

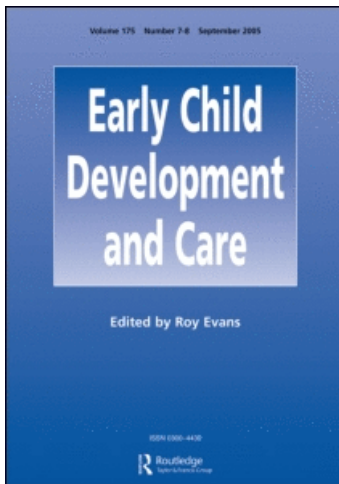
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# Predicting preschoolers' attachment security from fathers' involvement, internal working models, and use of social support

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Associations between preschoolers' attachment security, fathers' involvement (i.e. parenting behaviors and consistency) and fathering context (i.e. fathers' internal working models (IWMs) and use of social support) were examined in a subsample of 102 fathers, taken from a larger sample of 235 culturally diverse US families. The authors' predicted that fathers' involvement would mediate associations between children's attachment security and less proximal fathering context. Fathers completed questionnaires regarding their parenting behaviors, IWMs of adult relationships, their use of social support, and an attachment Q-list to assess their preschoolers' attachment security. Fathers' involvement mediated the relationship between fathering context and children's attachment security. Findings support an ecological view of children's attachment security within a multilayered system.

**Keywords:** *Attachment relationships; Child attachment security; Fathers' involvement; Social support*

Over the past three decades, an increased interest in understanding the roles and experience of fathers has grown within several scholarly disciplines (e.g. developmental psychology, sociology, public policy). In addition, roles within families have changed in association with women's increased participation in higher education and the labor force, men's declining wages and the rise in the number of dual-earner

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households. Men's increased role in childrearing coupled with women's participation in the workforce have required adults to carefully consider how best to manage work and parental responsibilities (Cabrera *et al.*, 1999; Marsiglio *et al.*, 2000). To keep pace with these changes, it is important for researchers to reconsider men's contributions to child outcomes, such as attachment security, within contemporary family contexts that utilize co-parenting strategies and social support.

### Definitions of father involvement

Cultural views and societal expectations of parenting roles often reflect changes occurring within families and the division of family responsibilities (Pleck, 1997). Contemporary two-parent (biological and blended) families as well as single-parent households place adult males within fathering contexts that typically require them to assume some, or all, parental responsibilities. In two-parent families, fathers' primary responsibilities have moved beyond the traditional roles of breadwinner and disciplinarian to include more direct physical care (Gerson, 1993; Coltrane, 1996). As fathering has evolved, researchers have attempted to examine the salient aspects of that experience, focusing on the amount of father involvement (quantity of time), sometimes with the benefit of longitudinal data (e.g. Hofferth *et al.*, 1997; Grossmann *et al.*, 2002), the level of involvement associated with children's ages (Yeung *et al.*, 2001; Wood & Repetti, 2004), barriers to involvement due to nonresidential status (Bruce & Fox, 1999), and maternal influences (Beitel & Parke, 1998; Allen & Hawkins, 1999; McBride *et al.*, 2005). Thus, a significant body of scholarly work has emerged on father involvement and fathers' influences on children's development (review: Tamis-LeMonda & Cabrera, 2002).

Scholars have also focused on the types and quality of father involvement that demonstrate the multidimensional nature of fathering (Lamb, 1997; Pleck, 1997). These dimensions include: cognitive and affective aspects (Palkovitz, 1997), social constructions of fathering roles (Marsiglio *et al.*, 2000), generative fathering and identity (Hawkins & Dollahite, 1997; Rane & McBride, 2000), and social capital perspectives (Amato, 1998). Lamb *et al.* (1987) proposed a model of three primary dimensions of father involvement: (1) *Engagement* during caretaking, play and leisure activities, (2) *Availability* of fathers to their children, and (3) *Responsibility* in which fathers directly manage, organize, and plan for their children's welfare and care. Attachment theory also provides another relevant approach to examining fathers' perceptions of their relationships with their children and the pathways through which father involvement influences children's development.

### Father involvement and children's attachment

Bowlby proposed a 'monotropy principle' (1958, 1969/1982) in which an infant shows a strong genetic bias toward focusing their attachment behaviors toward a single, primary caregiver (typically the mother), and will consistently exhibit a strong preference for that particular individual when distressed. However, during the first year, most

infants ordinarily become attached to one or more other individuals with whom they frequently interact—even if their interactions do typically not involve feeding or other needs-based caregiving. Thus attachment hierarchies develop, that include fathers and other family members (Bowlby, 1969/1982). Fathers have typically been associated with a secondary level of attachment relationships. However, recent studies have shown that fathers who participate in caregiving are more sensitive with their infants (Feldman, 2000; Roggman *et al.*, 2002), who in turn are found to be more securely attached to their fathers (Caldera, 2004). In addition, father responsiveness and sensitivity to their infants' behavior and their ability to engage their infants in dyadic interactions are associated with emotion regulation (Crockenberg & Leerkes, 2000).

Some scholars, including Bowlby (1969/1982), suggest that fathers and mothers may contribute in different but complementary ways to children's social, emotional and personality development (Caldera, 2004). Researchers have found that fathers' engage in more play than caregiving during infancy (Yogman, 1981) and the preschool period (Grossmann *et al.*, 2002); this finding is consistent in numerous cross-cultural studies (see review in Lamb, 2002). Though fathers are capable of providing sensitive and responsive infant care, they tend to be more involved as their toddlers' become more autonomous (Lamb, 1997, 2002).

Securely attached preschoolers continue to use their attachment figures as a secure base, however, parenting behaviors that accommodate preschoolers' growing autonomy and desire for greater exploration while providing encouragement and reassurance and also promoting secure attachment (Bretherton *et al.*, 2005). Paquette (2004, p. 193) described the emotional bond between fathers and children as an 'activation relationship' which develops primarily through physical play. This contrasts with the mother-child emotional bond in which mothers provide calming and comfort to children in times of distress. Paquette suggested that fathers' propensity for more active, physical play, and their tendency to encourage risk-taking while providing children with a sense of safety and security, encourages the development of obedience and competition skills in children. Volling *et al.* (2002) observed an association between fathers' highly arousing or stimulating play situations, and its effect on children's emotion regulation. Grossman *et al.*'s (2002) findings from their longitudinal study of German families suggest that fathers' role as an attachment figure during the preschool years may be 'to provide security through sensitive and challenging support as a companion when the child's exploratory system is aroused, thereby complementing the secure base-role of the mother as an attachment figure' (p. 311). In the context of Bowlby's view of attachment as a balance between attachment and exploratory behaviors (1979), Grossman *et al.* suggest that paternal play sensitivity and support are essential components that complement maternal caregiving sensitivity.

### **Contextual influences on parenting: adult attachment and social support**

Studies of adult attachment and parenting behaviors indicate that adult internal working models (IWMs) and attachment styles are associated with parenting behaviors in theoretically predictable ways. Generally, these studies have shown that parents with

secure internal models of relationships with their parents show more warmth and positive engagement with their children compared with insecure parents (e.g. Crowell & Feldman, 1988; Cohn *et al.*, 1992) and fathers who recall secure relationships with their parents are more sensitive and involved with their children (Cowan *et al.*, 1996). Grossman *et al.* (2002) also reported that fathers' caregiving quality was related to their own IWMs of attachment. More specifically, 'fathers who valued attachment relationships were found to be more sensitive, supportive, and appropriately challenging during play with their toddlers,' (p. 324). Other researchers have attributed stability of fathers' play sensitivity to relatively stable attachment relationships (Carlson & Sroufe, 1995; Thompson, 2000). Rholes *et al.* (1997) found that compared to securely attached individuals, insecurely attached individuals (avoidant or anxious) anticipated being easily aggravated by young children, advocated stricter disciplinary practices, were less confident in their perceived ability to relate to their future children, and expected to convey less warmth. Simpson (1999) reported that compared to secure- and insecure-anxious attachment styles, insecure-avoidant individuals anticipated less satisfaction from caring for young children. More distal social relationships (e.g. social support from extended family, friends, and religious organizations) may also facilitate positive father involvement and father-child attachment (Roggman *et al.*, 2002).

### Co-parenting and shared childrearing beliefs

Positive features of the couple relationship (e.g. supportive communication and marital satisfaction) appear to enhance fathers' daily involvement with their children (Coley & Chase-Lansdale, 1999) and fathers' positive involvement has been associated with mothers' attitudes and beliefs about fathering (Allen & Hawkin, 1999; Matta & Knudson-Martin, 2006). Bretherton *et al.* (2005) suggest that bidirectional influences are likely 'in which good marital relations foster positive father involvement, and helpful father involvement, in turn, fosters good marital relations' (p. 248). Positive marital relationships have also been found to be predictive of children's secure attachment and fathers' psychosocial health and self-development (Byng-Hall, 2002; Palkovitz, 2002).

Maccoby *et al.* (1990) defined co-parenting as how mothers and fathers either support or undermine one another in their mutual parenting roles. Co-parenting, which is distinct from individual parenting style, can be measured on two dimensions: supportiveness and intrusiveness, and appears to be a proximal link accounting for the impact of the marital relationship on parenting (McHale & Alberts, 2003). Both co-parenting and the quality of the marital relationship contribute to the quality of the parent-child relationship (Floyd *et al.*, 1998; Caldera & Lindsey, 2006). Lindsey *et al.* (2005) found that parents with similar childrearing beliefs were likely to be more supportive of one another's parenting, and fathers tended to be more supportive in co-parenting than mothers. These findings suggest that the nature of dyadic and triadic relationships within the family is important for understanding preschoolers' attachment security.

## Study purpose

This study contributes to the growing literature on father involvement by examining fathers' parenting behaviors as a mediator between their IWMs of attachment, use of social support, and preschoolers' attachment security. Specifically, this study explored:

- (1) how fathering context, specifically fathers' attachment to others (parents and romantic partner) and use of social support (from friends, family and spiritual sources) were related to parenting behaviors,
- (2) how parenting and co-parenting were related,
- (3) how fathering context is related to children's attachment security, and
- (4) whether fathers' parenting behaviors mediated associations between fathering context and children's attachment security.

## Methods

### *Participants*

Participants were 102 fathers of preschoolers between the ages of two and five (51.3% males, 48.7% females). Two data collection sites were used: a rural community in the Midwestern USA, and a suburban, culturally diverse community in the Southwestern USA. Of the combined samples, approximately 61% were Caucasian, 24% Hispanic, 12% African-American, and 3% reported 'other' ethnicities. Participants' reported annual family incomes in the following categories: <\$20,000 annually (7%), \$20,000–\$40,000 (20%), \$40,000–\$65,000 (37%) and >\$65,000 (36%). Participants' educational backgrounds also varied considerably, within the following categories: some or completed high school (21%), some college or a four-year degree (64%), and graduate or professional degree (15%). Approximately, 76% of families were two-parent households, 19% were mother- or father-only households, and 5% indicated that the child was living with relatives or adoptive parents. In all cases, the responding parent or guardian currently lived with the child at least part time.

### *Procedures*

Research assistants recruited parents of preschool-age children within local communities who were willing to complete a questionnaire regarding family activities and relationships. Parents were asked to report on only one child even if other preschoolers resided in the home. Questionnaires were administered in the participants' homes by research assistants. Only father responses were used in this study.

### *Measures*

*Adult attachment scale.* Participants completed an adapted version of the Adult Attachment Scale (AAS) (Simpson *et al.*, 1992) based on three attachment vignettes

originated by Hazan and Shaver (1987). For this study, the Simpson *et al.* (1992) measure, containing 13 items, was expanded to 39 items asking respondents to rate their feelings toward: (1) their romantic partner or spouse, (2) their mother, and (3) their father (i.e. 13 items per relationship) using a five-point Likert response scale ranging from 1 = 'strongly disagree' to 5 = 'strongly agree.' Sample items from this adapted version included: 'I rarely worry about being abandoned by my romantic partner/spouse,' 'I'm not very comfortable having my mother depend on me,' or 'I find it difficult to trust my father.' Higher scores represented greater attachment security within each relationship. Separate scores for romantic partner/spouse, mother, and father were computed with reliability coefficients ranging from .88 to .96.

*Use of social support.* Parents rated 14 statements regarding their use of various types of social support from family members, friends, and faith-based activities or beliefs with a five-point response scale ranging from 1 = 'never' to 5 = 'always.' Items were extracted from the Family Crises Oriented Personal Evaluation Scales (FCOPES) (McCubbin & Patterson, 1981; McCubbin *et al.*, 1991). Separate scores were computed for use of social support in three areas: (1) Family support (five items, alpha = .75, e.g. 'When there is a problem, do you talk about it with relatives?'); (2) Friend support (five items, alpha = .73, e.g. 'When there is a problem, do you ask for encouragement or support from friends?'); and (3) Faith-based support (four items, alpha = .83, e.g. 'When there is a problem, do you ask for advice from a minister, a pastor, or spiritual advisor?').

*Parenting behaviors.* Parenting items assessed father involvement, parenting techniques, and co-parenting techniques. Collapsing these items into a total parenting scale was not warranted given the unique parenting features being measured; therefore, separate scales were constructed for: (1) father physical play, (2) consistency of parenting, (3) consistency of co-parenting, and (4) co-parenting behaviors. In addition, individual items were retained for data analysis purposes when they measured unique constructs such as discipline techniques or specific types of play.

Father physical play was measured using an adapted version of the engagement items in the national Early Head Start Research and Evaluation Project (see Cabrera *et al.* 2004). For the 10 items measuring physical, exploratory, or active play items, participants were asked: 'How many times per week do you get a chance to do each of the following activities with your preschool child?' Respondents rated the items on a six-point response scale ranging from 1 = 'rarely' to 6 = '5+ times per week.' A physical play scale was constructed by computing the average level of involvement across items which included: playing pretend games, playing outdoor games, playing blocks, playing with sand, water, dirt, or snow, helping the child with large motor activities such as bikes or slides, rough housing with the child, building or fixing something together (real or pretend), doing art activities together, dancing together, and teasing or joking with the child to get him/her to laugh. The alpha for

this scale was .83. Individual items were also examined for hypothesized associations with attachment security, based on past research.

Parenting and co-parenting consistency were assessed with two scales, and items were rated on a five-point Likert scale. The first scale measured individual parenting consistency from day to day, using averaged responses to two items: 'In general, I tend to discipline my child using the same standards and guidelines from day-to-day'; and 'In general, I tend to discipline my child using the same techniques from day-to-day (time-out, spanking, removing privileges, etc.)' ( $\alpha = .73$ ). The second scale measured consistency of co-parenting using averaged responses to two items: 'In general, my partner and I tend to discipline our child using the same standards and guidelines'; and 'In general, my partner and I tend to discipline our child using the same techniques (time-out, spanking, removing privileges, etc.)' ( $\alpha = .80$ ).

Co-parenting techniques were measured with three items rated on a five-point Likert scale. Items included: 'When managing the household demands, my spouse (or romantic partner) and I usually parent and manage the house by... *sharing tasks or responsibilities/doing them together, ... taking turns with household responsibilities and parenting, ...and... giving each other a temporary break from responsibilities when necessary.*' An average response was computed across these three items, with a scale alpha of .74.

Parents' use of spanking was measured with one item: 'I spank my child at least once per week,' rated on a five-point Likert scale. This item was reverse coded for further analysis, such that higher scores represented 'rare use of spanking.'

*Child's attachment security.* The Attachment Q-Sort (AQS) (Waters & Deane, 1985) measures children's secure-based behaviours in their home environments by assessing a range of behaviours believed to reflect 'the smooth organization of, and appropriate balance between proximity seeking and exploration' (Posada *et al.*, 1995, p. 306). Typically, a Q-list, which is adapted from the Q-Sort, is sent to parents a week in advance of the Q-Sort administration to allow time for reflection on their children's behaviors. In this study, a short form Q-list consisting of 62 items was embedded within the survey instrument, and parents were asked to rate each item on a three-point response scale ranging from 1 = 'not like my child' to 3 = 'like my child.' The reliability coefficient for child attachment behaviors computed from the 62-item adapted Q-list was .80, with higher scores indicating greater child attachment security.

### *Data analysis plan*

All data were collected and coded separately for the two data collection sites. The data sets were compared on predictor and outcome variables, and no statistically significant differences were found. Given the relatively modest individual sample sizes, both data sets were combined for all further analysis in order to increase the power and the representativeness of the sample. In addition, potential group



differences for demographic variables (e.g. fathers' income and ethnicity) were examined for each predictor and outcome variable, and there were no statistically significant differences found. Therefore, demographic variables were not included as covariates in further analyses.

Parenting behaviors were examined as a mediator between fathering context and children's attachment security, following the procedures described by Barron and Kenny (1986). Pearson correlation and multiple regression analyses were conducted to test the following relationships: (1) prediction from the independent variables (fathers' IWMs and use of social support) to the mediators (parenting behaviors including father physical play, father consistency, co-parent consistency, rare spanking, and co-parenting behaviors), (2) prediction from the independent variables to the dependent variable (child attachment security), and (3) prediction from the independent variables to the dependent variable, controlling for the mediating variables (parenting behaviors). In a perfect mediating model 'the independent variable has no effect when the mediator is controlled' (Barron & Kenny, 1986, p. 1177).

## Results

### *Descriptive statistics*

Means, standard deviations, and inter-correlations are presented in Table 1. All scaled scores shown are averages across items within that scale. The average scale scores for fathers' IWM's were relatively high, with the highest mean being fathers' IWM of romantic partner; many fathers reported secure attachments within each relationship type (i.e. mother, father, partner). The average scale scores for social support were noticeably lower, suggesting that fathers do not always use the types of social support measured on this scale. These fathers relied most on family support. For physical play, fathers reported engaging in the types of active, physical, exploratory play measured on this scale about two to three times per week, and reported rough housing with their child three to four times per week. Parent and co-parent consistency scores tended to be quite high; fathers reported that they almost always use the same standards and techniques from day to day, and generally use the same standards and techniques as their parenting partner. Most fathers reported that they did not spank their preschooler once per week or more, although there was some variability for this item. Fathers generally agreed that they co-parent by sharing tasks, taking turns, or giving each other breaks in parenting. Average Q-list scores were quite high indicating that fathers' reported that their preschoolers demonstrated behaviors indicative of secure attachment.

### *Correlation coefficients*

Table 1 shows the intercorrelations between fathering context, physical play, co-parenting consistency and behaviors, and child attachment security. There were moderate, positive intercorrelations among fathers' IWMs, with the IWMs of fathers'

Table 1. Descriptive statistics and correlations

Parent variable	Mean	SD	Fathering context (variables 1-6)														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. IWM partner	4.52	.46	—	.39**	.35**	.15	.03	.18	.14	.21*	.12	.14	.17	.34**	.23*	.14	.37**
2. IWM mother	4.22	.61	—	.59**	.32**	.08	.04	.04	.07	.09	.10	.01	.01	.11	-.10	.21*	.11
3. IWM father	3.96	.86	—	—	.18	.10	.08	-.06	-.06	-.03	-.03	.03	.01	.15	.10	.10	.15
4. Family support	2.84	.71	—	—	—	.39**	.16	.18	.18	.16	.33**	.02	.10	-.08	-.04	.10	.14
5. Friend support	2.08	.66	—	—	—	.44**	.16	.44**	.37**	.20*	.27**	.22*	.01	-.22*	.13	-.01	-.05
6. Faith support	2.66	1.00	—	—	—	—	—	—	.17	.09	.09	.14	-.04	.12	.02	.08	.16
7. Active play	3.60	1.01	—	—	—	—	—	—	—	.58**	.68**	.61**	.17	.09	.26**	-.09	.15
8. Rough housing	4.76	1.37	—	—	—	—	—	—	—	—	.46**	.22*	.23*	.29**	.13	.00	.30**
9. Pretend	3.60	1.66	—	—	—	—	—	—	—	—	—	.24*	.05	.04	.12	.05	.26**
10. Build/fix	3.02	1.49	—	—	—	—	—	—	—	—	—	—	.09	.06	.30**	-.08	.18
11. Parent consistency	4.55	.67	—	—	—	—	—	—	—	—	—	—	—	.33**	.28**	-.03	.28**
12. Co-parent consistency	4.36	.85	—	—	—	—	—	—	—	—	—	—	—	—	.27*	.19	.33**
13. Co-parent behaviors	3.72	1.58	—	—	—	—	—	—	—	—	—	—	—	—	—	.03	.21*
14. Rare spanking	3.68	1.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	.26*
15. Child security	2.39	.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

\* $p < .05$ , \*\* $p < .01$

own parents being the most strongly correlated. There were also small to moderate intercorrelations among the social support scales, and among father physical play and co-parenting variables.

Research Q1 examined how fathering context, specifically fathers' IWMs of parents and romantic partner and use of social support, were related to parenting behaviors. Results indicate small to moderate positive associations of IWMs of romantic partner with father rough housing, co-parenting consistency and co-parenting behaviors. Associations of IWMs of mother and father with parenting variables tended to be small and non-significant, with the exception that fathers' IWMs of mother was positively related to fathers' rare use of spanking. Social support variables (family, friend, and spiritual) also had small to moderate associations with parenting variables. Friend support was most strongly related to all physical play variables, but was negatively related to co-parent consistency.

Research Q2 examined the extent to which fathers' parenting consistency and physical play would be related to co-parenting. As expected, there were small to moderate associations between co-parenting (consistency and behaviors) and fathers' consistency and physical play. Specifically, fathers' consistency was moderately related to both co-parenting consistency and behaviors. Rough housing was also related to co-parent consistency and father involvement in physical play and 'build or fix-it games' were related to co-parenting behaviors.

Research Q3 examined the relations between fathering context and children's attachment security. Findings shown in Table 1 indicate mostly small correlations between fathers' contextual variables and child attachment security. The strongest and only statistically significant correlation was between fathers' IWMs of romantic partner and child attachment security; small non-significant positive correlations of fathers' IWMs of parents with child attachment security were also observed. Friend support was weakly and negatively correlated with child attachment security, while the other social support scales were positively related to attachment security (although these were non-significant coefficients).

Research Q4 examined fathers' parenting and co-parenting behaviors as a mediator between fathering context and children's attachment security. Table 1 also shows small to moderate positive correlations between parenting behaviors and child attachment security, and all but two of these correlations were statistically significant. The strongest associations were between child attachment security and rough housing and co-parent consistency. In order to fully answer Research Q4, regression analysis was used to test the mediating effect of fathering on child attachment.

### *Regression analyses*

Following procedures outlined by Barron and Kenny (1986), three sets of regressions were run to determine if parenting behaviors mediated associations between fathers' IWMs and their use of social support with child attachment security. To create the most parsimonious and predictive model while minimising problems with colinearity, the number of predictors in the model was limited. Based on theory, past

research, and preliminary analyses, friend social support and fathers' IWM of romantic partner and mother were included in the model as independent variables, while rough housing play, parent and co-parent consistency, rare use of spanking, and co-parenting behaviors were included as mediators. Only the final model is presented in Figure 1, while intermediary steps are discussed next. Figure 1 shows the final path analysis model constructed from a series of regressions that were run to test the effects of fathering context on fathering behaviors, the effect of fathering context on child attachment security, and the effects of fathering context when controlling for fathering and co-parenting behaviors. *F*-values and significance levels are shown above each dependent variable for each regression, and Beta weights and significance levels are shown for each path. As shown in the path model, a series of regressions tested the prediction from fathering context to fathering and co-parenting behaviors, and all of those models were statistically significant (see Figure 1). Fathering context (IWM mother, IWM romantic partner, friend support) did predict child attachment security ( $F = 5.58, p = .001$ ), but the only significant predictor in the model was IWM romantic partner ( $\beta = .40, t = 3.89, p = .000$ , not shown in final model). Fathering and co-parenting behaviors also uniquely predicted child attachment security ( $F = 5.46, p = .001$ ), with the strongest fathering predictors being rare spanking and rough housing play (not shown). Lastly, the mediators were included in a stepwise model predicting child attachment security from: Step 1 fathering context and Step 2 context while controlling for parenting. In the final model, IWM of romantic partner remained a unique predictor of child attachment security, even while controlling for fathers' play, discipline, and co-parenting, suggesting that parenting does not completely mediate associations between context and child attachment security. However, rough housing play remained a statistically significant unique predictor of attachment security while controlling for fathering context, and the path coefficient was higher than that for fathers' rare spanking, consistency, and co-parenting consistency and behaviors, suggesting that father play adds unique predictive power when predicting preschooler attachment security.

## Discussion

This study complements previous research on fathers' influence on young children's attachment security. Specifically, we examined relations between contextual parenting variables (fathers' IWMs and social support), specific parenting behaviors, and co-parenting. In addition, we tested proximal parenting behaviors as a mediator between fathers' social support, IWMs and their preschooler's attachment security. Our findings suggest that fathers' IWMs and use of some types of social support were related to parenting and co-parenting behaviors, and these in turn were predictive of child attachment security. Father play, consistency and discipline were related to co-parenting consistency and behaviors, indicating inter-relatedness between fathering and co-parenting. Fathers' IWM of partner was predictive of child attachment security, and remained so, even when controlling for parenting behaviors (although the

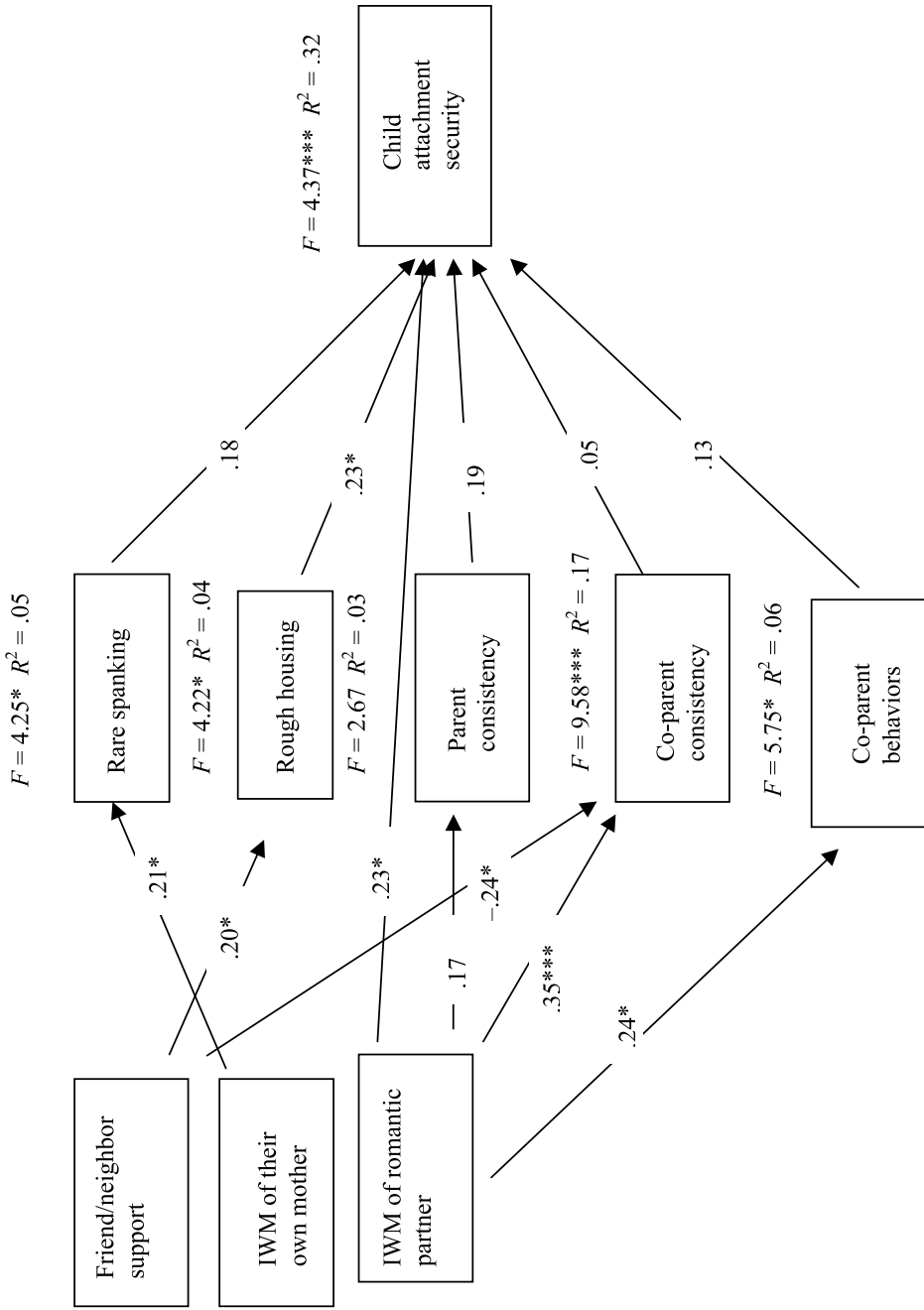


Figure 1. Path analysis showing fathering and co-parenting behaviors as mediators between fathering context and child attachment security. Note:  $*p < .05$ ,  $**p < .01$ ,  $***p < .001$

predictive power decreased when parenting was included in the model, suggesting mediation through parenting). Several parenting and co-parenting factors were related to child attachment security, but when they were included together with fathering context, only one fathering variable, rough housing, remained as a significant predictor of child attachment security. Thus, rough housing play was more predictive of child attachment security than were father sensitivity (non-physical punishment) and consistency. This is consistent with Paquette's (2004) notion that the bond between father and child develops through physical play.

These findings are also consistent with Byng-Hall's (2002) premise of a secure family base, in which the child(ren) and parents all have access to emotional support which leads to felt security for each family member. Fathers who are secure in close relationships, particularly with their partner, are more likely to use consistent and responsive parenting practices including active play involvement with their preschoolers (Belsky, 1999; Coley & Chase-Lansdale, 1999; Simpson, 1999; Frosch *et al.*, 2000). In this study, fathers with more secure IWMs of their mothers, and who utilised family support, were more likely to be involved with their preschooler and were less likely to use physical punishment as a discipline strategy, suggesting that their felt security is important for maintaining positive father-child relationships. Fathers' use of friend support was also found to be related to a number of father involvement activities, but was negatively related to co-parenting consistency. This warrants further investigation as to how and why fathers' friends may support father-child involvement, but not co-parent consistency. It may be that father reliance on friend support hinders closeness and consistency with their parenting partner. Associations between fathers' IWM of partners, co-parenting, and child attachment security are in line with previous research which suggests that marital relationship quality predicts co-parenting consistency and child attachment security (Bretherton *et al.*, 2005).

Father physical play, parenting consistency, and co-parenting seem to operate in conjunction with one another as proximal processes which benefit the father-child attachment relationship. Even so, rough housing emerged as a unique predictor of child attachment security, above and beyond other parenting and co-parenting behaviors. These results suggest that fathers' physical play involvement provides a unique contribution to young children's attachment security (Bowlby, 1969/1982; Grossmann *et al.*, 2002; Paquette, 2004; Bretherton *et al.*, 2005).

The strengths of this study include the use of a diverse (i.e. income, education levels, and ethnicity) non-clinical sample of fathers from two-parent and single-parent households and from two distinct regions in the USA. We measured several family process and contextual variables which have been theoretically linked to children's attachment security, and in some cases previously tested empirically. Despite these strengths, the study has several limitations. The sample, though diverse on a number of indicators, was relatively small when compared to the number of US families with preschoolers. Further studies with larger father samples from other countries as well as from the USA would help determine whether the results of this study were replicable.

Limitations associated with data collection include the measurement of all variables via a questionnaire. The current measure of adult attachment may not fully capture the complexity of adult IWMs. Interviews with fathers could facilitate more candid and richer information regarding their history of attachment relationships, parenting beliefs, behaviors and co-parenting. Given the potential importance of specific types of father activities in supporting children's attachment security, the development and testing of reliable and valid measures of physically active or arousing types of play is warranted. Direct observation of fathers' physical play with preschoolers might also yield more in-depth knowledge of how father-child activities, parenting techniques and behaviours affect young children's attachment security. Further studies could expand on this work by triangulating measures and including interviews with mothers and fathers as well as observational data. Gathering data on multiple proximal and context variables would be useful to better understand functional family systems that support children's attachment within a secure family base.

Findings from this study may be useful for practitioners who work in early childhood education and community agencies that serve parents and children, particularly agencies focused on fostering father involvement. Parent education, modeling, or mentoring from father educators or other family professionals should include: (1) the acknowledgment of the important contribution fathers make to their children's attachment security, (2) the encouragement of shared father-child activities and non-punitive forms of guidance, (3) Parenting consistency, and (4) the establishment or reinforcement of co-parenting behaviors. Our study findings suggest that the support of father involvement in physical play activities, co-parenting consistency and behaviors, and non-punitive forms of guidance foster young children's attachment security. Yet, just as importantly, our findings call into question parenting interventions that focus solely on parenting behaviors without taking into account parent gender and the context in which parenting occurs (e.g. the quality of the marital relationship, and support from sources such as family and friends).

Practitioners who address fathers' well being, particularly the quality of the marital or partner relationship, will likely capture more of the family ecology responsible for children's attachment security. Parenting context within individual families could include the availability or use of social support as another indirect but potentially important influence on fathers' involvement, particularly in father-only families. Mothers might also benefit from understanding the importance of supporting fathers' involvement as a benefit not only to father-child relationships, but also to the marital relationship. Facilitating supportive, responsive interactions among fathers, mothers, and children will likely sustain or help create secure relationships among all family members.

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