

FATHER-CHILD ATTACHMENT STABILITY: MODERATING EFFECTS OF PATERNAL
DEPRESSIVE SYMPTOMS AND STRESSFUL LIFE EXPERIENCES

by

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(Under the Direction of Geoffrey Brown)

ABSTRACT

This study examined paternal depressive symptoms and life stress as moderators of father-child attachment stability from one to three years of age. Fathers reported depressive symptoms and negative life events when their child was 13 months old. Father-child attachment security was assessed observationally when children were 13 months and three years old. Father-child attachment relationships were generally stable, but this stability was moderated by depression and life stress. Specifically, analyses revealed highly stable attachment relationships when fathers experienced higher levels of depressive symptoms and more negative life events. However, there was some instability in the relationship for fathers who reported lower depressive symptoms and negative life events, particularly for those dyads characterized by early insecure attachment. These results provide evidence that both paternal depressive symptoms and paternal life stress affect the stability of early father-child attachment and indicate the need for further study to discern more specific pathways.

INDEX WORDS: fathers, attachment, depression, life stress, stability,

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

Decades of theoretical and empirical literature on attachment have shown that the quality of children's early relationships with caregivers can have serious implications for many domains of development as well as later relationships into adulthood (Bowlby, 1969). Children who develop secure attachments to their caregivers are more likely to be independent, self-reliant, have better impulse control and more positive peer relationships, are more likely to set and reach high personal goals, and are more empathetic in close relationships (Sroufe, Carlson, & Shulman, 1993). Although attachment theory and research has long privileged the mother-child relationship and its implications for infant development, attachment research has more recently begun to include fathers (see Bretherton, 2010 for review). This research has revealed that father-child attachment has unique consequences for multiple aspects of children's socio-emotional development. Although the correlates of father-child attachment remain under-examined compared to mothers, this initial generation of research has begun to illuminate some of the factors contributing to secure father-child attachment relationships (e.g., Brown, McBride, Shin, & Bost, 2007; Grossmann et al., 2002).

However, despite a myriad of evidence suggesting that father-child relationships may develop and change across the first several years of the child's life (e.g., Brown, Mangelsdorf, & Neff, 2012), research to date has not examined predictors of stability and change in father-child attachment relationships. The present study will build upon past research by examining the extent to which a) paternal depressive symptoms, and b) fathers' stressful life experiences are

related to stability and change in father-child attachment for children from one to three years of age.

Father-Child Attachment

Despite Bowlby's focus on the mother as primary caregiver, research suggests that secure father-child attachment relationships uniquely predict a number of positive child outcomes. For example, researchers have found that children with more secure attachment relationships with their fathers are more likely to have higher levels of sociability, whereas those who are insecurely attached to their fathers exhibit more behavior problems (Lamb, Hwang, Frodi, & Frodi, 1982; Sagi, Lamb, & Gardner, 1986; Verschueren & Marcoen, 1999). Additionally, father-child attachment and interactions (especially with boys) appear to have implications for peer relationships in early and middle childhood, with children of positively engaged fathers demonstrating greater popularity, better peer sociability, and higher levels of intellectual competence (MacDonald & Parke, 1984). Indeed, it has been suggested that fathers' unique interactional styles allow children the opportunity to learn social communication, both in terms of interpreting and practicing emotion regulation and affect expression and contributing to better peer relationships (MacDonald & Parke, 1984). Additionally, secure infant-father attachment has been directly linked to better peer sociability in preschool (Youngblade, Park, & Belsky, 1993). Overall, research indicates that the effects of father-child attachment on child development are strong, both independent of and in conjunction with the mother-child attachment relationship (Lamb, 2002).

In light of the importance of a secure father-child attachment relationship for children's socio-emotional development, researchers have also begun to examine the mechanisms responsible for the development of this relationship. While there is some overlap in the

predictors of secure attachment relationships between children and their mothers and fathers, the more specific processes underlying father-child attachment may be unique. An emerging body of research has begun to elucidate some of these determinants of father-child attachment security, finding the predictors to include adaptive fathering behavior (e.g., sensitivity, father involvement, sensitivity in stimulating play; e.g., Brown et al., 2007; Grossman et al., 2002; Palm, 2014), belief in the importance of the paternal role (e.g., Wong, Mangelsdorf, Brown, Neff, & Schoppe-Sullivan, 2009), and high-quality inter-parental relationships (e.g., marital satisfaction, coparenting; e.g., Belsky, Gilstrap, & Rovine, 1984; Brown, Schoppe-Sullivan, Mangelsdorf, & Neff, 2010; Frosch, Mangelsdorf, & McHale, 2000; Lundy, 2002; Owen & Cox, 1997). Despite this body of work, research to date has generally considered father-child attachment security to be static, with very little research examining whether the quality of the father-child attachment relationship in infancy persists across the childhood years (see Brown et al., 2012 for one exception). Additionally, no studies have yet examined the predictors of stability and/or change in father-child attachment over time. Examining possible changes in father-child attachment, and the factors contributing to these changes, is crucial to a greater understanding of this important family relationship.

General Stability in Attachment

Although attachment relationships, both with mothers and fathers, are often conceptualized as persisting across the lifecourse, Bowlby (1969) himself suggested that these relationships can be malleable and susceptible to change under certain circumstances. Bowlby asserted that, based on early attachment relationships, children internalize information that serves as a guide for both interpreting and planning behaviors within social interaction and relationships, conceptualizing this as the internal working model. This model structures the

child's view of themselves and of others, serving as a set of expectations for all future relationships, guiding how interactions are understood and patterned. Barring any major changes to the environment or to partners in the attachment dyad, these internalized expectations of interaction typically go unchallenged, and the child's attachment classification or security level remains relatively stable (Bowlby, 1969). However, when there are substantial changes in the environment, these expectations may be challenged, resulting in a potential change in attachment classification. Building on Bowlby's original ideas, there have been several studies over the past decades that have more closely examined some of these variables that may cause instability in the attachment relationship, including socio-emotional stress, parental negative life events and disrupted mental status, tumultuous environments, and poor family functioning over time (e.g., Van Ryzin, Carlson, & Sroufe, 2011; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000; Weinfield, Sroufe, & Egeland, 2000).

There is reason to believe that the early childhood years may be particularly vulnerable to change in the attachment relationship. As children grow from toddlerhood to the preschool years, they make both cognitive and socio-emotional developmental gains. Their enhanced abilities in perspective taking and symbolism, as well as their ever-expanding social world, all have the potential to alter their attachment relationships and the ways that they interact with their environment (Cicchetti, Cummings, Greenberg, & Marvin, 1990). Despite these developmental changes, there are relatively few studies examining the stability of parent-child attachment over this short period of time, with the majority examining changes in the attachment relationship from infancy to adolescence or adulthood (e.g., Hamilton, 2000; Van Ryzin et al., 2011; Waters et al., 2000; Weinfield et al., 2000). However, those that have examined attachment continuity during this time period demonstrated the possible instability of attachment in high risk samples,

showing instances of change in attachment security levels in children between 12 and 18 months old (Edwards, Eiden, & Leonard, 2004) and two and three years old (Jacobsen, Ivarsson, Wentzel-Larsen, Smith, & Moe, 2014). Even so, attachment security in these samples was generally stable overall (Edwards et al., 2004; Jacobsen et al., 2014). In examining a normative sample, others have found significant instability in the infant-father attachment relationship specifically, examining attachment between 13 and 20 months of age (Belsky, Campbell, Cohn, & Moore, 1996). As evidenced by this study, children's relationships with their fathers also undergo changes throughout early childhood, as fathers begin to interact with their children in different ways as they develop (e.g., MacDonald & Parke, 1986; Planalp & Braungart-Rieker, 2016). While some researchers report that overall father involvement also increases throughout the early childhood years, the relationship continues to be strongly influenced by contextual factors and the father's belief in his role (e.g., Planalp & Braungart-Rieker, 2016; Planalp, Braungart-Rieker, Lickenbrock, & Zentall, 2013; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001).

Nonetheless, mirroring the broader attachment literature, there is a lack of focus on the stability of the father-child attachment relationship specifically. Given the relatively discretionary nature of fathers' (compared to mothers') parenting roles, and the tendency of even highly involved fathers to withdraw from children's lives when faced with challenging circumstances (e.g., Brown, McBride, Bost, & Shin, 2011), it seems particularly important to understand what factors might represent shifts in the environment of father-child relationships, promoting continuity and discontinuity. This is especially salient during the early childhood period, when even normative father-child relationships experience many changes. Further, a large body of evidence now suggests that fathers who are highly involved in early childhood are

likely to maintain high-quality relationships with their children throughout childhood (e.g., Flouri & Buchanan, 2003; Roberts, Block, & Block, 1984). Thus, it is essential to elucidate which intrapersonal and contextual factors may lead to steady father-child relationship functioning across the early childhood years, and which factors may alter this relationship, for better or for worse, from infancy to early childhood. Two potentially important variables that might lead to disruptions in the early father-child attachment relationship are paternal depressive symptoms and stressful life experiences. The implications of these variables for father-child attachment stability are reviewed in the sections below.

Paternal Depressive Symptoms

Recent investigations have documented postpartum depression in fathers and its negative consequences for child and family functioning (Fletcher, Feeman, Garfield, & Vimpani, 2011; Ramchandani, Stein, Evans, & O'Connor, 2005). In the early years of development, children with fathers who exhibit higher levels of depressive symptoms have shown greater emotional, behavioral, and conduct problems and overall poorer outcomes (Fletcher et al., 2011; Ramchandani et al., 2005; Smith, Eryigit-Madzwamuse, & Barnes, 2013). Additionally, these results have been documented when controlling for maternal depression, indicating the unique contribution early paternal depression can have on children's psychological well-being, including lower prosocial behavior, greater hyperactivity, and higher overall behavioral difficulty (Fletcher et al., 2011).

Aside from the effects of paternal depressive symptoms on child development, the effects of paternal depression on father-child interactions have also been examined in limited studies. Although the direct effects of paternal depressive symptoms on the father-child attachment relationship have not been studied, their impact on several predictors of father-child attachment

security has been established. Past work has shown that depressive symptoms can affect fathers' parenting behavior in both sensitive and playful interactions (e.g., McElwain & Volling, 1999). Further, depressed fathers may be less likely to engage directly with their children and more likely to withdraw from them (e.g., Gutierrez-Galve, Stein, Hanington, Heron, & Ramchandani, 2015; Zaslow, 1985). Additionally, paternal depression has been shown to negatively affect marital quality (Gutierrez-Galve et al., 2015), which in turn impacts the parent-child attachment relationship, especially for fathers (e.g., Frosch et al., 2000; Owen & Cox, 1997). Fathers experiencing depressed mood may also interact less overall with their infants, in terms of proximity, engagement, and vocalization, than those who are not depressed (Zaslow, 1985). Overall, however, data on the magnitude of the association between paternal depressive symptoms and father-child attachment predictors is decidedly mixed, with some studies finding few differences in the amount and type of interactions between depressed and non-depressed fathers (Field, Hossain, & Malphurs, 1999). In contrast to this lack of clarity in the fatherhood literature, maternal depression has consistently been associated with insecure mother-child attachment through pathways such as decreased sensitivity and increased hostility (e.g., Grieg & Howe, 2001; Hopkins, Gouze, & Lavigne, 2013; Martins & Gaffan, 2000). Based on what is known about paternal depression and the predictors of father-child attachment, it is possible that father-child attachment would be affected in similar ways.

In terms of attachment stability, caregiver depression may represent a possible shift in the child's environment that could cause changes in the attachment relationship. Although stability of the father-child attachment relationship has not been examined in the context of paternal depression specifically, maternal depression has been linked to changes from secure to insecure attachment in children between infancy and young adulthood (Weinfield et al., 2000), as well as

the stability of an insecure attachment in children between 12 and 18 months (Edwards et al., 2004). This relationship is again framed as a possible consequence of depression affecting the mother's ability to respond sensitively to her child's needs – a necessary prerequisite for attachment security. Although the link between sensitivity and attachment is weaker among fathers than mothers (Lucassen et al., 2011), paternal sensitivity remains an important predictor of attachment security (e.g., Brown et al., 2007, 2012). Even among securely attached father-child dyads, depression may have deleterious effects on parenting that may be reflected in changes in the attachment relationship over time. For dyads that are initially insecure, depressive symptoms may make it difficult or impossible for fathers to improve the quality of their interactions with young children, hence resulting in greater stability of this insecure attachment.

Paternal Stressful Life Experiences

Potentially stressful life events have also been shown to affect the parent-child relationship, child development, and parent-child attachment. Stressors affecting fathers specifically, such as economic hardship or changes in employment, may have negative consequences for the father-child relationship. Broad economic hardship has been linked to anxiety in both mothers and fathers, leading to low marital support, as perceived by fathers, and poorer parenting (Leinonen, Solantus, & Punamäki, 2002). Given the link between marital quality and father-child attachment (e.g., Frosch et al., 2000), the stress of economic problems may also disrupt the formation or continuation of a father-child attachment relationship. In addition to poor parenting, father's anxiety as a result of financial stress has been linked to less involvement and more withdrawn, punitive parenting (Leinonen et al., 2002). Changes in employment, for both mothers and fathers, may also create stress within the family with effects that bleed over to father-child relationships (e.g., Norman, Eliot, & Fagan, 2014; Radin &

Harold-Goldsmith, 1989). While these negative, potentially stressful life events have not been linked specifically to father-child attachment, higher maternal life stress has been associated with more insecure attachment in infants (Coyl, Roggman, & Newland, 2002). Given the ways in which common life stressors such as job changes and economic hardship can affect father-child relationships and involvement, as well as working to increase paternal anxiety, it is likely that the cumulative effect of numerous negative or stressful life events would also negatively impact father-child attachment.

Even stronger is the relationship between parental life stress and the stability of the attachment relationship. High levels of parental stress have been linked to the stability of insecure attachment, such that children who exhibited early insecure attachments to caregivers were more likely to remain insecurely attached later in life when parents experienced high levels of stress (Hamilton, 2000; Van Ryzin et al., 2011). Early insecure attachment has also been associated with change in attachment classification in the absence of high life stress. One study found that insecurely attached individuals in infancy were less likely to remain insecurely attached later in life if they had experienced few negative life events (Hamilton, 2000). When examining four different trajectories of security from infancy to adolescence, those individuals who were able to successfully move from insecure to secure attachment were also those who aggregately experienced the fewest number of negative life events (Hamilton, 2000). A similar finding indicates that children who moved from insecure attachment in infancy to secure attachment in adulthood were less likely to have been maltreated than those who remained stably insecure (Weinfield et al., 2000).

Other findings reveal the association between stress and instability of early secure attachment, in terms of moving from secure attachment to insecure attachment. Stress or

negative life events experienced particularly by mothers has been found to change the attachment classification from secure to insecure during the period between infancy and adulthood (Waters et al., 2000). Conversely, some researchers have found a correlation between high stress levels and the stability of a secure attachment relationship, rather than instability in this relationship. In these cases, secure attachment in infancy appears to act as a protective factor against the negative life events for children and caregivers, making the parent-child relationship more resilient under stressful conditions (Hamilton, 2000). As documented by this limited research, the relationship between parental (or maternal) stress and attachment relationship stability is extremely complicated and can follow many different paths. It is important to note that the majority of these findings are in regard to maternal stress. The extent to which paternal life stress or negative life events affect stability and change in children's attachment relationships with their fathers remains an open question.

Present Study

The present study is intended to elucidate the predictors of continuity and discontinuity in father-child attachment relationships from one to three years of age. Specifically, the following research questions will be examined: 1) To what extent is the father-child attachment relationship stable across this time period?, 2) Is stability in attachment moderated by paternal depressive symptoms?, and 3) Is stability in attachment moderated by the number of father's stressful life experiences?

CHAPTER 2

METHODS

Participants

Father-child dyads took part in two phases of a longitudinal study of family development when the child was approximately 13 months (Time 1) and three years (Time 2) of age. All fathers were married to the child's biological mother at both timepoints. Only participants completing attachment measures at both timepoints ($N = 67$) were used for analyses, with the final sample consisting of 33 girls, 34 boys, and their fathers.

Fathers were predominantly European-American (80.0%), with African American (9.0%) and Latino (7.0%) being the next most common ethnicities. Annual family income ranged from less than \$10,000 to over \$100,000; mean family income was between \$61,000 - \$70,000 at both timepoints. In general, fathers were highly educated, with 83.2% of fathers at Time 1 and 85.3% of fathers at Time 2 possessing at least a college degree. Fathers' work hours ranged from zero hours to over 50 hours per week at both timepoints, with an average of 31-40 hours per week at Time 1 and 41-50 hours per week at Time 2.

Procedure

At Time 1, fathers and their children were scheduled for a laboratory visit that lasted approximately 30 minutes in which they completed an observational assessment of attachment quality. Prior to this visit, fathers were asked to complete survey measures of paternal depressive symptoms and salient life events. Approximately two years later, father-child dyads were visited

in the home for approximately 90 minutes. During this visit, an observational assessment of attachment was completed and videotaped for later coding.

Measures

Attachment security at time 1. When children were 13 months of age, father-child attachment security was assessed in the laboratory by the standard Strange Situation Procedure (Ainsworth, Blehar, Waters, & Wall, 1978). Attachment quality was coded from videos following Ainsworth et al.'s procedures (1978). In brief, infants who use the father as a secure base from which to explore and who are distressed by their father's departure but comforted by his return are classified as securely attached (Group B). Infants classified as insecure-avoidant (Group A) appear unaffected by their father's departure and tend to avoid their father upon his return. Infants classified as insecure-resistant (Group C) are thoroughly distressed by separations and not easily soothed upon their father's return, often exhibiting angry and/or ambivalent behavior. The disorganized classification (Group D) (e.g., Main & Solomon, 1986) generally describes children who have no coherent attachment strategy. Tapes were coded by two trained coders, double coding 88% of tapes. Agreement on major classification categories was 96%, with a Cohen's kappa of .93. All discrepancies were resolved by conferencing.

Attachment security at time 2. When the child was three years old, the Attachment Behavior Q-Set (AQS; Waters, 1987) was used to measure attachment security. The AQS is made up of 90 statements about a child's behavior during interaction with a caregiver (i.e., "easily comforted by adult" or "distressed by separation"). The items were developed to characterize the child's use of the caregiver as a secure base for exploration and as a safe haven when distressed, which constitute the criteria for determining attachment security.

The AQS was completed by trained coders after watching a videotaped interaction that took place during the home visit. Observation periods lasted about 90 minutes. This included a 15-minute structured play session followed by approximately 45 minutes of naturalistic observation during which father and child were allowed to interact freely. During this time, mothers were isolated in a separate room and engaged in another task. Additionally, families were observed in a 15-minute semi-structured triadic interaction (a building task with “Lincoln Logs”) with both mother and father present. Finally, children were observed during a 15-minute competing demands task in which they were left alone while their parents completed a questionnaire. Episodes were designed based on work by van Ijzendoorn, Carolus, Bakermans-Kranenburg, and Riksen-Walraven suggesting that the AQS is valid with relatively short observation periods, especially if different types of structured and/or semi-structured tasks are built into the observations (2004).

Observers sorted AQS items into nine categories on a continuum from “least descriptive” (1) to “most descriptive” (9) of the child’s behavior with respect to his or her father. Sorts were based on a nine-category square distribution (i.e., 9 categories with 10 items each), with the score for each item being the category in which it was placed. To generate attachment security scores, the Q-set description of each child was correlated with a description of the prototypical “very securely attached” child. This process yielded a continuous attachment score for each father-child dyad. Coders were trained to a criterion of .70 before sorting the AQS items independently. Coders double coded 35% of tapes, and all major discrepancies were resolved through conferencing. After correlating each observer’s sort with the criterion sort, the correlation between coders’ security scores was .78.

Paternal depressive symptoms. During the Time 1 laboratory visit, fathers also completed a shortened version of the Beck Depression Inventory (BDI; Beck, 1978). The BDI is a widely used, self-report measure of depressive symptomatology. Fathers completed 14 items of the BDI, each including four statements describing moods and attitudes experienced in the past week. Each item is rated on a Likert scale ranging zero to three (i.e., “I do not feel sad” to “I am so sad and unhappy that I can’t stand it”). The measure is scored by totaling the ratings for each response. Cronbach’s alpha for this measure was .88.

Stressful life experiences. As a measure of negative or stressful life experiences, fathers also completed a modified version of the Life Experiences Survey at Time 1 (LES; Sarason, Johnson, & Siegel, 1978). Fathers indicated which of a list of 39 life events they had experienced over the past two years, whether they considered each event to be “good” or “bad,” and what effect the event had on their life, ranging from no effect to great effect. Types of experiences included in the measure were health events of the individual or close family members, changes in job or financial status, changes in the relationship with their spouse, and several others. Participants were also given the opportunity to include other events they considered significant that were not listed as part of the survey, and to provide an overall assessment of their current life situation, ranging from very bad to very good.

Scoring of the LES yields the number of experiences considered to be “good” and “bad,” as well as weighted scores of positive and negative events, taking into account the perceived impact of each event on the individual’s life. The weighted number of negative life events was used in analyses for this study. Test-retest reliability of the LES weighted negative scores has been reported at .56 and .88 when measured at 5 to 6-week intervals (Sarason et al., 1978).

CHAPTER 3

RESULTS

Based on the research questions, two separate, three-step regression models were used to analyze the association between three-year father-child attachment security and a) 13-month father-child attachment security, b) paternal depressive symptoms and c) paternal negative life events.

Preliminary Analyses

See Table 1 for full list of primary variable descriptive statistics. The first measure of attachment security, the Strange Situation Procedure, resulted in group classifications as follows: 65.7 % were securely attached, 5.9 % were classified as insecure-avoidant, 14.7 % were insecure-resistant, and 13.7% disorganized. Given that research questions were not examining differences between the “insecure” (A, C, D) categories, data were analyzed in terms of “secure” (B) vs. “insecure” (A, C, D) classifications, dummy coded as 1 and 0, respectively. The mean attachment security score at Time 2 was .29, which is similar to scores in normative samples (van Ijzendoorn et al., 2004; see Table 1). Overall depressive symptom scores for fathers were low, as nearly 40% of fathers reported that they had experienced none of the depressive symptoms included in the measure. The number and impact of negative life experiences were also low in this sample. Again, nearly 40% of fathers reported experiencing no life events they perceived as negative in the previous two years (see Table 1).

Prior to testing each model containing the primary variables, bivariate correlations were also conducted between the primary variables and several potential predictors of three-year

attachment security (see Table 2). Specifically, father's hours spent at work, family income, father's education, and child's gender were tested using bivariate correlations. The literature has consistently established a link between father's work hours and involvement with children, which in turn affects the father-child attachment relationship (e.g., Linnenberg, 2012; Tanaka & Waldfoge, 2007). Additionally, the attachment relationship, as well as its predictors and progression, has been associated with SES, which is made up of variables including family income and father's education. Specifically, sensitivity has been challenged as a strong predictor of attachment security in lower income families (e.g., Nievar & Becker, 2008), and income may also be a direct predictor of attachment security, such that lower income is related to more insecure parent-child attachment relationships (e.g., Rawatlal, Pillay, & Kliewer, 2015). Child's gender has also been linked to parent-child attachment predictors. For example, the coparenting relationship may have a stronger effect on attachment with sons rather than with daughters (Brown et al, 2010). Additionally, attachment-related outcomes are also affected by child gender, as demonstrated by the fact that a secure father-child attachment is associated with better peer relation outcomes for boys than for girls (e.g., MacDonald & Parke, 1984). Analyses revealed none of these variables to be significantly associated with either measure of attachment security (see Table 2), and thus they were not included as control variables in the final models.

Bivariate correlations also revealed that father-child attachment security at Time 1 was significantly correlated to attachment security at Time 2 (see Table 2). Additionally, paternal depressive symptoms and negative life events were significantly correlated to each other, indicating potential overlap in their effects on attachment stability (see Table 2). Paternal depressive symptoms were not significantly correlated with either measure of attachment

security, and paternal negative life events were only significantly correlated with 13-month father-child attachment security (see Table 2).

Regression Analyses

To test for main and interactive effects, three-step regressions were conducted in two distinct models. The first step of each regression equation included only 13-month attachment security, the independent variable, which significantly predicted three-year attachment security in both. This indicates overall stability of father-child attachment from ages one to three (see Tables 3 and 4). In each model, either paternal depressive symptoms or paternal negative life events, the possible moderating variables, were entered on the second step. To examine moderating effects, the product of the independent variable and each moderating variable was entered on the third step of each model. Prior to analyses, all variables were centered using deviation scores.

The first regression equation, including paternal depressive symptoms, revealed that depressive symptom scores alone did not significantly predict three-year attachment security (see Table 3, Step 2). Step 3 of this equation, the interaction term (13-month attachment x depressive symptoms), significantly ($p = .004$) predicted three-year attachment security, indicating paternal depressive symptoms as a significant moderator of father-child attachment security stability between 13 months and three years (see Table 3). The predictors included in this model also accounted for a substantial amount of the total variance in father-child attachment security scores at three years ($R^2 = 0.29$).

The second regression equation, examining fathers' negative life events as a predicting variable, revealed that fathers' weighted negative life events alone did not predict three-year attachment security (see Table 4 Step 2). However, the interaction term (13-month attachment x

paternal negative life events) approached significance ($p = .09$) as a moderator of father-child attachment security stability between 13 months and three years (see Table 4). The predictors included in this model accounted for 22% of the the total variance in the dependent variable.

Post-hoc probing was conducted according to Aiken and West (1991). Resulting graphs depicting the interaction of 13-month attachment security and paternal depressive symptoms (Figure 1) and paternal negative life events (Figure 2) are shown below. These follow-up analyses reveal high stability of father-child attachment security when paternal depressive symptoms were high, and low stability when paternal depressive symptoms were low. Furthermore, father-child dyads characterized by high paternal depressive symptoms and initial insecure attachment fared the worst, as indicated by high stability of insecure attachment (see Figure 1). Conversely, father-child dyads characterized by low paternal depressive symptoms and initial insecure attachment appear to have increased security levels by three years of age. Those dyads characterized by initial secure attachment maintained higher security regardless of depressive symptoms in fathers (see Figure 1).

The second set of follow-up analyses show that for dyads characterized by a low number of paternal stressful life events, initial attachment security has little effect on later attachment security (see Figure 2). Both initially secure and insecure groups appear to fair equally well. However, in dyads with a higher number of paternal negative life events, attachment security levels appear to be extremely stable, with secure dyads remaining highly secure, and insecure dyads remaining significantly less secure (see Figure 2).

Table 1.*Descriptive Statistics of Primary Variables*

Variable	Mean	Standard Deviation	Range
13-Month Father-Child Attachment Security	.67	.47	0.0 – 1.0
3-Year Father-Child Attachment Security	.29	.28	-.51 – .69
Paternal Depressive Symptoms	2.33	3.47	0.0 – 19.0
Paternal Negative Life Events	3.62	4.57	0.0 – 20.0

Table 2.*Bivariate Correlations between Primary Variables and Selected Demographic Variables*

	1	2	3	4	5	6	7	8	9	10
1. 13-Month Attachment Security										
2. 3-Year Attachment Security	.45**									
3. Paternal Depressive Symptoms	.15	.04								
4. Paternal Negative Life Events	.30*	.23	.38**							
5. Time 1 Family Income	-.03	-.01	-.05	.08						
6. Time 1 Father's Work Hours	-.04	-.16	-.00	-.01	.22*					
7. Time 1 Father's Education	.18	.03	-.04	.17	.37**	.01				
8. Time 2 Family Income	-.05	.00	-.27*	-.06	.83**	.07	.38**			
9. Time 2 Father's Work Hours	-.01	-.02	.14	.23	.11	.73**	.20	-.00		
10. Time 2 Father's Education	.25	-.02	-.08	-.03	.30*	.15	.88**	.31*	.26*	
11. Child's Gender	-.11	-.19	.03	-.18	-.08	.23*	-.16	-.03	.24	-.02

* $p < .05$. ** $p < .01$

Table 3.

Predicting 3-year Father-Child Attachment Security from 13-month Attachment Security and Paternal Depressive Symptoms

Independent Variable	<i>B</i>	<i>SE B</i>	β	ΔR^2	<i>F</i> Change
Step 1					
13-month Attachment Security	.24	.07	.40	.16	10.71***
Step 2					
13-month Attachment Security	.24	.07	.41		
Paternal Depressive Symptoms	-.00	.01	-.04	.00	.10
Step 3					
13-month Attachment Security	.29	.07	.50		
Paternal Depressive Symptoms	-.02	.01	-.34		
13-month Attachment Security x Paternal Depressive Symptoms	.09	.03	.46	.12	9.28***

n=57

p*<.10. *p*<.05. ****p*<.01.

Table 4.

Predicting 3-year Father-Child Attachment Security from 13-month Attachment Security and Paternal Negative Life Events

Independent Variable	<i>B</i>	<i>SE B</i>	β	ΔR^2	<i>F</i> Change
Step 1					
13-month Attachment Security	.19	.09	.36	.13	4.32**
Step 2					
13-month Attachment Security	.18	.10	.32		
Paternal Negative Life Events	.01	.02	.08	.01	.18
Step 3					
13-month Attachment Security	.27	.11	.48		
Paternal Negative Life Events	-.00	.02	-.01		
13-month Attachment Security x Paternal Negative Life Events	.06	.04	.33	.09	3.15*

n=32

**p*<.10. ** *p*<.05.

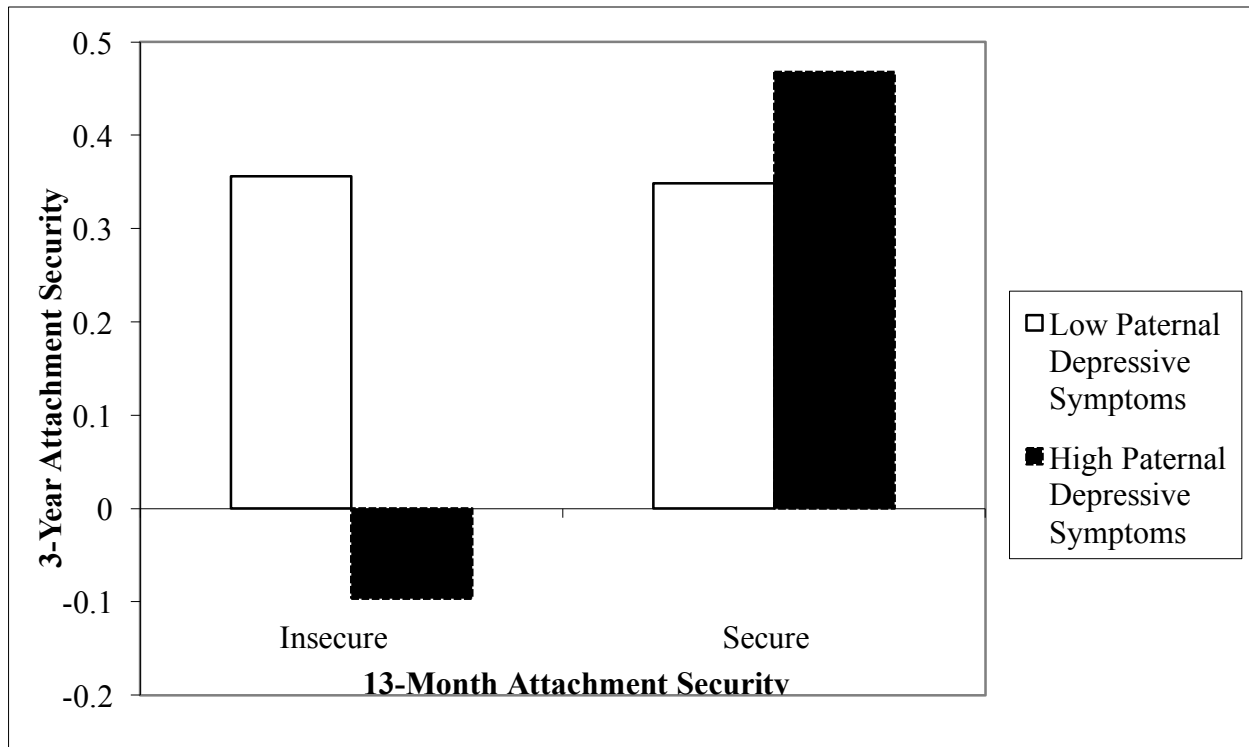


Figure 1. Associations between 13-month attachment security and 3-year attachment security as a function of paternal depressive symptoms.

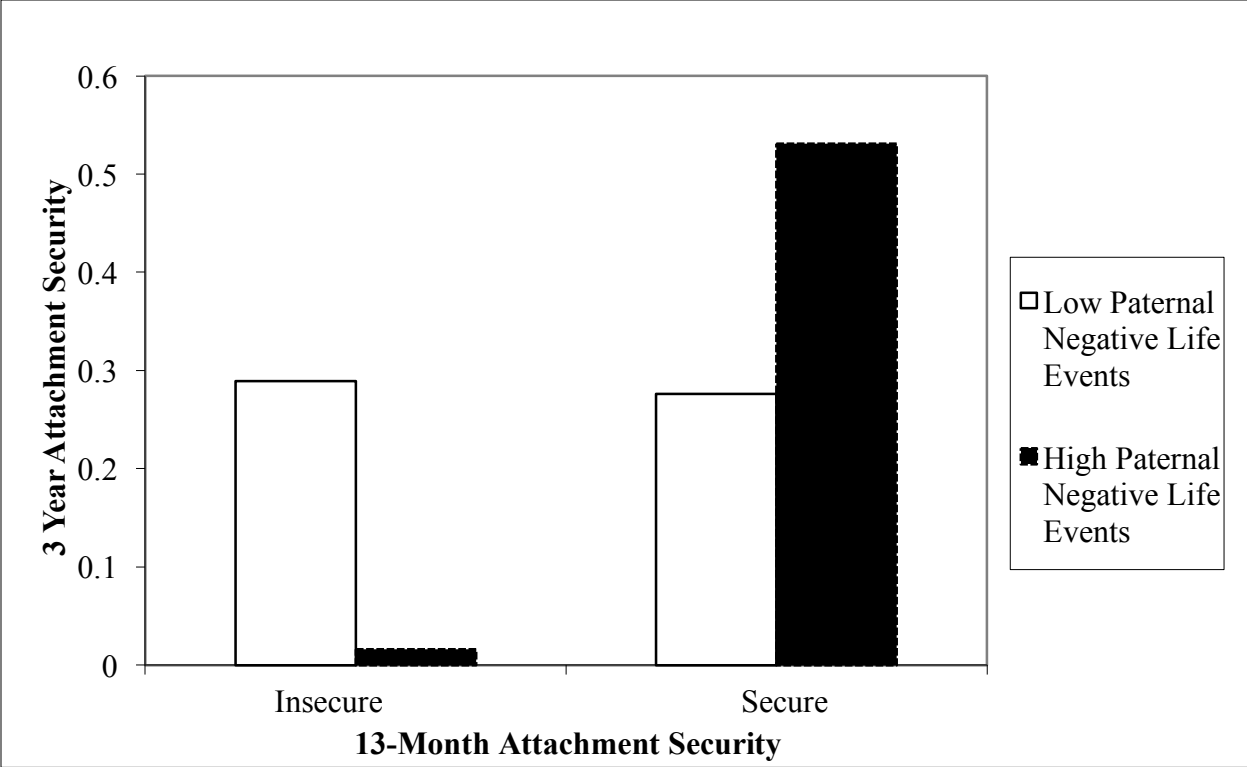


Figure 2. Associations between 13-month attachment security and 3-year attachment security as a function of paternal negative live events.

CHAPTER 4

DISCUSSION

Overall, father-child attachment security was found to be stable between one and three years of age. Despite this general continuity, some intrapersonal and contextual variables affected the stability of this attachment, potentially hindering the establishment and progression of secure father-child attachment for young children. Paternal depressive symptoms acted as a moderator of this stability, such that higher depressive symptoms promote the stability of attachment for children and their fathers. Less strong is the moderating effect of fathers' stressful life events, with high numbers of stressful life experiences indicating greater stability for both secure and insecure attachment relationships.

Overall Stability of Father-Child Attachment

The finding that father-child attachment security is generally stable from one to three years of age is somewhat supported by other studies that have reported similar findings (e.g., Jacobsen et al., 2014), and has been reported in this data set previously (Brown, Mangelsdorf, & Neff, 2012). As found in these previous studies, while variability in parent-child attachment patterns is possible during these formative years, overall the relationship remains stable. This finding also reflects Bowlby's original conceptualization of attachment as a stable mechanism developed early in life (1969). However, as evidenced by the variability within this small sample as well as studies with contradictory findings (e.g., Belsky et al., 1996), this is not always the case. Because attachment relationships are based on patterns of interaction over months and years, it may be that these patterns are not easily or quickly disrupted by the relatively low levels

of depressive symptoms and stress demonstrated in this normative sample. While these findings may indicate that the father-child attachment relationship remains stable beyond infancy, it is also possible that the fathers in this sample did not exhibit high enough levels of risk factors to allow for these factors to begin disrupting the patterns of interaction influencing attachment.

Moderating Effects of Paternal Depressive Symptoms

Paternal depressive symptoms were a significant moderator of the stability of father-child attachment between one and three years of age. Specifically, early father-child attachment security was related to later father-child attachment security only when fathers exhibited higher levels of paternal depressive symptoms. In the presence of these high levels of depressive symptoms, insecure dyads remained less securely attached, and secure dyads remained more secure. Whereas initially secure dyads characterized by low paternal depressive symptoms were also likely to remain highly securely attached, there is a marked difference for those who were initially insecurely attached, but with low levels of paternal depressive symptoms. Many of these dyads appeared to become more securely attached over time, demonstrating instability in the absence of high paternal depressive symptoms. In contrast, for initially insecurely attached infants and their fathers, paternal depressive symptoms appear to have a deleterious effect on the relationship's progression.

It is likely that for dyads who maintain a low security level in the context of high paternal depression, fathers' depressive symptoms are preventing the relationship from improving. There are several mechanisms through which paternal depressive symptoms may be insuring the stability of these low security levels. For example, fathers experiencing high depressive symptoms interact differently with their children than do those low in depressive mood (Zaslow, 1985). These fathers have been shown to be less sensitive in play, withdraw more frequently

from their children, and also have lower marital quality, all of which can have negative consequences for the attachment relationship (Gutierrez-Galve et al., 2015; McElwain & Volling, 1999).

Though the negative effects of depressive symptoms on fathering have been found in several studies, there have been some reports that did not find differences in the way depressed and non-depressed fathers interact with their children (Field et al., 1999). There may be additional confounding factors that contribute to how depressive symptoms affect the way fathers interact with their children. One potential factor could be an early, high quality father-child relationship or secure father-child attachment. As indicated in this study, the establishment of an early secure attachment relationship may make the father-child relationship more resilient, allowing even fathers experiencing more depressive symptoms to maintain an attachment with their child characterized by high security levels. This further highlights the complexities of the relationship between father-child attachment and paternal depressive symptoms and warrants additional study.

In the absence of high depressive symptoms, some fathers appear to be able to improve their attachment relationship with their child, becoming more securely attached when this relationship was initially insecure. This may be a function of fathers' increased involvement with their children over time, or changes in the ways that fathers interact with their children throughout this time period (MacDonald & Parke, 1986; Planalp & Braungart-Rieker, 2016; Planalp et al., 2013; Yeung et al., 2001). Regardless, these findings indicate the potential for the father-child attachment relationship to continue to evolve and change beyond infancy so long as fathers are not encumbered by the stressors and symptoms that often accompany anxiety and depression.

These results also indicate a dual risk pattern, in which those dyads with an initial insecure attachment are disproportionately negatively affected by high paternal depressive symptoms. Dyads with these characteristics fare the worst over time, with other dyads either beginning with or ultimately achieving a more secure father-child attachment relationship at age three. Indeed, the only subgroup of father-child dyads at age three with significantly lower levels of security were those that were initially insecure at age one and had fathers who demonstrated high levels of depressive symptoms.

Moderating Effects of Paternal Stressful Life Experiences

While the interaction between paternal stressful life events and initial attachment security only approaches significance, findings indicate that early father-child attachment security is a strong predictor of later attachment security only for those dyads in which the father experiences high levels of stressful life events. For those dyads in which the father experiences fewer stressful life events, initial security levels appear to have little influence on later father-child attachment security. Follow-up analyses reveal an interesting illustration of how these variables work together to influence later attachment security. For many fathers who experienced more stressful life events, an initial insecure attachment to their child remained stably less secure at age three. It is likely that these fathers are affected in ways that prevent them from repairing or improving an initially insecure attachment relationship with their child. Stressful life experiences may negatively influence fathers' overall anxiety levels, their marital quality, their level of involvement with children, and their parenting behaviors during interaction, all of which would in turn hinder the development of a more secure attachment relationship (e.g., Leinonen et al., 2002; Norman et al., 2014).

However, for initially secure dyads, the stability of a more secure attachment in the face of higher numbers of stressful life events is intriguing. In these cases, initial attachment security appears to protect the relationship from the potential negative consequences of the father's stressful experiences. Perhaps the initial security of the relationship renders it less fragile, and therefore less susceptible to changes in the father's anxiety levels, interaction, involvement, and marital relationship. From a risk and resilience perspective, early secure attachment can be characterized as a protective factor, increasing the relationship's resilience in the context of risk, represented here by fathers' stressful experiences (Mikulincer & Shaver, 2014). Similar instances have been reported, though sparingly (Hamilton, 2000). For example, instances of parent-child attachment security increasing in the context of serious illnesses have been reported (Waters et al., 2000). This pattern, particularly in relation to a child's illness, is often conceptualized as the negative events causing dyads to turn to each other, becoming closer and stronger (e.g., Hullmann, Fedele, Molzon, Mayes, & Mullins, 2014; Michel, Taylor, Absolom, & Eiser, 2010). Such a pattern may also occur in normative samples, provided that fathers experience relatively few stressful life events.

Limitations and Future Directions

There are several limitations of this study that should be taken into consideration. First and foremost, the sample size was small and fairly homogenous, and thus findings are likely not generalizable to the broader population. The sample also did not contain high levels of variability within the variables examined. Particularly for the moderating variables, the majority of participants in this study did not reach clinical levels of depressive symptoms or experience any particularly traumatic events. This normative sample makes the interpretation of findings less straightforward. However, the results of this study do suggest that perhaps even small increases

in paternal depressive symptoms or the presence of a low number of stressful life experiences can have a tangible effect on the developing father-child attachment relationship.

The timing of measures may also be seen as a limitation to this study. Both depressive symptoms and stressful life events were measured at Time 1, simultaneously with 13-month attachment security. This made it more difficult to disentangle the impact of each variable on attachment security levels. However, neither paternal depressive symptoms (see Table 3) nor negative life events (see Table 4) alone predicted three-year attachment security, strengthening their conceptualization as moderators in this study. Paternal depressive symptoms additionally were not significantly correlated with 13-month attachment security (see Table 2), indicating that it is unlikely that depressive symptoms influenced attachment security at Time 1, rather than between the two timepoints. Furthermore, several studies have documented paternal depressive symptoms to be quite stable over the transition to parenthood (e.g., Paulson, Bazemore, Goodman, & Lieferman, 2016). Other research suggests that paternal depressive symptoms increase over the first five years of their child's life, especially for young, residential fathers (Garfield et al., 2014). As such, measuring paternal depressive symptoms at only the first time point likely offers a reliable (or possibly conservative) indicator for depressive symptoms throughout the subsequent two years of their child's life.

The timing of the measure of negative life events, which retrospectively measured negative events over the previous two years, is also somewhat problematic. Unlike paternal depressive symptoms, negative life events are moderately correlated with 13-month attachment security (see Table 2). Thus, there remains the possibility that fathers' stressful life experiences impact father-child attachment at Time 1, rather than in the interim between the two timepoints. However, the particular measure used allows for this study to capture the effect of cumulative

stress due to life events on attachment security moving forward, rather than solely at the time of measurement. Therefore, it is unlikely that the resulting stress associated with this measure of negative life events could have strongly impacted the already established father-child attachment relationship at Time 1. Even still, future studies and replications could improve upon this study by measuring moderating variables during the interim between the two attachment security measurements.

This study sought to fill a gap in the literature examining the short-term stability of the father-child attachment relationship across early childhood. While the findings presented here illuminate two possible moderators of this stability, there is still much to be discerned. While it is clear that both paternal depressive symptoms and paternal stressful life experiences have some effect on the father-child attachment relationship (and the ability to affect the course of this relationship), the underlying mechanisms of this influence are unclear. While assumptions can be made based on prior work, these pathways call for further study.

This study does make it clear that for fathers facing stress and depressive symptoms, establishing an early secure father-child attachment relationship is crucial. For practitioners, this information has several implications. From a prevention perspective, providing support to fathers in developing a secure father-child attachment relationship in infancy is necessary. This can be done through education, both formal and informal, as well as modeling, and specifically working to support the coparenting or couple relationship (Palm, 2014). In cases when secure attachment is not established early in the child's life, intervention may be needed. Interventionists can target insecure dyads under normative conditions in order to improve the father-child attachment relationship. As demonstrated in this study, this relationship seems to be the most malleable, with higher chances of improving, when paternal depressive symptoms and stress are low.

Targeting dyads under these conditions may be the most successful pathway to improving security levels. Those best poised to intervene with these families may be teachers, who work continuously with both parents and children, or community practitioners, working through a parent education initiative or other similar modalities.

From an intervention perspective, it would also be helpful to clinicians to discern not only the mechanisms behind the associations presented in this study, but the particular instances in which these findings are the most salient. For example, which specific stressful events experienced by fathers put the attachment relationship at the greatest risk? Or conversely, which experiences are the most associated with the dyad growing closer, maintaining a more secure attachment? These instances represent another point of intervention: when fathers are depressed or facing these particular stressful situations. For practitioners working in these contexts, assessing the existing father-child relationship will help determine whether an initial insecure attachment relationship is potentially being solidified by the negative effects of depression or stress. In these cases, it is important to provide ample support to both fathers and children in hopes of minimizing any negative impact, potentially helping to facilitate a more secure attachment relationship.

Healthcare experiences are one type of event that have been consistently tied to attachment (Feeney, 2000), stress (Graf, Bergstraesser, & Landolt, 2013; Tsai et al., 2013), and depression (Kong et al., 2013; Üzger, Başpınar, Bülbül, Yavuz, & Kılınç, 2015) for parents. The associations and mechanisms partially uncovered in this study could potentially be examined in the healthcare context for more practical application. The continued contributions of both researchers and practitioners will work to accomplish the overall goal of helping fathers and their children achieve and maintain a secure attachment relationship early in the child's life.

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APPENDICES

APPENDIX A: BECK DEPRESSION INVENTORY (BDI)

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling **for the past several months**. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. **Be sure to read all of the statements in each group before making your choice.**

Thank you.

1. 0 I do not feel sad.
 - 1 I feel sad.
 - 2 I am sad all of the time and I can't snap out of it.
 - 3 I am so sad or unhappy that I cannot stand it.

2. 0 I am not particularly discouraged about the future.
 - 1 I feel discouraged about the future.
 - 2 I feel I have nothing to look forward to.
 - 3 I feel that the future is hopeless and that things will not improve.

3. 0 I do not feel like a failure.
 - 1 I feel I have failed more than the average person.
 - 2 As I look back on my life, all I can see is a lot of failures.
 - 3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
 - 1 I don't enjoy things the way I used to.
 - 2 I don't get real satisfaction out of anything anymore.
 - 3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
 - 1 I feel guilty a good part of the time.
 - 2 I feel guilty most of the time.
 - 3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
 - 1 I feel I may be punished.
 - 2 I expect to be punished.
 - 3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.

- 1 I am disappointed in myself.
 - 2 I am disgusted with myself.
 - 3 I hate myself.
- 8.0 I don't feel I am worse than anybody else.
- 1 I am critical of myself for my weaknesses and mistakes.
 - 2 I blame myself all of the time for my faults.
 - 3 I blame myself for everything bad that happens.
- 9.0 I don't have any thoughts of killing myself.
- 1 I have thoughts of killing myself, but I would not carry them out.
 - 2 I would like to kill myself.
 - 3 I would kill myself if I had the chance.
- 10.0 I don't cry any more than usual.
- 1 I cry more now than I used to.
 - 2 I cry all the time now.
 - 3 I used to be able to cry, but now I can't cry even though I want to.
- 11.0 I am no more irritated now than I ever am.
- 1 I get annoyed or irritated more than I used to.
 - 2 I feel irritated all the time now.
 - 3 I don't get irritated at all by the things that used to irritate me.
- 12.0 I have not lost interest in people.
- 1 I am less interested in other people than I used to be.
 - 2 I have lost most of my interest in other people.
 - 3 I have lost all of my interest in other people.
- 13.0 I make decisions about as well as I ever could.
- 1 I put off making decisions more than I used to.
 - 2 I have greater difficulty making decisions than before.
 - 3 I can't make decisions at all anymore.
- 14.0 I can work about as well as before.
- 1 It takes an extra effort to get started at doing something.
 - 2 I have to push myself very hard to do anything.
 - 3 I can't do any work at all.

APPENDIX B: LIFE EXPERIENCES SURVEY (LES)

Listed below are events which may bring changes in the lives of people who experience them. We are interested in events which have occurred in your life during the **past 2 years**. Please give date(s) of each even that has occurred, if appropriate.

Rate each event that has occurred as Good or Bad. Circle the one that applies. Also, show how much the event affected your life by circling the appropriate statement: no effect - some effect - moderate effect - great effect.

You may find that many of the events have not happened to you. If you have not experienced a particular event in the **past 2 years**, leave it blank.

Event that Occurred	Type of Event		Effect of Event on Your Life				Date(s)
1. Getting married	Good	Bad	no effect	some effect	moderate effect	great effect	_____
2. Detention in jail or other institution (you or anyone close to you)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
3. Major changes in sleeping habits (much more or much less sleep)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
4. Death of close family member							
(a) parent(s)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
(b) child	Good	Bad	no effect	some effect	moderate effect	great effect	_____
(c) another child	Good	Bad	no effect	some effect	moderate effect	great effect	_____
(d) brother or sister	Good	Bad	no effect	some effect	moderate effect	great effect	_____

Event that Occurred	Type of Event			Effect of Event on Your Life				Date(s)
	Good	Bad	no	some effect	moderate effect	great effect	effect	
(e) spouse								_____
(f) grandparent(s)								_____
(g) Other (specify)								_____
5. Getting pregnant								_____
6. Serious illness or injury of close family member								
(a) parent(s)								_____
(b) child								_____
(c) another child								_____
(d) brother or sister								_____
(e) spouse								_____
(f) grandparent(s)								_____
(g) Other (specify)								_____
7. Major changes in eating habits (much more or much less food intake)								_____

Event that Occurred	Type of Event		Effect of Event on Your Life				Date(s)
8. Foreclosure on mortgage or loan	Good	Bad	no effect	some effect	moderate effect	great effect	_____
9. Death of a close friend	Good	Bad	no effect	some effect	moderate effect	great effect	_____
10. Outstanding personal achievement	Good	Bad	no effect	some effect	moderate effect	great effect	_____
11. Trouble with police (you or anyone close to you)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
12. Change in your work situation (different work responsibility, major change in working conditions, working hours, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
13. New job for you	Good	Bad	no effect	some effect	moderate effect	great effect	_____
14. Change in body appearance	Good	Bad	no effect	some effect	moderate effect	great effect	_____
15. Change in mood (either happy or sad)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
16. Major change in financial status (a lot better off or a lot worse off)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
17. Birth of a baby	Good	Bad	no effect	some effect	moderate effect	great effect	_____
18. Change in family size other than from birth (such as having a family member or friend move in or out)	Good	Bad	no effect	some effect	moderate effect	great effect	_____

Event that Occurred	Type of Event		Effect of Event on Your Life				Date(s)
19. Major change in closeness of family members (increase or decrease in closeness)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
20. Change of residence	Good	Bad	no effect	some effect	moderate effect	great effect	_____
21. Separation from spouse (due to conflict)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
22. Major change in church activities (increased or decreased attendance)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
23. Reconciliation (making up) with spouse or partner after a separation	Good	Bad	no effect	some effect	moderate effect	great effect	_____
24. Major change in number of arguments with spouse or partner	Good	Bad effect	no effect	some effect	moderate effect	great effect	_____
25. Change in spouse's or partner's work (loss of job, beginning new job, retirement, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
26. Major change in usual type and/or amount of recreation	Good	Bad	no effect	some effect	moderate effect	great effect	_____
27. Borrowing more than \$10,000 (buying home, business, medical bills, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
28. Borrowing less than \$10,000 (buying car, TV, getting school loan, medical bills, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____

Event that Occurred	Type of Event		Effect of Event on Your Life				Date(s)
29. Losing your job	Good	Bad	no effect	some effect	moderate effect	great effect	_____
30. Major personal illness or injury	Good	Bad	no effect	some effect	moderate effect	great effect	_____
31. Major changes in social activities (e.g., parties, movies, visiting, being with friends)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
32. Major changes in living condition of family (building new home, remodeling or decoration of home, neighborhood, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
33. Divorce	Good	Bad	no effect	some effect	moderate effect	great effect	_____
34. Serious injury or illness of close friend	Good	Bad	no effect	some effect	moderate effect	great effect	_____
35. Starting school	Good	Bad	no effect	some effect	moderate effect	great effect	_____
36. Completion of schooling	Good	Bad	no effect	some effect	moderate effect	great effect	_____
37. Your dropping out of school	Good	Bad	no effect	some effect	moderate effect	great effect	_____
38. Away from spouse or partner (due to work, travel, etc.)	Good	Bad	no effect	some effect	moderate effect	great effect	_____
39. Engagement	Good	Bad	no effect	some effect	moderate effect	great effect	_____

Other experiences during the past 2 years
which have had an impact on your life. List and rate.

Event that Occurred	Type of Event		Effect of Event on Your Life				Date(s)
40. _____	Good	Bad	no effect	some effect	moderate effect	great effect	_____
41. _____	Good	Bad	no effect	some effect	moderate effect	great effect	_____
42. _____	Good	Bad	no effect	some effect	moderate effect	great effect	_____

When you take everything into consideration---your children, your adult life, etc., how would you describe your current life situation?

1. Things are very bad right now.
2. Things are fairly bad right now.
3. Things are OK---not bad and not good
4. Things are fairly good.
5. Things are very good.
6. Other (please explain)

APPENDIX C: INSTRUCTIONS TO PARENTS FOR STRANGE SITUATION PROCEDURE

1. Parent and Baby: 3 minutes

Put your baby down on the floor facing the toys and try to interest him/her in the toys. Then go to your chair and pretend to read the magazine. Let your baby explore the toys and the room. You can respond to your baby quietly if he/she makes overtures to you, or you can give reassurance, but please try not to attract your baby's attention or play with him/her.

2. When Stranger Arrives (Parent, Baby, Stranger): 3 minutes

1st minute: Stranger sits quietly and there is no talking between you.

2nd minute: Stranger will chat with you.

3rd minute: Stranger begins to play with your baby.

3. When Parent Leaves (Baby, Stranger): 3 minutes

Two knocks on the wall mean you should leave the room. Pick a moment when your baby seems busy with the stranger or a toy. Close the door behind you and come into the observation room.

4. When Parent Returns (Parent, Baby): 3 minutes

Speak your baby's name loudly outside the room before entering. Open the door, step into the room onto the short tape line and wait for your baby to greet you. If he/she doesn't come to you, greet your baby and make him/her comfortable, setting him/her on the floor and getting him/her interested in the toys. Then, return to your chair and pretend to read the magazine.

5. When Parent Leaves (Baby alone): 3 minutes

Two knocks on the wall mean you should leave again. Say good-bye as you normally do, walk out the door and close it behind you. Come into the observation room.

6. When Stranger Returns (Baby, Stranger): 3 minutes

Stranger returns to room and will try to comfort the baby if necessary.

7. When Parent Returns (Parent, Baby): 3 minutes

Speak your baby's name loudly outside the room before entering. Open the door, step into the room onto the short tape line and wait for your baby to greet you. If he/she doesn't come to you, greet your baby. Comfort and soothe, as necessary. When baby is ready, try to reinserts baby in toys and return to your chair, pretending to read the magazine.

APPENDIX D: ATTACHMENT Q-SET ITEMS

<p>1. Child readily shares with father or lets her hold things if she asks to.</p> <p><i>Low: Refuses</i></p>	<p>6. When child is near father and sees something he wants to play with, he fusses or tries to drag father over to it.</p> <p><i>Low: Goes to what he wants without fussing or dragging father along.</i></p>
<p>2. When child returns to father after playing, he is sometimes fussy for no clear reason.</p> <p><i>Low: Child is happy or affectionate when he returns to father between or after play times</i></p>	<p>7. Child laughs and smiles easily with a lot of different people.</p> <p><i>Low: Father can get him to smile or laugh more easily than anyone else.</i></p>
<p>3. When he is upset or injured, child will accept comforting from adults other than father.</p> <p><i>Low: Father is the only one he allows to comfort him.</i></p>	<p>8. When child cries, he cries hard.</p> <p><i>Low: Weeps, sobs, doesn't cry hard, or hard crying never lasts very long.</i></p>
<p>4. Child is careful and gentle with toys and pets.</p>	<p>9. Child is lighthearted and playful most of the time.</p> <p><i>Low: Child tends to be serious, sad, or annoyed a good deal of the time.</i></p>

<p>5. Child is more interested in people than in things.</p> <p><i>Low: More interested in things than people</i></p>	<p>10. Child often cries or resists when father takes him to bed for naps or at night.</p>
<p>11. Child often hugs or cuddles against father without her asking or inviting him to do so.</p> <p><i>Low: Child doesn't hug or cuddle much, unless father hugs him first or asks him to give her a hug</i></p>	<p>16. Child prefers toys that are modeled after living things (e.g., dolls, stuffed animals).</p> <p><i>Low: Prefers balls, blocks, pots and pans, etc.</i></p>
<p>12. Child quickly gets used to people or things that initially made him shy or frightened him.</p> <p><i>** Middle if never shy or afraid</i></p>	<p>17. Child quickly loses interest in new adults if they do anything that annoys him.</p>
<p>13. When the child is upset by father's leaving, he continues to cry or even gets angry after she is gone.</p> <p><i>Low: Cry stops right after mom leaves</i></p> <p><i>Middle if not upset by mom leaving</i></p>	<p>18. Child follows father's suggestions readily, even when they are clearly suggestions rather than orders.</p> <p><i>Low: Ignores or refuses unless ordered</i></p>

<p>14. When child finds something new to play with, he carries it to father or shows it to her from across the room.</p> <p><i>Low: Plays with the new object quietly or goes where he won't be interrupted.</i></p>	<p>19. When father tells child to bring or give her something, he obeys.</p> <p>(Do not count refusals that are playful or part of a game unless they clearly become disobedient)</p> <p><i>Low: Father has to take the object or raise her voice to get it away from him.</i></p>
<p>15. Child is willing to talk to new people, show them toys, or show them what he can do if father asks him to.</p>	<p>20. Child ignores most bumps, falls, or startles.</p> <p><i>Low: Cries after minor bumps, falls, or startles</i></p>
<p>21. Child keeps track of father's location when he plays around the house.</p> <p>Calls to her now and then. Notices her go from room to room. Notices if she changes activities</p> <p><i>Low: Doesn't keep track</i></p> <p><i>** Middle if child isn't allowed or doesn't have room to play away from mom</i></p>	<p>26. Child cries when father leaves him at home with babysitter, father, or grandparent.</p> <p><i>Low: Doesn't cry with any of these.</i></p>
<p>22. Child acts like an affectionate parent toward dolls, pets, or infants.</p> <p><i>Low: Plays with them in other ways.</i></p> <p><i>**Middle if child doesn't play with or have dolls, pets, or infants around</i></p>	<p>27. Child laughs when father teases him.</p> <p><i>Low: Annoyed when father teases him.</i></p> <p><i>**Middle if father never teases child during play or conversations</i></p>

<p>23. When father sits with other family members, or is affectionate with them, child tries to get mom's affection for himself.</p> <p><i>Low: Lets her be affectionate with others. May join in, but not in a jealous way</i></p>	<p>28. Child enjoys relaxing in father's lap.</p> <p><i>Low: Prefers to relax on the floor or on furniture.</i></p> <p><i>**Middle if child never sits still</i></p>
<p>24. When father speaks firmly or raises her voice at him, child becomes upset, sorry, or ashamed about displeasing her.</p> <p>(Do not score high if child is simply upset by the raised voice or afraid of getting punished)</p>	<p>29. At times, child attends so deeply to something that he doesn't seem to hear when people speak to him.</p> <p><i>Low: Even when deeply involved in play, child notices when people speak to him.</i></p>
<p>25. Child is easy for father to lose track of when he is playing out of her sight.</p> <p><i>Low: Talks and calls when out of sight. Easy to find; easy to keep track of what he is playing with.</i></p> <p><i>**Middle if never plays out of sight</i></p>	<p>30. Child easily becomes angry with toys.</p>
<p>31. Child wants to be the center of father's attention. If mom is busy or talking to someone, he interrupts.</p> <p><i>Low: Doesn't notice or doesn't mind not being the center of father's attention</i></p>	<p>36. Child clearly shows a pattern of using father as a base from which to explore.</p> <p>Moves out to play; Returns or plays near her; Moves out to play again, etc.</p> <p><i>Low: Always away unless retrieved, or always stays near</i></p>

<p>32. When father says “no” or punishes him, child stops misbehaving (at least at that time). Doesn’t have to be told twice.</p>	<p>37. Child is very active. Always moving around. Prefers active games to quiet ones</p>
<p>33. Child sometimes signals father (or gives the impression) that he wants to be put down, and then fusses or wants to be picked right back up.</p> <p><i>Low: Always ready to go play by the time he signals father to put him down</i></p>	<p>38. Child is demanding and impatient with father. Fusses and persists unless she does what he wants right away.</p>
<p>34. When child is upset about father leaving him, he sits right where he is and cries. Doesn’t go after her.</p> <p><i>Low: Actively goes after her if he is upset or crying.</i></p> <p><i>**Middle if never upset by her leaving</i></p>	<p>39. Child is often serious and businesslike when playing away from father or alone with his toys.</p> <p><i>Low: Often silly or laughing when playing away from father or alone with his toys.</i></p>
<p>35. Child is independent with father. Prefers to play on his own; leaves father easily when he wants to play.</p> <p><i>Low: Prefers playing with or near father.</i></p> <p><i>**Middle if not allowed or not enough room to play away from father</i></p>	<p>40. Child examines new objects or toys in great detail. Tries to use them in different ways or to take them apart.</p> <p><i>Low: First look at new objects or toys is usually brief. (May return to them later however.)</i></p>

<p>41. When father says to follow her, child does so.</p> <p>(Do not count refusals or delays that are playful or part of a game unless they clearly become disobedient.)</p>	<p>46. Child walks and runs around without bumping, dropping, or stumbling.</p> <p><i>Low: Bumps, drops, or stumbles happen throughout the day (even if no injuries result.)</i></p>
<p>42. Child recognizes when father is upset.</p> <p>Becomes quiet or upset himself. Tries to comfort her; asks what is wrong, etc.</p> <p><i>Low: Doesn't recognize; continues play; behaves toward her as if she were OK</i></p>	<p>47. Child will accept and enjoy loud sounds or being bounced around in play, if father smiles and shows that it is supposed to be fun.</p> <p><i>Low: Child gets upset, even if father indicates the sound or activity is safe or fun.</i></p>
<p>43. Child stays closer to father or returns to her more often than the simple task of keeping track of her requires.</p> <p><i>Low: Doesn't keep close track of father's location or activities.</i></p>	<p>48. Child readily lets new adults hold or share things he has, if they ask to.</p>
<p>44. Child asks for and enjoys having father hold, hug, and cuddle him.</p> <p><i>Low: Not especially eager for this. Tolerates it but doesn't seek it; or wiggles to be put down.</i></p>	<p>49. Runs to father with a shy smile when new people visit the home.</p> <p><i>Low: Even if he eventually warms up to visitors, child initially runs to father with a fret or a cry.</i></p> <p>**Middle if child doesn't run to father at all when visitors arrive.</p>

<p>45. Child enjoys dancing or singing along with music.</p> <p><i>Low: Neither likes nor dislikes music</i></p>	<p>50. Child's initial reaction when people visit the home is to ignore or avoid them, even if he eventually warms up to them.</p>
<p>51. Child enjoys climbing all over visitors when he plays with them.</p> <p><i>Low: Doesn't seek close contact with visitors when he plays with them.</i></p> <p><i>**Middle if he won't play with visitors</i></p>	<p>56. Child becomes shy or loses interest when an activity looks like it might be difficult.</p> <p><i>Low: Thinks he can do difficult tasks.</i></p>
<p>52. Child has trouble handling small objects or putting small things together.</p> <p><i>Low: Very skillful with small objects, pencils, etc.</i></p>	<p>57. Child is fearless.</p> <p><i>Low: Child is cautious or fearful.</i></p>
<p>53. Child puts his arms around father or puts his hand on her shoulder when she picks him up.</p> <p><i>Low: Accepts being picked up but doesn't especially help or hold on.</i></p>	<p>58. Child largely ignores adults who visit the home. Finds his own activities more interesting.</p> <p><i>Low: Finds visitors quite interesting, even if he is a bit shy at first.</i></p>

<p>54. Child acts like he expects father to interfere with his activities when she is simply trying to help him with something.</p> <p><i>Low: Accepts father's help readily, unless she is in fact interfering.</i></p>	<p>59. When child finishes with an activity or toy, he generally finds something else to do without returning to father between activities.</p> <p><i>Low: When finished with an activity or toy, he returns to father for play, affection or help finding more to do.</i></p>
<p>55. Child copies a number of behaviors or ways of doing things from watching father's behavior.</p> <p><i>Low: Doesn't noticeably copy father's behavior</i></p>	<p>60. If father reassures him by saying "It's OK" or "It won't hurt you," child will approach or play with things that initially made him cautious or afraid.</p> <p><i>**Middle if never cautious or afraid.</i></p>
<p>61. Plays roughly with father. Bumps, scratches, or bites during active play.</p> <p>(Does not necessarily mean to hurt mom.)</p> <p><i>Low: Plays active games without injuring father.</i></p> <p><i>**Middle if play is never very active</i></p>	<p>66. Child easily grows fond of adults who visit his home and are friendly to him.</p> <p><i>Low: Doesn't grow fond of new people very easily</i></p>
<p>62. When child is in a happy mood, he is likely to stay that way all day.</p> <p><i>Low: Happy moods are very changeable.</i></p>	<p>67. When the family has visitors, child wants them to pay a lot of attention to him.</p>

<p>63. Even before trying things himself, child tries to get someone to help him.</p>	<p>68. On the average, child is a more active type person than father.</p> <p><i>Low: On the average, child is less active type person than father.</i></p>
<p>64. Child enjoys climbing all over father when they play.</p> <p><i>Low: Doesn't especially want a lot of close contact when they play</i></p>	<p>69. Rarely asks father for help.</p> <p><i>Low: Often asks father for help.</i></p> <p><i>**Middle if child is too young to ask.</i></p>
<p>65. Child is easily upset when father makes him change from one activity to another.</p> <p>(Even if the new activity is something child often enjoys.)</p>	<p>70. Child quickly greets his father with a big smile when she enters the room.</p> <p>(Shows her a toy, gestures, or says "Hi, Mommy")</p> <p><i>Low: Doesn't greet father unless she greets him first.</i></p>
<p>71. If held in father's arms, child stops crying and quickly recovers after being frightened or upset.</p> <p><i>Low: Not easily comforted.</i></p>	<p>76. When given a choice, child would rather play with toys than with adults.</p> <p><i>Low: Would rather play with adults than toys.</i></p>

<p>72. If visitors laugh at or approve of something the child does, he repeats it again and again.</p> <p><i>Low: Visitors' reactions don't influence child this way.</i></p>	<p>77. When father asks child to do something, he readily understands what she wants. (May or may not obey.)</p> <p><i>Low: Sometimes puzzled or slow to understand what father wants.</i></p> <p><i>**Middle if child is too young to understand.</i></p>
<p>73. Child has a cuddly toy or security blanket that he carries around, takes to bed, or holds when upset.</p> <p>(Do not include bottle or pacifier if child is under two years old.)</p> <p><i>Low: Can take such things or leave them, or has none at all.</i></p>	<p>78. Child enjoys being hugged or held by people other than his parents and/or grandparents.</p>
<p>74. When father doesn't do what child wants right away, he behaves as if mom were not going to do it at all.</p> <p>(Fusses, gets angry, walks off to other activities, etc.)</p> <p><i>Low: Waits a reasonable time, as if he expects father will shortly do what he asked.</i></p>	<p>79. Child easily becomes angry at father.</p> <p><i>Low: Doesn't become angry at father unless she is very intrusive or he is very tired.</i></p>
<p>75. At home, child gets upset or cries when father walks out of the room.</p> <p>(May or may not follow her.)</p> <p><i>Low: Notices her leaving; may follow but doesn't get upset</i></p>	<p>80. Child uses father's facial expressions as a good source of information when something looks risky or threatening.</p> <p><i>Low: Makes up his own mind without checking father's expressions first</i></p>

<p>81. Child cries as a way of getting father to do what he wants.</p> <p><i>Low: Mainly cries because of genuine discomfort (tired, sad, afraid, etc.)</i></p>	<p>86. Child tries to get father to imitate him, or quickly notices and enjoys it when mom imitates him on her own.</p>
<p>82. Child spends most of his play time with just a few favorite toys or activities.</p>	<p>87. If father laughs at or approves of something the child has done, he repeats it again and again.</p> <p><i>Low: Child is not particularly influenced this way.</i></p>
<p>83. When child is bored, he goes to father looking for something to do.</p> <p><i>Low: Wanders around or just does nothing for a while, until something comes up.</i></p>	<p>88. When something upsets the child, he stays where he is and cries.</p> <p><i>Low: Goes to father when he cries. Doesn't wait for mom to come to him.</i></p>
<p>84. Child makes at least some effort to be clean and tidy around the house.</p> <p><i>Low: Spills and smears things on himself and on floors all the time</i></p>	<p>89. Child's facial expressions are strong and clear when he is playing with something.</p>

<p>85. Child is strongly attracted to new activities and new toys.</p> <p><i>Low: New things do not attract him away from familiar toys or activities.</i></p>	<p>90. If father moves very far, child follows along and continues play in the area she has moved to.</p> <p>(Doesn't have to be called or carried along; doesn't stop play or get upset.)</p> <p><i>**Middle if child isn't allowed or doesn't have room to be very far away</i></p>
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