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# The Influence of Parenting Dimensions on Children's Adjustment: the role of Parent Gender

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**Título:** La influencia de las dimensiones parentales en el ajuste de los niños y niñas: el papel del género de los progenitores.

**Resumen:** La teoría de la autodeterminación reconoce que los progenitores influyen en el bienestar psicológico de los menores. En este contexto, la investigación que se presenta analiza las diferencias de género en las conductas parentales y evalúa cómo dichas conductas, así como el género de niños y niñas, influencia en el ajuste emocional de los menores (inestabilidad emocional, conducta prosocial, y agresión física y verbal). La muestra estuvo compuesta por 2.404 progenitores y 1.325 menores. Los resultados indican que las madres se perciben como más apoyadoras de la autonomía de los hijos e hijas, más proveedoras de un ambiente estructurado y más afectuosas que los padres. Se encontraron diferencias estadísticamente significativas en función del sexo de los menores. Para la alta inestabilidad emocional, fueron factores protectores la calidez maternal y la provisión maternal de un ambiente familiar estructurado, si bien las prácticas paternales no tuvieron influencia. El control maternal y paternal fue un factor de riesgo en el desarrollo de una alta inestabilidad emocional. La provisión paterna de un entorno familiar de apoyo a la autonomía fue un factor protector contra el desarrollo de altos nivel de agresión física y verbal.

**Palabras clave:** Teoría de la autodeterminación. Parentalidad. Género. Ajuste infantil.

**Abstract:** Self-determination Theory (SDT) recognizes that parents exert a determining influence on children's well-being. In this context, the present study examined whether there were gender differences in parenting behaviors in accordance with Self-determination Theory (SDT) and analyzed how maternal and paternal parenting behaviors, and children's gender, influenced children's outcomes (emotional instability, prosocial behavior, and physical and verbal aggression). The participants comprised 2,404 parents from Spain and 1,325 children. Results found that mothers perceived themselves to be more autonomy supportive, more structured, and warmer and less controlling than fathers perceived themselves to be. Statistically significant differences were found according to the gender of the children. For higher emotional instability, mothers' warmth and structure were protective factors, but fathers' parenting practices had no influence. Maternal and paternal control were risk factors for developing higher emotional instability. The provision of an autonomous environment by fathers is important as a protective factor against the development of high levels of physical and verbal aggression.

**Keywords:** Self-determination Theory (SDT). Parenting. Gender. Children's adjustment.

## Parenting dimensions from the Self-Determination Theory

SDT is a theory regarding motivation and personality that holds that people have an innate propensity for growth and integration. It suggests that people have three psychological needs that must be satisfied throughout their lives. First, the need for autonomy refers to a feeling of having control over one's actions, of acting in accordance with internal values and desires, and of making decisions freely, without being controlled by external factors. The need for competence refers to the experience of effectively performing a particular activity. Finally, the need for relatedness refers to a sense of connectedness with significant others. Satisfying these needs allows us to achieve effective internalization of social norms and values, and to optimal personal well-being (Niemiec et al., 2006; Soenens et al., 2007; Soenens & Vansteenkiste, 2010).

SDT assumes that the social environment, including the family, plays a substantial role in fostering or hindering optimal regulation of behavior. There are three parenting dimensions that must be analyzed, the first of which is autonomy support versus control. Autonomy supportive parenting is characterized by recognition of children's perspectives and the provision of a meaningful rationale when choice is constrained. In contrast, control parenting forces children to conform to parental demands (Soenens & Vansteenkiste, 2010). Parental autonomy support has several benefits in terms of social competence and prosocial behavior (Kindap-Tepe & Aktaş, 2021; Neubauer et al., 2021). In contrast, psychological control has consistently been associated with the development of problems with emotion regulation, higher levels of aggressive behavior, and lower prosocial skills (Hee & Jue, 2018; Koçak et al., 2017; Romm & Alvis, 2022; Tian et al., 2019; Van der Storm et al., 2021; Zhang et al., 2022).

The second dimension is structure versus chaos. Structured family environments clarify the behaviors that are expected, allowing behavior to be guided competently, while family chaos prevents children from feeling control over the consequences of their actions (Grolnick & Pomerantz, 2009). Several studies have demonstrated that the provision of parental structure has a positive influence on children's well-being, while chaos predicts aggressive behaviors and negative affect (Costa et al., 2019. See also Grolnick et al., 2014; Marbell & Grolnick, 2013; Raftery-Helmer & Grolnick, 2015). Finally, the dimension of warmth versus rejection refers to the presence or absence of affective ties between parents and children, reflecting a parental ability or inability to create a relationship of trust, unconditional love and mutual affection (Grolnick, 2009). Recent studies have concluded that parental warmth is a significant predictor of emotional self-concept, self-esteem, and achievement (Axpe

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et al., 2023; García et al., 2024; Martínez-Escudero et al., 2020; Villarejo et al., 2024).

In this context, and in accordance with SDT, there needs to be a better understanding of gender influence in the model because fathers and mothers have traditionally played different, albeit complementary, roles in raising children. First of all, gender-related differences between fathers and mothers in parenting practices have been studied. Verhoeven et al. (2010) analyzed parenting dimensions with two-parent families with infant children and found that mothers reported higher levels of support than fathers did, but both reported similar levels of lack of structure and control and there was no evidence for differences between the mother-son and father-son relationships. In Guay et al. (2018; See also Ingoglia et al., 2021 for parental control), mothers and fathers reported similar levels of autonomy support and control over their children. In a complementary way, with regard to differences in parenting dimensions depending on children's gender, Grolnick et al. (2014) found that parents implemented structure in a more controlling manner on boys than girls. The results of studies about autonomy support and control are complex. In Ng et al. (2004), mothers' use of autonomy support did not differ as a function of children's gender. However, In Cacioppo et al. (2013), boys perceived greater parental control about achievement, and lower levels of affective involvement than girls. Similarly, looking at middle- school students, Soenens et al. (2007) found that girls reported higher levels of parenting autonomy support than boys. Finally, in the study by Matte-Gagné et al. (2013) with toddlers and their mothers, child gender moderated the relation between maternal autonomy support and children's adjustment because mothers may find it more difficult to be consistent in their autonomy support behaviors towards their sons. In Lansford et al. (2014), adolescents perceived their mothers as engaging in more psychological control than their fathers. However, the study by Inglugia et al. (2015. See also Van der Kaap-Deeder et al., 2017) did not find strong gender effects in girls' and boys' perceptions about parenting autonomy support.

In a complementary way, different studies have analyzed the effect of parenting on children's outcomes depending on the parent's gender. So, Raftery-Helmer and Grolnick (2015) did not find evidence that gender moderated the effects of elementary schoolchildren's perceptions about three dimensions of parenting (structure, autonomy support and warmth) on motivational sources or on coping. Similarly, Fousiani et al. (2014) concluded that fathers sometimes play a more important role in adolescents' autonomy development, but the structural relationships between adolescents' perceived parental autonomy support and their autonomy were very similar across parents' gender. On similar lines, the meta-analytical review by Vásquez et al. (2016) indicated that the strongest relationships between perceived parental autonomy support and academic achievement and psychological functioning were when this behavior came from both parents, rather than just mothers or just fathers. Moreover, a meta-analysis by Van de Storm et al. (2021) reported that fathers' and mothers' parenting behaviors are similarly associated with children's prosocial behavior.

However, other research has demonstrated some gender differences, but not all in the same direction. Some studies found that maternal behavior influenced more than paternal behavior. So, Verhoeven et al. (2010) found that the initial levels of children's externalizing behavior were significantly correlated with maternal—not paternal— autonomy support, control, and structure. Van Lissa & Keizer (2020) found that mothers' warmth—not father's warmth—was positively related with emotional adjustment. However, in other studies paternal behavior influenced more than maternal behavior. So, Van Lissa et al. (2019) found that the link between perceived parental autonomy support and emotion regulation was stronger for fathers than for mothers. In similar line, Lansford et al. (2014) found that only fathers' psychological control accounted for unique variance in boys' and girls' externalizing and internalizing problems.

Nevertheless, in other studies the relative contributions of each parent's gender were different depending on outcome. So, in Costa et al. (2019), in relation to the need for autonomy both paternal and maternal autonomy support, and maternal structure were positive predictors, whereas maternal rejection and paternal chaos were negative predictors of this outcome. In terms of the need for competence, again there were negative associations with maternal rejection and paternal chaos, and a positive association with paternal autonomy support. The need for relatedness was positively predicted by paternal and maternal warmth and structure, and negatively predicted by paternal and maternal rejection. Inglugia et al. (2018) found that perceptions of mothers' autonomy support were positively associated with satisfaction of autonomy and relatedness, and negatively associated with both these needs not being met. In addition, mothers' control was positively associated with both of those needs not being met and negatively associated with the satisfaction of relatedness. Perceptions of fathers' autonomy support were positively related with satisfaction of autonomy but not with the satisfaction of relatedness, but fathers' control was not related with any needs. Finally, Ingoglia et al. (2021) found that fathers' self-reporting of control was negatively related to adolescents' satisfaction of the need for relatedness, whereas mothers' self-reporting of control was negatively related to adolescents' satisfaction of the need for autonomy.

Along similar lines, Ratelle et al. (2018) reported that paternal autonomy support, involvement and structure had a stronger contribution in predicting achievement and persistence intentions than autonomy support from mothers. However, when it came to paternal involvement, students' perceptions of this parenting practice predicted lower grades and persistence intentions. In addition, Ratelle et al. (2017) reported that mothers' positive parenting positively influenced academic and personal-emotional adjustment, whereas mothers' control predicted lower levels of these. Fathers' positive behaviours predicted higher academic adjustment,

and fathers' control predicted lower academic and personal-emotional adjustment. Finally, Baudat et al. (2020) found that perceived maternal and paternal autonomy support were positively related to adolescents' disclosure, and negatively related to secrecy and lies, but the highest levels of secrecy were when adolescents gave their fathers low scores in autonomy support.

Finally, few studies have analyzed the influence of parenting practices on children's outcomes depending on children's gender. Flamm & Grolnick (2013) found that children's perceptions of parental structure were associated with positive outcomes for both boys and girls, but structure was associated with greater perceived competence and lower depressive symptoms for girls but not for boys. In Van Lissa et al. (2019), perceived maternal autonomy support positively predicted girls' emotion regulation but not boys'.

In short, from an SDT perspective, the influence of gender on parenting dimensions needs to be studied more carefully, since the results of research to date are complex and inconclusive. Moreover, further examination of gender in relation to parenting practices may be particularly important because how these dimensions are implemented differ between mothers and fathers (Inguglia et al., 2018) and may be different depending on children's gender. For this reason, our study used a sample of fathers and a sample of mothers to improve understanding of parental gender in explaining parent-child relationships.

*The current study*

The main goal of the present study was to examine the role of mothers' and fathers' parenting practices in children's outcomes. Understanding why some parenting practices may have differing impacts on children's emotional wellbeing depending on the parents' gender requires deep analysis, which is what the present study tackled. Few studies have been done using data obtained from mothers and fathers simultaneously. Pesch et al. (2016) supported the idea that separate measurements are needed from mothers and fathers to examine each parent's unique role in outcomes. Those authors also noted that male and female children should be examined separately to determine whether their gender influenced parental behaviors. In our case, mothers and fathers from the same family separately completed self-report questionnaires about SDT parenting dimensions (autonomy support, control, structure, chaos, rejection, and warmth). We did not formulate specific hypotheses regarding parents' gender given the discrepancies in previous research.

We also aimed to test the relative contribution of the parenting dimensions in elementary- school aged children. In relation to autonomy-support parenting, McCurdy et al. (2020) indicated that there were few studies that exclusively considered this age, and we would add that in the case of parenting structure/chaos and warmth/rejection, from an SDT perspective, there are also few studies. Some have tested one dimension at a specific age, but no studies have analyzed the six dimensions of parenting simultaneously in relation to adjustment in children between 8 and 12 years old using samples of fathers and mothers.

The present study was conducted with a sample of Spanish parents reporting their parenting behaviors in accordance with SDT theory. More specifically, the purpose of the study was to (a) examine whether there were gender differences in parenting behaviors (autonomy support versus control, structure versus chaos, and warmth versus rejection); (2) analyze how maternal and paternal parenting behaviors, and children's gender, influence children's outcomes (emotional instability, prosocial behavior, and physical and verbal aggression).

## Method

### Sample

The participants comprised 2,404 parents from Spain (48.3% fathers and 51.6% mothers). The mean age of the parents was 44.15 years (*SD*= 5.53). In terms of civil status, 79.7% of the sample were married, 7.9% were engaged, 7.2% were divorced, 4.7% were single, and .5% were widowed. In terms of educational qualifications, 46.3% had secondary education qualifications, 42.6% had university qualifications, and 11.1% had completed primary education. Most parents of them worked full time (72.5%), 3% were retired, 11% worked part-time, 7.5% were unemployed, and 6% were homemakers.

### Procedure

Data were collected from children aged 8 to 12 and from their parents. The research team contacted several schools to ask them to participate in the study. All the families in participating schools with children between 8 and 12 years old received a letter explaining the research and including an informed consent form and the parent questionnaires. When parents completed the consent form and their questionnaire, the children's questionnaires were administered during class time. Participants did not receive any remuneration for their participation, children were given a pencil and the school received a certificate of participation in the research. The questionnaire took about 25-45 min to complete depending on age.

The scales were translated to the Spanish context by the research team. The adaptation followed the guidelines for the adaptation of tests from the International Test Commission (2017). Members of the research team analyzed the scales and considered that certain cultural aspects in the wording of the items were not appropriate for the Spanish context. The researchers who took part in the adaptation had psychometric training and were fluent in English. Following the adaptation, the initial version was reviewed by two experts in parenting to analyze whether the items were relevant to Spanish families. Subsequent back translations were per-

formed by a bilingual translator and the items between the original and back translated versions were compared to analyze equivalence.

### Measures

*Parent Questionnaire*

Parents as a Social Context Questionnaire (Skinner et al., 2005). This scale has 31 items and assesses three conceptual dimensions which make up the dimensional model of parenting based on SDT Theory, developed by Skinner et al. (2005): warmth/rejection; autonomy support/control, structure/chaos. Fathers and mothers rated the following dimensions: warmth (e.g. "I know a lot about what goes on for my child"), rejection (e.g. "I don't understand my child very well"), autonomy support (e.g. "I expect my child to say what he/she really thinks"), control (e.g. "I find myself getting into power struggles with my child"), structure (e.g. "I expect my child to follow our family rules"), and chaos (e.g. "I change the rules a lot at home"). Responses ranged from 1 = completely disagree to 4 = completely agree. Cronbach's alpha values for the original study were: warmth (.66 mothers and .70 fathers), rejection (.74 mothers and .67 fathers), structure (.61 mothers and .64 fathers), chaos (.70 mothers and .67 fathers), autonomy support (.61 mothers and .62 fathers), control (.82 mothers and .74 fathers). In our study the values were: warmth (.89 mothers and .92), rejection (.83 mothers and .86 fathers), structure (.92 mothers and .94 fathers), chaos (.86 mothers and .90 fathers), autonomy-support (.95 for mothers and fathers), control (.84 mothers and .89 fathers).

*Child Questionnaires*

Physical and Verbal Aggression Questionnaire (Caprara & Pastorelli 1993. Spanish adaptation Del Barrio et al., 2001). The questionnaire consists of 20 items which assess the children's behavior aimed at hurting others physically or verbally (e.g. "I hurt my classmates", "I kick and punch", "I insult classmates"). Each item has 3 response options that indicate the frequency of each behavior (Often, Sometimes, Never). In a study with a sample of Spanish children from 7 to 10 years old, Cronbach's alpha was .84 (Del Barrio et al., 2001). In another study with a sample of Spanish children from 7 to 12 years old, Cronbach's alpha was .89 (Tur-Porcar et al., 2018). In our study the values were .82 for the girls' sample and .84 for the boys'.

Emotional instability (Caprara & Pastorelli, 1993. Spanish adaptation Del Barrio et al., 2001). The questionnaire consists of 20 items which assess children's behavior related to lack of control, impulsiveness, and emotionality in social situations (e.g. "I'm impatient; "I interrupt others when they speak"). Each item has 3 response options indicating the frequency of each behavior (Often, Sometimes, Never). In one study with a sample of Spanish children aged 7 to 10 years old, Cronbach's alpha was .74 (Del Barrio et al., 2001). In another study with a sample of Spanish children aged 7 to 12 years old, Cronbach's alpha was .81 (Tur-Porcar et al., 2018). In our study the values were .79 for the girls' and the boys' samples.

Prosocial Behavior Scale (Caprara & Pastorelli, 1993, Spanish adaptation Tur, 2003). This instrument has 15 items, each with three response options (often, sometimes and never). The scale measures altruistic, trustworthy, and conforming child behavior (e.g. "I'm kind", "I try to help others"). In the study by Tur-Porcar et al. (2018), Cronbach's alpha was .72. In our study the values were .68 for the girls' sample and .67 for the boys' sample.

### Data analysis

Missing data. As Ratelle et al. (2017) noted in the context of family studies, some members of the family refuse to participate which demonstrates the complexity of a family system. To maximize the analytical sample, multiple imputations were used to account for missing data in the independent variables and covariates. Multiple imputation consists of making several imputations of missing observations to then analyse the completed data sets and combine the results to get a final estimate (Rubin, 1976). We used the MICE algorithm (Multiple Imputation by Chained Equations) from the mice library in R. For continuous data we opted for the PMM (Predictive mean matching) method, polyreg for factors with more than two categories, and polyreg for an ordered number of more than two categories. The first step is to describe and visualize the missing data. Little's test was performed and gave statistically significant results ($\chi^2$ [457] = 1097; 63; $p < .001$) suggesting the missing pattern was not MCAR. It was assumed to follow a MAR pattern. The highest percentage of missing data corresponded to the PSCQ variables, around 21%. There were 506 unfilled cases, 33 with unknown gender, 299 from men and 174 from women. The data was cleaned using the R missCompare library. To do that, variables with more than 50 percent missing values and individuals with 80% or more unrecorded data were eliminated. Then, binary variables were created associated with each variable (1 to indicate if data was missing, 0 if it was complete), and those variables were correlated with the original variables, calculating point-biserial correlation coefficients. For the variables associated with the children's scales, the children's age correlated with missing data. In PSCQ, parental gender correlated with missing data.

Descriptive statistics and Spearman's correlational analysis were calculated for the study variables, obtained through standardized questionnaires. The scores for each scale and the factors were the totals of the item scores, omitting the control items. Then, internal consistency was assessed via Cronbach's alpha. The differences between the PSCQ subscales according to parents' gender and children's gender were evaluated using Student's t-test for independent samples, and with Welch's correction for different variances.

Dichotomous variables were created for prosocial behavior, emotional instability, and physical and verbal aggression. A child was considered to have a high score in those variables if their score was greater than the value corresponding to the third quartile of that variable. The decision to dichotomize these scales to different children's outcomes was in light of the skewness of the measures and the opportunity to calculate odds ratios as the most effective way to establish the probability of belonging to one category or the other according to the different parenting behaviors.

Next, we evaluated which PSCQ factors were associated with high and low scores. The evaluation of the PSCQ factors as tests to diagnose high or low emotional instability, high or low prosocial behavior, and high or low physical and verbal aggression was made by calculating the optimal cut-off point for the six PSCQ factors according to the Youden index. This index simultaneously maximizes the sensitivity and specificity of a diagnostic test. In our case we considered each factor of the PSCQ as a test to discriminate high and low children's outcomes for prosocial behavior, emotional instability, and physical and verbal aggression.

Finally, to determine the relation between the different dimensions of parenting behaviors and different children's outcomes, we specified multivariate binary logistic regression models for the sample of mothers and the sample of fathers. Statistical analysis was performed using R (R Development Core Team), version 3.6.3.

## Results

### Descriptive statistics and correlations

According to the normality test, the data did not follow a normal distribution, hence Spearman's correlations were calculated between autonomy support, structure, chaos, control, rejection, and warmth. The relationship of parenting practices with the three indicators of development—emotional instability, prosocial behavior, and physical and verbal aggression—were also included. The results are given in Table 1, and show a significant, positive relationships between positive parenting practices and between negative parenting practices. There were also significant, negative relationships between negative and positive parenting practices.

**Table 1**
*Spearman's correlations.*

| | Warmth | Autonomy Support | Structure | Rejection | Control | Chaos | PS | EI | PVA |
|---|---|---|---|---|---|---|---|---|---|
| Warmth | | | | | | | | | |
| Autonomy Support | .68*** | | | | | | | | |
| Structure | .67*** | .65*** | | | | | | | |
| Rejection | -.62*** | -.58*** | -.48*** | | | | | | |
| Control | -.55*** | -.59*** | -.47*** | .64*** | | | | | |
| Chaos | -.56*** | -.60*** | -.55*** | .63*** | .67*** | | | | |
| PS | .067*** | .062** | .044** | -.062** | -.066*** | -.073*** | | | |
| EI | -.119*** | -.095*** | -.049* | .065*** | .130*** | .104*** | -.218*** | | |
| PVA | -.113*** | -.092*** | -.073*** | .077*** | .099*** | .074*** | -.326*** | .676*** | |

*Notes*: $p < .10$ $*p < .05$ $**p < .01$ $***p < .001$
PS = Prosocial Behavior; PVA= Physical and Verbal Aggression; EI= Emotional Instability.

Table 2 shows the differences between mothers' and fathers' scores in the predictor variables. There were differences between the two genders in each variable. Considering the sufficient sample size and the fact that the hypothesis of equality of the two population variances was rejected ($F$ test of variances, $p < .001$), the hypothesis of equality of population measurements was also rejected (Welch's test, $p < .001$) in all cases. Mothers scored higher than fathers in autonomy support, structure, and warmth, indicating that they perceived themselves to be more autonomy supportive, structured, and warm than fathers perceived themselves to be. Moreover, fathers had higher scores than mothers in negative parenting behaviors, they perceived themselves as more chaotic, more controlling, and less loving than mothers perceived themselves.

**Table 2**
*Parents' mean scores in parenting practice by parent gender.*

| | Mothers | | | Fathers | | | *p* value | *t* | df |
|---|---|---|---|---|---|---|---|---|---|
| | *N* | Mean | *SD* | *N* | Mean | *SD* | | | |
| Warmth | 1230 | 19.66 | 4.01 | 1162 | 17.64 | 4.75 | < .001 | -11.241 | 2279.3 |
| Autonomy Support | 1230 | 17.36 | 4.38 | 1162 | 15.63 | 5.40 | < .001 | -8.6166 | 2238.3 |
| Structure | 1230 | 19.60 | 4.55 | 1162 | 17.89 | 5.59 | < .001 | -8.2118 | 2244.9 |
| Control | 1230 | 1 .58 | 4.08 | 1162 | 11.59 | 4.65 | < .001 | 5.7137 | 2313.6 |
| Chaos | 1230 | 7.20 | 3.66 | 1162 | 8.49 | 4.34 | < .001 | 7.8539 | 2279 |
| Rejection | 1230 | 9.73 | 4.19 | 1162 | 1 .93 | 4.74 | < .001 | 6.5617 | 2318.4 |

Table 3 shows the different scores in parenting practices according to the children's gender. There were significant differences showing that parents were warmer and more autonomy supportive towards their daughters than their sons. Parents also created a more structured family environment for girls than they did for boys. In contrast, parents were more chaotic and controlling with sons, and there was more rejection in the relationships with sons.

**Table3**
*Parents' mean scores in parenting practices by children's gender.*

| | Girls | | | Boys | | | *p* value | *t* | *df* |
|---|---|---|---|---|---|---|---|---|---|
| | *N* | Mean | *SD* | *N* | Mean | SD | | | |
| Warmth | 1232 | 18.98 | 4.32 | 1158 | 18.35 | 4.66 | < .001 | -3.4352 | 2343.3 |
| Autonomy Support | 1232 | 16.95 | 4.61 | 1158 | 16.06 | 5.30 | < .001 | -4.3398 | 2296.9 |
| Structure | 1232 | 19.16 | 4.84 | 1158 | 18.34 | 5.44 | < .001 | -3.8724 | 2314.9 |
| Rejection | 1232 | 9.95 | 4.22 | 1158 | 1 .69 | 4.76 | < .001 | 4.0193 | 2312.5 |
| Control | 1232 | 7.48 | 3.83 | 1158 | 8.18 | 4.24 | < .001 | 3.4814 | 2337 |
| Chaos | 1232 | 1 .76 | 4.19 | 1158 | 11.38 | 4.57 | < .001 | 4.2289 | 2327.2 |

### Multi-level logistic regression

Next, logistic binary regression analyses were performed separately for fathers and mothers using the dichotomous children's outcome variables as criterion variables. The predictor variables were the PSCQ dimensions (warmth, autonomy support, structure, rejection, control and chaos), parents' gender and children's gender. The results showed different models depending on the parents' gender and children's outcomes. Warmth (OR= 0.70, 95% CI [0.51, 0.97]) and structure (OR= 1.36, 95% CI [1.00, 1.87]) were protective factors for higher emotional instability (EI) in the case of mothers, particularly warmth. None of the fathers' parenting behaviors were a protective factor. In both parents, control was a risk factor for higher emotional instability (mothers OR = 1.44, 95% CI [1.04, 2.00]; fathers OR = 1.47, 95% CI [1.01, 2.13]). In addition, for both parents, being a boy would increase the risk of having high emotional instability 1.4 times compared to being a girl (Table 4).

Mothers' parenting behavior did not increase the probability of high physical and verbal aggression (PVA). A different pattern emerged for fathers, with the results showing that high paternal autonomy support protected children from high PVA (OR = 0.66, 95% CI [0.45, 0.97]). In both samples, being a boy would again increase the risk of having high physical and verbal aggression compared to being a girl (Table 4).

Finally, neither parents' positive parenting behavior increased the probability of high prosocial behavior (PS). Moreover, in mothers, chaos was a risk factor for high prosocial behavior. In both samples, being a boy would decrease the probability of having high prosocial behavior compared to being a girl (Table 4).

**Table 4**
*Logistic regression for high children's outcomes.*

| Variable | High EI | | High PVA | | High PS | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | OR (95% CI) | | OR (95% CI) | | OR (95% CI) | |
| Warmth | 0.70 [0.51, 0.97]* | 0.90 [0.63, 1.28] | 0.78 [0.57, 1.06] | 0.76 [0.52, 1.11] | 1.04 [0.66, 1.66] | 0.93 [0.63, 1.39] |
| Structure | 1.36 [1.00, 1.87] † | 0.82 [0.56, 1.20] | 1.12 [0.80, 1.56] | 1.26 [0.88, 1.82] | 1.28 [0.63, 2.66] | 0.73 [0.40, 1.32] |
| Autonomy Support | 1.28 [0.89, 1.87] | 1.13 [0.79, 1.64] | 1.03 [0.70, 1.52] | 0.66 [0.45, 0.97]* | 1.04 [0.66, 1.67] | 1.00 [0.65, 1.56] |
| Rejection | 1.14 [0.84, 1.54] | 1.16 [0.82, 1.64] | 1.05 [0.71, 1.54] | 1.28 [0.84, 1.93] | 0.95 [0.53, 1.65] | 0.71 [0.39, 1.24] |
| Chaos | 1.16 [0.82, 1.63] | 0.99 [0.67, 1.45] | 1.01 [0.70, 1.43] | 0.74 [0.48, 1.11] | 0.63 [0.45, 0.91]** | 0.79 [0.52, 1.22] |
| Control | 1.44 [1.04, 2.00]* | 1.47 [1.01, 2.13]* | 1.44 [0.96, 2.14] | 1.34 [0.84, 2.13] | 0.69 [0.46, 1.05] | 0.70 [0.44, 1.12] |
| Children's gender | | | | | | |
| Girls | , | , | , | , | , | , |
| Boys | 1.43 [1.09, 1.86]** | 1.41 [1.07, 1.87]* | 1.45 [1.12, 1.89]** | 1.85 [1.40, 2.46]*** | 0.48 [0.34, 0.66]*** | 0.48 [0.34, 0.66]*** |

*Notes*: †$p < .10$ *$p < .05$ **$p < .01$ ***$p < .001$.
PS= Prosocial Behavior; PVA = Physical and Verbal Aggression; EI = Emotional Instability Mothers: For EI $R^2 = .035$, $\chi^2(7) = 29.52^{***}$. For PVA $R^2 = .024$, $\chi^2(7) = 19.77^{**}$. For PS $R^2 = .056$, $\chi^2(7) = 4.97^{***}$.
Fathers: For EI $R^2 = .026$, $\chi^2(7) = 19.80^{**}$. For PVA $R^2 = .051$, $\chi^2(7) = 39.85^{***}$. For PS $R^2 = .039$, $\chi^2(7) = 26.53^{***}$.

With respect to the low children's outcomes, mothers' chaos (OR = 1.51, 95% CI [1.08, 2.12]) was a risk factor for low emotional instability (EI). None of the fathers' parenting behaviors were risk or protective factors. In both parents, the children's gender influenced low EI (mothers OR = 0.7, 95% CI [0.55, 0.9]; fathers OR = 0.7, 95% CI [0.54, 0.9]). In the case of low PVA, only children's gender had a statistically significant relationship with it (mothers OR = 0.68, 95% CI [0.53. 0.86]; fathers OR = 0.61, 95% CI [0.47, 0.77]). Finally, mothers' chaos (OR = 1.38, 95% CI [1, 1.89]) and children's gender predicted low PS (mothers OR = 2.03, 95% CI [1.59, 2.59]; fathers OR = 2.09, 95% CI [1.63, 2.7) (Table 5).

**Table 5**

*Logistic regression for low children's outcomes.*

| Variable | Low EI | | Low PVA | | Low PS | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | OR (95% CI) | | OR (95% CI) | | OR (95% CI) | |
| Warmth | 1.10 [0.82, 1.46] | 1.23 [0.9, 1.67] | 1.24 [0.94, 1.63] | 1.12 [0.83, 1.51] | .83 [0.63, 1.11] | .82 [0.6, 1.13] |
| Structure | 1.03 [0.7, 1.53] | .87 [0.61, 1.23] | .96 [0.67, 1.39] | 1.09 [0.78, 1.54] | 1.14 [0.86, 1.51] | 1.15 [0.81, 1.63] |
| Autonomy Support | .99 [0.73, 1.36] | .98 [0.71, 1.36] | .99 [0.73, 1.35] | 1.02 [0.75, 1.38] | .79 [0.58, 1.07] | 1.02 [0.74, 1.41] |
| Rejection | .95 [0.71, 1.27] | 1.03 [0.76, 1.42] | .88 [0.66, 1.16] | .84 [0.62, 1.13] | .87 [0.65, 1.16] | .93 [0.68, 1.27] |
| Chaos | 1.51 [1.08, 2.12]* | .8 [0.56, 1.14] | .85 [0.62, 1.16] | 1.08 [0.77, 1.51] | 1.38 [1, 1.89]* | 1.1 [0.78, 1.55] |
| Control | .82 [0.62, 1.08] | 1.31 [0.96, 1.78] | .81 [0.62, 1.06] | .79 [0.59, 1.07] | 1.14 [0.86, 1.51] | 1.08 [0.79, 1.48] |
| Children's gender | | | | | | |
| Girls | , | , | , | , | , | , |
| Boys | .7 [0.55, 0.9]** | .7 [0.54, 0.9]** | .68 [0.53, 0.86]*** | .61 [0.47, 0.77]*** | 2.03 [1.59, 2.59]*** | 2.09 [1.63, 2.7]*** |

*Notes*: †$p < .10$ ∗$p < .05$ ∗∗$p < .01$ ∗∗∗$p < .001$.

PS = Prosocial Behavior; PVA = Physical and Verbal Aggression; EI = Instability Mothers: For EI $R^2 = .033$, $\chi^2(7) = 29.44$***. For PVA $R^2 = .031$, $\chi^2(7) = 28.11$**. For PS $R^2 = .025$, $\chi^2(7) = 52.96$***.

Fathers: For EI $R^2 = .024$, $\chi^2(7) = 2\ .23$*. For PVA $R^2 = .034$, $\chi^2(7) = 28.75$***. For PS $R^2 = .043$, $\chi^2(7) = 36.61$***.

## Discussion

The general purpose of this study was to examine the role of mother's and father's parenting practices (autonomy support, structure, warmth, control, chaos, and rejection), as described by SDT, in children's outcomes (prosocial behavior, emotional instability, and physical and verbal aggression) using logistic regression analyses. Overall, our findings showed that some paternal and maternal parenting practices are fundamental in the development of children's adjustment.

### Missing data

Similarly to the study by Guay et al. (2018), parents' gender correlated with missing data. A higher proportion of mothers completed the questionnaire than fathers. In our study, both parents had to complete separate questionnaires that they received at home via their children's primary schools. Despite that, more mothers participated in our study. One possible explanation is that responsibility for care has traditionally been assigned to women. Moreover, greater female participation in children's school activities has been demonstrated in the Spanish context. Having received the questionnaires from the school, it is possible that many families thought that only the mothers were able to complete a questionnaire with questions about their children's education. In addition, the mothers were probably the first to receive them, and in many cases, responsible for giving them to another parent.

### Gender differences in study variables

The first aim of the study was to examine whether there were gender differences in parenting behaviors (autonomy support, structure, warmth, control, chaos, and rejection). Our results clearly showed that mothers perceived themselves to be more autonomy supportive, more structured, and warmer than fathers perceived themselves to be, although most studies have not found gender differences in supportive practices (Guay et al., 2018; Inglugia et al., 2015, Van der Kaap-Deeder et al., 2017). One possible explanation is that mothers' greater involvement in emotional support and care of their children makes them more sensitive to the use of positive educational practices that allow children to take on responsibilities and become aware that they are responsible for their own actions and decisions. This result is also interesting because mothers tend to be very critical of themselves in the exercise of motherhood due to difficulties in reconciling work and family life. Balancing work and fami-

ly life makes some women feel guilty because of the social pressure for women to always be present to look after their children. Although this phenomenon needs deeper analysis, it is also worth asking ourselves whether mothers' behavior—gentler, more supportive, and more caring—with their children may in some cases be influenced by these feelings of guilt. In this sense, our results are consistent with the study of Gómez-Ortiz et al. (2025) where mothers showed lower levels of psychological self-care in comparison with the fathers, reporting a tendency observed in previous studies where mothers reported lower disposition to the use of free time.

Although both fathers and mothers gave themselves low scores in negative parenting practices, there were significant gender differences. Mothers scored lower than fathers in control, chaos, and rejection. In this regard, results from previous studies are inconclusive because some did not find any differences in control (Guay et al., 2018; Ingoglia et al., 2021, Verhoeven et al., 2010) whereas others found that mothers were more controlling than fathers (Lansford et al., 2014). Our results confirmed that mothers perceived themselves as less controlling than fathers did. These results are in line with those obtained in other studies conducted in Spain and Latin American countries, where a parenting style characterized by closeness and proximity was the most appropriate for children's well-being, in contrast with European American families, where strictness combined with warmth was the most positive for children's psychological development (Martín-Blesa et al., 2024). In this way, in collective cultures with horizontal relationships (such as Spain), mothers tend to express greater emotional connection with their children and are responsible for meeting emotional and affective needs (Gilani, 1999). Likewise, other results in Spain point in the same direction, concluding that the relationship of children with their mothers had a greater significance in the family self-concept, that is, in the perception of feeling loved and valued by the family (Ertema et al., 2025). Although our results would need a deeper analysis, we should not lose sight of the fact that this collectivist cultural context may influence Spanish mothers' perceptions of maternity, less about control and more strongly linked to emotion.

Another interesting conclusion from our study, in line with previous studies (Cacioppo et al., 2013; Grolninck, et al., 2014; Jungert et al., 2015; Matte-Gagné et al., 2013; Soenens et al., 2007), was that parents were warmer, and more structured, and autonomy supportive with their daughters than with their sons. Moreover, parents reported more negative parenting behavior with their sons. Although parenting autonomy support, structure, and warmth help develop a good family environment, where empathy and assertiveness are the protagonists, our research shows that parents of girls tend to engage in these practices more than parents of boys. One possible explanation for this is that there are still gender differences in the perceptions of boys and girls which can lead parents to think that girls need more support and care than boys, and so they engage in more positive parenting strategies. Girls are perceived as more affectionate and closer to parents, while boys are perceived as more independent and difficult to control. In this context, the greater use of negative parental behaviors with boys may be a maladaptive parental strategy to ensure that boys remain within the limits and norms parents establish.

### Relationships between parenting practices and children's outcomes: the moderator role of parent gender

Another goal of our study was to analyze how maternal and paternal parenting behaviors influenced children's outcomes. We used logistic regression analyses to understand the predictors of children's outcomes. Results are consistent with other studies that have demonstrated the influence of parenting practices on children's and adolescents' adjustment, although there were differences depending on parent gender (Costa et al., 2019). For higher emotional instability, mothers' warmth and structure were protective factors, but fathers' parenting practices had no influence. In this regard, our study corroborates the importance of maternal provision of structure and warmth in children's adjustment (see also Costa et al., 2019; Ratelle et al., 2017; Van Lissa & Keizer, 2020; Verhoeven et al., 2010), unlike other studies that have not corroborated it (Ratelle et al., 2018). When mothers establish clear limits and rules and are consistent in the obligation to follow those rules, children are less likely to develop high levels of emotional instability. Family is the first place in which children test rules and limits, and it is normal that they constantly try to challenge them. In this context, adults play an important role helping children to learn the rules with calmness, empathy, warmth, and structure. In this way our study shows that practices of female socialization, closely related to care, family involvement, and family well-being, have a clear impact on children's emotional development. It is possible that there are differences between mothers and fathers when it comes to behaving warmly to another person, providing support, or showing understanding within the family, with most of this "emotion work" falling on mothers' shoulders (Erickson, 2005). Newly, and from this perspective, it seems reasonable to conclude the greater influence of mothers on child development when we talk about providing a safe, loving family atmosphere.

In addition, maternal and paternal control were risk factors for developing higher emotional instability. Some studies have found that only fathers' control (Lansford et al., 2014) or only mothers' control (Inguglia et al., 2018; Verhoeven et al., 2010) influenced the development of maladaptive adolescent adjustment. However, similarly to other studies (Ingoglia et al., 2021; Ratelle et al., 2017), our results demonstrated that maternal and paternal control were important predictors of higher emotional instability in children from 8 to 12 years old. The results of our study demonstrate the importance of parental behaviors that interfere with the child's thoughts and feelings and are characterized by exces-

sive use of manipulation such as inducing guilt or shame, and withdrawal of love. In this context, parents try to manipulate children's minds to force them to change their behavior, using fear as their main weapon. These parental strategies pressure children to behave the way their parents want and the consequences for their development are crucial because it can interfere in their emotional and social growth, as demonstrated in our research.

A different pattern emerged in relation to high physical and verbal aggression (PVA) because it was fathers' autonomy support which protected children from high PVA, while mothers' positive parenting behavior did not increase the probability of high PVA. The importance of autonomy supportive practices in the development of children's and adolescents' adjustment have been studied in depth, although fewer studies have analyzed differences in this parental behavior depending on the parent's gender. Some studies found that paternal and maternal autonomy support influence children's outcomes (Baudat et al., 2020; Costa et al., 2019), while in other studies, the strongest relationship was between fathers' autonomy support and children's outcomes (Ratelle et al., 2018) or between mothers' parenting and children's outcomes (Inguglia et al., 2018; Ratelle et al., 2017). In Van Lissa et al. (2019), the result depended on who answered. They found that the link between perceived parental autonomy support and emotion regulation was stronger for fathers than for mothers, nevertheless father-reported autonomy support was not correlated with emotion regulation, but mother- reported autonomy support was. Promoting an environment that develops autonomy is essential for children to achieve intellectual, emotional and moral fulfillment. Autonomy allows children and adolescents to develop critical thinking and govern their own behavior, with the necessary safety for them to do so. Our study found that the provision of an autonomous environment by fathers is important as a protective factor against the development of high levels of physical and verbal aggression. Fathers who provide children with alternatives, while also developing decision-making and acceptance of consequences, could help to reduce the risk of some anti- social behaviors in children from 8 to 12 years old.

Unlike other studies, in ours, none of the positive parenting behavior—from either mothers or fathers—increased the probability of high or low prosocial behavior. The meta-analysis by Van der Storm et al. (2021) found that high levels of paternal and maternal warmth were associated with more prosocial behavior in children. One possible explanation is that Van der Storm's meta-analysis did not differentiate between low and high prosocial behavior and so they were unable to examine possible differences the roles of parental practices may have in those two constructs. Our study is the first to analyze the influence of negative and positive parenting practices on these psychological constructs, differentiating between high and low instances of them, rather than taking each construct as a single measure.

Another interesting finding was the influence of maternal—not paternal—chaos in the prediction of high and low prosocial behavior and low emotional instability. Paternal chaos did not influence any of the psychological constructs. Few studies have analyzed the influence of chaos in parenting practices as a predictor on children's or adolescents' adjustment. Skinner et al. (2005) related children's perceived academic competence and children's sense of autonomy to parental chaos. Recently, Costa et al. (2019) reported that paternal chaos was the dimension which influenced satisfaction of basic human needs. Chaotic or disorganized family environments are characterized by undefined roles, a lack of leadership, and shifting or absent discipline. Our study showed that mothers' exhibiting chaotic roles had a negative influence on the development of positive behaviors which are necessary for socializing and relating to others. In short, the instability that characterizes chaotic family environments, particularly when exhibited by mothers, may be associated with the development of poorly empathic and unstable personalities in children.

Finally, it is necessary to emphasize that in all the psychological constructs we evaluated, being a boy rather than a girl increased the risk of having high emotional instability and high physical and verbal aggression, and decreased the probability of having high prosocial behavior. At the same time, being a boy increased the probability of developing low prosocial behavior and decreased the probability of having low emotional instability and low physical and verbal aggression (see too Caprara & Pastorelli, 1993; Del Barrio et al., 2001; Mesurado et al., 2018 with the same measuring instruments). Our results clearly showed the influence of the different models of socialization to which boys and girls are exposed. Girls are socialized in roles of care and affection for others, which makes them more likely to develop empathic and prosocial behavior. At the same time, boys tend to report higher levels of emotional instability and physical and verbal aggression than girls, in accordance with the masculine roles they learn through the processes of socialization.

**Limitations and practical implications**

This study has several limitations which future studies may address. First, the study was correlational, meaning it was not possible to establish a causal direction between variables. The use of cross-sectional data did not allow for a thorough time-ordered examination of different parenting practices and children's outcomes. Future research should also use qualitative methodologies to gain a better understanding of the complex relationships between positive and negative parenting practices and children's outcomes. A qualitative approach to the study of parenthood is necessary. Through focus groups, in-depth interviews, and life stories, members of a family group can express their points of view, opinions and wishes about family dynamics. In addition, we must not forget that there are parenting support practices that are hard to quantify. These are related to showing con-

cern or affection, and with sustained emotional support and companionship over time, which would need qualitative studies. Such studies would help us understand how parents—based on their gender—make sense of their parental role, in an attempt to bring us closer to a thorough understanding of family dynamics in day-to-day practice.

Second, the sample population was elementary school children in a specific geographical and cultural context (Spain). In this regard, one contribution of our study is that it allows the SDT model to be corroborated in other cultural contexts (universalistic perspective, Soenens et al., 2015). However, caution should be exercised in generalizing our findings to other contexts and other ages. The parents and children who participated in the study were almost all Spanish people living in a generally middle-class neighborhood. Although there are similarities in the socialization of children from different social classes, relationships in other communities need to be examined.

In this regard, the present study provides us with results that not only broaden our knowledge of different parenting practices and how they influence children's psychosocial development, they also offer important information for clinical psychologists' practical application and socio-educational intervention. One key conclusion is that parenting education programs must involve both parents where possible. Although there are similarities in parenting practices between mothers and fathers, the gender-based differences mean we need to rethink the current models underlying family intervention programs, where all too commonly there is only one parent involved, almost always the mother. These differences in practice, not only as a function of parents' gender, but also the different ways of educating their children in some dimensions, may lead to less effective interventions if these results are not borne in mind.

In addition, the children's gender is also a differential issue that should be considered in clinical practice, as girls exhibit greater emotional stability than boys, and it may be key that both mothers and fathers behave similarly with girls. The same is not true with boys, whose fathers exhibit higher levels of controlling practices and manipulative, coercive tactics based on fear and withdrawal of love than their mothers do. These results also reinforce our previous idea for practice in schools, who must work together with families on children's emotional wellbeing, trying to promote activities together that do not reproduce the stereotyped roles that are still applied in differentiating genders and in how boys and girls are educated.

In sum, the current study adds to the limited literature examining positive and negative parenting practices (autonomy support, warmth, structure, chaos, rejection, and control) during the period of children's elementary school, considering a gender perspective and the association with children's adjustment. In line with SDT theory, this study extends previous work in this area by examining a less studied group, children from 8 to 12 years old, in relation to positive and negative parenting practices. Preliminary analysis showed that, although both fathers and mothers scored low in negative parenting practices and high in positive parenting, there were significant differences by the parents' gender. Mothers gave themselves higher scores than fathers in autonomy support, structure and warmth, and scored lower than fathers in rejection, chaos, and control. The findings from this study seem to corroborate many assumptions about the influence of parents' gender in the analysis of the influence of parenting practices on children's adjustment. The results confirmed the importance of the role of parenting practices defined by SDT in children's development.

## Complementary information

**Conflict of interest.-** The authors declare no conflict of interest.
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