McGoldrick, 1999; Olson et al., 1979).

Various studies have shown that family cohesion and adaptability are associated with psychological adjustment in children, adolescents, and adults (Joh et al., 2013; McKinney & Renk, 2011). Cohesion and adaptability have likewise been linked to family satisfaction (Olson, 2011; Rivero et al., 2010). Research has also found a relationship between family functioning and family coping strategies (Creech et al., 2013; Matthew & von Kluge, 2009; Rieger & McGrail, 2014).

The aims of the present study were (1) To identify the sociodemographic variables associated with stressors during the COVID-19 lockdown, family resources, the perception of lockdown, and family adaptation to stress during lockdown in the full sample, and (2) to analyse the association between stressors, family resources, perception of lockdown, and capacity to adapt to stress during lockdown in foster and non-foster families. This paper is based on the Double ABC-X Model, but it does not pretend to test it. The results obtained could help to understand the family variables that are related to a greater adaptation to stress, which can guide families,

health and social care professionals, businesses and policymakers how best to respond to situations of this kind.

#### 2 | METHOD

#### 2.1 | Sample

The sample comprised 347 Spanish adults, of whom 282 were women (81.3%) and 65 were men (18.7%). They ranged in age from 26 to 67 years (M = 45.6, SD = 8.1). This sample was split into two subgroups: foster families (n = 100) and non-foster families (n = 247). Descriptive analysis showed that the majority of participants had secondary or higher education (83%) and were currently employed (64.3%). Among those in work, 70.4% had switched to working from home during lockdown (Table 1).

Participants from foster families are older (t[345] = -4.50, p < 0.001, d = 0.53), a lower percentage of them have university studies ( $\chi^2$  [5] = 24.53, p < 0.001, C.C. = 0.26) and family income over 2500€ ( $\chi^2$  [5] = 13.54, p = 0.019, C.C. = 0.19), a higher percentage of them are unemployed and a lower percentage are workers ( $\chi^2$ [2] = 7.78, p = 0.020, C.C. = 0.15), they have more people living in their houses (t[345] = -4.58, p < 0.001, d = 0.67), they have more children (t[345] = -2.08, p = 0.038, d = 0.25), and more children with special needs (t[345] = -4.25, p < 0.001, d = 0.65), than participants from non-foster families.

#### 2.2 | Instruments

#### 2.2.1 | Sociodemographic questionnaire

This questionnaire was developed ad hoc for the present study to gather sociodemographic data (gender, age, marital status, employment status, level of education, household members, including children, place of residence and income and financial prospects, among other aspects). It also included questions about the impact of COVID-19 on the family (whether any members of the household, other relatives, or friends had developed symptoms; whether a family member or friend had lost their job).

# 2.2.2 | Family Adaptability and Cohesion Evaluation Scale-20Esp

Family functioning was assessed using the shortened Spanish version (Martínez-Pampliega et al., 2006) of the Family Adaptability and Cohesion Evaluation Scale II (FACES-II; Olson et al., 1982). The FACES-20Esp has 20 items that are distributed across two subscales, Cohesion and Adaptability (10 items each), with each item being rated by respondents on a five-point scale from 1 (*Never or hardly ever*) to 5 (*Always or almost always*). The instrument yielded internal

**TABLE 1** Sociodemographic data for the sample

	Foster families ( $n=100$ )		Non-foster famili	es (n = 247)	Full sample (N = 347)		
Variable	M	D.T.	_	M	D.T.	M	D.T.
Age	48.6	8.0		44.4	7.8	45.6	8.1
No. of children in household	2.2	1.2		1.7	0.7	1.83	2.0
	N		%	N	%	N	%
Gender							
Female	8	3	83%	199	81%	282	81%
Male	1	7	17%	48	19%	65	19%
Education							
Primary education		7	7%	14	5.7%	21	6.1
Secondary education	1	8	18%	21	8.5%	39	11.2
Bachelor/professional training	3	4	34%	50	20.2%	84	24.2
University	3	4	34%	98	39.7%	132	38.0
Postgraduate		7	7%	64	25.9%	71	20.5
Employment status							
Unemployed	4	6	46%	78	31.6%	124	35.7
In work	5	4	54%	169	68.4%	223	64.3
Place of work during lockdown							
In usual workplace	1	8	33.3%	48	28.4%	66	31.7
Working from home	3	6	66.7%	121	71.6%	157	68.3
Monthly family income							
Less than €500		2	2%	6	2.4%	8	2.3
€501-1,000		5	5%	9	3.6%	14	4.0
€1001-1500	2	1	21%	34	13.8%	55	15.9
€1501-2000	2	9	29%	45	18.2%	74	21.3
€2001-2500	2	1	21%	53	21.5%	74	21.6
More than €2500	2	2	22%	100	40.5%	122	35.2
Children with special educational need	ds 2	4	24%	12	4.9%	36	10.4
Home has outdoor space	7	7	77%	172	69.6%	249	71.8
Believe they contracted COVID-19		7	7%	23	9.3%	30	8.6
Relatives or friends have lost their job	6	7	67%	163	66%	230	66.3

consistency (Cronbach's alpha) of 0.89 for Cohesion and 0.87 for Adaptability. Factor analyses carried out by Martínez-Pampliega et al. (2006, 2011) suggested that the FACES-20Esp may be considered unidimensional, and hence in the present study we used the total score as a single measure of family functioning. In the present sample, internal consistency of total scores for family functioning prior to and during lockdown was 0.95 in both cases.

#### 2.2.3 | Family stress scale—Spanish version

The level of family stress was assessed using the Spanish version (Sanz et al., 2002) of the Family Stress Scale (Olson, 1992), which comprises 20 items, each with five response options ranging from 1 (*Never or* 

hardly ever) to 5 (Very often). This instrument yielded internal consistency (Cronbach's alpha) of 0.87 and test-retest reliability of 0.87. In order to reduce fatigue in our sample, we only used items 1, 4, 6, 7, 8, 9, 16, and 18 of this scale. In addition, item 10 was reformulated as 'Burden related to children's school work'. Internal consistency of scores for family stress prior to and during lockdown was 0.70 and 0.72, respectively.

# 2.2.4 | Family perception of the lockdown experience

Family perception of lockdown was evaluated using three items based on Antonovsky's (1987) Sense of Coherence scale.

Specifically, respondents were asked: When you think about the lockdown, to what extent do you think your family has been able: (1) To cope with the situation, (2) to accept the situation that we are all going through and (3) to find meaning in the situation, despite the circumstances. Each item was rated using a five-point scale from 1 (*Not at all*) to 5 (*Very much*). Cronbach's alpha for this scale was 0.82.

#### 2.2.5 | Family adaptation to stress

Family adaptation to stress prior to and during lockdown was assessed using eight items developed for the present study: 'In general, the atmosphere in my family is good' (Item 1); 'There have been times when we have felt: sad; relaxed; anxious; angry; happy; frustrated; our sleep has been disturbed' (Items 2–8). Response options for these items ranged from 1 (*Never*) to 5 (*All the time*). Internal consistency for family adaptation scores prior to and during lockdown were 0.70 and 0.72, respectively.

#### 2.3 | Procedure

This cross-sectional correlational study was carried out using an online survey hosted in Google Forms from April to May 2020. Participants were recruited by means of convenience snowball sampling, with an invitation to complete the survey being sent out to various institutions such as universities and associations and organizations with links to the area of family fostering. When completing the survey, which comprised all the aforementioned instruments, respondents were asked to indicate their family's situation both prior to and during lockdown so as to assess the latter's impact on family dynamics.

It was made clear to all potential respondents that their participation was voluntary and that all data would remain anonymous throughout. Participants were explicitly asked for their consent regarding the use of the information they provided. Ethics approval was not considered necessary as no personal data was collected.

#### 2.4 | Data analysis

Survey data were logged and analysed using SPSS 25.0 (IBM Corp., 2017). Descriptive and frequency analyses were conducted to identify the characteristics of foster and non-foster families. Differences between groups were examined by means of the Student's t test for two independent samples, or the Mann-Whitney U test when the normality assumption was not fulfilled or when the group sizes meant it was not appropriate to use the t test. Multiple linear regression was used to determine whether any of the study variables explained and predicted the ability of families to adapt to the stress produced by lockdown. The decision as to which variables would be entered into the regression model was based on the prior significant correlation coefficients.

#### 3 | RESULTS

## 3.1 | Association between sociodemographic variables and the measures of stress and adaptation

Regarding *gender*, moderate differences in stressors were observed during lockdown (t[340] = 2.67, p = 0.002, d = 0.37), with women scoring higher on perceived stress (M = 2.25, SD = 0.65) than men (M = 2.02, SD = 0.51). Men and women also differed moderately on family adaptation to stress during lockdown (t[340] = -2.90, p = 0.004, d = 0.40), and in this case men perceived family adaptation to be better than did women (M = 3.71, SD = .58 vs. M = 3.47, SD = 0.59).

Associations were also observed for the income and employment variables. Monthly family income during lockdown was weakly related to family perception of lockdown (r = 0.21, p < 0.001,  $r^2 = 0.04$ ). As regards employment status, there was a small difference between the two groups in the perception of lockdown (t[341] = 2.32, p = 0.021, d = 0.26), with those in work scoring higher (M = 4.28, SD = 0.64) than unemployed respondents (M = 4.11, SD = 0.63). Small differences were also observed here in family capacity to adapt to stress during lockdown (t[341] = 2.43, p = 0.015, d = 0.16), and once again those in work scored higher (M = 3.57, SD = 0.59 vs. M = 3.40, SD = 0.60).

With respect to the *place of work during lockdown*, there were small differences in perception of lockdown depending on whether people were working from home or in the usual workplace (t[206] = -1.98, p = 0.049, d = 0.28), with those working from home perceiving a greater family capacity to cope with, accept, and give meaning to the lockdown experience (M = 4.34, SD = 0.54 vs. M = 4.16, SD = 0.72).

Characteristics of the home were also relevant. Family adaptation during lockdown differed depending on whether the *home had an out-door space* (t[341] = -3.40, p = 0.001, d = 0.40), with scores being higher among families who did have access to an outdoor area (M = 3.58, SD = 0.60 vs. M = 3.34, SD = 0.56).

Small differences in perceived stress during lockdown were also observed depending on whether families had a *child with special educational needs* (U = 4139.50, z = -2.47, p = 0.014, r = 0.13). Families who had a child with special educational needs scored higher (*Mean rank* = 210.51) than did the other families (*Mean rank* = 167.48).

Finally, with regard to the *type of family*, there were small differences in the perception of lockdown between foster and non-foster families (t[343] = -1.17, p = 0.028, d = 0.26), with the former having a more positive outlook (M = 4.34, SD = .58 vs. M = 4.17, SD = 0.66).

# 3.2 | Analysis of stress and adaptation variables in foster and non-foster families

Analysis of stressors, family functioning (resources), and the capacity for adaptation in both types of families prior to and during lockdown revealed differences in stressors in non-foster families (t[246] = 3.20, p = 0.002, d = 0.18), who perceived more stress before than during lockdown (M = 2.31, SD = 0.60 vs. M = 2.20, SD = 0.62). In non-foster families, a difference was also observed for family functioning prior to and during lockdown (t[247] = -3.70, p < 0.001, d = 0.16), with functioning being rated as better during lockdown (M = 4.06, SD = 0.64 vs. M = 3.96, SD = 0.66). Differences in family functioning prior to and during lockdown were also observed in foster families (t[97] = -2.95, p = 0.004, d = 0.14), who also rated their functioning as better during lockdown (M = 4.14, SD = 0.64 vs. M = 4.06, SD = 0.61).

Table 2 shows correlations for foster families (normal font) and non-foster families (in bold). It can be seen that there are significant relationships between all the variables, which can be interpreted as follows: (1) families that experience more stressors prior to and during lockdown have a lower capacity to adapt to stress prior to and during lockdown; (2) families with more family resources (more adequate family functioning) prior to and during lockdown have a greater capacity to adapt to stress prior to and during lockdown; and (3) families who perceive themselves to be better able to cope with, accept, and find meaning in the lockdown experience have a greater capacity to adapt to stress prior to and during lockdown.

We then performed two stepwise multiple linear regression analyses to identify the stressors that best predicted the capacity to adapt to stress during lockdown in foster and non-foster families. The independence of the residuals of the variables included in the models was confirmed using the Durbin–Watson statistic, which yielded values of 2.12 and 2.43. We also checked that the tolerance indices were above 0.10 so as to confirm the absence of collinearity between the predictor variables.

In foster families, and as shown in Tables 3 and 4, the regression model was significant and the predictor variables explained 44% of the variance in family capacity to adapt to stress during lockdown (F [4,88] = 17.18, p < 0.001,  $R^2$  = 0.44). The predictor variables included in this model were *lack* of time to relax or switch off, arguments between parents and children, unemployment, and problems sharing out household chores.

With respect to non-foster families, and as can be seen in Tables 5 and 6, the regression model was significant and the predictor variables explained 33% of the variance in family capacity to adapt to stress during lockdown (F[5,228] = 22.07, p < 0.001,  $R^2 = 0.33$ ). The predictor variables included in this model were *child care difficulties*, *arguments between parents and children*, *difficulty paying the monthly bills*, *lack of time to relax or switch off*, and *unresolved conflicts*.

We next performed a series of multiple linear regression analyses using the Enter method to determine the predictive power of stressors, perception of the lockdown experience and family resources (family functioning) in relation to the capacity of both foster and non-

**TABLE 3** Explanatory model for the capacity of foster families to adapt to stress during lockdown

Model	R	R <sup>2</sup>	df1	df2	F	Sig.
1	0.47	0.22	1	91	25.44	<0.001
2	0.56	0.32	1	90	20.65	<0.001
3	0.62	0.38	1	89	18.36	<0.001
4	0.66	0.44	1	88	17.18	<0.001

*Note*: Predictor variables: Lack of time to relax or switch off; arguments between parents and children; unemployment; problems sharing out household chores.

**TABLE 2** Matrix of intercorrelations between stressors, family resources, perception of lockdown and capacity to adapt to stressful situations in non-foster and foster families

	Stress prior	Stress lockdown	FACES prior	FACES lockdown	Percep.	Adaptat. Prior
Stress lock.	0.60**	_				
	0.70**	_				
FACES prior	-0.02	<b>-0.17</b> **	_			
	-0.17	-0.10	_			
FACES lock.	<0.01	<b>-0.11</b>	0.78**	_		
	-0.08	-0.12	0.88**	_		
Percep.	0.02	-0.12	0.29**	0.35**	_	
	-0.10	-0.23*	0.37**	0.43**	_	
Adaptat. Prior	$-0.53^{**}$	- <b>0.48</b> **	0.25**	0.21**	0.18**	_
	-0.66**	-0.49**	0.41**	0.34**	0.24*	_
Adaptat. Lock.	- <b>0.38</b> **	-0.55 <sup>**</sup>	0.19**	0.21**	0.26**	0.66**
	-0.41**	-0.51**	0.27**	0.25**	0.40**	0.71**

Note: Correlations of non-foster families are in bold, and correlations of non-foster families are in normal font. Stress prior = Stressors prior to lockdown; Stress lock. = Stressors during lockdown; FACES prior = Family functioning prior to lockdown; FACES lock. = Family functioning during lockdown; Percep. = Perception of family's capacity to cope with, accept, and give meaning to the lockdown; Adaptat. prior = Family's capacity to adapt to stressful situations prior to lockdown; Adaptat. lock. = Family's capacity to adapt to stressful situations during lockdown.

\*p < 0.05.

<sup>\*\*</sup>p < 0.01.

**TABLE 4** Multiple linear regression coefficients (dependent variable: Capacity of foster families to adapt to stress during lockdown)

Мо	del	В	В	t	р	Tolerance	VIF
4	Constant	4.90		28.08	<0.001		
	Lack of time	-0.12	-0.24	-2.61	0.011	0.766	1.306
	Arguments parent/child	-0.18	-0.30	-3.47	0.001	0.833	1.201
	Unemployment	-0.33	-0.25	-3.17	0.002	0.995	1.005
	Household chores	-0.15	-0.26	-2.97	0.004	0.811	1.234

*Note*: VIF = Variance inflation factor.

Dependent variable: Capacity of foster families to adapt to stress during lockdown.

**TABLE 5** Explanatory model for the capacity of non-foster families to adapt to stress during lockdown

Model	R	R <sup>2</sup>	df1	df2	F	Sig.
1	0.41	0.17	1	232	48.37	<0.001
2	0.51	0.26	1	231	40.29	<0.001
3	0.54	0.29	1	230	31.01	<0.001
4	0.56	0.31	1	229	26.08	<0.001
5	0.57	0.33	1	228	22.07	<0.001

*Note*: Predictor variables: Child care difficulties; arguments between parents and children; difficulty paying the monthly bills; Lack of time to relax or switch off; unresolved conflicts.

foster families to adapt to stress during lockdown. The independence of the residuals of the variables included in the models was confirmed using the Durbin-Watson statistic, which yielded values between 1.5 and 2.5. We also checked that the tolerance indices were above 0.10 so as to confirm the absence of collinearity between the predictor variables.

In foster families, the linear regression model including all the aforementioned variables explained 35% of the variance in their capacity to adapt to stress during lockdown (F[3,92] = 16.80, p < 0.001,  $R^2 = 0.35$ ). Based on the regression coefficients (Table 7), the variables stressors during lockdown ( $\beta = -0.44$ , p < 0.001) and perception of lockdown ( $\beta = 0.27$ , p = 0.006) were retained, whereas family functioning ( $\beta = 0.08$ , p = 0.384) was excluded from this model. A second regression model explained 30% of the variance in the capacity of foster families to adapt to stress during lockdown (F[2,93] = 19.68, p < 0.001,  $R^2 = 0.30$ ), and it included two variables, stressors during lockdown ( $\beta = -0.49$ , p < 0.001) and family functioning ( $\beta = 0.19$ , p = 0.033).

In non-foster families, the linear regression model including all three variables explained 35% of the variance in their capacity to adapt to stress during lockdown (F[3,243] = 44.16, p < 0.001,  $R^2$  = 0.35). Based on the regression coefficients (Table 8), the variables stressors during lockdown ( $\beta$  = -0.52, p < 0.001) and perception of lockdown ( $\beta$  = 0.17, p = 0.003) were retained, whereas family functioning ( $\beta$  = 0.09, p = 0.090) was excluded from the model. A second regression model explained 33% of the variance in the capacity of non-foster families to adapt to stress during lockdown (F[2,244] = 59.86, p < 0.001,  $R^2$  = 0.33), and it included two variables, stressors during lockdown ( $\beta$  = -0.54, p < 0.001) and family functioning

 $(\beta=0.15, p=0.005)$ . Finally, a third regression model explained 9% of the variance in their capacity to adapt to stress during lockdown (F [2,244] = 11.28, p < 0.001,  $R^2 = 0.09$ ), and it included the variables perception of lockdown ( $\beta=0.22$ , p=0.001) and family functioning ( $\beta=0.13$ , p=0.044).

Finally, we conducted four simple mediation analyses using the SPSS macro PROCESS v3.3 in order to test, in both foster and nonfoster families, whether family functioning or perception of the lockdown experience mediated the relationship between stressors and the capacity to adapt to stress during lockdown. Parameter estimates were based on 10,000 bootstrap samples.

The results did not provide support for a predictive effect of stressors on family functioning in foster families (b=-0.11, SE=0.10, t(94)=-1.20, p=0.235, 95% CI [-0.31, -0.08]), or for a mediation effect of family functioning on the relationship between stressors and the capacity to adapt to stress during lockdown in nonfoster families (b=-0.02, SE=0.01, 95% CI [-0.04, <0.01]). Also, in non-foster families, the results did not support a mediation effect of perception of lockdown on the relationship between stressors and the capacity to adapt to stress during lockdown (b=-0.02, SE=0.01, 95% CI [-0.05, <0.01]).

However, and as shown in Figure 1, a final mediation analysis showed that in foster families, stressors during lockdown have a direct negative effect on both their perception of the experience (b = -0.19, SE = 0.08, t(94) = -2.25, p = 0.027, 95% CI [-0.36, p = 0.027, 95%]-0.02]) and their capacity to adapt to stress during lockdown (b = -0.43, SE = 0.08, t(94) = -5.16, p < 0.001, 95% CI [-0.59, p <-0.26]). This analysis also indicated that foster families' perception of lockdown has a direct positive effect on their capacity to adapt to stress during this time (b = 0.34, SE = 0.10, t[93] = 3.52, p < 0.001, 95% CI [0.15, 0.53]). Finally, there was an indirect effect of stressors on foster families' capacity to adapt to stress during lockdown via their perception of the experience (b = -0.06, SE = 0.04, 95% CI [-0.15, <-0.01]). The total effect of stressors on the capacity of foster families to adapt to stress during lockdown was significant (b = -0.49, SE = 0.09, t(94) = -5.78, p < 0.001, 95% CI [-0.66, -0.32]), and the general model explained 35% of the variance in their capacity to adapt to stress during this time (F [2,93] = 24.88, p < 0.001,  $R^2 = 0.35$ ). These results indicate that a lower level of stressors during lockdown is associated with a more functional perception of the experience, and that these two variables are associated with a greater capacity to adapt to stress among foster families.

Мо	del	В	В	t	р	Tolerance	VIF
5	Constant	4.60		39.25	<0.001		
	Child care difficulties	-0.09	-0.17	-2.57	0.011	0.656	1.524
	Arguments parent/child	-0.15	-0.28	-4.88	<0.001	0.922	1.084
	Difficulty paying bills	-0.09	-0.18	-3.05	0.003	0.851	1.175
	Lack of time	-0.08	-0.18	-2.84	0.005	0.773	1.294
	Unresolved conflicts	-0.07	-0.12	-2.11	0.036	0.912	1.097

**TABLE 6** Multiple linear regression coefficients (dependent variable: Capacity of non-foster families to adapt to stress during lockdown)

*Note*: VIF = Variance inflation factor.

Dependent variable: Capacity of non-foster families to adapt to stress during lockdown.

TABLE 7 Regression coefficients (dependent variable: Capacity of foster families to adapt to stress during lockdown)

Mode	ı	Unstandardized coefficients B	Standardized coefficients B	t	р	Tolerance	VIF
1	Constant	2.85		5.25	<0.001		
	Stressors	-0.42	-0.44	-5.13	<0.001	0.948	1.055
	Perception	0.30	0.27	2.84	0.006	0.788	1.270
	Family funct.	0.08	0.08	0.88	0.384	0.818	1.223
2	Constant	3.80		8.62	<0.001		
	Stressors	-0.47	-0.49	-5.58	<0.001	0.985	1.015
	Family funct.	0.19	0.19	2.16	0.033	0.985	1.015

*Note*: VIF = Variance inflation factor.

Dependent variable: capacity of foster families to adapt to stress during lockdown.

TABLE 8 Regression coefficients (dependent variable: Capacity of non-foster families to adapt to stress during lockdown)

		Unstandardized coefficients	Standardized coefficients				
Mode	l	В	В	t	р	Tolerance	VIF
1	Constant	3.63		13.47	<0.001		
	Stressors	-0.49	-0.52	-10.04	<0.001	0.980	1.020
	Perception	0.14	0.17	2.98	0.003	0.868	1.152
	Family funct.	0.09	0.09	1.70	0.090	0.971	1.148
2	Constant	4.04		17.32	<0.001		
	Stressors	-0.50	-0.54	-10.19	<0.001	0.988	1.012
	Family funct.	0.14	0.15	2.86	0.005	0.988	1.012
3	Constant	2.23		8.15	<0.001		
	Perception	0.19	0.22	3.31	0.001	0.875	1.143
	Family funct.	0.12	0.13	2.02	0.04	0.875	1.143

Note: VIF = Variance inflation factor.

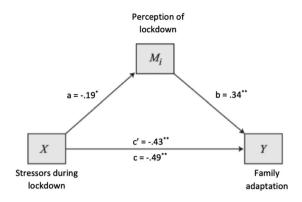
Dependent variable: capacity of non-foster families to adapt to stress during lockdown.

#### 4 | DISCUSSION

The aims of this study were to identify, in both foster and non-foster families, the sociodemographic variables associated with stress and family adaptation during the COVID-19 lockdown, and to analyse the association between stressors during lockdown, family resources, perception of the lockdown experience, and capacity to adapt to stress during lockdown.

Regarding gender, the results showed that women reported more family stressors during lockdown and poorer family adaptation to

stress. The differences with respect to men were of moderate magnitude. Numerous studies have previously found that people who have experienced a greater number of stressful events present more psychosocial problems and that women tend to show greater emotional reactivity, higher anxiety, and more psychological symptoms than do men (De la Revilla et al., 2007; Fonseca-Pedrero et al., 2012; Guillén-Riquelme & Buela-Casal, 2011; Oliver & Berástegui, 2019; Rodríguez-González et al., 2018). These results are consistent with the Double ABC-X Model and may reflect gender roles, as a result of which women tend to have more family responsibilities than men, are less



**FIGURE 1** Results of the mediation model for the capacity of foster families to adapt to stress during lockdown. C = total effect of X on Y; c' = direct effect of X on Y; a = effect of X on X; b = effect of X on Y. Coefficients shown are standardized beta. p < 0.05; p < 0.01

satisfied with their couple relationship, experience more burdenrelated psychological symptoms, and may be more aware of the difficulties their family is facing (Urbano-Contreras et al., 2019; Varela, 2018).

The Double ABC-X Model postulates that families with fewer stressors and more family resources will have a more positive perception of stressful situations and a better capacity for adaptation (McCubbin & Patterson, 1983). Here we found that families with a higher monthly income had a more positive view of the lockdown experience. Similarly, people in work reported that their family had a more positive perception of lockdown and better adaptation to stress, and those who were working from home likewise indicated that their family had a more positive outlook on lockdown. Finally, families whose home included access to an outdoor space adapted better to lockdown. As Estévez (2016) argues, stress related to financial and material difficulties undermines parents' competencies to meet family's basic needs and develop an optimal parenting role. Thus, the availability of this kind of support can make a great contribution to family's emotional wellbeing. These results are consistent with the Double ABC-X Model, insofar as families with more resources had a more positive perception of lockdown and adapted better to the stress associated with it.

In terms of the composition of families, those who had a child with special educational needs reported more stressors. This finding is consistent both with previous research and the Double ABC-X Model, which postulates that the magnitude of a stressful event during a crisis is heightened by the presence of other stressors in the family (Gupta & Kaur, 2010; Strnadová, 2006; Webster et al., 2008). Our results also indicated that foster families had a more positive perception of lockdown than did non-foster families. As we noted earlier, on the one hand, Spanish legislation (Law 1/1996, subsequently modified by Law 26/2015) requires that prospective foster families undergo training by child protection agencies. On the other, foster families have several strengths that enable them to cope with and adapt healthily to difficult challenges (Lietz et al., 2016). It is possible,

therefore, that the foster families in our sample were better able to cope with, accept, and give meaning to the lockdown experience because of the skills and resources they had acquired as a result of this training, and their positive family functioning, especially those related to communication, conflict resolution, and emotion management. Furthermore, they will have continued to receive the support of child protection agencies throughout the lockdown.

Comparison of the ratings given by families for the periods prior to and during lockdown showed that family functioning was felt to be significantly better during lockdown, although the effect size was small. A possible explanation for this finding is that despite the added stress of lockdown, families had the opportunity to talk more, to do more things together, to spend more time with their children, and to negotiate new roles and rules, resulting in greater family cohesion and adaptability. This interpretation is in line with the Double ABC-X Model, which considers that families can generate new resources in the post-crisis stage (McCubbin & Patterson, 1983).

Significant associations were observed between stressors during lockdown, family functioning, perception of lockdown and family adaptation to stress during lockdown. We found, in both families, that the stressors which best predicted poorer family adaptation to stress during lockdown were a lack of time to relax or switch off and arguments between parents and children. Furthermore, in foster families, the results showed that unemployment and problems sharing out the household chores are two other stressors which best predicted poorer family adaptation. In non-foster families, by contrast, these were child care difficulties, difficulty paying the monthly bills, and unresolved conflicts. These differences may be due to the fact that foster families receive monthly financial support, social and emotional support by professionals, and their positive parental strategies resulting from bringing up foster children (Berrick & Skivenes, 2012; Julien-Chinn et al., 2017; Lietz et al., 2016).

Finally, our analysis also showed that in both foster and nonfoster families the capacity to adapt to stress during lockdown was predicted by stressors during lockdown, the perception of lockdown, and family resources. In addition, we found that among foster families, their perception of the lockdown experience partially mediated the relationship between stressors during lockdown and family adaptation. These latter results are consistent with those obtained in previous studies that confirm the main postulates of the Double ABC-X Model, insofar as (1) families that experience more stressors prior to and during lockdown have a lower capacity to adapt to stress prior to and during lockdown; (2) families with more family resources (more adequate family functioning) prior to and during lockdown have a greater capacity to adapt to stress prior to and during lockdown; and (3) families who perceive themselves to be better able to cope with, accept, and find meaning in the lockdown experience have a greater capacity to adapt to stress prior to and during lockdown (Berástegui, 2005, 2007; Creech et al., 2013; Pozo et al., 2006; Rieger & McGrail, 2014; Rubio, 2015; Vera et al., 2010).

In light of our results, we recommend that government authorities and health and social care agencies should adopt measures and channel resources aimed at reducing family stressors (e.g., working from home, shorter working days, online or TV workshops on responsibility sharing between men and women and parents and children, school support initiatives and conflict resolution programs), promoting a more positive view of lockdown (e.g., programs that help families to become more aware of what they are capable of doing in order to cope with, accept, and find meaning in the experience), improving family functioning (e.g., programs aimed at promoting family cohesion and adaptability), and favouring family adaptation to lockdown-related stress (e.g., online programs exploring more effective ways of coping with lockdown and relaxation techniques). In the case of foster families, it would be of great useful to support them with contacts between foster children and their birth families during the lockdown, and several topics in relation with foster care. In addition, families themselves should aim to pay greater attention to their cohesion and adaptability and reflect on what they can do so as to cope with, accept and give meaning to the lockdown experience.

This study has a number of limitations. First, the sample size is relatively small and participants were recruited by means of convenience snowball sampling. Second, the fact that the survey was hosted online means that people without access to the internet or who do not regularly make use of it were either excluded or likely to be missed as potential respondents. Furthermore, this is a cross-sectional study that relied on retrospective reporting, so some information could be forgotten or distorted. Finally, there is always the risk when using self-reports that the results will be affected by social desirability bias, although in situations such as the COVID-19 lockdown, their use is preferable to other approaches (Fernández-Montalvo & Echeburrúa, 2006).

Notwithstanding these limitations, the study provides useful information regarding the sociodemographic characteristics associated with the main variables considered, the main stressors that have negatively affected the capacity of foster and non-foster families to adapt to stress during lockdown, and the relationship between stressors during lockdown, family resources, the perception of lockdown, and family adaptation to stress during this time. The results also support the main postulates of the Double ABC-X Model, which proposes that families who experience fewer stressors, have more family resources, and who have a more positive perception of stressful events will be better able to adapt to stress. Overall, the findings may be used by government authorities, health and social care agencies and by families themselves in order to adopt measures that promote family adaptation to situations of stress and crisis.

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#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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