Relation between pre-adoptive risk and intercountry adoptees' adjustment: Mediating or moderating role of adoptive parenting?

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Abstract

This study examined the association between adoptees' preadoptive risk and adoptees' adjustment and whether this link was mediated and/or moderated by adoptive parents' parenting competences. One hundred and four mother (M_{age}=47.24; SD = 5.47; range 33-61) and father (M_{age} = 49.08; SD = 5.99; range 36-63) couples, parents of 138 children and adolescents adopted internationally, took part in the study. Parenting competences were measured by the *Parental Acceptance-Rejection Questionnaire*; adoptees' preadoptive risk was assessed by ad-hoc items developed for this study*;* adoptees' adjustment was measured by the *Strengths and Difficulties Questionnaire*. A structural equation modeling approach was applied to test both mediation and moderation models. Children gender, age at adoption and length of adoption as well as family socio-economic status were used as controlling variables. Results showed that a partial mediation model, including both a direct influence of adoptees' cumulative preadoptive risk on adoptees' adjustment and an indirect relationship through the mediation role of mothers' negative parenting, had the best fit. Nevertheless, this model was moderated by adoptees' age group (children vs. adolescents). Within the children group both mothers' and fathers' parenting competences mediated the association between adoptees' cumulative preadoptive risk and adoptees' adjustment, while within the adolescent group, as in the total sample, only mothers' parenting competences mediated the association. No significant moderating effects of mothers' and fathers' parenting competences were evidenced in the link between adoptees' preadoptive risk and adoptees' adjustment. Overall, the findings highlighted the potential crucial role of parenting competences of adoptive mothers across all the age group in partially explaining how adoptees' preadoptive risk is linked to adoptees' adjustment, and underline the importance of pre-adoption parents' training and post-adoption parents' support as implications for adoption practice.

The Relationship Between Cumulative Preadoptive Risk and Intercountry Adoptees'

Adjustment: A Mediating or Moderating Role of Adoptive Parenting?

1. Introduction

There is lack of consensus in the results of studies examining adoptees' outcomes in the literature. Adopted children seem to have an increased risk of behavioural problems, emotional difficulties, and mental health referrals compared with children who live with their biological families (e.g., Askeland et al., 2017; Brown et al., 2017; Juffer & van Ijzendoorn 2005). However, other studies have shown that adoptees are well adjusted (e.g., Altinoglu-Dikmeer et al., 2014), because living with an adoptive family must have a positive impact on their development, recovery, and adaptation (e.g., Escobar et al., 2014). Thus, within this second line of research, adoption has been described as an a "curative intervention" (Van IJzendoorn & Juffer, 2006, p. 1229) able to reduce the negative impact of early adversity because it offers a caregiving environment.

Intercountry adoption research, in particular, has presented such puzzling findings (Brodzinsky & Pinderhughes, 2005). Although a number of methodological issues, such as the heterogeneity and diversity of samples, assessments, and informants, can explain variations in adoptees' outcomes, these aspects may be one of the reasons for the differences found (e.g., Santos-Nunes et al., 2018). In light of this, there is the need for increased research into establishing what actually affects adoptees' adjustment (Palacios & Brodzisnky, 2010). The present study sought to investigate whether and how the quality of parenting of adoptive parents may represent risk and/or protection factors in the relationship between the preadoptive risk of intercountry adoptees and their adjustment.

1.1. Preadoptive Risk and Adoptees' Adjustment

A number of researchers have examined the deleterious impact of pre-care exposure to early adverse experiences on adoptees' outcomes, and have stressed that these can have powerful implications for long-term adjustment (Sonuga-Barke et al., 2017), behaviour (e.g., Juffer & Van IJzendoorn, 2005), and health and wellbeing (e.g., Jiménez-Morago et al., 2015; Tregeagle et al., 2019). While most early studies featured the different effects of specific forms of adversities (e.g., Simmel et al., 2001), scholars of adoption have more recently examined the overall impact of cumulative preadoptive risk, as adverse experiences often co-occur. Applying a cumulative risk model to adjustment, they have found that cumulative preadoptive risk is not only associated with behavioural problems in middle to late childhood (Kriebel & Wentzel, 2011), but also with mental health problems (McCrae et al., 2019) that can persist into later life. Such a line of research is particularly relevant for studies involving intercountry adoptees, who usually have a wider range of further concurrent deprivation experiences, such as specific and culturally based maladjustment problems and delays in development (Canzi et al., 2018; van Londen et al., 2007).

Studies have suggested, however, that the effects of preadoptive risk factors are not deterministic (Barroso et al., 2017). Nevertheless, many researchers focused primarily on variables relating directly to the adoptees, while few studies examined the key role of the adoptive family environment (e.g., Canzi et al., 2019; Farr et al., 2019; Santos et al., 2018).

1.2. Adoptive Parenting and Adoptees' Adjustment

Amongst adoptive family environment variables, the quality of parenting is considered to be one of the most robust influencing factors in adoptees' adjustment (Masten, 2014). However, while in not-adopted samples the relationship between parental rejection and maladjustment (e.g., Senese et al., 2016) and between accepting parenting and positive adjustment is well established in childhood (e.g., Miranda et al., 2012) and adolescence (Swanson et al., 2011), research on the role of adoptive parenting competences for the

adoptees' adjustment is scarce (Juffer et al., 2011). Moreover, little is known about how the

quality of parenting is related to adoptees' outcomes in different periods of their lives (e.g.,

childhood and adolescence), mainly because scholars have usually focused on a specific

development stage.

In any case, the literature generally presents findings that give rise to controversy. In

some studies, adoptive parenting behaviours or parent–child relationships have been found to

be related to adoptees' adjustment (e.g., Kriebel & Wentzel, 2011). In other cases, adoptees'

outcomes showed little to no relation to parenting (e.g., Castle et al., 2008); furthermore,

greater discrepancies between mothers' and fathers' reports of parenting were related to

lower levels of adaptive skills amongst adoptees (Hein et al., 2017).

Despite this picture of complexity, there is a growing body of evidence that weak

parenting competences are associated with adoptees' difficulties (e.g., Crnic & Low, 2002),

while parent–child relationship quality in adoptive families may nurture adoptees' positive

adjustment (Jaffari-Bimmel et al., 2006), because good adoptive parental competences

positively influence parenting behaviour and parent-children interactions.

1.3. The Mediating and/or Moderating Role of Adoptive Parenting

In the light of the literature presented above, adoptive family environment and

parenting variables have been considered as mediators and/or moderators in the relation

between preadoptive risk factors and adoptees' adjustment (Palacios et al., 2019). Thus, some

scholars have suggested that specific individual characteristics of adoptees may influence the

expression of parenting competences that, in turn, may impact adoptees' adjustment (e.g.,

Brodzinsky & Pinderhughes, 2005), and have found that parental perception of quality of

parent– child relationships is a significant mediator in the associations between preadoption

adversities and selected adoptees' outcomes (Harwood et al., 2013). Other studies, instead,

have pointed out that the parenting and family environment may buffer and/or exacerbate the

effects of early and cumulative risk of adoptees on their later adjustment (Ji et al., 2010). This second line of studies showed, in particular, that adoptive parents' warmth (Kriebel & Wentzel, 2011) and perceived quality of adoptive family relationships (Balenzano et al., 2018) protect adoptees from behavioural problems and expand their wellbeing. This is also in line with studies on non-adoption samples showing that responsive parenting may attenuate the direct effect of children's adversity on their behavioural problems (Zvara et al., 2018). For these reasons, adoption studies seem more often than not to have suggested that the impact of adverse childhood experiences may vary according to levels of parenting competences (e.g., Canzi et al., 2019), especially considering the parent warmth as a potential buffer factor (Anthony et al., 2019). However, recent longitudinal research (Finet et al., 2020) failed to confirm the hypothesised moderating/buffering role of parenting, measured as parental sensitivity and efficacy, in the association between preadoptive risk and adoptees' adjustment.

This scenario suggests the need of new investigations that examine the hypothesis of moderation as opposed to that of mediation, according to which adopted children's aversive behaviours could play a critical role in the parenting process (Crnic & Low, 2002), because they can influence how parents feel and behave towards their adopted children (Patterson & Fisher, 2002). Relatedly, intercountry adoption literature has suggested that many adoptive parents must engage with children presenting not only maladjustment and developmental problems (Canzi et al. 2018; van Londen et al. 2007) due to their previous experiences of extreme deprivation, but also adjustment difficulties related to their specific ethnic and cultural background; such additional difficulties of adoptees could have a further negative effect on adoptive parenting and, consequently, on adoptees' adjustment. To the best of our knowledge, no studies have previously compared the mediating vs. the moderating role of

adoptive parents' competences in the relationship between cumulative preadoptive risk and intercountry adoptees' adjustment. This controversial matter is addressed in the present study.

2. The Present Study

The present study investigates the potential association between preadoptive risk and adoptees' adjustment, and whether this is mediated and/or moderated by adoptive parents' parenting competences. Given that mothers and fathers likely play unique roles in the lives of their children (e.g., Laible & Carlo, 2004), and may be different in their parenting characteristics (e.g., Lewis & Lamb, 2003), the role of maternal and paternal competences was explored separately.

On the basis that adoptees' adjustment is best predicted by cumulative adverse experiences (Jiménez-Morago et al., 2015), cumulative preadoptive risk regarding adoptees' characteristics and background was considered (Grotevant et al., 1999). As with most adoption studies (e.g., Anthony et al., 2019), measures of strengths and emotional/behavioural difficulties were used as indicators of adoptees' adjustment. In line with the interpersonal acceptance–rejection (IPAR) theory (Rohner et al., 2012), adoptive parents' parenting competences were interpreted as a bipolar unidimensional construct, and were assessed as mothers' and fathers' perceived acceptance (i.e., warmth, affection, care, comfort, concern, nurturance, support, or simply love) or rejection behaviours (i.e., absence of the accepting behaviours and the presence of a variety of hurtful behaviours).

As the developmental period of adoptees influences the effectiveness of specific parenting behaviours and practices in relation to their adjustment (Patterson & Fisher, 2002), differences based on age group (children vs. adolescents) in the pattern of relations among the study variables were also assessed through a multi-group approach. Also, because the length of deprivation experiences before adoption seems to represent an important risk factor

for adoptees' adjustment (e.g., Harwood et al., 2013), and the length of time in the adoptive home was associated with adoptees' recovery (e.g., Judge, 2003), both age at adoption (AAA) and the length of adoption (LoA) were used as controlling variables. Additional controlling variables were gender and family socio-economic status (SES). First, gender differences in adjustment have been found by some adoption scholars (e.g., Burrow et al., 2004). Second, lower SES negatively impacts child development and adjustment (e.g., Brooks-Gunn & Duncan, 1997) and correlates with higher levels of parental stress, which in turn is related to higher levels of children's behaviour problems (Roy et al., 2013).

3. Method

3.1. Participants

One hundred and four mother and father couples, parents of 138 children adopted internationally, took part in the present study. Seventy-six couples (73.1%) had one adopted child, 22 couples (21.1%) had two adopted children, and 6 couples (5.8%) had three adopted children. The average age of the mothers was 47.24 ($SD = 5.47$; range 33−61), while for the fathers it was 49.08 ($SD = 5.99$; range 36−63). Less than 10% of mothers (8.0%) and fathers (6.5%) had completed middle school, about 40% had completed high school (40.6% of mothers and 39.9% of fathers), while more than 50% had a college education or university degree (51.4% of mothers and 53.6% of fathers). Also, about 78% of the mothers and 88% of the fathers were qualified workers or self-employed, technicians or university professionals, managers or directors.

As for the adopted children, 77 were male (55.8%) and 61 were female (44.2%). At the time of the research, 85 were children (61.6%, range 2−10 years), while 53 were teenagers (38.4%, range 11−19 years). The average age of the whole group was 9.74 ($SD = 3.94$). The age at adoption ranged from about 4 months to 12 years, with an average of 4.39

($SD = 3.15$), while the length of adoption time was 5.35 ($SD = 3.62$; range 1–16 years). In terms of geographical regions of origin (see the United Nations Statistics Division, 2020, geoscheme), 39.8% came from eastern Europe (e.g., Russian Federation), 28.3% from south-east Asia (e.g., Vietnam), 11.6% from Latin America and the Caribbean (e.g., Colombia), 10.9% from southern Asia (e.g., India), 7.2% from eastern Asia (e.g., China), and 2.2% from mid-Africa (Congo). At the time of the research, 36.2% of the adoptive children were living in southern Italy, 12.3% in central Italy, and 51.5% in northern Italy.

3.2. Procedure

The local university ethics committee approved the present study, and the procedures were conducted according to the American Psychological Association (2017) and American Sociological Association (2018) ethical guidelines. Italian intercountry adoptive families were recruited through contact with the main adoptive families' associations and international adoption agencies authorised and accredited by the Italian Commission for Intercountry Adoption. Recruitment letters containing a general description of the study and an invitation to participate voluntarily and anonymously in the research were forwarded digitally by the organisations to the adoptive parents. Only those who expressed an interest and who provided written informed consent took part. The initial sample comprised 123 couples (the mother and father parents of 155 children adopted internationally). The mothers and fathers were supplied with a survey to be completed in the presence of the researchers or appropriately trained operators of the adoption organisations. Except for the parenting competence assessments, which were examined separately, the mothers and fathers responded jointly, having been asked to reach an agreement on each item.

The survey took approximately 20 minutes to complete. No time limit was set. The families had to meet some a priori criteria to be included in the study: (a) they had to reside and live in Italy; (b) they had to be intact and their children had to be adopted; (c) the

children had to come exclusively from other countries; (d) the children had to be aged at least

2 years and no older than 20 at the time of the administration of the survey; (e) the children

had to have been 13 years of age at most at adoption; and (f) the children had to have been

adopted for at least 1 year. The final sample consisted of 104 couples of mothers and fathers

(84.5% of the initial sample), of 138 children from intercountry adoption in total.

3.3. Measures

An ad hoc survey was designed by the study's first author for the collection of

relevant information from both adoptive mothers and fathers on family demographic

characteristics, adoption information and history, adoptees' preadoptive risk, parents'

perceived parenting, and adoptees' psychological adjustment.

3.3.1. Family Demographics

Parents were asked to indicate their age, the city where they were living, their level of

completed schooling and their occupation, using the Barratt Simplified Measure of Social

Status ([BSMSS], Barratt, 2006) as an objective indicator of SES. They were also asked how

many children they had adopted, the adoptees' genders and birthdates, the date of adoption,

the adoptees' country of origin, and whether or not biological children were present in the

family. Indirectly, this information also provided a measure for adoptees' age at assessment

(date of survey compilation minus birthdate), age at adoption (date of adoption minus

birthdate), and the length of adoption (age at assessment minus age at adoption).

3.3.2. Adoptees' Preadoptive Risk

The adoptees' preadoptive risk was assessed with 10 items specially developed for the

study. These took into account both the literature regarding preadoptive risk of adopted

children (Grotevant et al., 1999) and the information generally provided to the prospective

adoptive parents from adoption agencies prior to the placement of the child (Child Welfare

Information Gateway, 2020). The items concerned both the adoptees' and their birth-family

contextual adversities during the preadoptive period. The adoptive parents (mothers and fathers together, who had to reach an agreement in the event of discord) were asked to indicate whether or not, and to what extent, their adopted children presented the following preadoptive risk factors based on their information related to the adoption process: (a) physical disability according to medical assessment results; (b) psychological syndromes; (c) delays in linguistic development; (d) delays in cognitive development; (e) generalised developmental delays; (f) psychological abuse/maltreatment; (g) physical abuse/maltreatment; (h) sexual abuse; (i) neglect; and (j) socio-cultural deprivation. Items were rated on the following Likert-type scale: 0 = *absent*, 0.5 = *suspected*, 1 = *mild*, 2 = *moderate*, and 3 = *severe*.

To calculate a total score of preadoptive risk, we initially determined the latent structure of the items through generalised least squares exploratory factor analysis (EFA) using Oblimin rotation. The results showed that three factors explained 57.1% of the total variance. The reliability estimates were good (Cronbach's αs > .73; mean of αs = .80). We named these factors as follows: (a) psychophysical risk (items 1−5); (b) abuse/maltreatment (items 6−8); and (c) socio-affective deprivation (items 9−10). They were poorly correlated (r = < .29). This allowed us to perform the EFA again using the Varimax orthogonal rotation and, furthermore, to sum the deriving factor scores to obtain a unique index of preadoptive cumulative risk, with higher scores indicating higher levels of risk. The choice of such an approach was dictated by the advantage of being able to obtain a general preadoptive risk index, while increasing the validity of the measurement used.

3.3.3. Mothers' and Fathers' Perceived Parenting

In accordance with the IPAR theory, we used the parent versions of the Parental Acceptance-Rejection Questionnaire in its 24-item short form (P-PARQ/S), as adapted for the Italian context (Rohner & Khaleque, 2012). This is a self-report measure consisting of

four scales: warmth/affection or coldness/lack of affection when reverse scored (8 items; e.g., "I say nice things about my child"), hostility/aggression (6 items, e.g., "I hit my child even when she/he may not deserve it"), indifference/neglect (6 items, e.g., "I pay no attention to my child"), and undifferentiated rejection (4 items; e.g., "I see my child as a big nuisance"). Items are scored on a Likert-type scale ranging from 1 (*almost never true*) to 4 (*almost always true*).

After reversing the scores of all 8 items in the warmth/affection scale and one positively worded item (i.e., "I pay a lot of attention to my child") in the indifference/neglect scale, a total score for each subscale was obtained by summing the item scores in that subscale, with higher sores representing higher levels of the related constructs. The P-PARQ/S also makes it possible to obtain an overall score of perceived parental acceptance–rejection by summing the scores of the 24 items (overall score range: 24–96), where higher scores indicate higher perceived rejection. We used this approach in the present study for reporting descriptive statistics in terms of means and standard deviations. For covariance (and correlation) analyses, we preferred to use an approach that would take into account, to some extent, the measurement error. Thus, we modelled the observed variables of coldness/lack of affection, hostility/aggression, indifference/neglect, and undifferentiated rejection to form a single latent factor of *parents' perceived negative parenting*. This model was supported through robust maximum likelihood confirmatory factor analysis (CFA; see the "Plan of Analysis" section for model fit criteria) for both mothers, $\chi^2(2) = 1.84$, $p = .40$, CFI = 1.000, RMSEA = .000, SRMR = .038, and fathers, $\chi^2(2) = 0.88$, $p = .64$, CFI = 1.000, RMSEA = .000, SRMR = .035. We used the derived mothers' and fathers' factor scores in the subsequent structural equation modelling (SEM) analysis.

Prior research has provided extensive reliability and validity data for the different versions of the PARQ (e.g., Senese et al., 2016). It is available in up to 52 languages, and it

has been used in several research contexts and real-world settings, including the field of

adoption (e.g., Yoon, 2004). In the present study, Cronbach's α values for the mothers' and

fathers' subscale scores (αs > .70) and for the mothers' and fathers' overall scores (α = .79

and .81, respectively) were acceptable.

3.3.4. Adoptees' Psychological Adjustment

Adoptees' psychological adjustment was assessed by the Strengths and Difficulties

Questionnaire in its parent rated version (SDQ-P; Goodman 1997), as adapted by Tobia &

Marzocchi et al. (2018) in the Italian context. The SDQ-P is a widely used scale for the

measurement of parents' perception of their children's and adolescents' strengths and

emotional/behavioural difficulties. The questionnaire includes 25 items (the wording of some

items is different according to the children's age groups (i.e., 2–4 year olds, 4–10 year olds,

and 11–17 year olds or more) organised into 5 scales: emotional symptoms (5 items; e.g.,

"Many fears, easily scared"), conduct problems (5 items; e.g., "Often loses temper"),

hyperactivity-inattention (5 items; e.g., "Easily distracted, concentration wanders"), peer

problems (5 items; e.g., "Gets along better with adults than with other children") and

prosocial behaviour (5 items; e.g., "Helpful if someone is hurt, upset or feeling ill"). Items

are scored on a 3-point Likert-type scale (0 = *not true*, 1 = *somewhat true*, and 2 = *certainly*

true) with positively worded items for the problem scales to be reversed (so that higher scores

indicate more problematic attributes). SDQ-P makes it possible to obtain 5 subscale scores

(range: 0–10) by summing up the related item scores as well as a total difficulties score

(range: 0–40) by summing up the scores of the 4 difficulties subscales. The prosocial

subscale is independent of the difficulties measured by the other subscales. As has been

noted, in the present study, the mothers and fathers responded together to the items.

Furthermore, we used the reversed scores of the only 4 difficulties subscales to obtain

measures of psychological adjustments (in terms of strengths). We summed up the scores of

these measures to obtain a total score of adjustment for reporting means and standard deviations only. For covariance (and correlation) analysis, we preferred to use an approach that would take into account, to some extent, the measurement error. Thus, we modelled the observed and reversed variables of emotional symptoms, conduct problems, hyperactivity–inattention, and peer problems to form a single latent factor of *parents' perception of children's adjustment*. This model was supported through robust maximum likelihood CFA, $\chi^2(2) = 0.25$, $p = .88$, CFI = 1.000, RMSEA = .000, SRMR = .009. Therefore, we used the derived factor scores in the subsequent SEM analysis.

Prior research has provided satisfactory reliability and validity data for the different versions of the SDQ (e.g., Husky et al., 2018; Tobia, & Marzocchi, 2018). It has had good associations with other well-known questionnaires assessing behavioural, emotional, and social problems, as well as adaptive functioning, such as the Achenbach System of Empirically Based Assessment (Achenbach et al., 2008). It has been used also in intercountry adoption research context (e.g., Reinoso & Forns, 2010). In the present study, Cronbach's α values for the used subscale scores (αs > .61) and the overall score (α = .80) were acceptable.

3.4. Plan of Analysis

Descriptive statistics for the study variables were obtained using SPSS (version 24). We also examined whether scores for adoptees' preadoptive risk (RISK), mothers' and fathers' perceived negative parenting (MNP and FNP), and adoptees' psychological adjustment (ADJ): (a) differed based on age group (children vs. adolescents) and gender (male vs. female) by conducting a multivariate analysis of variance (MANOVA); and (b) were associated or otherwise with adoptees' age at adoption (AAA), length of adoption (LoA), and socio-economic status (SES, with scores deriving from the BSMSS procedure) by computing Pearson correlations. Then, a series of path analyses was estimated with *Mplus* 7.2. To take into account the clustered nature of the data (138 adoptees nested in 104

families) and to obtain corrections to the standard errors and the chi square test of model fit,

we used the TYPE = COMPLEX option of the ANALYSIS command in conjunction with the

CLUSTER option of the VARIABLE command (see Muthén & Muthén, 2011).

First, to examine the mediation hypothesis (see "The Present Study" section), we

tested a full mediation model that specified RISK as predictor of ADJ by the full mediation

of MNP and FNP (Figure 1a). This model was compared with a partial mediation model,

including a direct link between RISK and ADJ (Figure 1b). The best fitting model was

subsequently rerun according to a multi-group approach with age group (children vs.

adolescents) as the grouping variable, so that its role in the relations between the variables

included in the model could be examined. In all cases, indirect effects were tested using a

bootstrap sample of 1,000, and each model was controlled for gender, AAA, LoA, and SES.

Second, to examine the moderation hypothesis (see "The Present Study" section and

Figure 1c) for the entire sample, we tested a path model that specified RISK, MNP, and FNP,

as well as the interactions RISK*MNP and RISK*FNP as predictors of ADJ (Figure 1d).

These interactions were calculated using the DEFINE command in *Mplus*. Again, the model

was controlled for gender, AAA, LoA, and SES.

In accordance with Faraci and Musso (2013) and Kline (2015), we relied on well-

known goodness-of-fit indices and their associated cutoffs to evaluate the model fit: CFI $\geq$

.90 was acceptable and ≥ 0.95 was a good fit; RMSEA $\leq .08$ was acceptable and $\leq .05$ was a

good fit: and SRMR $\leq .10$ was acceptable and $\leq .05$ was a good fit. To ascertain any

significant differences between the nested models (the more vs. less restrictive model), at

least two of the following three criteria had to be satisfied (Chen, 2007): $\Delta\chi^2$ significant at p

$< .05$, ΔCFI $\leq$ -.005, and ΔRMSEA $\geq .010$. Given the limited number of participants,

especially across the age groups, we set the critical p value for significance at .10.

4. Results

4.1. Preliminary Analysis

Only one missing value was found for the study variables, so it was inputed at item level using a regression estimation function. Tables 1 provides a summary of the descriptive statistics. It shows how some observed variables were not normally distributed with skewness and kurtosis values > |1.00| (Kline, 2015). As multivariate non-normality was also evidenced (normalised Mardia's coefficient of multivariate kurtosis was 4.82, $p < .001$), the data were analysed using robust estimation methods. The MANOVA on RISK, MNP, FNP, and ADJ resulted in no significant effect of age group − Wilks' lambda = .97, $F(4, 131) = 0.97$, $p = .43$, and gender − Wilks' lambda = .98, $F(4, 131) = .53$, $p = .71$. Bivariate correlations for the entire sample (Table 2) showed the following significant associations: (a) AAA was related positively to RISK and MNP as well as negatively with ADJ; (b) LoA was negatively correlated with MNP; (c) SES was linked negatively to FNP and positively to ADJ; (d) no significant correlations were found for gender; (e) RISK was positively related to MNP and FNP; (f) RISK, MNP, and FNP were negatively connected with ADJ; and (g) MNP and FNP were positively correlated.

4.2. Mediation Model

We initially estimated the full mediation model. Based on the preliminary analyses, AAA, LoA, and SES were controlled by allowing them to predict RISK, MNP, FNP, and ADJ, except for gender (for which we set all covariances to zero). All the other covariances between control variables and RISK were estimated. However, in this initial model, only a few associations amongst the control variables and between them and the main study variables were significant: AAA with LoA, AAA with SES, AAA with RISK, both AAA and SES with MNP, and SES with FNP. In light of this, all non-significant associations were fixed to zero, and the model was re-estimated. This full mediation model fitted the data

adequately, $\chi^2(17) = 22.71$, $p = .16$, CFI = .952, RMSEA = .049, SRMR = .062. Nevertheless,

when comparing the full mediation model with the partial mediation model, $\chi^2(16) = 14.78$, p

= .54, CFI = 1.00, RMSEA = .000, SRMR = .049, significant differences were found: $\Delta\chi^2(1)$

= 5.81, $p = .02$, ΔCFI = -.048, ΔRMSEA = .049. Thus, the partial mediation model was

considered the final model (Figure 2). The main direct effects showed that: RISK was

positively associated with both MNP and FNP and negatively associated with ADJ, MNP

was negatively related to ADJ, and AAA was positively associated with MNP. In terms of

indirect relations, the model showed that RISK was significantly and negatively linked to

ADJ through MNP ($\beta = -.05$, $p = .04$), but not through FNP ($\beta = -.02$, $p = .37$).

4.3. Multi-group Mediation Model

Correlations between the key study variables by age group are displayed in Table 2.

As the best-fitting model, the partial mediation model was rerun according to a multi-group

approach with age group (children vs. adolescents) as the grouping variable. An initial

unconstrained model across the age groups showed a good fit, $\chi^2(32) = 24.06$, $p = .84$, CFI =

1.00, RMSEA = .000, SRMR = .072. The completely constrained version of the model had a

poor fit, $\chi^2(44) = 71.63$, $p = .005$, CFI = .814, RMSEA = .095, SRMR = .174, and a

significantly worse fit compared with the unconstrained model, $\Delta\chi^2(12) = 49.19$, $p < .001$,

ΔCFI = .186, ΔRMSEA = .095. An inspection of the modification indices suggested releasing

the constraints for the associations of RISK with FNP, FNP with ADJ, and AAA with LoA.

This partially constrained model had an adequate fit, $\chi^2(41) = 31.01$, $p = .87$, CFI = 1.00,

RMSEA = .000, SRMR = .086, and did not have a significantly different fit compared with

the unconstrained model, $\Delta\chi^2(9) = 7.11$, $p = .62$, ΔCFI = .000, ΔRMSEA = .000. The

standardised coefficients are shown in Figure 3. Together, the findings indicate that the

model was partially different in the two age groups. Specifically, within the children group,

the direct and positive associations of RISK with FNP and FNP with ADJ were significant,

but not within the adolescent group. Furthermore, within the children group, indirect relations showed that RISK was significantly and negatively linked to ADJ also through FNP (β = -.08, p = .04). The results suggested that both MNP (β = -.05, p = .03) and FNP mediated the association of RISK with ADJ within the children group, while only MNP (β = -.07, p = .06) played a mediation role within the adolescent group.

4.4. Moderation Model

Based on the preliminary analysis, an initial moderation model was run, wherein all main, interaction, and control variables predicted ADJ, except for gender (for which we set all covariances to zero). This model had an excellent fit, $\chi^2(9)$ = 5.29, p = .81, CFI = 1.00, RMSEA = .000, SRMR = .013. However, only a few variables were significantly associated with ADJ, that is, both RISK and MNP with ADJ (and no relationships of the interactions RISK*MNP and RISK*FNP with ADJ). All these non-significant associations were subsequently fixed to zero, and the model was re-estimated. We retained this model as the final one (Figure 4) due to its excellent fit, $\chi^2(15)$ = 11.49, p = .72, CFI = 1.00, RMSEA = .000, SRMR = .025, $\Delta\chi^2(6)$ = 6.35, p = .39, ΔCFI = .000, ΔRMSEA = .000. The results indicated no significant moderating effects of MNP and FNP in the link between RISK and ADJ.

5. Discussion

Findings on the link between adoptive parenting and adoptees' adjustment and the buffer role of a warm parenting against the negative effects of preadoptive risks on adoptees' adjustment have proven controversial. The main aim of the present study was to examine the role of adoptive mothers' and fathers' competences as a mediator or moderator of the relationship between cumulative preadoptive risk and intercountry adoptees' adjustment. The discussion of our study results, therefore, might help to clarify the inconsistencies in the

adoption literature. We will focus first on the mediational model estimated for the full sample, then on the results of the mediational model moderated by age groups comparing children and adolescents, and finally, on the results of the moderation model.

The results obtained from the full sample indicated that a partial mediation model fitted the data adequately. This was in keeping with the literature (e.g., Sonuga-Barke et al., 2017), and demonstrated a direct influence of cumulative preadoptive risk on adoptees' adjustment and an indirect relationship mediated by mothers' negative parenting only. Cumulative preadoptive risk, however, was positively associated with both parents' negative parenting, confirming that adoptees' difficulties arising from their preadoption adversities placed a strain on both adoptive mothers and fathers (Crnic & Low, 2002; Patterson & Fisher, 2002).

The results of our partial mediation model moderated by age group clarified the data further, and highlighted some innovative findings on the different role played by mothers' and fathers' parenting in the different phases of the adoptees' lives. Within the children group both mothers' and fathers' parenting mediated the association between cumulative preadoptive risk and adoptees' adjustment, while within the adolescent group, just as in the full sample, only mothers' parenting competences were found to mediate the association. These findings suggest that discrepant intercountry adoptees' outcomes (Brodzinsky & Pinderhughes, 2005) might be explained by the different competences of adoptive mothers and fathers in different periods of the adoptees' lives: the adoptive fathers' influence decreases in adolescence, but the adoptive mothers maintain their crucial role in tackling the adoptive challenge (Levy-Shiff et al., 1997), probably because they assume the role of primary caregiver most often (Piermattei et al., 2017). These results are consistent with studies on non-adoption samples, that reveal significant differences both between mothers' and fathers' parental practices, that is, more and less warm, respectively (Yaffe, 2020), and

between mother–offspring and father–offspring relationships, which become more pronounced in the transition to adolescence (Collins & Russell, 1991) and with respect to communication (Noller, 1995). Thus, paternal involvement is positively related to the positive adjustment of young children, but not of adolescents (Gryczkowski, Jordan, & Mercer, 2018), while maternal involvement is related to positive adjustment across all age groups.

Accordingly, both within the full sample and within the adolescents' group, we observed a positive link between mothers', but not fathers', parenting and adoptees' adjustment. Such evidence suggests that mothers' and fathers' parenting competences contribute differentially to adoptees' adjustment, because each parent plays a unique role in their children's lives (e.g., Laible & Carlo, 2004). Fathers generally have less caregiving responsibilities and tasks and spend less taking care of their children (e.g., Renk et al., 2003), probably because of the social context that frames motherhood as instinctual but fatherhood as learned (Miall & March, 2003). Such differences, which accord with traditional gender differences with regard to social roles, suggest that our results could be a function of the fact that mothers still play a more central role within the modern family (Pakaluk & Price, 2020), especially in traditional societies. In Italy in particular, the male breadwinner model reflects a widespread cultural trait (Ciccia & Bleijenbergh, 2014); so, despite the increasing involvement of fathers in family life, mothers are more involved in child socialisation processes, and represent, in their role as main caregiver, the key resource for their children's education, growth, and social development.

While the mother's role as the relational fulcrum of the family has been confirmed for adoptive families (Rosnati, Iafrate, & Scabini, 2007), the position of the father should be further explored in adoptive samples, because this has been under-researched (Piermattei, Pace, Tambelli, D'Onofrio, & Folco, 2017) and also because studies using both mothers' and

fathers' parenting measures are limited (e.g., Tavassolie et al., 2016). Nevertheless, we

suggest that fathers' parenting does not seem to be a key variable for adolescent adoptees'

adjustment, probably because, as with not-adopted adolescents, fathers do not play a central

role in adopted adolescents' growth. Future researchers should study more carefully each

parent's role and its influence on adopted children and adolescents' adjustment, and take a

closer look at other factors that may impact, either positively or negatively, adoptive parents'

parenting competences.

Our findings demonstrated that SES is important, since a significant negative link

between family SES and parents' negative parenting was evidenced, both for children and for

adolescents, in our final estimated partial mediation model moderated by age group (see

Figure 3). Furthermore, we found a positive correlation between SES and adoptees'

adjustment that was significant both in the full sample and within the children group (Table

2). Overall, these results suggest that having a higher family SES may represent a protective

factor in adoption, because it was associated both with adoptive parents' attitudes to caring

and to better adoptee adjustment, especially for the adopted children. However, while

different studies have confirmed the negative influence of family economic disadvantage

(e.g., Benner & Kim, 2010) and low SES (e.g., Bøe et al., 2014; Conger et al., 2010) on

children and adolescents' adjustment through the mediation of parenting practices, in the

present case the effect was not significant. This was probably because of the small sample

size.

In addition, both the partial mediation model estimated using the full sample and the

partial mediation model moderated by age group showed how mothers' (but not fathers')

negative parenting were positively associated with age at adoption. This association is

consistent with previous studies that have highlighted the significant link between age at

adoption and parenting in the context of adoptees' outcomes (e.g., Garvin et al., 2012). In the

present study, age at adoption had a central role for adoptive mothers only, probably because the implicit desire to adopt a small child, generally more common amongst mothers than fathers, impairs their parenting competences when they interact with older children. Also, and in keeping with the literature (e.g., Julian, 2013), a significant negative correlation between age at adoption and adoptees' adjustment was found in our full sample, although this relationship was not significant in the mediation model, probably because of the small sample size.

Finally, it is necessary to point out that our study shows the mediating, but not moderating, effect of parenting competencies. It indicates that more difficult adopted children can elicit an increase in adoptive parents' hurtful behaviours and a reduction in accepting ones. These lower parenting competences in turn affect adoptees' adjustment, since more rejecting behaviours lead to greater emotional and behavioural difficulties in adopted children and adolescents. Overall, the findings suggest that parenting represents a dynamic dimension that is affected both by parents' attitudes and by the children's characteristics; parenting competences are related to children preadoptive risk, and they in turn seems to be associated with children's adjustment. Unlike most previous research (e.g., Kriebel & Wentzel, 2011), our results are in accordance both with a recent longitudinal study showing that parenting quality did not moderate the effects of risk on adoptees' adjustment (Finet et al., 2020) and with some scholars that have suggested the mediating effects of parenting and parent– child relationships on the relationship between adoptees' preadoption adversities and their adjustment (Brodzinsky & Pinderhughes, 2005; Harwood et al., 2013).

Overall, our data suggest that intercountry adoptees' outcomes are related both to their preadoptive risk factors and to their postadoptive experiences, and that adoptive parents' parenting competences are important. In addition, the results underline the role of mothers' competences in adoptees' adjustment across all age groups.

5.1. Strengths, Limitations, and Implications for Social Work

The present study shows that adoptive mothers' competences can mediate the relationship between preadoption adversities and adoptees' outcomes in childhood and in adolescence. An effective data analytic strategy based on SEM was used to test direct and indirect effects. In contrast with most existing studies, which have usually been limited to a small number of preadoptive risk conditions, we have considered both the different types of preadoptive adverse experiences and the extent of such experiences through a cumulative preadoptive risk index. Furthermore, while most studies measured maternal parenting only or used composite scores using information on maternal and paternal parenting, we studied the unique contribution that adoptive mothers' and fathers' parenting makes to the relationship between cumulative preadoptive risk and adoptees' adjustment by also exploring age group differences (children vs. adolescents). The results could provide the impetus for future longitudinal studies examining the link between mothers' and fathers' parenting and adoptee outcomes at different stages of their lives. In light of the peripherical role played by adoptive fathers in the children's adolescence, future researchers could explore how adopted adolescents renegotiate the bond with each adoptive parent to cope with belonging and ethnic issues related to their personal and social identity.

Some of the limitations of the present study should be mentioned. First, the small sample size means that our findings cannot be generalised. Second, because of selection bias, it is possible that the adoptive parents who participated were significantly more motivated and/or more satisfied with their roles as parents than those who did not. Moreover, even if intercountry adopted children generally show histories of prolonged institutionalisation, no information about the quality of care in institutional settings was available. Also, different results may have been obtained if other perspectives had been considered (e.g., through teacher assessments and/or self-report adoptees' measures). From a methodological

perspective, then, the use of self-report measures requires that caution should be exercised when the data are being assessed. Finally, it is not possible to argue that the mediating effect of parenting is necessarily causal, because the research was cross-sectional and because other factors not included in our models may have influenced the parenting competences (e.g., the parents' wellbeing and/or the support they received from social services). Future researchers should choose longitudinal designs when possible, gather both self-report and direct measures of adoptees' adjustment and/or collect self-report measures from other informants (such as teachers), and control the role of other variables that might influence parenting competences. Also, qualitative and quantitative analysis could be combined to highlight the subjective experience of adopted children and adolescents. A large population-based random sample would be ideal, but (for privacy reasons), this is very difficult.

Despite these shortcomings, the present study has some interesting implications for social policy and practice. First, evidence of the mediating role of parenting in the relationship between preadoptive risk and adoptee's adjustment affirms the importance of extending and improving preadoption training programmes that promote positive parenting, reduce parenting rejection, and support positive parent–child interactions. The primary aim of adoption policies should not only be to ensure the stable placement for out-of-families children, but also to prioritise adoptive positive parenting to encourage the positive bonding of children with their significant caregivers, with a view to supporting adoptees' sense of nurture and trust (Brodzinsky & Smith, 2019) and encouraging their adjustment. Also, because our results highlighted the negative impact of cumulative preadoptive risk on male and female parents' parenting competences, targeted positive parenting programmes should be available to parents who adopt challenging children (Canzi et al., 2018). Based on the mediating role of mothers' parenting, as observed in children's and adolescents' groups, a

greater investment in mothers' relational and parenting competences may reduce the possibility of maternal stress, and therefore the risk of rejection.

More generally, the role of effective adoption services is a central element in the promotion of adoptive family wellbeing. Careful oversight of adoption processes by expert social workers is crucial in supporting adoptive parents' parenting competences, their interaction with adoptees, improved family functioning, and adoptees' adjustment (see Dhami et al., 2007). Qualified parenting support programmes via digital delivery methods (Fox & Archard, 2018) and face-to-face social work practices (Hughes & Golding, 2012) should be available to all adoptive couples. In particular, professionals competent in adoption issues should design tailored parent training programmes and implement them before, during, and after adoption. They should consider the role of specific variables with regard to prospective adoptive parents (e.g., socio-economic status, expectations, beliefs, resources, and limits), adopted children (e.g., preadoptive risk, country of origin, and age) and adoption paths (e.g., timescales and procedures).

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Conflict of Interest

The authors declare that they have no conflict of interest.

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Table 1

Mean Scores, Standard Deviations, Skewness, and Kurtosis for the Study's Observed Variables (N = 138)

Observed variable	Mean	Standard deviation	Skewness	Kurtosis
Adoptees' preadoptive risk (standard scores)	0.00	1.68	1.30	1.90
Mothers' perceived negative parenting (scored 24–96)	30.91	5.96	1.47	2.48
Fathers' perceived negative parenting (scored 24–96)	31.16	7.01	2.00	5.06
Adoptees' psychological adjustment (scored 0–40)	8.03	5.12	0.73	-0.15
Adoptees' age groups (0 = child, 1 = adolescent)	0.38	0.49	0.48	-1.79
Adoptees' gender (0 = male, 1 = female)	0.44	0.50	0.24	-1.97
Adoptees' age at adoption (scored in years)	4.39	3.15	0.48	-0.87
Length of adoption (scored in years)	5.35	3.62	0.91	0.09
Socio-economic status (scored 8–66)	46.63	11.45	-0.51	-0.03

Table 2

Bivariate Correlations Amongst the Study Variables Across the Entire Sample and Within Age Groups
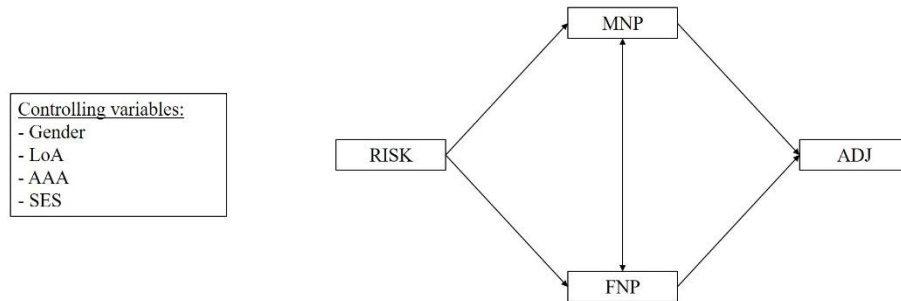
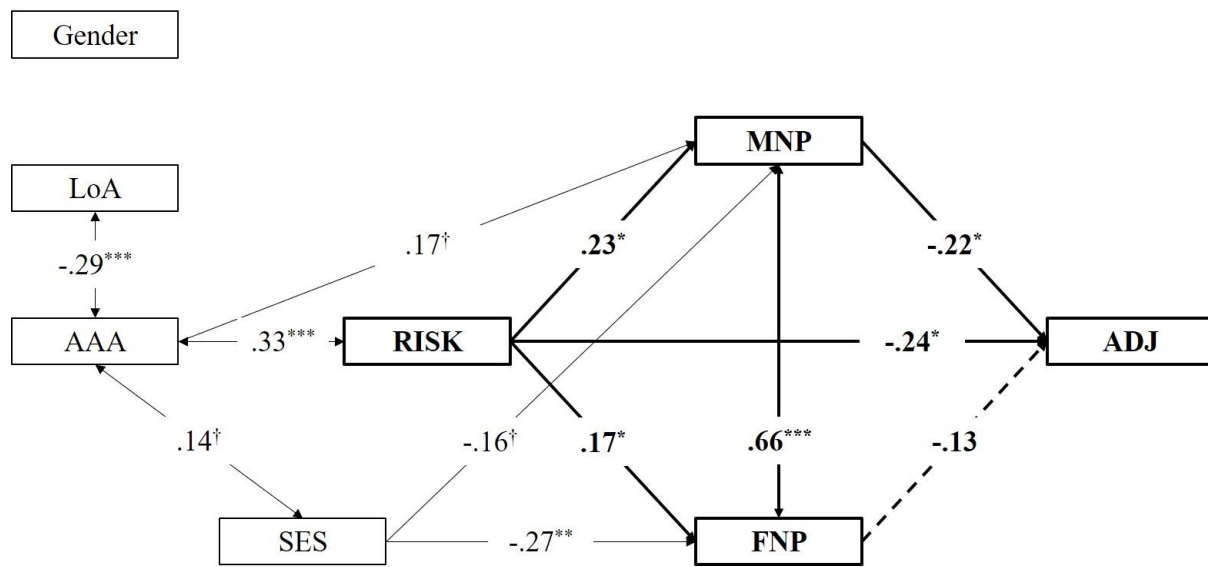|	1.	2.	3.	4.	6.	7.	8.	9.
Full sample (N = 138)								
1. Adoptees' preadoptive risk	-							
2. Mothers' perceived negative parenting	.29***	-						
3. Fathers' perceived negative parenting	.18*	.68***	-					
4. Adoptees' psychological adjustment	-.33***	-.38***	-.33***	-				
5. Adoptees' gender (0 = male, 1 = female)	-.03	-.08	.03	-.01	-			
6. Adoptees' age at adoption	.34***	.27**	.10	-.19*	.00	-		
7. Length of adoption	-.08	-.22*	-.12	.00	-.02	-.33***	-	
8. Socio-economic status	-.04	-.14	-.28***	.18*	.01	.16†	-.12	-
Children (n = 85)								
1. Adoptees' preadoptive risk	-							
2. Mothers' perceived negative parenting	.33**	-						
3. Fathers' perceived negative parenting	.33**	.68***	-					
4. Adoptees' psychological adjustment	-.41***	-.49***	-.52***	-				
6. Adoptees' gender (0 = male, 1 = female)	.01	-.09	.07	-.02	-			
7. Adoptees' age at adoption	.41***	.34**	.14	-.25*	-.01	-		
8. Length of adoption	-.16	-.21†	-.06	.13	.11	-.48***	-	
9. Socio-economic status	-.16	-.23*	-.36***	.24*	-.01	-.02	.07	-
Adolescents (n = 53)								
1. Adoptees' preadoptive risk	-							
2. Mothers' perceived negative parenting	.28*	-						
3. Fathers' perceived negative parenting	.04	.69***	-					
4. Adoptees' psychological adjustment	-.26†	-.20	.02	-				
6. Adoptees' gender (0 = male, 1 = female)	-.06	-.06	-.04	-.02	-			
7. Adoptees' age at adoption	.27*	.31*	.14	-.10	.03	-		
8. Length of adoption	-.18	-.27†	-.18	-.01	-.10	-.80***	-	
9. Socio-economic status	.07	-.01	-.16	.09	.02	.39**	-.28*	-

†$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$.

Figure 1

Study Models
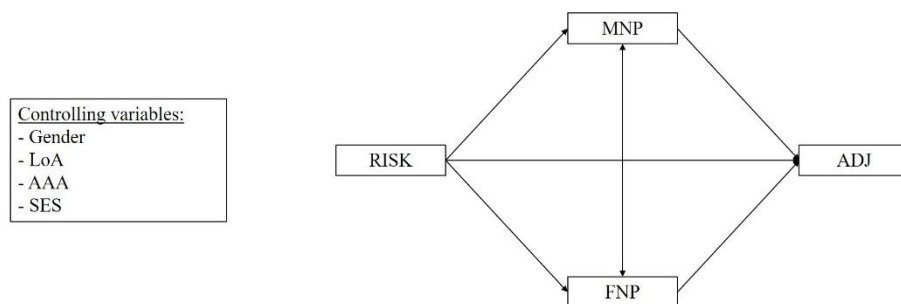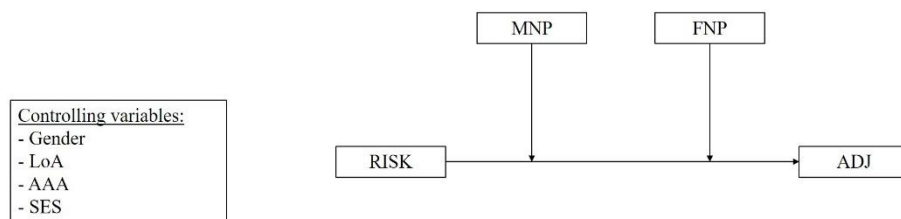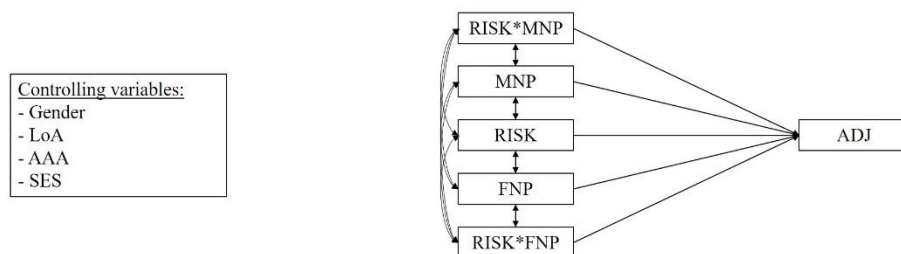
Note. RISK = adoptees' preadoptive risk, MNP = mothers' perceived negative parenting,

FNP = fathers' perceived negative parenting, ADJ = adoptees' psychological adjustment,

AAA = adoptees' age at adoption, LoA = length of adoption, SES = socio-economic status.
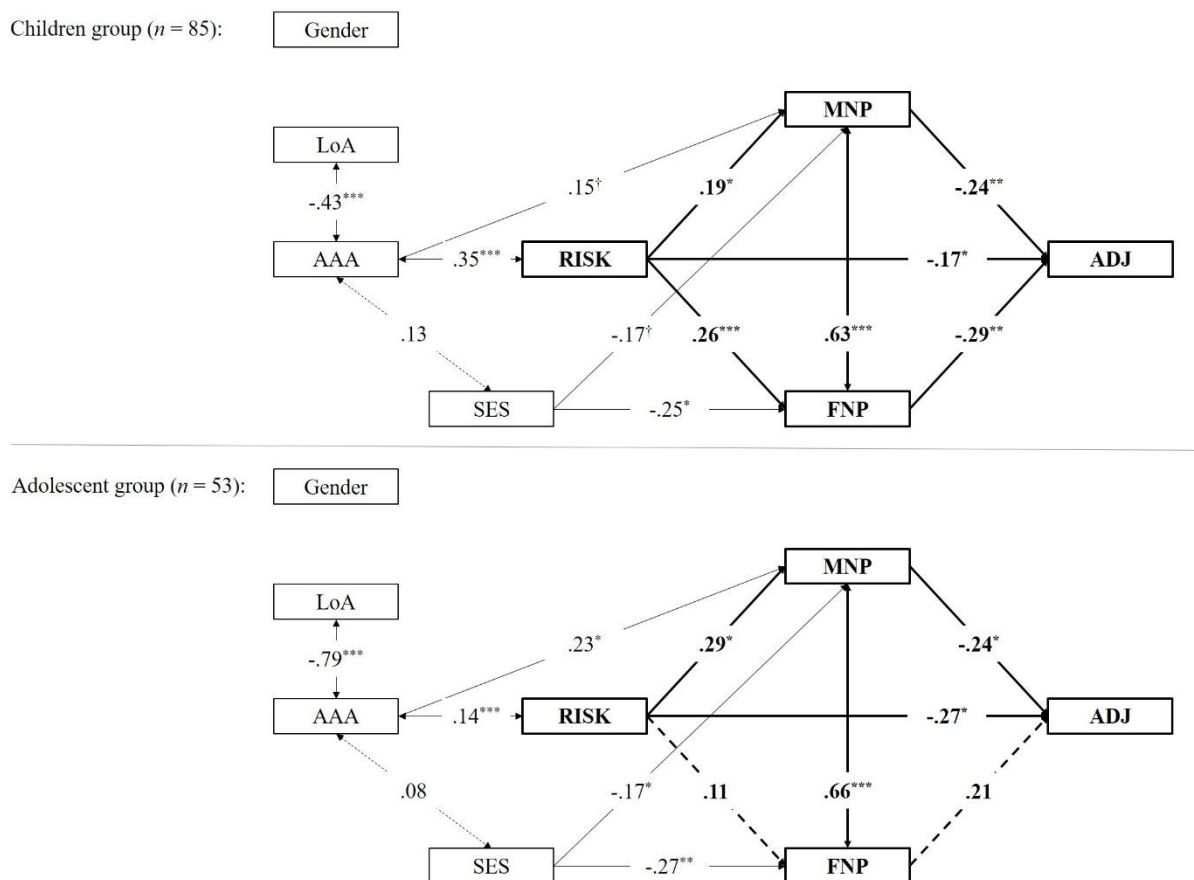
Figure 2

Final Estimated Partial Mediation Model

Note. Standardised coefficients are shown. Solid lines represent significant, and dashed lines nonsignificant, pathways at $p < .10$. The main study variables and the related coefficients are shown in bold. Residuals are not reported for reasons of brevity. RISK = adoptees' preadoptive risk, MNP = mothers' perceived negative parenting, FNP = fathers' perceived negative parenting, ADJ = adoptees' psychological adjustment, AAA = adoptees' age at adoption, LoA = length of adoption, SES = socio-economic status. $^{†}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Figure 3

Final Estimated Partial Mediation Model Moderated by Age Group

Note. Standardised coefficients are shown. Solid lines represent significant, and dashed lines nonsignificant, pathways at $p < .10$. The main study variables and the related coefficients are shown in bold. Residuals are not reported for reasons of brevity. RISK = adoptees' preadoptive risk, MNP = mothers' perceived negative parenting, FNP = fathers' perceived negative parenting, ADJ = adoptees' psychological adjustment, AAA = adoptees' age at adoption, LoA = length of adoption, SES = socio-economic status. $^{†}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Figure 4

Final Estimated Moderation Model (with MNP and FNP as Moderators)
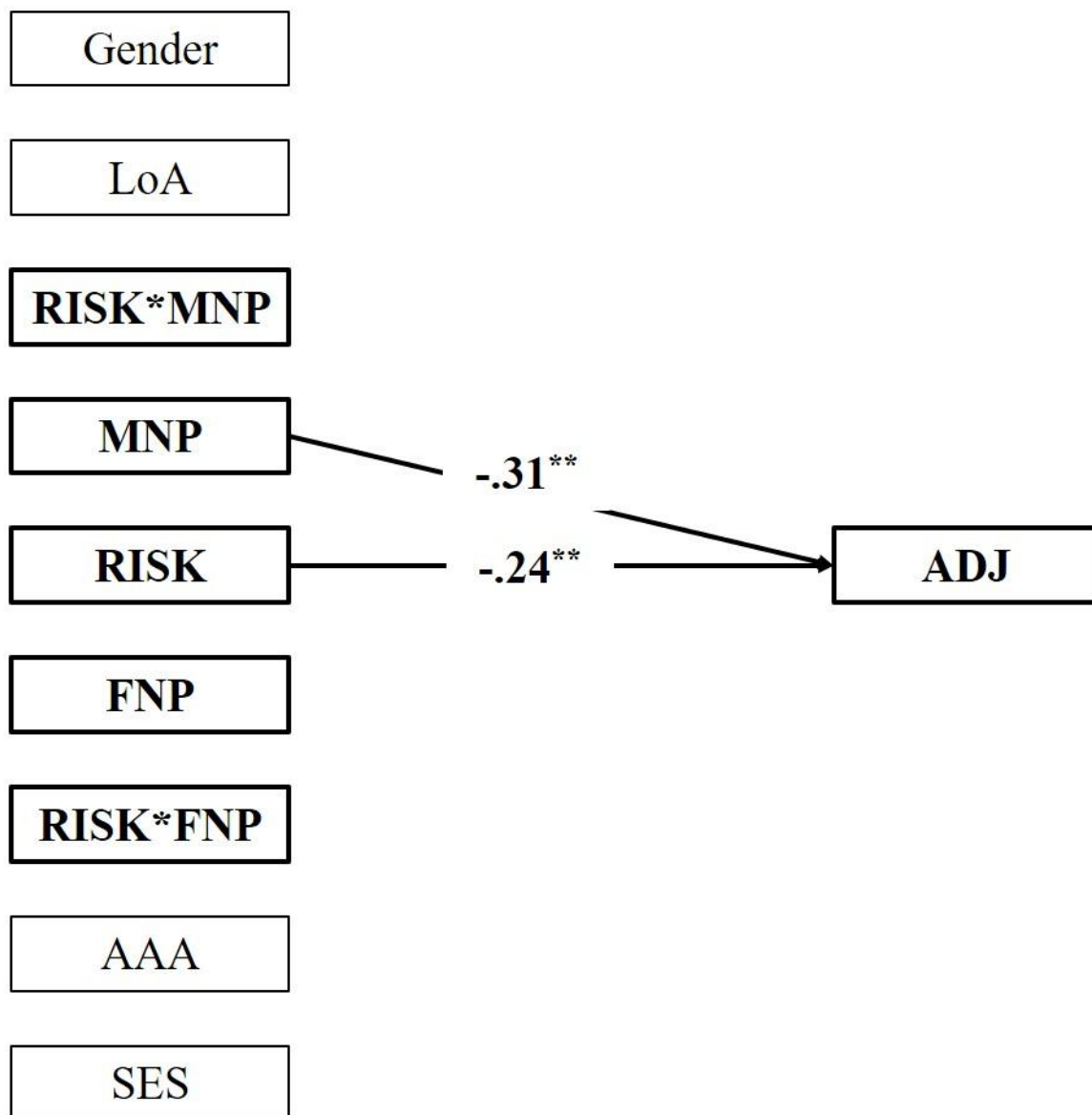
Note. Standardised coefficients are shown. The main study variables and the related coefficients are shown in bold. Covariances among independent variables and residuals are not reported for purposes of brevity. RISK = adoptees' preadoptive risk, MNP = mothers' perceived negative parenting, FNP = fathers' perceived negative parenting, ADJ = adoptees' psychological adjustment, AAA = adoptees' age at adoption, LoA = length of adoption, SES = socio-economic status. $^{**}p < .01$.