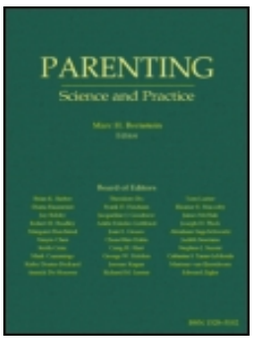

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Francesca Lionetti, Massimiliano Pastore, and Lavinia Barone

SYNOPSIS

Objective. To examine whether parent's attachment states of mind and parenting alliance contribute to parental stress in the potentially demanding context of adoption. ***Design.*** Fifty mother–father pairs ($n = 100$) completed the Adult Attachment Interview within six months of adoption to investigate attachment states of mind. The Parenting Stress Index-Short Form (PSI/SF) and the Parenting Alliance Measure questionnaires were administered two years after adoption to evaluate stress and the parenting alliance. ***Results.*** Multivariate regression models showed that unresolved attachment predicted stress to a greater extent than insecure attachment and, together with low parenting alliance, significantly contributed to explaining levels of stress perceived by parents. In mothers, but not in fathers, parenting alliance moderated the effect of an unresolved state of mind on parenting stress. ***Conclusion.*** Unresolved attachment states of mind and the parenting alliance singly, and even more so jointly, influence stress experienced by parents. Understanding of the family's adjustment to adoption may benefit from an in-depth analysis of the role of individual and dyadic variables involved in childrearing.

INTRODUCTION

Parenting stress is the experience of distress and/or discomfort resulting from the perceived demands associated with the task of providing care (Deater-Deckard, 1998). Parenting stress is considered an environmental risk factor (Neece, Green, & Baker, 2012) that increases parents' depression, couple conflicts, physical disease rates, intrafamily violence (see Eisenhower, Baker, & Blacher, 2009; Hasting, Daley, Burns, & Beck, 2006; Kersh, Hedvat, Hauser-Cram, & Warfield, 2006; Stith et al., 2009), and children's social-emotional and behavioral problems (Tharner et al., 2012). Parenting stress is also associated with insecure attachment in foster children (Gabler et al., 2014). Given that parenting stress negatively influences children's development and family well-being, it is worthwhile to identify variables that may increase or prevent parenting stress, to sustain parents in the rewarding yet challenging role of providing care.

Adoptive parents are faced with an even more challenging task than biological parents are: that of developing and consolidating an attachment bond with a child whose early development may have taken place in neglectful or abusive contexts, who is more at risk for behavioral and social-emotional problems (Barone, Dellagiulia, & Lionetti, in press; Muhamedrahimov et al., 2014; Pace, Zavattini, & D'Alessio, 2012), and whose reactions might not always be consistent with parental expectations (Dozier

& Rutter, 2008; Viana & Welsh, 2010). Are adoptive parents more at risk for stress? Results from studies investigating the degree of stress in adoptive parents are inconsistent. Judge (2003), Bird and colleagues (2002), and Ceballo and Levy-Shiff's research groups (Ceballo, Lansford, Abbey, & Stewart, 2004; Levy-Shiff, Bar, & Har-Even, 1990) identified lower to equal levels of stress in adoptive parents compared with parents in normative samples, whereas Paley and colleagues (Paley, O'Connor, Frankel, & Marquardt, 2006) and McGlone et al. (McGlone, Santos, Kazama, Fong, & Mueller, 2002) reported that adoptive parents are at risk for greater stress. The findings summarized above suggest that whether parents are adoptive or biological, specific individual differences may protect or exacerbate their stress (see also Palacios & Brodzinsky, 2010; Schoenmaker, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2014). Which variables increase stress? Palacios and Sanchez-Sandoval conducted one of the first studies to investigate whether individual parental features moderate perceived stress in an adoption sample (Palacios & Sánchez-Sandoval, 2006; Sanchez-Sandoval & Palacios, 2012). The authors reported no differences in the degree of stress between mothers and fathers and identified a significant association between individual parental features (i.e., parenting communication style and parental tendency to emphasize differences between their status as adoptive parents versus non-adoptive parents) and parenting stress. Although adoption may represent a potentially risky context for parenting stress, other intrapersonal and interpersonal variables are likely to influence the adjustment even more. These candidate variables should be identified and investigated to promote family well-being and the success of adoptions.

Parenting Stress: Do Attachment States of Mind Count?

Attachment theory (Bowlby, 1969, 1980; Cassidy & Shaver, 2008) may represent a privileged perspective for investigating adjustment to the parental role thanks to its focus on emotion regulation processes underlying childrearing. Specifically, among other developmental tasks (e.g. reinforcing self-esteem, integrating birth family history with current experience within the new family environment), adoption is about the development of a new attachment bond after caregiver deprivation, a process during which parental attachment states of mind are activated. In the attachment literature, attachment state of mind is a key component of caregiving (Cassidy & Shaver, 2008; Main, Kaplan, & Cassidy, 1985). It refers to mental representations of childhood experiences, organized in a set of rules about attachment-related information, which guide parental responses to children's signals (Bakermans-Kranenburg & van IJzendoorn, 2009; Main et al., 1985; van IJzendoorn, 1995). Thanks to the development of assessment procedures, such as the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985; Main, Goldwyn, & Hesse, 2002), attachment states of mind can be derived from the parent's speech during the AAI and are classified into four broad categories: secure, insecure-avoidant, insecure-enmeshed, and disorganized/unresolved (i.e., unresolved toward loss or trauma).

Unresolved attachment has been proposed as a pivotal risk factor for emotion regulation processes implied in the parenting role (Barone, Bramante, Lionetti, & Pastore, 2014; Lyons-Ruth & Jacobvitz, 2008; Steele & Steele, 2014). Insecure attachment categories (both insecure-avoidant and enmeshed) have been found to be associated with less adaptive emotion regulation strategies of managing emotions, interfering with problem

solving, or reappraisal in potentially demanding situations (Shaver & Mikulincer, 2007). Research in the attachment field has shown that parents with an insecure attachment state of mind or presenting an unresolved attachment are less open to the entire range of emotions, and thus are less balanced in responding to and managing the child's negative feelings (Cassidy & Shaver, 2008), even in adoption contexts (Lionetti, 2014; Steele et al., 2008). One longitudinal study showed that difficulties in managing emotions associated with insecure attachment patterns have a counterpart in the morphological anatomy of the brain: Adults classified as insecure in early infancy tend to present specific gross morphological alterations in the amygdala, a key neural area related to affective responding (Moutsiana et al., 2014). Despite this evidence, only one study has been conducted so far to investigate the contribution of parents' attachment to their stress. Busch, Cowan, and Cowan (2008) reported that biological mothers with an unresolved attachment state of mind (i.e., who appear disoriented and show lapses in the monitoring of reasoning or discourse when talking about loss of a loved one or about traumatic experiences) were at greater risk for higher stress in providing care. Specific situations activating unresolved individuals' attachment or caregiving systems, such as the parent–child relationship, evoke stances of vulnerability and memories of past losses, increasing the risk for stressful feelings in mothers (Busch et al., 2008). In fathers, and in adoptive families, the influence of attachment states of mind on parenting stress has not been explored. Moving a step beyond data pertaining individual parental features, it is also reasonable to consider that not only are variables related to the infancy of the parent him/herself relevant (such as attachment states of mind) but a dyadic variable, such as the current experience with a partner, is also likely to play an important part in providing care (George, 2009).

Parenting Stress: What Counts from a Dyadic Perspective?

To recognize that each family member's perspective is to some degree subjective and that both parents play a role in childrearing (George, 2009; Jager, Bornstein, Putnick, & Hendricks, 2012) implies involving both members of a couple when the family adjustment is the focus of interest. A dyadic perspective may inform about the degree to which mothers and fathers overlap, differ, and are a protective resource for one another. Among dyadic variables, agreement and cooperation between partners may represent specific protective factors for adjustment to parenting as they imply sharing responsibility and mutual support (Jager et al., 2012; McHale, Lauretti, Talbot, & Pouquette, 2002). Research has identified in the parenting alliance—a component of the couple relationship related to parenting cooperation that describes the degree of trust and communication between partners—a significant protective factor against stress for both parents (Bronte-Tinkew, Horowitz, & Carrano, 2010; Caldera & Lindsey, 2006; Crum, 2010; Weissmann & Cohen, 1985). Attachment researchers themselves recognize that dyadic variables, such as inter-parental conflict and couple dissatisfaction, can interact with caregiving quality or attachment state of mind to predict children's and families' socio-emotional adjustment (Boldt, Kochanska, Yoon, & Nordling, 2014; Hopkins, Gouze, & Lavigne, 2013; Posada & Pratt, 2008). Notwithstanding this increasing interest in the role of both parents, fathers have been overlooked, and both parents have rarely been included in studies in the attachment field with toddlers and children (Barone & Lionetti, 2012; Ramchandani & Iles, 2014; Steele et al., 2008).

The Current Study

Summing up, studies assessing whether adoptive parents are more at risk for stress when compared with biological parents have reported mixed results, suggesting that other variables—pertaining to both parents—are likely to play a role in influencing stress in the childrearing. Attachment states of mind represent a privileged framework for investigating emotion regulation processes in parenting. However, so far no study has investigated its association with parenting stress in both mothers and fathers. Additionally, no data are available about the degree to which parents' attachment state of mind and the current quality of the alliance between partners interact with one other in contributing to the adjustment of the family.

The main aim of the present study is to investigate a set of individual and dyadic parental candidate risk factors that may identify what best explains stress perceived by parents. The parents' attachment state of mind was assessed, the couple alliance, and their interaction in a sample of 50 mother–father pairs. Specifically, it was hypothesized that (1) insecure and unresolved attachment state of mind would be associated with higher parenting stress; (2) a low parenting alliance would act as an additive risk factor to parenting stress; and (3) the parenting alliance would play a moderating role, decreasing perceived stress in adoptive parents with an insecure or unresolved attachment state of mind.

METHOD

Participants

One hundred adoptive parents in 50 mother–father pairs were involved in the study. Participants were enrolled through National Health Adoption Services using a consecutive admission criterion of children placed at five years of age or younger (M = 22.06 months; SD = 20.14; 62% male). The authors decided to not involve children placed when they were at a school-age period because the potentially stressful transition to formal schooling in correspondence with the adoption placement may represent an additive strain and confounding variable.

Exclusion criteria were the presence of mental retardation, psychiatric disabilities, and major health problems in adoptive children and/or parents. All families but two had only one adopted child, and all children but one experienced life in an institutional context before the adoption placement. Children's country of origin distribution was as follows: 32% domestic adoption; 21% Eastern Europe; 25% Asia; 22% South America. The adoptive mothers' mean age was 41.39 (SD = 2.34) years, and the adoptive fathers' mean age was 44.10 (SD = 1.43) years. Parents' education-level distribution was 3% junior high school, 56% high school, and 41% university degree.

Procedure

Between three and six months after the adoption placement (M = 4.1 months, SD = 1.2), the semi-structured AAI (George et al., 1985; Main et al., 2002) was used to investigate parents' attachment state of mind. Eighteen to 24 months later, parenting stress and alliance was assessed with the Parenting Alliance Measure (PAM; Abidin & Konold, 1999; Konold & Abidin, 2001) and the Parenting-Stress Index-Short Form (Abidin, 1995).

Both parents completed each questionnaire individually. Two independent coders (F.L. and L.B., certified as reliable by Mary Main and Erik Hesse), blind to the mother–father match, coded the interviews. The inter-rater agreement, computed on a randomly selected 25% of the interviews, was 80% and Cohen's $k = .85$ for the four-way (secure autonomous, insecure-dismissing, insecure-enmeshed, unresolved) match.

Measures

Attachment. Adoptive parents' mental representations of the attachment relationship were assessed using the AAI (George et al., 1985; Main et al., 2002), an hour-long semi-structured protocol focused on primary attachment figures and attachment relationships during childhood. The coding of the instrument is based on a complex system of 25 9-point Likert scales. A core aspect in the coding process is the degree to which a person is able to access and evaluate memories while remaining believable and cooperative. The AAI identifies three organized categories of attachment and a further unresolved category that may or may not coincide with insecure attachment. The unresolved category (U) is assigned if the speech patterns contain high levels of incoherence when discussing loss and/or trauma (i.e., unresolved toward loss or unresolved toward trauma). An interview is classified as secure-autonomous (F) when the discourse appears almost clear, coherent, and cooperative, regardless of whether past experiences seem to have been favorable or unfavorable. Participants classified as insecure-dismissing (Ds) tend to idealize or derogate past attachment relationships; they describe themselves as independent and not in need of care. In insecure-enmeshed transcripts (E), a high degree of passive or angry speech is present; conversational tone is often too long, unbalanced, and excessively blaming. The unresolved attachment category is given as an additional option when the interviews are characterized by memories of past experiences of loss or traumatic-attachment events and lapses in the monitoring or reasoning of discourse are present. Lapses may include signs of disbelief that the person is dead; an irrational sense of being responsible for the death or the abuse; long, unmarked pauses; unusual attention to details or odd/eulogistic descriptions. When no specific pattern can be addressed or when multiple attachment representations coexist in the same interview, a cannot-classify category is assigned. Only people trained in the procedure and certified as reliable can code interviews.

Parenting stress. The PSI/SF is a self-report questionnaire (Abidin, 1995; Guarino, Di Blasio, D'Alessio, Camisasca, & Serantoni, 2008) that assesses parenting stress using items with a 5-point rating scale. Specifically, parents are asked to indicate the extent of their agreement or disagreement with statements describing themselves as stressed or describing the parent–child relationship or even their child's characteristics as difficult to manage. The parenting stress index yields scores for three areas: the parent distress domain (PD, e.g., I feel trapped by my responsibilities as a parent.), the parent/child dysfunctional interaction domain (PCD; e.g., My child rarely does things for me that make me feel good.), and the difficult child domain (DC; e.g., My child reacts very strongly when something happens that my child doesn't like.).

Parenting alliance. The PAM (Abidin & Konold, 1999; Konold & Abidin, 2001) was used to assess the degree of commitment and cooperation between a mother and a father

in childrearing. Specifically, PAM is a self-report instrument that measures the strength of the perceived alliance between parents. As with the parenting stress index, all items are measured on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*, with higher scores indicating a stronger and more positive alliance (e.g., My child's other parent and I communicate well about our child.).

Analytic Plan

Descriptive statistics were first carried out for parents' attachment states of mind, stress, and alliance, and then mother–father correlations were estimated. Afterward, multivariate regression models were computed and then compared. Specifically, it was of interest to identify the likelihood of the data being able to detect what best explains parenting stress, given a set of parameters (Kirk, 2003; van de Schoot et al., 2014; Wagenmakers, 2007). To overcome the possible limitations of too small sample size while maintaining predictive accuracy, rather than simply using significance testing, the models were compared using the total coefficient of determination (TCD; Bollen, 1989) and the Bayesian Information Criterion (BIC; Schwarz, 1978; see also Cumming, 2014) methods. The TCD method shows the combined effect of the model variables on the dependent variables; the BIC method measures the efficiency of the parameterized model in terms of predicting data and, at the same time, penalizes based on the complexity of the model, where complexity refers to the number of unnecessary parameters. The higher the TCD (range 0–1), the more variance is explained; the lower the BIC the better the model. As a consequence, the model that has the highest TCD together with the lowest BIC is the one that best fits the data.

The following set of predictors was investigated: insecure attachment, unresolved attachment, parenting alliance, and their additive and interactive effects. Parenting stress, the dependent variable, was explored using the parenting stress index domains, for example, PD, PCD, and DC. Predictors and outcomes were included in the regression models jointly and following the convention in this field, the mutual dependences of mothers and fathers were taken into account by including in the model the correlation between the dependent variable's residuals (Bollen, 1989). All analyses were performed using the statistical software R (R Development Core Team, 2012): Multivariate regression models were estimated using the lavaan package (Rosseel, 2012) and interaction effects were explored using the effects package (Fox, 2003).

RESULTS

Descriptive Statistics

Attachment states of mind. The distribution of attachment states of mind in mothers was as follows: 30 were secure (F, 60%), 11 were insecure-dismissing (Ds, 22%), and nine were insecure-enmeshed (E, 18%). Additionally, 12 were classified as unresolved (U, 24%; $n = 11$ unresolved toward loss, $n = 1$ unresolved toward trauma). No significant association was found between the secure-insecure distinction and the unresolved versus resolved category, χ^2 (1, $n = 50$) = .29, $p = .59$. The distribution of attachment states of mind in fathers was as follows: 26 were secure (F, 52%), 19 were insecure-dismissing (Ds, 38%), and five were insecure-enmeshed (E, 10%). Eleven fathers received an unresolved attachment classification (U, 22%; $n = 10$ unresolved toward loss, $n = 1$

TABLE 1
Distribution of Adoptive Parents' Attachment States of Mind

	Secure	Insecure Dismissing	Insecure Enmeshed	Additionally Unresolved	Insecure Match Cramer's phi+	Unresolved Match Cramer's phi
Mothers	30 (60%)	11 (22%)	9 (18%)	12 (24%)	.01	.13
Fathers	26 (52%)	19 (38%)	5 (10%)	11 (22%)		

+Cramer's phi is a measure of association; values of .10, .30, and .50 represent small, moderate, and large effect sizes, respectively.

unresolved toward trauma). Unresolved fathers were as likely as adoptive mothers to be classified as secure or insecure, χ^2 (1, $n = 50$) = 2.91, $p = .09$, and mother–father attachment associations were trivial (see Table 1).

Parenting stress and parenting alliance. Reliability scores of the parenting stress index domains and of the PAM in the current sample were satisfactory. Specifically, PD: Cronbach's $\alpha = .74$, 95% C.I. = .65–.81, greatest lower bound (GLB) = .84; PCD interaction: Cronbach's $\alpha = .81$. 95% C.I. = .71–.87, GLB = .89 and DC: Cronbach's $\alpha = .79$. 95% C.I. = .70–.85, GLB = .87. For the PAM: Cronbach's $\alpha = .81$, 95% C.I. = .74–.86, GLB = .90. Means and standard deviations of the parenting stress index domains and the PAM are reported in Table 2, along with mother–father correlations. The mother–father correlations within the parenting stress index ranged from trivial, r (98) = .09, for the PCD interaction domain) to medium, r (98) = .48 for the DC domain. The correlation for alliance was strong, r (98) = .52 (Table 2). Correlations between parenting stress, alliance, and parents' ages were all trivial. Specifically, for mothers, r (48) = −.16 in the PD domain, r (48) = −.01 in the PCD domain, r (48) = .17 in the CD domain, and r (98) = .12 for alliance; for fathers, r (48) = .03 in the PD domain, r (48) = .06 in the PCD domain, r (48) = .14 in the CD domain, and r (48) = .17 for alliance.

Multivariate Regression Models Comparison

Multivariate regression models were computed and compared. Fit indices and models' details are reported in Table 3. First, unresolved attachment as the main predictor (Model 1) was tested; next, parenting alliance as an additive term (Model 2) was added; finally, the interaction term between the two (Model 3) was introduced. Afterward, another set of three regression models that included insecure state of mind (with the unresolved category included) as the main attachment predictor instead of unresolved attachment (see Models 4–6, Table 3) was tested.

Looking first at attachment categories, the total variance explained by an unresolved state of mind was three times higher (i.e., TCD = .29, BIC = 1983.13, $n = 100$) than that explained by insecure attachment (TCD = .09, BIC = 2030.47, $n = 100$), which supports the former as a better predictor than the latter. In addition, it was the additive and interactive contribution of unresolved attachment and parenting alliance that explained the greatest amount of variance. Specifically, following the convention in the field that the model best contributing to explaining data is the one with the highest global variance (see TCD, Bollen, 1989; Jöreskog & Sörbom, 1996) and the lowest BIC (Schwarz, 1978), the authors identified the combination of unresolved attachment, parenting alliance, and

TABLE 2
Mother–Father Correlations of Parenting Stress Index Domains and Parenting Alliance

	Mothers				Fathers			
	PD	PCD	DC	PAM	PD	PCD	DC	PAM
Parent distress (PD)—mothers	–							
Parent child dysfunctional interaction (PCD)—mothers	.60	–						
Difficult child (DC)—mothers	.38	.49	–					
Parenting alliance measure (PAM)—mothers	−.29	−.16	−.25	–				
Parent distress (PD)—fathers	.12	.22	.31	−.12	–			
Parent child dysfunctional interaction (PCD)—fathers	.04	.09	.15	.07	.52	–		
Difficult child (DC)—fathers	.06	.08	.48	−.26	.46	.56	–	
Parent alliance measure (PAM)—fathers	−.28	−.14	−.22	.52	−.29	−.12	−.44	–
M	22.40	19.60	22.40	84.80	22.30	19.40	22.10	87.10
SD	5.30	5.32	5.14	6.60	5.12	5.02	6.02	5.29

Note. Regression coefficients were interpreted based on the effect size: values of .10, .30, and .50 represent small, moderate, and large effect sizes, respectively.

TABLE 3
Multivariate Regression Models: Fit Indices of Parent Distress (PD), Parent/Child Dysfunctional Interaction (PCD), and Difficult Child (DC) Domains

	Mothers R^2			Fathers R^2				
	PD	PCD	DC	PD	PCD	DC	TCD	BIC
Model 0—Null model								1894.17
Model 1—Unresolved (U)	.07	.09	.00	.07	.10	.01	.29	1983.13
Model 2—U + alliance (PAM)	.13	.10	.05	.16	.13	.18	.53	2601.64
Model 3—U × PAM	.18	.28	.11	.18	.13	.18	.67	3051.42
Model 4—Insecure	.03	.04	.00	.00	.02	.00	.09	2030.47
Model 5—Insecure + PAM	.10	.06	.06	.08	.03	.17	.39	2650.89
Model 6—Insecure × PAM	.11	.08	.06	.10	.13	.18	.48	3138.75
Model 3b[a]	.18	.28	.11	.17	.13	.18	.66	2834.44

Note. TCD refers to the total coefficient of determination and BIC to the Bayesian information criterion.
[a]Model 3b is equal to Model 3 with interaction terms for mothers only.

their interaction (for mothers only) as the best model for predicting parenting stress, explaining 66% of the variance of the data (see Model 3b, Table 3 TCD = .66, BIC = 2834.44, $n = 100$). This best fitting model so identified is depicted in Figure 1. In Table 4, parameters estimating the contribution of each of the relevant predictors derived from the comparison of the models are reported. By doing this, the direction of the effects and the contribution of each predictor to the parenting stress dimensions investigated were clarified.

Unresolved attachment. Unresolved attachment was found to be a significant predictor of stress, explaining 29% of the variance in the data (see Table 3, Model 1).

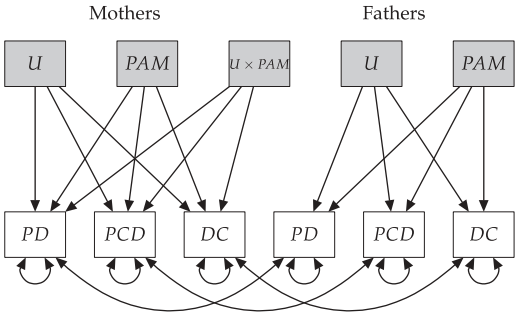

FIGURE 1

Model 3b: gray squares represent predictor variables and white squares the outcome variables. U = unresolved attachment; PAM = parenting alliance measure; U × PAM = interaction term; PD = parent distress; PCD = parent/child dysfunctional interaction; DC = difficult child; one side arrows represent direct effects, and two side arrows represent residual variance/covariance.

Specifically, for both mothers and fathers, unresolved attachment positively predicted stress pertaining to the perception of the relationship as difficult to handle (see Table 4, PCD interaction domain $B = 3.65$, $SE = 1.67$, $p = .03$ for mothers; PCD, $B = 3.79$, $SE = 1.61$, $p = .02$ for fathers) and, to a lesser extent, of stress pertaining to the parental role itself (parental distress domain, $B = 3.13$, $SE = 1.66$, $p = .06$ for mothers; PD, $B = 3.23$, $SE = 1.66$, $p = .05$ for fathers).

The additive role of parenting alliance. When introducing the parenting alliance variable, the variance explained increased from TCD = .29 to TCD = .53 (see Model 2, Table 3, $n = 100$). Specifically, parenting alliance was negatively associated with parenting stress via an additive effect in all domains but one (PCD interaction). For mothers parenting alliance decreased levels of stress in the PD domain ($B = -.20$, $SE = 11$, $p = .05$), and for fathers it decreased levels of stress in both the PD and DC domains (respectively, $B = -.31$, $SE = 12$, $p = .01$ and $B = -.47$, $SE = .13$, $p < .001$).

Unresolved attachment and parenting alliance, interaction effects. When the interaction term was added, statistically significant effects were found for mothers in the parent–child dysfunctional interaction domain (PCD, $B = -0.86$, $SE = .24$, $p < .001$, see Figure 2) and, to a lesser extent, in the DC domain (DC, $B = -.48$, $SE = .23$, $p = .04$, see Figure 3). Conversely, no significant interaction effect was found for fathers. The graphical representation of the interaction effects (Fox, 2003) allowed detection of mothers with an unresolved attachment state of mind as more susceptible to the influence of parenting alliance, for better and for worse. This was especially true for the parent child dysfunctional interaction domain (Figure 2); conversely, for the DC domain (Figure 3), the interaction effect was smaller, as can be determined both from parameter estimates (see Table 3) and from the graphical representation.

TABLE 4
Parameter Estimates of Multivariate Regression Models: Unresolved Attachment (U) and Parenting Alliance (PAM) Effects on Stress in the Parent Distress (PD), Parent/Child Dysfunctional Interaction (PCD), and Difficult Child (DC) Domains

	Unresolved Attachment (U)						Parenting Alliance (PAM)						U × PAM					
	Mothers			Fathers			Mothers			Fathers			Mothers			Fathers		
Predictors	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Independent variable: unresolved attachment																		
PD	3.13	1.66	.06	3.23	1.66	.05												
PCD	3.65	1.67	.03	3.79	1.61	.02												
DC	.42	1.48	.78	1.45	1.78	.41												
Independent variables: unresolved attachment + parenting alliance																		
PD	2.85	1.62	.80	3.48	1.58	.03	−.21	1.06	.05	−.31	.12	.01						
PCD	3.95	1.66	.41	3.99	1.59	.01	−.10	.11	.36	−.15	.13	.23						
DC	1.77	1.64	.28	1.77	1.64	.28	−.16	.10	.10	−.47	.13	.00						
Independent variables: unresolved attachment × parenting alliance																		
PD	38.49	21.03	.07	−24.39	29.59	.41	−.11	.12	.33	−.39	.14	.01	−.42	.25	.09	.32	.34	.35
PCD	75.03	19.69	.00	3.91	29.89	.89	.09	.11	.42	−.15	.14	−.27	−.86	.23	.00	.01	.34	.99
DC	40.25	19.02	.03	6.19	30.08	.84	−.06	.11	.69	−.46	.14	.01	−.48	.23	.04	−.05	.34	.89

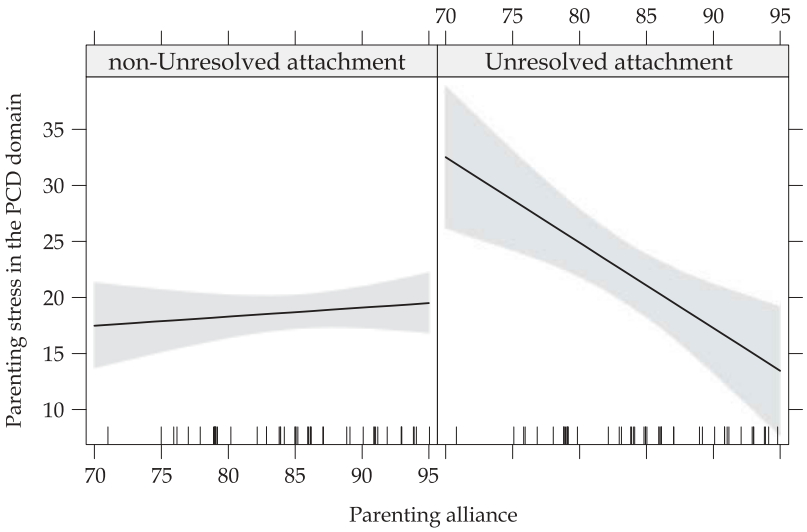

FIGURE 2
PAM × U interaction on parent/child dysfunctional interaction domain. Gray-colored area represents confidence bands around fitted effects (Fox, 2003).

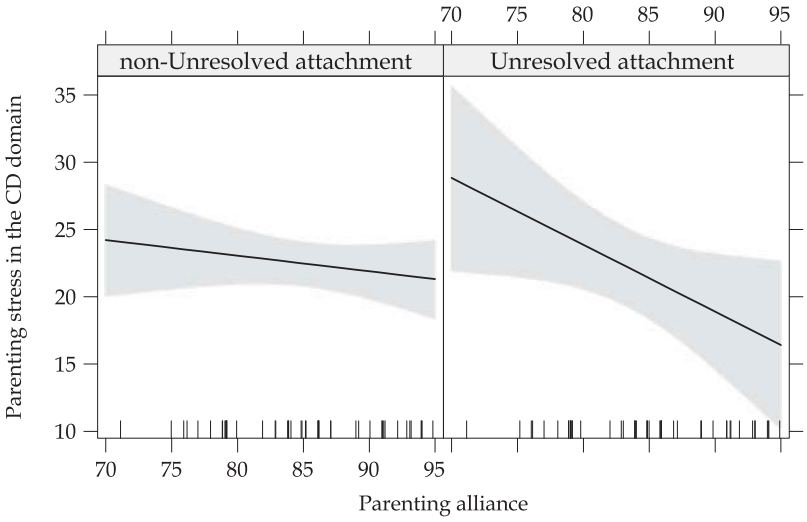

FIGURE 3
PAM × U interaction on difficult child domain. Gray-colored area represents confidence bands around fitted effects (Fox, 2003).

DISCUSSION

The current study aimed to analyze the contributions of an individual and a dyadic variable (i.e., attachment states of mind and parenting alliance) to stress experienced in the role of providing care in the context of adoption. Adoptive parents were the focus

because they have been considered as potentially more at risk for stress during child-drearing, as they are faced with additional tasks, such as the mutual adaptation with a child from at-risk contexts (Dozier & Rutter, 2008; Lionetti, Pastore, & Barone, 2015). The regression models that were computed and compared allowed for selection among a set of candidate predictors those variables explaining the most variance in stress experienced by parents. The models that best fit the data were, for mothers, the additive and interactive roles of unresolved attachment and parenting alliance and, for fathers, the additive role of attachment and alliance with no interaction effect.

Hypotheses

The first hypothesis, that insecure and/or unresolved attachment patterns would increase stress, was partially confirmed, suggesting that in the present sample it was mainly the unresolved rather than the insecure attachment category that was associated with parental stress. This was true for both parents in the specific stress dimension of perceived quality of parent–child interaction. These results support the notion of unresolved attachment as a specific risk factor in the caregiving context when compared with the insecure attachment category (Barone et al., 2014; Obsuth, Hennighausen, Brumariu, & Lyons-Ruth, 2014; Solomon & George, 2011). The results that were obtained are only partially consistent with a previous study involving biological mothers, in which observed (but not self-reported, as in the present study) levels of stress were higher for mothers classified as unresolved (Busch et al., 2008). In Busch et al.'s study (2008), unresolved mothers showed more stress in their behavior as rated by external observers, but for self-report questionnaire, they did not report higher levels of stress. The absence of data along parenting stress dimensions from Busch et al.'s study, however, prevents a more detailed comparison. It can hypothesized that, because adoptive parents have been found to be more used to staying in contact with health services from the pre-adoption period (Juffer & van IJzendoorn, 2005), they may feel more confident about reporting stress experienced in their parental role, allowing for the detection of the influence of the unresolved category even at a self-reported level. An alternative explanation might be that adoptive parents in the sample actually experienced more parenting stress. Only studies comparing the same pathways in biological and adoptive families might sustain or disconfirm this explanation.

The second hypothesis, that variation in stress would be better explained by simultaneously taking into account individual and dyadic components, was confirmed. The current experience between partners may, therefore, indeed represent an important moderating factor, helping parents to "heal old wounds or open new ones" (George, 2009, p. 105). It contributes, along with attachment states of mind, to adjustment to the task of parenting. The data showed that individual vulnerability (as indicated by an unresolved attachment state of mind) and the dyadic variable of alliance between partners have a considerable impact on perceived stress in both mothers and fathers, although in somewhat different ways.

Specifically, data from analysis of the third hypothesis, that attachment interacts with alliance, showed that for mothers—but not for fathers—higher levels of alliance with their partner interacted with an unresolved state of mind to decrease levels of self-perceived stress. If having an unresolved attachment state of mind increases parenting stress, higher levels of alliance with one's partner could buffer against it. Fathers, therefore, play a protective role, moderating the stress experienced by mothers with an

unresolved state of mind. Conversely, resolved mothers seem to be less susceptible to different levels of parenting alliance as perceived by their partner, suggesting a sort of differential susceptibility to the individual—environment interaction (Belsky & Pluess, 2009). If only the main effects had been looked only at, there would not have been any significant result found for the role of alliance in the maternal stress domain of the perceived quality of the parent–child relationship. It becomes clear how relevant it is to address the individual—environment interaction that, if inadequately examined, may conceal the role of an environmental variable (as with parenting alliance for mothers) on assessed parenting stress (see also Bakermans-Kranenburg & van IJzendoorn, 2015). For fathers, both unresolved attachment and low levels of alliance, additively best explained a greater degree of variance in higher levels of stress, as discussed above in relation to hypothesis two. However, compared to mothers, no interaction effect between the predictor variables was identified, partially disconfirming the third hypothesis (pertaining to the moderating role of the dyadic variable under inquiry) for fathers. It was speculated that the perceived alliance has a different relevance for mothers and fathers. (It is important to know that in the present sample, mothers, but not fathers, took parental leave after the adoption, and they were most involved in the child's daily activities). More moderating variables (such as social support; Huth-Bocks & Hughes, 2008) need to be explored because they may account for some gender differences. Given the relative paucity of research involving fathers in the attachment field, the authors hope that these data will emphasize the need to involve both parents when family adjustment is addressed and then eventually include both parents in intervention programs (Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2008; Ramchandani & Iles, 2014).

Limitations and Future Directions

First, the numbers of mothers and fathers with an unresolved attachment state of mind were relatively small. Even if the prevalence of unresolved attachment in the present study is in line with normative data and constitutes an expected portion of the sample size for this attachment classification, the generalizability of the results should be considered with caution, especially for interaction effects: A larger sample would be required for reaching a more statistically definitive conclusion about the interaction between attachment states of mind and alliance. A second limitation is the exclusive use of a self-report procedure to investigate parenting stress. Although the parenting-stress index is an extensively validated questionnaire, the simultaneous use of an observational procedure may result to be a suitable way for obtaining further information about difficulties and stressful feelings displayed by parents in their interaction with their children. Next, though the individual and dyadic predictors analyzed ensued from several sources of parenting literature, it is to be determined if the results pertaining parenting stress are specific to the adoption context. Finally, the purpose of the current article was mainly to identify what increases parental stress by investigating parent-related variables, but other possible dimensions pertaining to the child should be considered jointly in future work.

In spite of these limitations, the use of the AAI with both parents was one of the strengths of the current study, and the hope is that the previous work will take a step further toward understanding what contributes to parenting stress in caregiving by extending previous studies that identified the unresolved attachment state of mind as a specific risk factor both for high and low-risk mothers biologically related to their

children (e.g. Barone et al., 2014; Lyons-Ruth & Jacobvitz, 2008). It is expected that these results will contribute to the further understanding of the mechanisms involved in the process of providing care, and the authors hope that the data will further promote the discussion between researchers and practitioners working in the parenting field.

IMPLICATIONS FOR THEORY AND PRACTICE

The present study further stressed the role of the parents' unresolved attachment as a pivotal risk factor in childrearing, also within adoptive families. In addition, some practical implications emerge from the study. First, attachment theory represents a worthwhile framework for investigating different typologies of parenting, thanks to its set of reliable assessment instruments for identifying protective and risk factors in childrearing. Second, facing the multifaceted construct of stress in parenting implies an accurate consideration of several variables, such as couple adjustment and attachment states of mind. Finally, the separate and cumulative effects of mothers and fathers' psychological functioning have to be taken into account to properly assess family adjustment and plan effective programs to sustain parents in their caregiving. The outcome we envision is the identification of factors that can be quickly detected with reliable procedures to enable the development of tailored programs (Juffer et al., 2008; Steele & Steele, 2014) to support parents sensitively in the caregiving task. By preventing high levels of parenting stress, a parents' well-being may not only be sustained, but also promoting children's subsequent social-emotional adjustment because the emotional and relational qualities of the environment that a child lives in during the first years of life could have long-standing impacts on development, even in non-biologically related families.

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