

## Exploring the relationship between interparental conflict and emotional security: what happens with adolescents in residential care compared to those living with their families?

Silvia López-Larrosa<sup>a</sup>, Paula Mendiri<sup>b</sup>, Vanesa Sánchez-Souto<sup>a</sup>

<sup>a</sup> *Universidade da Coruña, Psychology Department, Faculty of Education, Campus de Elviña, 15071 A Coruña, Spain*

<sup>b</sup> *Universidade da Coruña, Research Methodology Department, Faculty of Education, Campus de Elviña, 15071 A Coruña, Spain*

### Abstract

The effect of interparental conflict (IPC) on adolescents has captured the attention of researchers for the last decades, but the study of the effect of IPC on the emotional security of adolescents in residential care (RC) based on Emotional Security Theory (EST) is limited. In this study, we examined adolescents' emotional security and insecurity (preoccupation and disengagement) determined by dimensions of IPC. Participants were 917 Spanish adolescents (*Mean age = 15.07 years, SD = 1.75*), 51% girls and 49% boys, divided in two subsamples: 171 adolescents living in RC and 746 adolescents living with their families (F). We used the Children's Perception of Interparental Conflict Scale (CPIC) to explore interparental conflict dimensions, and the Security in the Family System Scale (SIFS) to analyze adolescents' emotional security in the family. Results showed that females perceived higher conflict and threat, and were more disengaged than males. Males self-blamed more and were more emotionally secure than females. Adolescents in RC perceived higher IPC, threat, and self-blame and were more insecure than adolescents F. Multigroup structural equation modeling comparing RC and F adolescents, and females and males showed similar causal negative relationships between conflict properties and security, and positive relationships between threat, disengagement and preoccupation. These results have implications for researchers and for practitioners when addressing family reunification for adolescents in RC or risks in community samples.

### Keywords

Emotional security; Adolescents; Residential care; Interparental conflict

## 1. Introduction

Around 2.7 million children under the age of 17 years live in institutional care worldwide (Petrowski, Cappa, & Gross, 2017). In Spain, 75% out-of-home care placements are in residential care (RC) (Balsells, Pastor, Mateos, Vaquero, & Urrea, 2015). Although adolescents in RC have captured the attention of researchers and practitioners, much focus has been given to their individual characteristics such as internalizing and externalizing behaviors, while less attention has been paid to their families and to family process construals (Del Valle & Bravo, 2013; Harder, Knorth, Kalverboer, Tausendfreund, & Knot-Dickscheit, 2018). Nevertheless, the consideration of family characteristics and processes is paramount for research and treatment as the family is the adolescent's environment, even for those who are in RC (Harder et al., 2018; Rodrigues, Barbosa-Ducharne, & del Valle, 2013).

Of the myriad family variables and processes, previous works give importance to consider attachment in adolescents in RC (Atwol, 2006, Atwol, 2013). Grounded on attachment theory, Emotional Security Theory (EST) (Cummings & Davies, 2010; Davies & Martin, 2013) posits that children and adolescents need to feel safe in their families. EST goes beyond the secure bond adolescents build with either parent (attachment) and states that adolescents evaluate the bond that their parents have with each other, and the whole family system, as a source of security (Davies & Martin, 2013; Forman & Davies, 2005). The whole family may be a source of security or insecurity and the maintenance of security about other relationships in the family is a salient goal for children and adolescents (Cummings & Davies, 2010; Davies & Martin, 2013; Davies, Sturge-Apple, & Martin, 2013). EST, with its systemic and processual approach that goes beyond a secure bond with either parent, is an adequate grounding to explore family processes in RC adolescents.

The quality of the parental relationship is key for adolescents' development and for their emotional security in the family (Cummings & Davies, 2010; Grych & Fincham, 2001). EST specifically emphasizes interparental relationships, and the deleterious impact of interparental destructive conflict for adolescents' wellbeing (Davies et al., 2013; Davies, Coe, Martin, Sturge-Apple, & Cummings, 2015; Davies, Martin, Sturge-Apple, Ripple, & Cicchetti, 2016). Destructive conflict is characterized by hostility, anger, physical and verbal aggression, threat, or personal insults. In contrast, a constructive conflict is the one in which there is quiet discussion, physical and verbal affection, mutual support, and problem-solving skills to solve differences (Goeke-Morey, Cummings, Harold, & Shelton, 2003; McCoy, Cummings, & Davies, 2009; López-Larrosa, Escudero, & Cummings, 2009; López-Larrosa, Sánchez-Souto, Ha, & Cummings, 2019b). The new formulation of EST, called EST-R (Davies & Martin, 2013), proposes an evolutionary system termed as the Social Defense System (SDS), which identifies potential social threats, which include destructive IPC, and organizes responses to these threats. EST-R proposes that when adolescents witness destructive IPC, their attachment figures are involved in a frightening situation; therefore, SDS will operate to protect them instead of approaching and seeking comfort from them. According to EST and EST-R, when adolescents witness their parents' fights (destructive conflict), they question the solidity of the interparental bond, their parents' sensitivity to satisfy their needs, and the family system as a secure base for them (Cummings & Davies, 2010; Davies & Cummings, 1994). Destructive IPC threatens adolescents' sense of safety and protection in their family and affects adolescents' development and their psychological wellbeing in the short and long term (Cummings & Davies, 2010; Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006; Grych & Fincham, 2001). Reported immediate effects of destructive IPC in community samples of adolescents are cognitive, emotional, behavioral, and physiological activation (Rhoades, 2008). Highly intense and frequent, child-centered and unresolved conflicts have the greatest impact on adolescents' emotions and behaviors (Fincham, 1994), as they experience more threat, self-blame, triangulation, insecurity, and preoccupation (Goeke-Morey, Papp, & Cummings, 2013; López-Larrosa, Sánchez-Souto, & Mendiri, 2012; Richmond & Stocker, 2007), and they fear that conflict may increase and end up in involving them (Grych & Fincham, 1993). Threat increases adolescents' triangulation into their parents' conflicts, and this relates to increase in self-blame (Fosco & Grych, 2010). The ongoing stress that recurrent

interparental destructive conflict produces in adolescents relates to higher emotional reactivity and higher levels of negative emotions such as sadness, fear, or anger (Cummings & Davies, 2002; Davies & Cummings, 1994). A prolonged exposition to IPC relates to adolescents' skepticism about their parents' ability to solve their differences (Goeke-Morey et al., 2013). Threat, guilt, fear, or skepticism are indicators of adolescents' emotional insecurity and translate to a perception of their families as insecure. According to EST and EST-R, this insecurity may manifest in two ways: worrying about their family (preoccupation) or pretending that they do not care about their family (disengagement) (Forman & Davies, 2005). Disengagement and preoccupation are effective to protect adolescents' security, although both will have negative consequences in the long run, such as internalizing and externalizing symptoms; sleep problems; and academic or relational difficulties with peers, siblings and parents (Cox, Paley, & Harter, 2001; Cummings & Davies, 2010; Davies, Martin, & Cummings, 2018; Dunn & Davies, 2001; Parke et al., 2001; Silva, Calheiros, & Carvalho, 2016).

The cognitive-contextual framework draws on initial theoretical proposals of EST but centers in the cognitive evaluation of IPC (Grych & Fincham, 1990). According to this model (Grych & Fincham, 1990), cognition and affection activate to appraise IPC and to guide adolescents' coping behaviors. The primary processing identifies a stressful event (destructive IPC) as threatening. The conflict characteristics (intensity, frequency, etc.) influence this initial appraisal. Then, the secondary processing identifies the cause and the responsibility of the event (content and blame) and the efficacy of their coping responses. The processing of conflict is also affected by contextual factors. The model identifies distal and proximal contextual factors such as previous experiences with conflict.

In the present research the contextual factor is represented by two subsamples: adolescents living with their families in the community (subsample F), who we will refer to, interchangeably, as community adolescents, and adolescents in RC (subsample RC). According to EST and the Cognitive-contextual framework, adolescents are more concerned about insecurity than preadolescents (Cummings et al., 2006) and understand the dynamics of IPC in a more sophisticated way than younger children (Davies, Sturge-Apple, Bascoe, & Cummings, 2014; Fosco & Grych, 2010). Richmond and Stocker (2007) found that adolescents' appraisals of threat diminished through adolescence while self-blame did not change. In general, adolescents with a long-lasting history of IPC during childhood show higher insecurity than those who have not experienced a long-lasting history of interparental discord (Davies et al., 2014).

Adolescents in RC have experienced abandonment, maltreatment, or adversarial conditions that have made local authorities take care of them instead of their families (Criado del Río, Castellano-Arroyo, & Sánchez-Blanque, 1990; Del Valle, Bravo, Álvarez, & Fernanz, 2008). Although much research in RC has been undertaken in Spain and has translated to policies for adolescents in RC (Del Valle & Bravo, 2013; Rodrigues et al., 2013), identification of RC adolescents' perceived security in their families seems relevant to increase our knowledge about this population, and because emotional security in the family may inform about protection or risk for adolescents when planning for reunification or when adolescents are in regular contact with their parents while still living in child protection facilities.

A Spanish research on 26 adolescents in RC in Madrid (the Spanish capital city) has shown that, in general, participants had a negative opinion of their families. Nevertheless, when they became adults and left protection care, 52% of them returned to their homes (Campos, 2013). This percentage was increased to 70.4% in another Spanish study of 260 RC leavers (Del Valle et al., 2008). Family reintegration or reunification, meaning that adolescents return to their biological or birth families, may also happen before they become adults. The percentage of failure in family reintegration varies across countries and ranges from 19% to 65% (Balsells et al., 2015). Adolescents in RC may have contact with their families more or less regularly while they are in child protection services, for instance, on holidays or weekends. In fact, one of the burning topics for adolescents in care is contact with families even when there is no family reunification (Atwol,

2013). Thus, RC adolescents' perception of safety and protection (emotional security) in their families may interest professionals and researchers. Some studies identify adolescents in RC as highly vulnerable. Compared to their non-institutionalized peers, children and adolescents in RC have higher scores in personal, academic, and social imbalance, such as behavioral, attentional, and emotional difficulties (Fernández-Daza and Fernández- Parra, 2017; Martín, García, & Siverio, 2012; Pinheiro, Serra, Relva, & Monteiro, 2017), higher levels of guilt, preoccupation, disengagement, anger, and passive or avoidant coping styles than non-institutionalized peers (Ferrer et al., 2010; López-Larrosa et al., 2019a, López-Larrosa et al., 2019b; Vilariño, Amado, & Alves, 2013). However, other studies stress that differences with community adolescents are not so large (Martín et al., 2012), for instance, in emotional attainments (Oriol, Sala-Roca, & Filella, 2014), although there may be differences in emotional competences between boys and girls (Oriol et al., 2014).

With regard to the role of gender in the appraisals of IPC and its impact in community samples, there are inconclusive results (Amato, 2000; Cummings & Davies, 2010; Rhoades, 2008). Some studies report higher perceived threat in males and higher self-blame and insecurity/disengagement in females when confronted with IPC (Cummings, Goeke-Morey, & Papp, 2004; Cummings & Miller-Graff, 2015; López-Larrosa et al., 2012). Other studies have reported more self-blame in males (Richmond & Stocker, 2007), more threat in girls (Keeperts, 2017), or no differences in their appraisals of IPC (Iraurgi, Martínez-Pampliega, Iriarte, & Sanz, 2011).

These inconsistencies emphasize the need to distinguish between adolescents in RC and those living with their families as distal and proximal contextual factors and cognitive responses of adolescents in RC seem to differ from those living with their families but may not have a differential impact on them emotionally. There are also inconsistencies with regard to age and gender.

We combine EST and the cognitive-contextual framework to study adolescents' emotional security and insecurity (preoccupation and disengagement) determined by dimensions of IPC. There are some precedents of the combination of both theoretical frameworks (i.e., Buehler, Lange, & Franck, 2007; Mann & Gilliom, 2004), but, to our knowledge, comparison of samples of adolescents living with their families (community adolescents) and those in RC combining both theoretical frameworks have not been made before. Our aim was to explore the impact that perceived IPC has on the emotional security of adolescents in RC and adolescents living with their families, considering their age and gender. Our first objective was to explore the relationships between age, IPC and emotional security in the family. Our second objective was to explore the differences between genders in their perceived IPC and their emotional security. Our hypotheses were:

**H1.** Adolescents in residential care experience more IPC, feel more threatened and blame themselves more than adolescents living with their families.

Adolescents in RC have experienced adversarial conditions, which include maltreatment (Criado del Río et al., 1990; Del Valle et al., 2008) and show higher levels of guilt and anger than non-institutionalized peers (Ferrer et al., 2010; Vilariño et al., 2013).

**H2.** Adolescents in residential care are more insecure (higher disengagement and preoccupation and lower security) compared to adolescents living with their families.

Adolescents with a long-lasting history of IPC during childhood and adolescents in RC show higher insecurity than those who have not experienced a long-lasting history of interparental discord (Davies et al., 2014; López-Larrosa et al., 2019a, López-Larrosa et al., 2019b). Adolescents in RC have been reported as showing greater emotional difficulties (Fernández-Daza & Fernández- Parra, 2017; Martín et al., 2012; Pinheiro et al., 2017).

**H3.** Higher conflict properties, threat and blame are positively related to higher insecurity (preoccupation and disengagement), and negatively related to higher security in both subsamples (F and RC adolescents), controlling for age and gender.

Highly intense and frequent, child-centered and unresolved conflicts relate to higher insecurity, and preoccupation (Goeke-Morey et al., 2013; López-Larrosa et al., 2012; Richmond & Stocker, 2007). The ongoing stress that recurrent interparental destructive conflict produces in adolescents relates to higher emotional reactivity (Cummings & Davies, 2002; Davies & Cummings, 1994).

## 2. Methods

### 2.1. Participants

Although initial research on IPC and community adolescents' emotional security has collected data from parents or teachers, researchers agree that adolescents themselves are the best informants to explore the direct impact of IPC on their emotional security (Cummings & Davies, 2010; Emery & O'Leary, 1982). So, in this study, the participants were 917 adolescents whose age ranged from 12 to 19 years ( $M = 15.07$ ,  $SD = 1.75$ ). Population in this region of Spain is mainly Caucasian (about 97%) (López-Larrosa, Barrós, et al., 2019a; Ministerio de Educación y Formación profesional, 2018).

Adolescents were attending either compulsory or post-compulsory secondary education or professional training in rural and urban high schools in the four provinces of the northwestern region of Spain. Secondary education in Spain is compulsory until 16 years old. According to Spanish legislation (Ley Orgánica 8/, 2013, de 9 de diciembre, para la mejora de la calidad educativa), reading competencies must be achieved in primary school. Then, all participants should have reading competencies. Most participants,  $n = 746$  (81.4%), lived with their families (subsample F), while 171 adolescents (18.6%) were in RC (subsample RC), depending on the Child Protection services of the local government in this Spanish region. We did not have access to RC records, and we cannot gather information regarding the specific reasons why RC adolescents were under the custody of Child Protection Services due to confidentiality concerns. Residential care is intended to protect children and adolescents from family maltreatment, neglect or other precarious circumstances for the children's welfare.

The mean age of subsample F was 14.94 years ( $SD = 1.74$ ) and the mean age of subsample RC was 15.65 years ( $SD = 1.70$ ). This age difference was statistically significant,  $t(913) = -4.84$ ,  $p = .00$ , although the effect size was small, Cohen's  $d = 0.41$ . In subsample F, there were 345 males (47%) and 386 (53%) females, while 99 males (58%) and 72 (42%) females formed subsample RC. There were significant differences in the gender proportion of both participant subsamples,  $\chi^2(1) = 6.34$ ,  $p = .01$ , as there were more boys in subsample RC and more girls in subsample F. According to the last census information (Xunta de Galicia, 2018), the total number of children in RC in this Spanish region is 1082, and there are more males (52%) than females (48%).

## 2.2. Instruments

### 2.2.1. Children's perception of interparental conflict scale (CPIC)

CPIC assesses how children and adolescents perceive IPC in their families (Grych & Fincham, 1990; Grych, Seid, & Fincham, 1992). Participants indicate how well each item portrays their parents' arguments. A three-point Likert-type scale with values of true, almost true, and false is used. Values range from 1 to 3, respectively. Items are summed to calculate each subscale. Original CPIC was translated and adapted to Spanish as "Escala de Percepción de los Hijos/as del Conflicto Interparental" (Iraurgi et al., 2008). We used this Spanish version that comprises 36 items. The original and the translated Spanish versions have nine subscales: Intensity, Frequency, Stability, Resolution, Triangulation, Content, Coping, Self-Blame and Threat (see definitions below). There are some reported differences in the factor structure of CPIC depending on the adolescents' age (Reese-Weber & Hesson-McInnis, 2008). Some studies have considered both a three-factor second order structure and a five-factor second order structure that comprise CPIC's subscales (Reese-Weber & Hesson-McInnis, 2008). We performed second-order confirmatory factor analyses and extracted a model with three factors. Model fit statistics showed that the model is plausible (CMIN/DF = 2.88, CFI = 0.95, TLI = 0.94; RMSEA = 0.05). This model with three factors encompasses the same subscales identified by Bickham and Fiese (1997): Conflict properties, Threat and Self Blame.

Conflict properties comprise the subscales Intensity/frequency, Stability, Triangulation and Irresolution, totaling seventeen items (factor loadings .50–.97). "Intensity" and "Frequency" refer to parents getting very angry or yelling to each other, and the recurrence of interparental disagreements, for example, "I often see my parents argue." "Stability" are attributions to conflicts due to parents not loving each other or being unhappy together, for example, "My parents have arguments because they are not happy together." "Triangulation" assesses adolescents' feelings of being caught in the middle or having to take sides, for example, "My mom wants me to be on her side when she and my dad argue." "Irresolution" refers to conflicts ending up with parents not making friends or without a solution, for example, "My parents still act mean after they have had an argument." The original CPIC calls this factor "Resolution," but we have reversed the items; therefore, the higher the irresolution, the more destructive is the conflict. Thus, all scales have the same "direction." There is a precedent of a change of this variable from resolution to irresolution in a previous work (Oliva, Romero, Antolín-Suárez, & Parra, 2016).

Threat comprises the subscales Threat and Coping inefficacy made up of eight items (factor loadings .73–.76). "Threat" refers to adolescents being worried for themselves or for their parents, for example, "When my parents argue, I worry about what will happen to me." "Coping inefficacy" refers to how incapable adolescents feel of doing something when their parents are arguing, for example "I don't know what to do when my parents have arguments."

Self Blame comprises Self Blame/content, totaling eight items (factor loadings .73–.80). This factor refers to how guilty adolescents feel of their parents' disagreements, and their perceptions of being the reason of their parents' conflict, respectively, for example, "My parents' arguments are often about something I did."

In the present study, internal consistency coefficients, composite reliability (CR) and average variance extracted (AVE) of the three second order factors are  $\alpha = .92$ , CR = .91, AVE = .68 for Conflict properties,  $\alpha = .80$ , CR = .80, AVE = .60 for Threat and  $\alpha = .87$ , CR = .93, AVE = .59 for Self Blame. Cronbach alpha values are good (Anderson & Gerbing, 1988; George & Mallery, 2003). The composite reliability exceeded the value of .50, satisfying the criteria (Hair, Anderson, Tatham, & Black, 1998). The average variance extracted (AVE) should have values close to .40, so our factors show convergent validity (Hair et al., 1998).

### 2.2.2. *Security in the Family System Scales (SIFS)*

SIFS assesses children's and adolescents' perceived security in the family system (Forman & Davies, 2005). Participants are asked to rate how much they agree or disagree with each statement using a 5-point Likert-type scale with anchors 1 (strongly disagree) to 5 (strongly agree). The original scale had 24 items that were reduced to 22 in first analyses by Forman and Davies (2005) and were further reduced to 19 in a previous study with Spanish adolescents living with their families and in RC (López-Larrosa, Mendiri, & Sánchez-Souto, 2016). Items are organized in three dimensions: Preoccupation, Disengagement, and Security. The subscale "Preoccupation" measures adolescents' concerns for "the future well-being of themselves and their families" (Forman & Davies, 2005, p. 907) and comprises seven items, for example, "I have the feeling that my family will go through many changes that I won't expect." The subscale "Disengagement" assesses their tendency to disconnect from their families and "downplay the significance of the family in their lives" (Forman & Davies, 2005, p. 902). It comprises six items, for example, "When something bad happens in my family, I wish I could live with a different family." The subscale "Security" measures how safe and confident adolescents feel in their families now and in the future. It comprises six items, for example, "I feel I can count on my family to give me help and advice when I need it." Items are summed to calculate each sub-scale. Confirmatory factor analyses and invariance analysis showed that the instrument can be used with Spanish adolescents living with their families and in RC (López-Larrosa et al., 2016).

In the present study, internal consistency coefficients, composite reliability (CR) and average variance extracted (AVE) of the three subscales are  $\alpha = .84$ ,  $CR = .82$ ,  $AVE = .49$  for Security,  $\alpha = .84$ ,  $CR = .78$ ,  $AVE = .44$  for Preoccupation and  $\alpha = .79$ ,  $CR = .67$ ,  $AVE = .42$  for Disengagement. Cronbach alpha values are good and acceptable (Anderson & Gerbing, 1988; George & Mallery, 2003). The composite reliability exceeded the value of .50, satisfying the criteria (Hair et al., 1998). The average variance extracted (AVE) should have values close to .40, so our factors show convergent validity (Hair et al., 1998).

### 2.3. *Procedures*

Approval for the study was provided by the Department of Psychology of the author's University and the Department of Family, Children and Demographic revitalization (Dirección Xeral de Familia, Infancia e Dinamización Demográfica) of the local Government in this Spanish region. This Department has competences in families and children and has the legal guardianship of adolescents in RC. Once the study was approved by the Department of Family, Children and Demographic revitalization, the principals of the RC centers, dependent on that Department of the local Government, were asked for permission for data collection. All centers contacted allowed data collection. Adolescents in RC were informed of the study and those who assented participated.

We accessed adolescents currently living with their families through their schools. Principals and teachers were first consulted. After school staff gave their permission, parents were sent consent letters. Those adolescents whose parents gave their written consent participated in this study after their own assent was given.

Both subsamples answered their questionnaires following a similar procedure: a group of participant adolescents in each school and residential center answered their questionnaires at the same time. In all the cases, one of the researchers was present to resolve any doubts. All participants answered the CPIC scale and the SIFS in this order. Questionnaires were anonymous and confidentiality was guaranteed.

#### 2.4. Data analyses

IBM SPSS Statistics 21, AMOS 21 (IBM Corp., Armonk, NY, USA) and G<sup>2</sup>Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) were used for data analyses. Statistical descriptive analysis, correlations, mean differences and reliability (Cronbach  $\alpha$ ) were calculated with SPSS to address our objectives and our first and second hypotheses. Effect size and post-hoc statistical power were calculated with G<sup>2</sup>Power 3 with power  $(1 - \beta)$ ,  $\alpha = .05$ , two-tailed. AMOS 21 software package was used for second order confirmatory factor analysis of CPIC and for Structural equation modeling (SEM) (Bollen, 1989). Data from confirmatory factor analyses were used to calculate the composite reliability (CR) and the Average Variance Extracted (AVE). All items were significant at a 95% confidence level and all standardized lambda coefficients were  $>.50$  (strong convergence condition) (Kline, 2005).

SEM was chosen to test our hypothesized model of relationships between interparental conflict and adolescents' emotional security (H3). Independent or exogenous variables are conflict variables while dependent or endogenous variables are family emotional security/insecurity variables. SEM was run with latent variables and their corresponding observable variables. SEM is flexible in its requirements to set sample size. We have followed the rule that sets a sample size equal to the larger of the following: ten times the largest number of formative indicators used to measure a single construct, or ten times the largest number of structural path directed at a particular construct in the structural model. A minimum of 200 participants are suggested to provide adequate statistical power. Both criteria are met in our study (Hair et al., 1998).

In order to test our hypothesized model (H3), Maximum likelihood was used together with Bootstrap as it is suggested with nonnormal data (Bentler, 1995). Bollen- Stine Bootstrap provides a  $p$ -value without assuming the normality of the sample, thus correcting the value provided by Maximum likelihood. Model fit criteria were: comparative fit index (CFI), minimum discrepancy (CMIN), root mean square error of approximation (RMSEA) and Tucker-Lewis Index (TLI). Acceptable models should have CFI and TLI  $\geq 0.90$ , CMIN/DF  $< 3$  and RMSEA  $\leq 0.08$  (Hu & Bentler, 1999). The relationships between the variables whose regression coefficients were not significant ( $p > .05$ ) were deleted (Calvo, 2017). The model was respecified considering its theoretical meaning following model fit criteria. Age was added as a control variable in the respecified model. Factor loadings of the model before and after age was included were compared following Ngai, Xie, Ng, and Ngai (2018). Factors loadings were alike showing that age did not affect the model significantly.

Multigroup structural equation modeling was first used to measure in group comparison (Deng & Yuan, 2015) for adolescents in residential care and living with their families, and second for females and males.

### 3. Results

Table 1 shows descriptive statistics, and correlations between variables and age. Considering our first objective, results show that age is significantly and positively related to conflict properties and negatively related to security and threat. Coefficient of determination,  $r^2$ , is  $.01$  or lower, showing almost a null effect, and explaining 1% or less of the variance.



**Table 1.** Zero-order correlations, means and standard deviations.

	Age	CP	THR	SB	SEC	PRE	DIS
Age	–						
CP	.10**	–					
THR	-.09**	.56**	–				
SB	.03*	.30**	.24**	–			
SEC	-.10**	-.49**	-.22**	-.20**	–		
PRE	.06	.54**	.40**	.28**	-.42**	–	
DIS	.07	.54**	.37**	.27**	–	.65**	–
<i>M</i>	15.07	24.91	11.66	10.23	25.83	15.76	13.25
<i>SD</i>	1.75	7.83	3.71	3.11	4.66	6.06	5.47

*Note.* CP = Conflict Properties, THR = Threat SB = Self-Blame, SEC = Security, PRE = Preoccupation, DIS = disengagement.

\*  $p < .05$ .

\*\*  $p < .01$ .

As for our second objective, results from *t*-tests show (Table 2) that there were differences between males and females in IPC perceived properties, threat and self-blame, in security and preoccupation. Effect sizes were small (Cohen, 1988). Females perceived higher conflict properties (intensity, frequency, etc), and threat, and males self-blamed more. Males were more emotionally secure, and girls were more disengaged. Power analyses showed that we were underpowered to identify differences between males and females regarding conflict properties and security, but powered to identify differences between genders in threat, self-blame and disengagement.

**Table 2.** Mean differences, effect size (ES) and statistical power (PW) comparing adolescents in residential care and living with their families, and comparing females and males.

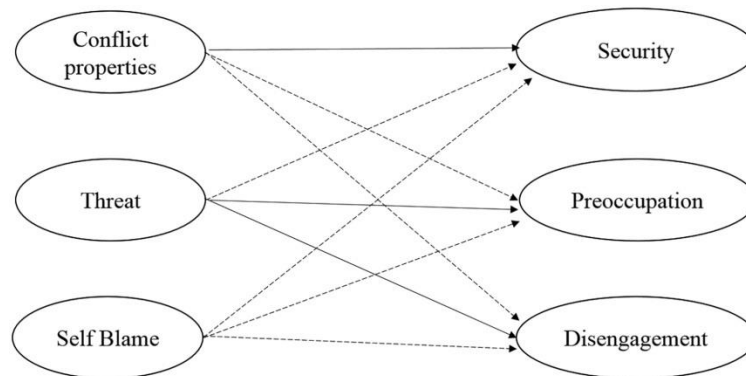
		Allocation				Gender				
		Family (F) <i>n</i> = 746				Female (F) <i>n</i> = 465				
		Residential care (RC) <i>n</i> = 171				Male (M) <i>n</i> = 452				
		Mean (SD)	<i>t</i>	ES	PW		Mean (SD)	<i>t</i>	ES	PW
CP	F	24.14 (7.06)	-7.14**	0.57	1	F	25.48 (8.26)	2.18*	0.15	0.60
	M	24.39 (6.58)								
THR	RC	28.57 (8.33)	-2.70**	0.22	0.73	F	12.36 (3.60)	3.59**	0.24	0.95
	F	11.81 (3.40)				M	11.53 (3.32)			
SB	RC	12.61 (3.88)	-5.57**	0.44	1	F	9.89 (2.80)	-3.29**	0.22	0.91
	F	9.96 (2.83)				M	10.55 (3.17)			
SEC	RC	11.37 (3.52)	8.54**	0.62	1	F	25.48 (5.04)	-2.48*	0.17	0.71
	F	26.43 (3.96)				M	26.25 (4.06)			
PRE	RC	23.18 (6.28)	-10.77**	0.92	1	F	15.78 (6.19)	0.09	0.01	0.05
	F	14.79 (5.74)				M	15.74 (5.94)			
DIS	RC	20.00 (5.57)	-9.03**	0.73	1	F	13.07 (5.70)	4.01**	0.27	0.98
	F	12.50 (5.06)				M	12.52 (5.07)			
	RC	16.52 (5.97)								

*Note.* CP = Conflict Properties, THR = Threat SB = Self-Blame, SEC = Security, PRE = Preoccupation, DIS = disengagement.  
 \*  $p < .05$ .  
 \*\*  $p < .01$ .

Our first hypothesis (Table 2) has been fulfilled. Adolescents in residential care perceived higher conflict properties and threat, and self-blamed more than adolescents living with their families. Effect sizes were small for threat and self-blame and medium for conflict properties (Cohen, 1988). Power analyses indicated that we were underpowered to identify differences in threat between both samples but powered to identify differences in conflict properties and self-blame.

Our second hypothesis (Table 2) has been fulfilled. Adolescents in residential care felt less secure and were more preoccupied and disengaged compared to adolescents living with their families. Effect sizes were medium for security and disengagement and large for preoccupation (Cohen, 1988). Power analyses showed the potential to reveal significant results in a replication study (Yuan & Maxwell, 2005).

As for our third hypothesis, our theoretical model was empirically tested using SEM. Model fit criteria were  $CMIN/DF = 3.39$ ,  $RMSEA = 0.05$ ,  $CFI = 0.89$ ,  $TLI = 0.88$ . The model was not acceptable. There were non-significant relations ( $p > .05$ ) between self-blame and emotional security variables (security, preoccupation and disengagement). There were non-significant relations ( $p > .05$ ) between conflict properties, preoccupation and disengagement, and between threat and security. Our respecified model related conflict properties and security, and it related threat, disengagement and preoccupation (Fig. 1).



**Fig. 1.** Structural equation model representing the effects of Conflict properties, Threat and Self Blame on adolescents' Security, Preoccupation and Disengagement. Solid lines represent the path is significant at the level of .01. Dotted lines represent a non-significant hypothesized path.

Multigroup structural equation modeling was used in our respecified model for adolescents in residential care and adolescents living with their families, after controlling for age as informed in Data analyses (Fig. 1). Model fit measures showed that the structural model was acceptable (Hu & Bentler, 1999),  $CMIN/DF = 2.39$ ,  $RMSEA = 0.04$ ,  $CFI = 0.92$ ,  $TLI = 0.91$  (Table 3). Multigroup structural equation modeling of our respecified model (Fig. 1) comparing females and males showed that the structural model was also acceptable,  $CMIN/DF = 2.51$ ,  $RMSEA = 0.04$ ,  $CFI = 0.92$ ,  $TLI = 0.91$  (Table 3). In both models (comparing adolescents living with their families and in residential care, and the model comparing males and females), conflict properties was negatively related to security while threat was positively related to preoccupation and disengagement. Our hypothesis was partially fulfilled as self-blame had no effect on adolescents' security or insecurity, conflict properties had no effect on preoccupation and disengagement, and threat had no effect on security.

**Table 3.** Results of multigroup structural equation modeling comparing adolescents living with their families and in residential care, and comparing females and males.

Causal relationships	Families	Residential care	Females	Males
Standardized coefficients	( <i>n</i> = 746)	( <i>n</i> = 171)	( <i>n</i> = 465)	( <i>n</i> = 452)
Conflict properties → security	$\beta = -.75^{**}$	$\beta = -.48^{**}$	$\beta = -.77^{**}$	$\beta = -.58^{**}$
Conflict properties → preoccupation	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Conflict properties → disengagement	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Self-blame → security	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Self-blame → preoccupation	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Self-blame → disengagement	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Threat → security	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Threat → preoccupation	$\beta = .84^{**}$	$\beta = .71^{**}$	$\beta = .85^{**}$	$\beta = -.84^{**}$
Threat → disengagement	$\beta = .88^{**}$	$\beta = .71^{**}$	$\beta = .88^{**}$	$\beta = .88^{**}$
R-squared				
Security	$R^2 = .56$	$R^2 = .23$	$R^2 = .59$	$R^2 = .34$
Preoccupation	$R^2 = .71$	$R^2 = .51$	$R^2 = .73$	$R^2 = .71$
Disengagement	$R^2 = .77$	$R^2 = .51$	$R^2 = .77$	$R^2 = .77$

Note. *ns* = non-significant.  
 $** p < .01$ .

#### 4. Discussion and conclusions

When considering age, results seem to agree with other studies as appraisals of threat diminished with adolescents' age (Richmond & Stocker, 2007) and older children who have experienced more destructive conflict (conflict properties) were less secure (Cummings & Davies, 2010). But, we should be careful in our conclusions because correlations were low, and age was not significant when addressing the relationships between our independent (Conflict properties, Threat and Self-blame) and dependent variables (Security, Preoccupation and Disengagement), showing that relationships between these variables did not differ with adolescents' age.

Gender differences have been controversial in the past. Results agree with reports of more self-blame in males (Richmond & Stocker, 2007) and more threat and insecurity/disengagement in females (Cummings et al., 2004; Cummings & Miller-Graff, 2015; Keeports, 2017; López-Larrosa et al., 2012). Although these results disagree with those of others (Cummings et al., 2004; Cummings & Miller-Graff, 2015; Iraurgi et al., 2011). Given these discrepancies with other studies, either there is a need for more research on these differences or we may go beyond gender differences identifying similarities between genders. Thus, our multigroup analyses showed that relationships between variables did not differ for both genders.

Various reasons such as maltreatment, abuse, or neglect lead to adolescents being in RC. Our results show that adolescents in RC have perceived more destructive IPC (conflict properties), felt more threatened and self-blamed themselves more than those living with their parents. According to EST (Cummings & Davies, 2010), these data predict that adolescents in RC should feel more family insecurity. In fact, our results show that adolescents in RC were more disengaged from and preoccupied for their family, and were less secure. Then, there seems to be differences in emotional security between adolescents living with their families and in RC, which indicate more

vulnerability in adolescents in RC. And, according to power analyses, these results may be replicated in another study (Yuan & Maxwell, 2005).

From a theoretical perspective, our results show the relationship between the cognitive-contextual framework (Grych & Fincham, 2001) and the EST (Cummings & Davies, 2010) for community adolescents and adolescents in RC, and for females and males. Two dimensions of the cognitive contextual framework (conflict properties and threat) affected emotional security but it is intriguing that blame was not related to adolescents' emotional security or insecurity going against what would be expected (Goeke-Morey et al., 2013). Results show a pervasive effect of Conflict properties on adolescents' emotional security in their families. Conflict properties, which we may equate to destructive IPC, had the greatest impact on emotional security, while Threat affected almost equally both dimensions of emotional insecurity. According to Fincham (1994) and Cummings and Davies (2010), destructive conflict characterized by highly intense, frequent, stable, unresolved, and triangulated conflicts have the greatest impact on adolescents, in our case, on adolescents' emotional security; thus, they feel less secure. When adolescents are threatened, they feel like running away and disengaging, and they keep worrying about what may come next in their families (preoccupation). These responses seem to agree with the operation of the SDS postulated by EST-R (Davies & Martin, 2013).

The study limitations are related to a cross-sectional design and the fact that we did not consider result variables apart from emotional security and insecurity or contextual variables such as regular contact with the family or reasons to be in RC in the RC sample. Emotional insecurity has been identified as a mediating variable of internalizing or externalizing symptoms in previous research, but given our exploratory approach to adolescents in RC, we chose to relate IPC and emotional security and insecurity. Future research may make necessary to explore result and contextual variables and consider other dimensions that are specific for RC adolescents such as contact with their families. Future research should adopt a longitudinal design (Davies & Martin, 2013), reanalyze self-blame and evaluate RC adolescents' emotional security in the institution.

This study has implications for researchers and practitioners. For researchers, it opens the scope of research on IPC and emotional security to a sample of adolescents in RC, and shows the shared causal relationships between IPC dimensions and emotional security dimensions for adolescents from different living arrangements and for males and females. For practitioners, they may consider using the evaluation of IPC and emotional security in the family to improve decision-making for adolescents in RC and to measure risk and protective factors when deeming family reunification or regular family contact for RC adolescents. Measures of IPC and emotional insecurity in the family may help to identify risks for community adolescents. Practitioners may consider the measure of conflict properties and threat, and indicators of emotional security and insecurity to evaluate interventions' results, for example, when measuring intervention improvements before and after family reunification. For instance, it may happen that family disengagement increases with time in RC; thus, decreasing time in RC may help adolescents' emotional security. It would be interesting to analyze the impact that interventions to improve conflict solving in community and RC adolescents have on their emotional security, as they may perceive themselves more confident to cope with conflict and IPC. Practitioners may also identify profiles of security following Davies and Martin (2013), and assess interventions either for adolescents, families, or for families and adolescents together, depending on these profiles.

## **Funding**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Declarations of interest

None.

## Acknowledgements

We thank the local authorities, Dirección Xeral de Familia, Infancia e Dinamización Demográfica, Xunta de Galicia, and the headmasters of the participant schools and residential care centers.

## References

- Amato, P. R. (2000). The consequences of divorce for adults and children. *Journal of Marriage and Family*, 62(4), 1269–1287. <https://doi.org/10.1111/j.1741-3737.2000.01269.x>.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice. A review and recommended two step approach. *Psychological Bulletin*, 103(3), 411–423.
- Atwol, N. (2006). Attachment and resilience: Implications for children in care. *Child Care in Practice*, 12(4), 315–330. <https://doi.org/10.1080/13575270600863226>.
- Atwol, N. (2013). Birth family contact for children in care: How much? How often? Who with? *Child Care in Practice*, 19(2), 181–198. <https://doi.org/10.1080/13575279.2012.758086>.
- Balsells, M. A., Pastor, C., Mateos, A., Vaquero, E., & Urrea, A. (2015). Exploring the needs of parents for achieving reunification: The views of foster children, birth family and social workers in Spain. *Children and Youth Services Review*, 48, 159–166. <https://doi.org/10.1016/j.childyouth.2014.12.016>.
- Bentler, P. M. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software.
- Bickham, N. L., & Fiese, B. H. (1997). Extension of the children's perceptions of interparental conflict scale for use with late adolescents. *Family Psychology*, 11(2), 246–250. <https://doi.org/10.1037/0893-3200.11.2.246>.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley.
- Buehler, C., Lange, G., & Franck, K. L. (2007). Adolescents' cognitive and emotional responses to marital hostility. *Child Development*, 78(3), 775–789. <https://doi.org/10.1111/j.1467-8624.2007.01032.x>.
- Calvo, C. (2017). *Análisis de la invarianza factorial y causal con AMOS*. Valencia: ADD Editorial.
- Campos, G. (2013). *Transición a la vida adulta de los jóvenes acogidos en residencias de protección*. tesis doctoral, Universidad Autónoma de Madrid.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Cox, M. J., Paley, B., & Harter, K. (2001). Interparental conflict and parent-child relationships. In J. H. Grych, & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and applications* (pp. 249–272). New York: Cambridge University Press.
- Criado del Río, M., Castellano-Arroyo, M., & Sánchez-Blanke, A. (1990). Características del medio familiar de los menores institucionalizados, delincuentes y no delincuentes. *Psicopatología*, 10, 7–10.
- Cummings, E. M., & Davies, P. T. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry*, 43, 31–63. <https://doi.org/10.1111/1469-7610.00003>.
- Cummings, E. M., & Davies, P. T. (2010). *Marital conflict and children. An emotional security perspective*. New York: Guilford.
- Cummings, E. M., Goeke-Morey, M. C., & Papp, L. M. (2004). Everyday marital conflict and child aggression. *Journal of Abnormal Child Psychology*, 32(2), 191–202. <https://doi.org/10.1023/B:JACP.0000019770.13216.be>.
- Cummings, E. M., & Miller-Graff, L. E. (2015). Emotional security theory: An emerging theoretical model for youths' psychological and physiological responses across multiple developmental contexts. *Current Directions in Psychological Science*, 24(3), 208–213. <https://doi.org/10.1177/0963721414561510>.

- Cummings, E. M., Schermerhorn, A. C., Davies, P. T., Goetze-Morey, M., & Cummings, J. S. (2006). Interparental discord and child adjustment: Prospective investigations of emotional security as an explanatory mechanism. *Child Development, 77*, 132–152. <https://doi.org/10.1111/j.1467-8624.2006.00861.x>.
- Davies, P. T., Coe, J. L., Martin, M. J., Sturge-Apple, M. L., & Cummings, E. M. (2015). The developmental costs and benefits of children's involvement in interparental conflicts. *Developmental Psychology, 51*, 1026–1047. <https://doi.org/10.1037/dev0000024>.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*, 387–411.
- Davies, P. T., Martin, M. J., & Cummings, E. M. (2018). Interparental conflict and children's social problems: Insecurity and friendship affiliation as cascading mediators. *Developmental Psychology, 54*(1), 83–97.
- Davies, P. T., & Martin, M. J. (2013). The reformulation of emotional security theory: The role of children's social defense in developmental psychopathology. *Development and Psychopathology, 25*, 1435–1454. <https://doi.org/10.1017/S0954579413000709>.
- Davies, P. T., Martin, M. J., Sturge-Apple, M. L., Ripple, M. T., & Cicchetti, D. (2016). Delineating the sequelae of children's coping with interparental conflict. Testing the reformulated emotional security theory. *Developmental Psychology, 52*, 1646–1665. <https://doi.org/10.1037/dev0000170>.
- Davies, P. T., Sturge-Apple, M. L., Bascoe, S. M., & Cummings, E. M. (2014). The legacy of early insecurity histories in shaping adolescent adaptation to interparental conflict. *Child Development, 85*, 338–354. <https://doi.org/10.1111/cdev.12119>.
- Davies, P. T., Sturge-Apple, M. L., & Martin, M. J. (2013). Family discord and child health: An emotional security formulation. In A. Booth, N. Landale, & S. M. McHale (Eds.), *Families and child health* (pp. 45–74). New York: Springer.
- Del Valle, J. F., & Bravo, A. (2013). Current trends, figures and challenges in out of home child care: An international comparative analysis. *Psychosocial Intervention, 22*, 251–257. <https://doi.org/10.5093/in2013a28>.
- Del Valle, J. F., Bravo, A., Álvarez, E., & Fernanz, A. (2008). Adult self-sufficiency and social adjustment in care leavers from children's homes: A long-term assessment. *Child and Family Social Work, 13*, 12–22. <https://doi.org/10.1111/j.1365-2206.2007.00510.x>.
- Deng, L., & Yuan, K.-H. (2015). Multiple-group analysis for structural equation modeling with dependent samples. *Structural Equation Modeling: A Multidisciplinary Journal, 22*, 552–567. <https://doi.org/10.1080/10705511.2014.950534>.
- Dunn, J., & Davies, L. (2001). Sibling relationships and interparental conflict. In J. H. Grych, & F. D. Fincham (Eds.), *Interparental conflict and child development. Theory, research and applications* (pp. 273–290). New York: Cambridge University Press.
- Emery, R., & O'Leary, K. (1982). Children's perceptions of marital discord and behavior problems of boys and girls. *Journal of Abnormal Child Psychology, 10*, 11–24.
- Faul, F., Erdfelder, E., Lang, A., & Buchner, A. (2007). G\*power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175–191. <https://doi.org/10.3758/bf03193146>.
- Fernández-Daza, M., & Fernández-Parra, A. (2017). Problemas de comportamiento, problemas emocionales y de atención en niños y adolescentes que viven en acogimiento residencial. *Psicología: Avances de la Disciplina, 11*, 57–70. <https://doi.org/10.21500/19002386.3102>.
- Ferrer, M., Carbonell, X., Sarrado, J. J., Cebriá, J., Virgili, C., & Castellana, M. (2010). Distinguishing male juvenile offenders through personality traits, coping strategies, feelings of guilt and level of anger. *The Spanish Journal of Psychology, 13*(2), 751–764. <https://doi.org/10.1017/S1138741600002419>.
- Fincham, F. D. (1994). Understanding the association between marital conflict and child adjustment: Overview. *Journal of Family Psychology, 8*, 123–127. <https://doi.org/10.1037/0893-3200.8.2.123>.
- Forman, E. M., & Davies, P. T. (2005). Assessing children's appraisals of security in the family system: The development of the security in the family- system (SIFS) scales. *Journal of Child Psychology and Psychiatry, 46*(8), 900–916. <https://doi.org/10.1111/j.1469-7610.2004.00385.x>.
- Fosco, G. M., & Grych, J. H. (2010). Adolescent triangulation into parental conflicts: Longitudinal implications for appraisals and adolescent-parent relations. *Journal of Marriage and Family, 72*, 254–266. <https://doi.org/10.1111/j.1741-3737.2010.00697.x>.
- George, D., & Mallery, P. (2003). *SPSS/PC+step by step: A simple guide and reference*. Belmont, CA: Wadsworth Publishing Co.

- Goeke-Morey, M., Cummings, E. M., Harold, G. T., & Shelton, K. H. (2003). Categories and continua of destructive and constructive marital conflict tactics from the perspective of U.S and Welsh Children. *Journal of Family Psychology*, 17(3), 327–338. <https://doi.org/10.1037/0893-3200.17.3.327>.
- Goeke-Morey, M., Papp, L. M., & Cummings, E. M. (2013). Changes in marital conflict and youths' responses across childhood and adolescence: A test of sensitization. *Development and Psychopathology*, 25, 241–251. <https://doi.org/10.1017/S0954579412000995>.
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108(2), 267–290. <https://doi.org/10.1037/0033-2909.108.2.267>.
- Grych, J. H., & Fincham, F. D. (1993). Children's appraisals of marital conflict: Initial investigations of the cognitive- contextual framework. *Child Development*, 64, 215–230. <https://doi.org/10.2307/1131447>.
- Grych, J. H., & Fincham, F. D. (2001). Interparental conflict and child adjustment. An overview. In J. H. Grych, & F. D. Fincham (Eds.). *Interparental conflict and child development. Theory, research and applications* (pp. 1–6). New York: Cambridge University Press.
- Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The children's perception of Interparental conflict scale. *Child Development*, 63(3), 558–572. <https://doi.org/10.1111/j.1467-8624.1992.tb01646.x>.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Saddle River, NJ: Prentice Hall. [http://refhub.elsevier.com/S0747-5632\(15\)00247-2/h0105](http://refhub.elsevier.com/S0747-5632(15)00247-2/h0105).
- Harder, A. T., Knorth, E. J., Kalverboer, M. E., Tausendfreund, T., & Knot-Dickscheit, J. (2018). Parental perspectives: Risk and protective factors associated with parenting quality for parents of adolescents in secure residential care. *Child & Family Social Work*, 23(4), 549–557. <https://doi.org/10.1111/cfs.12404>.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1–55. <https://doi.org/10.1080/10705519909540118>.
- Iraurgi, I., Martínez-Pampliega, A., Iriarte, L., & Sanz, M. (2011). Modelo cognitivo contextual del conflicto interparental y la adaptación de los hijos. *Anales de Psicología*, 27(2), 562–573.
- Iraurgi, J., Martínez-Pampliega, A., Sanz, M., Cosgaya, L., Galíndez, E., & Muñoz, A. (2008). Escala de Conflicto Interparental desde la Perspectiva de los hijos (CPIC): estudio de validación de una versión abreviada de 36 ítems. *Revista Iberoamericana de diagnóstico y Evaluación Psicológica*, 1(25), 9–34.
- Keports, C. R. (2017). *Interparental conflict and adolescence: The cognitive- contextual framework* (doctoral dissertation), Chicago: Northern Illinois University.
- Kline, B. R. (2005). *Principles and practice of structural equation modeling* (2nd. ed.). New York: Guilford Press.
- Ley Orgánica 8 (2013). de 9 de diciembre, para la mejora de la calidad educativa. *Boletín Oficial del Estado*, 295.
- López-Larrosa, S., Barrós, C., Amigó, M., & Dubra, M. (2019a). Immigrant students in Spain compared to Spanish students: perceived relationships and academic results. *Revista Iberoamericana de Psicología y Salud* (in press).
- López-Larrosa, S., Escudero, V., & Cummings, E. M. (2009). Preschool children and marital conflict: A constructive view. *European Journal of Developmental Psychology*, 6(2), 170–189. <https://doi.org/10.1080/17405620600843247>.
- López-Larrosa, S., Mendiri, P., & Sánchez-Souto, V. (2016). Validación de la escala Seguridad en el Sistema Familiar (SIFS) en dos muestras españolas de adolescentes y jóvenes residentes con su familia e institucionalizados. *Universitas Psychologica*, 15(2), 361–370. <https://doi.org/10.11144/Javeriana.upsy15-2.vessf>.
- López-Larrosa, S., Sánchez-Souto, V., Ha, A. P., & Cummings, E. M. (2019b). Emotional security and interparental conflict: Responses of adolescents from different living arrangements. *Journal of Child and Family Studies*. <https://doi.org/10.1007/s10826-019-01364-1> (in press).
- López-Larrosa, S., Sánchez-Souto, V., & Mendiri, P. (2012). Los adolescentes y el conflicto interparental destructivo: impacto en la percepción del sistema familiar y diferencias según el tipo de familia, la edad y el sexo de los adolescentes. *Universitas Psychologica*, 11(4), 1255–1262.
- Mann, B. J., & Gilliom, L. A. (2004). Emotional security and cognitive appraisals mediate the relationship between parents' marital conflict and adjustment in older adolescents. *The Journal of Genetic Psychology*, 165(3), 250–271. <https://doi.org/10.3200/GNTP.165.3.250-271>.
- Martín, E., García, M. D., & Siverio, M. A. (2012). Inadaptación autopercebida de los menores en acogimiento residencial. *Anales de psicología*, 28(2), 541–547.



- McCoy, K., Cummings, E. M., & Davies, P. T. (2009). Constructive and destructive marital conflict, emotional security and children's prosocial behavior. *Journal of Child Psychology and Psychiatry*, 50(3), 230–279. <https://doi.org/10.1111/j.1469-7610.2008.01945.x>.
- Ministerio de Educación y Formación profesional (2018). Nota: Estadística de las Enseñanzas no universitarias. Datos avance 2017–2018. Retrieved from <https://www.mecd.gob.es/dms/mecd/servicios-al-ciudadano-mecd/estadisticas/educacion/no-universitaria/profesorado/estadistica/2017-2018/NotRes1718.pdf>.
- Ngai, S. S.-y., Xie, L., Ng, Y.-h., & Ngai, H.-l. (2018). The effects of parenting behavior on prosocial behavior of Chinese adolescents in Hong Kong. *Children and Youth Services Review*, 87, 154–162. <https://doi.org/10.1016/j.chilyouth.2018.02.030>.
- Oliva, A., Romero, L., Antolín-Suárez, L., & Parra, A. (2016). Conflictos interparentales, estilos parentales y problemas interiorizados en hijos e hijas adolescentes. *Revista Mexicana de Psicología*, 33(2), 101–110.
- Oriol, X., Sala-Roca, J. R., & Filella, C. C. (2014). Emotional competences of adolescents in residential care: Analysis of emotional difficulties for intervention. *Children and Youth Services Review*, 44, 334–340. <https://doi.org/10.1016/j.chilyouth.2014.06.009>.
- Parke, R. D., Kim, M., Flyr, M., McDowell, D. J., Simpkins, S. D., Killian, C. M., & Wild, M. (2001). Managing marital conflict links with children's peer relationships. In J. H. Grych, & F. D. Fincham (Eds.), *Interparental conflict and child development. Theory, research and applications* (pp. 291–314). New York: Cambridge University Press.
- Petrowski, N., Cappa, C., & Gross, P. (2017). Estimating the number of children in formal alternative care: Challenges and results. *Child Abuse & Neglect*, 70, 388–398. <https://doi.org/10.1016/j.chiabu.2016.11.026>.
- Pinheiro, C., Serra, L., Relva, I., & Monteiro, O. (2017). Do sibling relationships protect adolescents in residential care and traditional families from developing psychopathologies? *Journal of Family Studies*, 23(3), 260–277. <https://doi.org/10.1080/13229400.2015.1106333>.
- Reese-Weber, M., & Hesson-McInnis, M. (2008). The children's perception of interparental conflict scale comparing factor structures between developmental periods. *Educational and Psychological Measurement*, 68(6), 1008–1023. <https://doi.org/10.1177/0013164408318765>.
- Rhoades, K. A. (2008). Children's responses to interparental conflict: A meta-analysis of their association with child adjustment. *Child Development*, 79(6), 1942–1956. <https://doi.org/10.1111/j.1467-8624.2008.01235.x>.
- Richmond, M. K., & Stocker, C. M. (2007). Changes in children's appraisals of marital discord from childhood through adolescence. *Journal of Family Psychology*, 21, 416–425. <https://doi.org/10.1037/0893-3200.21.3.416>.
- Rodrigues, S., Barbosa-Ducharne, M., & del Valle, J. F. (2013). La calidad del acogimiento residencial en Portugal y el ejemplo de la evolución española. *Papeles del Psicólogo*, 34, 11–22.
- Silva, C. S., Calheiros, M. M., & Carvalho, H. (2016). Interparental conflict and adolescents' self-representations: The role of emotional insecurity. *Journal of Adolescence*, 52, 76–88. <https://doi.org/10.1016/j.adolescence.2016.07.007>.
- Vilariño, M., Amado, B. G., & Alves, C. (2013). Menores infractores: un estudio de campo de los factores de riesgo. *Anuario de la Psicología Jurídica*, 23, 39–45. <https://doi.org/10.5093/aj2013a7>.
- Xunta de Galicia (2018). *Estadística de protección de menores 2017*. Santiago de Compostela: Consellería de Política Social. Dirección Xeral de Familia, Infancia e Dinamización Demográfica.
- Yuan, K.-H., & Maxwell, S. (2005). On the post hoc power in testing mean differences. *Journal of Educational and Behavioral Statistics*, 30(2), 141–167.