The Developmental Timing of Divorce and Adult Children's Romantic Relationship Quality

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THE DEVELOPMENTAL TIMING OF DIVORCE AND ADULT CHILDREN’S
ROMANTIC RELATIONSHIP QUALITY

by

Abigail J. Viveiros

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

Marriage, Family and Human Development
School of Family Life
Brigham Young University
August 2006
of a thesis submitted by

Abigail J. Viveiros

This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate’s graduate committee, I have read the thesis of Abigail J. Viveiros in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

THE DEVELOPMENTAL TIMING OF DIVORCE AND ADULT CHILDREN’S
ROMANTIC RELATIONSHIP QUALITY

Abigail J. Viveiros

Marriage, Family and Human Development
School of Family Life
Master of Science

Understanding the contingencies that explain whether divorce has positive or negative long-term effects for adult children is at the heart of this study. Although previous studies suggest an association between parental divorce and the divorce of adult offspring, less known is about whether the timing of divorce influences the relationship outcomes of adult children. Using a large nationally representative sample in terms of race (N=6,066), eight groups of individuals (males and females from intact homes, males and females who experienced divorce during adolescence, males and females who experienced divorce during middle childhood, and males and females who experienced divorce during preschool years) were analyzed to examine the impact of divorce and its timing on family impact, emotional regulation, and relationship quality. Findings indicate that divorce, in general, negatively influences family impact, emotional
regulation, and relationship quality. However, the developmental timing of divorce does not appear to significantly alter the impact of these variables on relationship quality.
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TABLE OF CONTENTS

Introduction .................................................................................................................. 1
Review of Literature ...................................................................................................... 2
  Contextual Models of Dyadic Relationships ................................................................. 2
  Timing of Parental Divorce .......................................................................................... 4
Parent-child Relationships ............................................................................................. 7
Family Impact on Adult Relationship ........................................................................... 10
Emotional Regulation .................................................................................................... 11
Relationship Quality ..................................................................................................... 12
Research Questions ....................................................................................................... 13
Methods ......................................................................................................................... 15
  Sample ......................................................................................................................... 15
  Procedure ..................................................................................................................... 16
  Measures ..................................................................................................................... 17
    Groups ....................................................................................................................... 17
    Mediators .................................................................................................................. 18
    Dependent Variable ................................................................................................. 19
Results ........................................................................................................................... 19
Discussion ..................................................................................................................... 23
  Limitations ................................................................................................................. 28
  Implications for Future Research .............................................................................. 29
Conclusions........................................................................................................................................... 30
References............................................................................................................................................... 31
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Sample Characteristics</td>
<td>49</td>
</tr>
<tr>
<td>Table 2</td>
<td>Means and Standard Deviations</td>
<td>51</td>
</tr>
<tr>
<td>Table 3</td>
<td>Model Fit</td>
<td>52</td>
</tr>
<tr>
<td>Table 4</td>
<td>Path Model Differences between Groups</td>
<td>53</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Theoretical Model</td>
<td>40</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Vulnerability-Stress-Adaptation Model of Marriage</td>
<td>41</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Model of Premarital Factors Relationship to Marital Quality</td>
<td>42</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Initial Structural Model</td>
<td>43</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Measurement Model</td>
<td>44</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Unstandardized and Standardized Path Coefficients: Intact</td>
<td>45</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Unstandardized and Standardized Path Coefficients: Adolescence</td>
<td>46</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Unstandardized and Standardized Path Coefficients: Childhood</td>
<td>47</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Unstandardized and Standardized Path Coefficients: Preschool</td>
<td>48</td>
</tr>
</tbody>
</table>
THE DEVELOPMENTAL TIMING OF DIVORCE AND ADULT CHILDREN’S ROMANTIC RELATIONSHIP QUALITY

Introduction

Rising divorce rates over the past four decades have dramatically altered family life in the United States (Axinn & Thornton, 1996; Bumpass & Lu, 2000; Kitson & Morgan, 1990; Teachman, 2002). Indeed, the proportion of children experiencing nontraditional structures during their childhoods due to divorce is at an all-time high (Acock & Demo, 1994; Amato, 1993; Carlson & Corcoran, 2001; Dornbusch et al., 1985; Thomson, Hanson, & McLanahan, 1994; U.S. Census Bureau, 2004). Nearly four out of 10 children witness the breakup of their parents’ marriage before they reach the age of 18 (Parke, 2003) and, every year, approximately one and one half million children spend a portion of their childhood in a home outside of the nuclear one due to parental divorce (Rodgers & Rose, 2002).

Recognizing the growing acceptance of this demographic trend and the numbers involved, researchers question the short- and long-term implications of divorce for various aspects of development in children and later romantic relationship outcomes. While a considerable body of research has examined the impact of parental divorce on various child outcomes (Ahrons & Tanner, 2003; Davies & Cummings, 1994; Kelly & Emery, 2003; Vandewater & Lansford, 1998; Wallerstein & Kelly, 1980), analyses on the impact of divorce on adult children’s romantic relationships have generally been limited to what is defined as the “intergenerational transmission of divorce” or the tendency for adult children from divorced families to also divorce. Based on the original work of Bumpass & Sweet (1972), a number of scholars have found that parental divorce
increased the likelihood of adult children’s subsequent divorce (Amato, 1996; Feng, Giarrusso, Bengston, & Frye, 1999; Webster, Orbuch, & House, 1995; Wolfinger, 1999).

While a preponderance of evidence supports the phenomenon of the intergenerational transmission of divorce, less attention has been dedicated to understanding the relationship between the developmental timing of divorce and aspects of adult children’s relationship outcomes other than their own divorce proneness. The purpose of this research is to investigate the direct and indirect effects of divorce at different developmental stages on adult children’s romantic relationship quality. Specifically, a theoretical model is proposed that suggests that factors, such as parent-child relationships, family impact, and emotional regulation mediate between divorce and relationship quality. It is argued below that these mediating factors differentially influence romantic relationship quality depending on the developmental stage of the child at the time of parental divorce. See Figure 1 for a graphic representation of the hypothesized relationships.

Theoretical and Empirical Background

*Contextual Models of Dyadic Relationships*

The conceptual model used in the present study (Figure 1) is based on two theoretical frameworks on the quality and stability of marriage relationships. After reviewing and evaluating 115 longitudinal studies on the development of marital outcomes, Karney & Bradbury (1995; Figure 2) constructed their own behavioral model to explain the development of marriage over time. According to their vulnerability-stress-adaptation model of marriage, family-of-origin background and premarital personal history impacts the adaptive processes, or the ways couples deal with challenges
in their relationship, and these adaptive processes, in turn, influence marital quality. As marital quality declines due to repeated failures in the adaptation process, the probability of divorce or marital instability increases. Literature on the long-term consequences of divorce generally follows this model (Parke, 2003). Adult children of divorce commonly possess more negative enduring vulnerabilities, including greater tendencies to exhibit poorer social skills (White, 1994), attain less educational and occupational attainment, possess more personality disorders (Amato, 1993), and view the institution of marriage more negatively (Amato, 2001; Bumpass, Martin & Sweet, 1991). Consequently, the inability to effectively adapt to these enduring vulnerabilities and stressors may explain the reason why adults from divorced homes report more marital complaints and experience greater frequency the intergenerational transmission of divorce. Taken together, this model captures the pathway in which various characteristics amplify or ameliorate the impact of parental divorce on adult relationship quality. For the purposes of this study, only the pathway between enduring vulnerabilities and marital quality were analyzed to understand how ideas from family-of-origin characteristics and stable personality characteristics contribute to adult intimate relationships.

In a similar model based on over 60 years of literature on premarital prediction, Holman and Associates (2001; Figure 3) outlined the mechanisms through which premarital factors predict later marital quality. Their theoretical model postulates that four broad premarital factors have direct, simultaneous, and indirect influences on marital quality: family-of-origin factors, individual characteristics, couple interactional processes, and sociocultural variables. Of particular interest was the correlation found between family-of-origin and marital quality. Holman and colleagues found family-of-
origin characteristics to be an important predictor of self-esteem, which then influenced relationship satisfaction (Holman & Associates, 2001). This portion of the model between family-of-origin factors, personality characteristics, and marital quality will be used in this study.

Based on the models of Karney & Bradbury (1995) and Holman & Associates (2001) and the variables stated above, the current model (Figure 1) guides this analysis. In the present study, each model considers the timing of the divorce – whether it occurred during preschool, early childhood or adolescence years. The model assumes that parental divorce and the developmental stage of children at the time of the disruption impacts four offspring variables, which ultimately affect relationship quality: 1) father-child relationship, 2) mother-child relationship, 3) family impact, and 4) emotional regulation. A review of literature on each dimension of this model will now be addressed.

**Timing of Parental Divorce**

Researchers examining the influence of divorce on children have determined that the level of impact may depend on the developmental age periods of the children (Allison & Furstenberg, 1989). Unfortunately, the current divorce literature continues to yield inconsistent findings on the effects of age (Allison & Furstenberg, 1989). Many authors suggest that parental divorce is especially harmful for younger children because of their high dependency and vulnerability levels to the parents during this stage (Amato & Sobolewski, 2001; Emery, 1988; McLanahan & Bumpass, 1988; Wallerstein & Kelly, 1980). For example, Allison & Furstenberg (1989) analyzed children from three age-groups: preschool, middle childhood, and adolescence. Of the three groups, divorce had the strongest effects on preschoolers and the weakest effects on adolescents. Their
findings confirmed previous research that younger children suffer the most because they are more dependent on their parents and less developmentally resistant to trauma (i.e. blaming self for the divorce) than older children. Other researchers believe younger children suffer most because they are at risk for being exposed to the economic and academic hardships for a longer period of time than older children (Acock & Kiecolt, 1989). Additionally, children who experience parental divorce during the preschool years are predisposed to deficits concerning interpersonal skills and commitments to lifelong marital relationships for a lengthier duration compared to older children, possibly making them more vulnerable to certain negative emotional outcomes (Wu & Martinson, 1993).

Not all studies support these findings. Some studies have failed to show an age/stage effect while others propose that divorce is more harmful when it occurs during adolescence (Acock & Demo, 1994; Furstenberg, 1990). For example, Wallerstein (1984) found that children who experienced parental divorce at preschool age actually fared better psychologically than those who experienced divorce as adolescents because they lacked the detailed memories of the experience. Yet, for adolescents undergoing critical developmental transitions involving identity formation and sexuality, many researchers believe the simultaneous challenges of parental divorce may be particularly difficult (Hines, 1997). Previous literature on adolescent development has acknowledged the need for a stable family life consisting of minimal economic stress, healthy relationships, and high levels of affection to allow proper maturational and developmental outcomes (Baumrind, 1991; Garmezy & Rutter, 1983). In homes where divorce occurs, parents generally engage in conflict and other dysfunctional behaviors
prior to the dissolution. Once the divorce occurs, many changes take place such as, geographic moves, decrease in economic support, loss of a custodial parent, and changes in daily routines and patterns. Combined together, these conditions in a relatively short period of time could disrupt the normal pattern of adolescent development, placing them at higher risk academically, emotionally, behaviorally, and sexually as they enter adulthood (Hines, 1997). For these reasons, many researchers argue that parental divorce is especially harmful for adolescents.

Whereas younger children may suffer more psychologically and behaviorally, children who experience parental divorce as adolescents may have more negative outcomes dealing with future marital relationships. For example, previous studies have found that adolescents who experience parental divorce become more sexually active at younger ages and in higher frequency, supporting the notion that parental divorce during adolescence may accelerate dating and sexual activity (Amato & Booth, 1991; Furstenberg & Teitler, 1994). A presumable reason for this trend is that older children of divorce may feel more insecurity towards intimate relationships, causing them to prematurely engage in physical intimacy at younger ages (Mullett & Stolberg, 2002). Furthermore, adolescents who witnessed the failure of their parents’ marriage often doubt their own success for marriage and express disinterest in the institution of marriage (Amato & Booth, 1991). Even with this mentality, a great many of them marry, with the majority of them doing so at a young age, a well-known predictor for later marital dissolution (Ross & Mirowsky, 1999). Finally, adolescents who experience parental divorce are more likely to participate in the intergenerational transmission of divorce than children who were young when their parents divorced (McLanahan, 1988). Within this
context, the developmental timing of parental divorce could be an important contributor
to adult children’s relationship quality. The current study will analyze four groups of
individuals: those from intact homes, individuals who experienced divorce during
preschool years, individuals who experienced parental divorce during childhood, and
those who experienced divorce during adolescence.

Parent-child Relationships

Previous research shows a positive correlation between family-of-origin
relationships and marital quality (Conger, Cui, Bryant, & Elder, 2001; Sabatelli & Bartle-
Haring, 2003; Wambolt & Reiss, 1989). Holman & Birch (2001) found that the better the
parent-child relationship quality, the higher the adult children’s marital satisfaction. Not
surprisingly, studies on the long-term consequences of marital dissolution find that
divorce generally disrupts and weakens parent-child relationships (Ahrons & Tanner,
2003; Amato & Sobolewski, 2001; Davies & Cummings, 1994; Hetherington & Kelly,
2002). Presumably, the turmoil that precedes and follows divorce is often the cause for
the weakening ties between parent and child (Davies & Cummings, 1994). Independent
of the long-term effects of divorce, the stress of divorce can at first negatively impact
parent-child relationships through the escalation of poor parenting practices. Preoccupied
by their personal responses to divorce, custodial and noncustodial parents often engage in
less-effective parenting behaviors by becoming more punitive, less affectionate, more
inconsistent in dispensing discipline, and/or less available (Amato, Loomis, & Booth,
1995; Hetherington, 1991). Consequently, children in this circumstance experience less
positive parental involvement and more harsh discipline or neglect (Kelly & Emery,
2003) often causing children to harbor long-term strong negative feelings towards the
parents (Amato & Booth, 1997; Wallerstein, 1984). Complicating the matter, most children are inadequately informed about the divorce and left out of vital discussions regarding custody, changes in living arrangements, and the parent-child relationships (Kelly, 1993). Finally, role changes and ambiguities after the divorce can cause additional stress on the parent-child relationship. Because of their own difficulties with handling the divorce, parents are more prone to experience depression, substance abuse, illnesses, and emotional instability, and sometimes place the children as their major source of emotional support (Hetherington, 1999).

However, research is clear in showing the importance of the parent-child relationships in mediating children’s adjustments following parental divorce (Hetherington, 1989; Seltzer, 1994). For example, Acock & Demo (1994) found positive parent-child relationships played a pivotal role in children’s emotional well-being. Congruent to these findings, recent studies have consistently demonstrated that the quality of parent-child relationship is one of the best predictors of child outcomes (Buchanan, Macocoby, & Dornbush, 1996; McLanahan & Sandefur, 1994; Simons & Associates, 1996).

Although the role of the custodial parent (generally the mother) is clear in mediating the effects of children’s well-being, the role of the noncustodial parent (typically the father) is less clear. Yet, it is important to understand the mediating role of the father-child relationships on children’s outcomes. The relationship between father and child generally suffers more and in greater frequency than the relationship between the mother and child. According to one study, approximately one-third of children from divorced homes have poor relationships with their fathers (Amato, 2003). The departure
of the father during the divorce process is reportedly the most upsetting aspect of divorce and, presumably, the main cause of the decline in father-child relationships (Wallerstein, Lewis, & Blakeslee, 2000). Although most fathers continue to have some contact with the children, “between 18% and 25% of children have no contact with their fathers 2-3 years after divorce” (Kelly & Emery, 2003 p. 354). Of the fathers that do maintain contact, many behave toward the children more as a friend than a parent, spending the bulk of the time together watching television, going out, or joking around (Furstenberg & Nord, 1985). Consequently, the relationship between the adult children and their fathers is weak due to a diminished view of the role of fathers (Ahrons & Tanner, 2003; Amato, 2003).

In contrast, nonresident fathers who engage in high quality parenting practices can have a positive influence on their children even without sharing residence with their children (Sobolewski & King, 2005). Recent studies on nonresident fathers have shown the importance of healthy father-child relationships in mediating the effects of divorce (Marsiglio, Amato, Day, & Lamb, 2000). For example, Amato (1994) found that children who had healthy relationships with their noncustodial fathers fared better psychologically than children who had poor or no relationships with their fathers. In particular, warm, supportive, and close ties involved in a high-quality father-child relationship consistently promoted child well-being and buffered some of the effects of parental divorce (Amato & Gilbreth, 1999). These findings suggest that the quality of time spent together may be more influential than the quantity of time together.
Family Impact on Adult Relationships

Studies on the intergenerational transmission of divorce have found that parental divorce, in general, negatively impacts adult children’s romantic relationships (Amato & Sobolewski, 2001). Yet, the variance in outcomes is quite large, leaving the question as to why some adult children of divorce do well while others do not (Amato, 2004). The answer may lie in the coping mechanisms of individuals (Burr & Klein, 1994). According to a recent study by Martinson (dissertation, 2005), individuals who “came to terms” with the difficulties in their family-of-origin were able to show resiliency, recover from their past, and have positive and stable relationships, whereas those who had not come to terms with their past scored lower on their relationship quality and stability (Martinson, 2005). From these findings, understanding the impact of family background experiences is as important as the family-of-origin experiences themselves when studying current attitudes and behaviors towards romantic relationships.

Since individuals internalize parental divorce differently, the family impact scale may provide more awareness as to why some adult children of divorce are able to have high quality relationships while others do not. In the current model, the family impact scale is conceptualized to be a filter through which family background experiences pass through before influencing emotional regulation and relationship quality. Furthermore, the extent to which adult children adjust to issues in the family background, the higher the quality of their current romantic relationships. One could speculate that children from intact families generally have less to adjust to and therefore, they would have greater levels of adjustment to family background than children from homes where a divorce occurred.
Emotional Regulation

Individuals, as Amato & Booth (1991) found in their research, are active agents and exhibit a great deal of variability in reaction to family background factors. Developmentalists would argue that family-of-origin factors such as parents’ characteristics and behaviors help shape certain individual traits and behaviors of the offspring (Holman and Associates, 2001). One of the greatest consequences of divorce on children is the increased risk for negative emotional outcomes (Simons & Associates, 1996; Hannum & Dvorak, 2004). Although most children, up to 75-80%, do not suffer from major problems, adults from divorced homes are more likely to report greater unhappiness, less life satisfaction, lower self-control, higher anxiety and depression, and an increased usage of mental health services than adults from intact homes (Amato & Booth, 1991; Amato & Sobolewski, 2001; Kelly & Emery, 2003; Sun & Li, 2002).

While previous studies (Ross & Mirowsky, 1999) indicate that low socioeconomic attainment and the disruption of interpersonal development mediated much of this association, Amato & Sobolewski (2001) observed that the continuation of weak emotional bonds between parents and adult children greatly impacted emotional outcomes in adult offspring of divorce. Similarly, Davies & Cummings (1994) found children who experienced parental divorce were more prone to show emotional problems due to the interference divorce had on the quality of parent-child relationship.

Recent findings suggest an important correlation between emotional outcomes and marital quality (Mead, 2005). In particular, five individual traits have been linked to marital outcomes: neuroticism, extraversion, impulsivity, agreeableness, and conscientiousness (Mead, 2005). Of these five, neuroticism has been found to be
especially important in predicting negative marital outcomes, partly through its impact on
couple interaction processes (Bouchard, 2003; Karney & Bradbury, 1997; Lewis &
Spanier, 1979). In contrast, individuals with healthier emotional regulation including,
lower levels of neuroticism, depression, and impulsivity, are more capable of tolerating
and processing the multiple aspects of an intimate relationship (Larson & Holman, 1994).

**Relationship Quality**

An explanation on the reason relationship quality is used as the outcome variable
in this particular model is in order. Of the available literature on divorce and offspring
marital quality, only a small and insignificant correlation has been found. For example,
Whyte (1990) found that being raised in a divorced home had a statistically weak
negative correlation to marital quality (-.07). Yet, marital quality is consistently and
reliably correlated with marital stability. While small in magnitude, marital satisfaction or
quality has larger effects on marital stability than most other variables (Karney &
Bradbury, 1995). Lewis & Spanier (1979) in theorizing about the stability of marriages
viewed marital quality as the “single greatest predictor of marital stability” (p. 273) and
found that while not all marriages with high stability had high quality, marital stability
was generally an outcome of the dyadic processes that determined the marital quality of
couple relationships. According to their framework, low quality in the marriage
generally determined and preceded the breakup of the relationship. Given the importance
of this outcome variable, using relationship quality is preferable in the present model to
better explain the long-term impact of divorce on adult children’s romantic relationships
prior to breakup.
Research Questions

At the most general level, the purpose of this research was to understand the relationship between parental divorce and adult children’s romantic relationship quality. Previous research suggested that while parental divorce has a small direct relationship to adult children’s later romantic relationship quality, several moderating and mediating factors may help us better understand the relationship between parental divorce and adult children’s romantic relationship quality. The extant data set we used for this study provided adequate measures of four of these mediating variables—mother-child relationship quality, father-child relationship quality, family-of-origin impact on current relationship, and emotional regulation. Furthermore, developmental theory and previous research suggested that children in intact families during the entirety of their childhood will have higher adjustment in mediating these factors, and higher romantic relationship quality than adult children whose parents divorced at some point during the children’s growing up years. Moreover, the developmental stage of the child at the time of parental divorce may make a difference in mediating adjustment factors and in the outcome factor of romantic relationship quality. This led to the first research question:

1. Are there differences in the perceived level of mother-child relationship quality, father-child relationship quality, family impact, emotional regulation, and relationship quality of adult children based on whether their parents divorced during the children’s growing up years and the development stage of the children if their parents did divorce?

Since the literature suggested that a number of factors mediate the relationship between parental divorce and children’s adult relationship quality, and since the
children’s development stage at the occurrence of parental divorce may moderate the relationship between the mediating factors and relationship quality, it was appropriate to test a path model connecting the mediating factors to relationship quality under four conditions of parental marital status during the children’s growing up years—no parental divorce during childhood, divorce during the preschool years, divorce during the childhood years, and divorce during the adolescent years. This led to the following research questions:

2. Does the path model consisting of the latent mediating variables of mother-child relationship quality, father-child relationship quality, family impact, emotional regulation, and romantic relationship quality fit the data under the four moderating conditions of no parental divorce during the growing up years, divorce during the preschool years, divorce during the childhood years, and divorce during the adolescent years?

3. Furthermore, will the path models “work” essentially the same for adult children from the four family configurations—no parental divorce during the growing up years, divorce during the preschool years, divorce during the childhood years, and divorce during the adolescent years? That is, are there significant differences between the path models such that some relationships work differently for adult children from different family configurations?

Lastly, much of the research suggested that sex, or gender, differences might exist. Neither research nor theory suggests how these models should operate differently from one another based on gender of the adult child. Thus, the final research question was:
4. Are there differences in the levels of the mediating and outcome variables of the four groups when considering the sex of the adult child? Furthermore, are the path models different across gender?

Methods

Sample

The RELATE data set includes over 50,000 individuals involved in a romantic relationship. Criteria for involvement in this study included the following: 1) Respondents must have been in a serious relationship for at least six months or married at the time they completed RELATE; 2) respondents must have lived with both biological parents for at least a portion of their childhood; 3) respondents must have either experienced divorce or lived in an intact family their entire childhood (nontraditional structures due to nonmarital childbirth were excluded); and 4) respondents must have provided their race and gender. Because the Caucasian respondents were greatly overrepresented, a nationally representative subsample in terms of race was selected by first collecting the least represented group and then proportionately adding random samples of each racial group according to the national norms. However, the percentages do not add up to 100% due to rounding as well as issues dealing with mutual exclusivity. Because Hispanics may be of any race, the U.S. Census Bureau counts them under more than one category, whereas the RELATE questionnaire does not.

The target population for the study consisted of 6,066 heterosexual individuals (43% males; 57% females). The mean age for males was 29.8 and 28.1 for females. Seventy-six percent of the sample were Caucasian, 14% Hispanic or Latino, 12% African American, 4% Asian or Pacific Islander, 1.9% Biracial, 0.8% American Indian, and 5.2%
Other. In terms of education, 45% of respondents had completed some college, 43% had received a bachelor’s degree or higher, 5% received a high school diploma or GED, and less than 1% did not complete high school. Thirty-four percent of the participants were enrolled in college at the time they completed RELATE. Due to the large percentage of college students in the sample, 52% made less than $25,000 per year. These figures on education and income are not representative of the national norms and should be considered when interpreting the results (U.S. Census Bureau, 2004). In terms of religion, 41% were Protestant, 26% Catholic, 4% LDS, 14% were of other religions, and 16% were not religious. Seventy-four percent of the participants reported being in a serious or engaged relationship for over 6 months and 26% were married. Table 1 contains further demographic information about the sample.

Procedure

Data came from the RELATionship Evaluation instrument, or RELATE (Holman, Busby, Doxey, Klein, & Loyer-Carlson, 1997). Developed in 1997, RELATE is a 271-item multidimensional couple assessment tool designed to measure four major contextual areas or subsystems shown to be predictive of later relationship quality and stability: 1) individual subsystem (i.e., personality traits, attitudes, and values); 2) familial context (i.e., parents’ relationship, parent-child relationships, and family-of-origin interactions); 3) couple subsystem (i.e., communication and conflict resolution); and 4) social context (i.e., social support, cultural beliefs, and life course variables). RELATE is designed to be used as both a research and outreach instrument by educators and practitioners in academic and clinical settings, the general public to assess their current romantic
relationships in non-professional settings, and family researchers to collect and analyze data on the developmental elements of premarital and marital relationships.

Individuals completed the paper-pencil version of RELATE from 1997-2000 or they completed the online version made available in 2001 at the RELATE Institute’s website (www.relate-institute.org). Upon completion, couples received a report detailing their own and their partner’s perceptions about the contextual aspects of their relationship. The current study used data from the familial, individual, and couple contexts. (For more information on RELATE, see Busby, Holman, & Taniguchi, 2001.)

**Measures**

**Groups**

The RELATE instrument measures childhood living arrangements using an eight-category coding format encapsulating the possible family structures and the amount of time spent in each type. For the purposes of this study, only three structure categories were used: both biological parents; one parent due to divorce; and stepfamily due to divorce. According to the reported number of years spent in biological and divorced homes, we approximated the developmental age when the divorce occurred. For example, if the individual reported living in a biological home for 3 years and then a divorced home for 15 years, we calculated that divorce occurred during the preschool years. Individuals were then categorized into eight groups: 1) male intact (no divorce); 2) male adolescence divorce; 3) male childhood divorce; 4) male preschool divorce; 5) female intact; 6) female adolescence divorce; 7) female childhood divorce; and 8) female preschool divorce.
Mediators

Four mediators were analyzed in this study: mother-child relationship, father-child relationship, family impact scale, and emotional regulation. Both father-child relationship and mother-child relationship scales are each measured by three items assessing the quality of the relationship between the individual and each parent in areas of physical affection, time spent together, and the level of communication in sharing feelings with one another. These scales have internal consistency scores of .75 and .77 (father-child relationships) and .67 and .71 (mother-child relationships) for males and females respectively (Busby, Holman, & Taniguchi, 2001). Higher scores on father-child relationship and mother-child relationship indicate more satisfaction with the relationship.

Family impact scale is measured by five items calculating the level of positive or negative impact the family-of-origin background has on factors dealing with the current romantic relationship. This scale has internal consistency scores of .69 for males and .75 for females. Higher scores on the family impact scale indicate more optimistic views about the impact of the family on the current relationship.

Emotional regulation is a latent variable derived from three scales measuring psychological well-being, calmness, and impulsivity. The psychological well-being scale was derived by taking the mean score of three variables assessing depression. The calmness scale was calculated by taking the mean score of four items measuring calmness and anxiety. The impulsivity scale was assessed by taking the mean score of three variables dealing with maturity. The reliability scores for personality traits are .69
and .63 for males and females respectively. Higher scores on personality traits indicate healthier levels of emotional well-being.

**Dependent Variable**

*Relationship quality* is a latent variable derived from a combination of three scales measuring relationship satisfaction, perceived stability, and frequency of relationship problems. The *relationship satisfaction* scale was derived from taking the mean score of seven items measuring the level of satisfaction in the relationship. The reliability coefficients for the relationship satisfaction scale are .82 and .85 for males and females respectively (Busby, Holman, & Taniguchi, 2001). Higher scores on this scale indicate higher levels of satisfaction. The *relationship stability* scale is a mean score of three items measuring the frequency of times respondents thought about divorce or actually separated. Higher scores on this scale indicate higher relationship stability. The internal consistency scores for this scale are .81 for males and .82 for females (Busby, Holman, & Taniguchi, 2001). *Problems* scale is the mean frequency of 11 challenge areas in the relationship. Higher scores on this scale indicate higher frequency of problems. The internal consistency scores for this scale were .80 and .83 for males and females, respectively.

**Results**

To test the first research question, post-hoc analysis of variance (ANOVAs) using the Tukey test was conducted to compare mean differences between the groups. Although timing of divorce doesn’t appear to make much difference, there were some interesting patterns. For mother-child relationship, the two intact groups had higher mean scores than the six divorced groups. For father-child relationship, the intact groups had
the highest means ($M= 3.58$ for females; $M=3.52$ for males) whereas the preschool groups had the lowest means ($M=2.91$ for females; $M=3.03$ for males). For the family impact scale, the intact groups had much higher mean scores ($M=3.99$ for females; $M=4.14$ for males) than the divorced groups. Within the divorced groups, gender differences were present with males scoring higher than females. For emotional regulation, only gender differences were evident with higher mean scores for males than females. As for the outcome variable, there were no differences between the groups. Table 1 contains the means and standard deviations for the variables in the study for each of the eight groups.

Prior to testing the measurement model, a consistency check was conducted to ensure that the data on family structure represented legitimate response patterns. Based on the results, all of the participants responded within the appropriate range. The analyses for the present study were tested with structural equation modeling (SEM) procedures using the Analysis of Moment Structures program (AMOS, v. 5; Arbuckle & Wothke, 1999). In testing the measurement model, exploratory factor analysis indicated the need to drop direct correlations between some of the variables. As a result, only two mediators retained direct effects on relationship quality: mother-child relationship and emotional regulation. The remaining mediators play an important indirect role between the groups and relationship quality. All indicators of the latent variables were found to have strong factor loadings in the model. As an example, see Figure 4 and Figure 5 for illustrations of the initial structural model and the current measurement model for Group 2 (male adolescence divorce).
Separate analyses were first run for each of the eight cohorts, followed by 16 additional analyses, each comparing two groups based on gender or structure issues. SEM is particularly advantageous for evaluating models such as the present one because it streamlines the process of statistically comparing differences across multiple groups. In addition, SEM can statistically estimate the parameters in the entire system of variables simultaneously while correcting for measurement error.

Consistent with the second research question, model fit and estimations were calculated to test whether the path model fit the data across the eight groups. In order for an SEM model to have good fit, the Tucker Lewis Index (TLI) and the Comparative Fit Index (CFI) should be over .90, with the Root Mean Square Error of Approximation (RMSEA) below .05 (Hu & Bentler, 1999). The initial estimate of the model did not adequately fit the data across all groups. The residuals between the mother-child relationship scale and the father-child relationship scale as well as certain residuals in the family impact scale were highly correlated in most groups. An analysis of the correlated errors and modification indices indicated the need to allow correlations between these parameters in order to improve model fit. Since these correlations made theoretical sense, modifications were made to all eight models. Modification indices also suggested the need for residuals in family impact and emotional regulation to be correlated for the male adolescence group to improve the model, but it was not theoretically sound to correlate these parameters, and doing so would have made the model inconsistent with the other comparison groups. As a result, most of the modified models showed good fit statistics, indicating that the path model fit the data relatively well across all the groups. Goodness of fit estimates are shown in Table 3.
There were some interesting distinctions between the results for each group (see Figures 6-9). The model for Group 5 (female intact) and Group 2 (male adolescence divorce) better predicted the variance in relationship quality ($R^2 = .31$ each), whereas the model explained the least amount of variance for relationship quality ($R^2 = .17$) for Group 7 (female childhood divorce). Parent-child relationships accounted for the largest amount of the variance in family impact for Group 2 (male adolescence divorce; $R^2 = .59$), while explaining the least amount of the variance for Group 3 (male childhood divorce; $R^2 = .23$). This was most likely due to the larger magnitude father-child relationship had in Group 2. The path from family impact was a better predictor of emotional regulation for Group 4 ($\beta = .52, p<.001$) than for any other group. The direct path from mother-child relationship to relationship quality was significantly lower for both preschool divorce groups, especially for females ($\beta = .01$) where there was no relationship. This is probably in part due to the mediating effect of emotional regulation ($\beta = .60, p<.001$). As expected, the covariance for mother-child relationship and father-child relationship became smaller in magnitude based on the length of time spent in a divorced home ($\text{COV}(x,y) = .63, p<.001$ for male intact; $\text{COV}(x,y) = .21, p<.01$ for females preschool divorce).

To test differences between the models and address the third research question, we first conducted a metric variance of factor loading to see if the factor loadings were the same across all groups. As expected, the factor loadings were different across the groups. We then compared the path models two groups at a time, based on timing of divorce or gender. In order to do this, specific pathways are made equal across each group. In general, the structural model was robust amongst the divorce groups, meaning that they did not differ significantly one from another. Of the 16 models, only two were
statistically different. Model G1 & G5 (male intact compared with female intact) and G5 & G8 (female intact and female preschool) were found to have significant differences between the pathways ($\chi^2 = 14.784, p=.011$ and $\chi^2 = 20.468, p=.001$, respectively). In terms of gender, the direct path from mother-child relationship to relationship quality was statistically more predictive for males (for example, $\beta = .20, p<.01$ for adolescence group) than females ($\beta = .16, p<.01$ for adolescence).

Discussion

In this study, we attempted to test the proposition that a family history of divorce would be associated with adult children’s relationship quality and/or the deficits in the mediating variables correlated to relationship quality. In particular, specific questions regarding the developmental timing of divorce were addressed. While we can conclude from the data that parent-child relationships, family impact variables, and emotional regulation are important predictors of relationship quality, there are four notable findings in this study. First, individuals from intact homes report higher levels of parent-child relationships, family impact, and relationship quality than individuals from divorced homes. Second, parent-child relationships, family impact, and emotional regulation collectively and adequately mediate the effects of family structure on relationship quality. Third, there are some different patterns between the results for males and females. Fourth, timing of divorce does not appear to impact the model.

Previous studies on the intergenerational transmission of divorce indicate that adult children who experience the disruption of their parents’ marriage are generally more likely to experience problematic parent-child relationships (Amato & Booth, 1991), suffer psychological and emotional maladjustments (Amato, 1993), and have more
relationship problems than those from intact homes (Bumpass & Lu, 2000; Bumpass & Sweet, 1972; Kelly & Emery, 2003; Webster, Orbuch & House, 1995). This study confirms most of these findings. The intact groups reported more positive relationships with their parents, family impact, and relationship quality than the remaining six divorced groups. The length of time spent in a divorced home also influenced the father-child relationship scale. The intact groups reported the highest quality of relationship with the fathers while the groups that experienced divorce during the preschool stage reported the lowest quality of relationship with their fathers. While the quality of mother-child relationships was also lower for the divorced groups, the differences were not as large as the father-child relationship. Amato & Booth (1991), in their analysis found that parental divorce was associated with decreased contact with both parents, although the association was stronger for fathers than mothers. It would make sense then that less contact between parents and children would typically decrease the perceived amount of quality with parents. In the case that fathers are typically the noncustodial parent, children may associate this with a lower quality relationship, especially if divorce occurred at a very young age.

The intact groups have significantly higher scores on the family impact scale than those from divorced homes. This follows the general assumption that individuals who experience less family-of-origin problems have less to come to terms with than those from homes where there were more challenges. Pertaining to the dependent variable, some studies have shown a moderate link between parental divorce and lower marital quality (Amato & Booth, 1991; Glenn & Kramer, 1987) while others have not (Feng, Giarrusso, Bengston, & Frye, 1999). In our findings, although the intact groups report
higher relationship quality than those from divorced homes, the differences are relatively small in magnitude, indicating a couple possibilities. Either there really is not much difference between the intact and divorced groups in terms of relationship quality, or there may be other factors we are not adequately addressing in this study. For example, selecting only those who have been married for two to six years from the sample may have resulted in more differences between the groups. Couples who are seriously dating for six months view their relationship differently than those who have experienced a few years of marriage together.

Second, each mediating variable and their pathways are important in effecting relationship quality. In particular and consistent with previous findings, the family impact scale is especially instrumental in “filtering” family-of-origin experiences onto relationship quality (Busby, Gardner, & Taniguchi, 2005; Martinson, 2005). Although previous studies have shown the importance of parent-child relationships on relationship quality (Holman & Associate, 2001), exploratory factor analysis indicated the need to drop the direct correlation between father-child relationship and relationship quality. Yet, the amount of variance it explains for in the family impact scale is significant, indicating the importance of mediating variables between family background and adult romantic relationship. This particular finding supports recent suggestions that understanding how individuals are influenced by family background and the extent that they have come to terms with the past is important, if not more important, in understanding adult romantic relationships (Busby, Gardner, & Taniguchi, 2005; Martinson, 2005).
According to attachment theory, children develop emotional regulation strategies based on the quality of relationship with parents (Cooper, Shaver, & Collins, 1998; Keiley, 2002). In the case with children who experience divorce in their homes, some findings suggest that the disruption in the attachment bonds with parents, particularly the noncustodial parent, is an important predictor of external and internal outcomes (Holland, Moretti, Verlann, & Peterson, 1993). Given that the divorce groups reported lower quality of relationships with both parents, we anticipated finding a variance in emotional regulation between those who experienced divorce and those from intact homes. Consistent with some past findings (i.e. Hannum & Dvorak, 2004), however, we did not find any pattern of differences between the divorce and intact groups. Furthermore, although this scale works well in the model, neither divorce, nor the timing of divorce changed the manner in which emotional regulation explained relationship quality.

The third finding in this study is that gender differences exist between the SEM models, especially in the parent-child relationship scales. In particular, mother-child relationships have more effect on family impact scale and relationship quality for males who experienced divorce than for females from divorced homes. In comparing the means, females from intact homes reported the highest father-child relationships, while the divorce groups consistently had lower mean scores than males on this scale. This finding is congruent with previous results suggesting the vulnerability of the father-daughter relationship in divorced families (Amato & Booth, 1991; Morrison & Coiro, 1999, Wallerstin & Kelly, 1980).

Gender differences were also evident in the family impact and emotional regulation scales. In the divorce groups, males had higher means than females on the
family impact scale while females from all groups, including the intact one, had significantly lower means than all male groups on emotional regulation. Based on these results and the previous notion that women are the “relationship architects” (Wamboldt & Reiss, 1989), differences in the relationship quality scale between gender were expected but not found.

Lastly, when comparing groups, timing of divorce had little impact on the model. Although some findings suggest that adults who experience parental divorce during the preschool stage are most disadvantaged, the only evidence of this was when comparing the female intact group with female preschool divorce. In the preschool group, parent-child relationships explain less of the variances in the model than in the model for the intact group. Most notably, mother-child relationship has no direct impact on relationship quality. Even at the bivariate level, the two variables are not significantly correlated ($r = .05$). No theoretical explanation can be given for this finding except that there are other factors not accounted for in assessing this group.

The lack of findings regarding the effects of age is somewhat consistent with previous studies. When Amato & Booth (1991) studied the effect of age on marital quality, they found little difference between the groups. One of the reasons we did not find much difference between the groups may be partly due to the fact that this study did not separately analyze the model based on relationship status and length. With only about 25% of the sample reportedly married, this study did not consider the moderating effects of relationship status on the mediators and relationship quality. Doing so might have generated more differences between the groups and permitted an examination for the prediction of changes in outcome variables. Furthermore, because of the large
variance in the sample’s length of relationships, there may be an attrition affect with divorced couples. Given that the sample includes individuals in long-term relationships, and knowing that parental divorce is linked with adult children’s subsequent divorce, individuals who divorced may not have had the opportunity to be appear in the study. The exclusion of this data may have muted the effect of parental divorce on emotional regulation and relationship quality.

Limitations

This study has three general limitations that should be considered while interpreting the results. The first limitation is a result of the sampling procedures used to collect the data. An ideal sample would have been one collected from a longitudinal assessment however the sample analyzed came from cross-sectional data. As a result, the data could be biased by memory loss or poor recollection on issues pertaining to family-of-origin experiences. Longitudinal data collection, although costly in terms of time and money, may provide more accurate assessment of the measures.

The second limitation also pertains to the sample. Although the sample is representative in terms of race, it is not representative in other aspects. More than a third of the sample were enrolled in college and more than half were well below the poverty line (presumably because of their student status). As a result, we miss the data from individuals who are less educated as well as data from those who may be at higher risk for future relationship problems.

The third limitation pertains to the family structure measures. Although the response category works for most individuals, they are not mutually exclusive. For example, individuals living in a home for five years with a step-father who adopted them
could answer living with an adoptive parent for five years as well as living with a step-parent for five years. Researchers analyzing this data might assume that 10 years were spent in two different family arrangements. In addition, the questionnaire collects information on the number of years spent in a certain family composition. Yet, this tells little about the age of the child during the transitions. In the present study, we calculated an approximation based on the number of years reportedly in a biological and divorced structure. This may have been one reason we did not find many distinctions between the timing of divorce and the outcome variables. Future studies using data on the age of the child when parents divorced would most likely find more accurate findings.

Implications for Future Research

The findings from this study carry important implications for future marital researchers. As is evident from this study, the effects of divorce are not always clear on personal and relational outcomes. Rather than imparting a global view on the impact of divorce, it may be more important to identify certain risk factors as well as the protective factors, since they continue to be unclear (Feng, Giarrusso, Bengston, & Frye, 1999). This is particularly critical for researchers studying divorce prevention. Although this study failed to find many distinctions between the timing of divorce and relationship quality, one notable finding was that the mother-daughter and father-daughter relationships decreased based on the amount of time spent in a nontraditional home for females. Because the divorce literature has inconsistent findings on the age effect of divorce, future studies with more accurate age measures are needed to understand how parental divorce during different ages impact future marital quality.
In addition, although parental divorce and the relational side effects that come with it are sometimes viewed as static, this study shows the importance of understanding the mechanisms through which they impact relationship variables. In particular, this study shows the importance of current family-of-origin thinking on relationships. Children from divorced homes cannot change their parent’s dissolution, but they can find ways to deal with the challenges they experienced.

Finally, because relationships develop and change during different life stages, longitudinal studies are needed to understand the impact of divorce and the developmental process of relationship quality over the life course. Such studies would explain the long-term effects of parental divorce on adult children’s relationships.

Conclusions

The purpose of this study was to expand previous research by examining divorce and the developmental timing of it on adult children’s relationship quality. This study found little difference between timing of divorce and relationship quality. However, this study found that the effects of parent-child relationships are explained through family impact, or the way family experiences are perceived. Emotional regulation works well in the model, but does not vary based on family-of-origin experiences. Finally, the outcomes of divorce are different between genders. For females, in particular, their parent-child relationships decrease as they spend more time in a non-intact home.
References


Figure 1

*Theoretical Model*
Figure 2

*Vulnerability-Stress-Adaptation Model of Marriage (Karney & Bradbury, 1995)*
Figure 3

Model of Premarital Factors Relationship to Marital Quality (Holman & Associates, 2001)
Figure 4

*Initial Structural Model (Group 2)*
Figure 5

Measurement Model
Figure 6  
*Unstandardized and (Standardized) Path Coefficients: Intact*

**Group 1: Male Intact**

**Group 5: Female Intact**
Figure 7  Standardized Path Coefficients: Adolescence

Group 2: Male Adolescence Divorce

Group 6: Female Adolescence Divorce
Figure 8  Standardized Path Coefficients: Childhood

**Group 3: Male Childhood Divorce**

![Path diagram for Group 3: Male Childhood Divorce]

- Father-child Relationship
- .23 (.25)**
- .36 (.37)***
- .23 (.39)***
- .14 (.20)*

- Mother-child Relationship
- .36 (.37)***
- .23 (.39)***

- Family Impact
  - $R^2 = .23$
  - .36 (.37)***

- Emotional Regulation
  - $R^2 = .26$
  - .43 (.51)***

- Relationship Quality
  - $R^2 = .26$
  - .42 (.39)***

*p<.05  **p<.01  ***p<.001

**Group 7: Female Childhood Divorce**

![Path diagram for Group 7: Female Childhood Divorce]

- Father-child Relationship
- .12 (.22)***
- .29 (.37)***

- Mother-child Relationship
- .36 (.35)***
- .12 (.22)***

- Family Impact
  - $R^2 = .31$
  - .36 (.35)***

- Emotional Regulation
  - $R^2 = .25$
  - .38 (.50)***

- Relationship Quality
  - $R^2 = .17$
  - .38 (.31)***

**p<.01  ***p<.001
Figure 9  
Standardized Path Coefficients: Preschool

Group 4: Male Preschool Divorce

Group 8: Female Preschool Divorce
Table 1

*Sample Characteristics*

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<td>2606</td>
<td>99.6</td>
<td>3423</td>
<td>99.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yearly Income</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>92</td>
<td>3.5</td>
<td>327</td>
<td>9.5</td>
</tr>
<tr>
<td>Under $5,000</td>
<td>307</td>
<td>11.7</td>
<td>703</td>
<td>20.4</td>
</tr>
<tr>
<td>$5,000-$14,999</td>
<td>428</td>
<td>16.4</td>
<td>626</td>
<td>18.2</td>
</tr>
<tr>
<td>$15,000-$24,999</td>
<td>313</td>
<td>12.0</td>
<td>358</td>
<td>10.4</td>
</tr>
<tr>
<td>$25,000-$29,999</td>
<td>185</td>
<td>7.1</td>
<td>240</td>
<td>7.0</td>
</tr>
<tr>
<td>$30,000-$39,999</td>
<td>304</td>
<td>11.6</td>
<td>389</td>
<td>11.3</td>
</tr>
<tr>
<td>$40,000-$49,999</td>
<td>225</td>
<td>8.6</td>
<td>278</td>
<td>8.1</td>
</tr>
<tr>
<td>$50,000-$74,999</td>
<td>338</td>
<td>12.9</td>
<td>278</td>
<td>8.1</td>
</tr>
<tr>
<td>$75,000-$100,000</td>
<td>167</td>
<td>6.4</td>
<td>123</td>
<td>3.6</td>
</tr>
<tr>
<td>Over $100,000</td>
<td>255</td>
<td>9.7</td>
<td>112</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>2614</td>
<td>99.9</td>
<td>3434</td>
<td>99.6</td>
</tr>
</tbody>
</table>

*N=6,066

*Total does not equal 100% due to rounding as well as issues regarding mutual exclusivity with the Hispanic population.
Table 2

Means and Standard Deviations for Each Group

Males

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intact</td>
<td>Adolescence</td>
<td>Childhood</td>
<td>Preschool</td>
</tr>
<tr>
<td></td>
<td>$n = 1,893$</td>
<td>$n = 198$</td>
<td>$n = 205$</td>
<td>$n = 320$</td>
</tr>
<tr>
<td>Composite Scales</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Mother-child Relationship</td>
<td>3.92$^{2,3}$</td>
<td>.80</td>
<td>3.67$^1$</td>
<td>.97</td>
</tr>
<tr>
<td>Father-child Relationship</td>
<td>3.52$^{2,3,4}$</td>
<td>.96</td>
<td>3.15$^1$</td>
<td>1.09</td>
</tr>
<tr>
<td>Family Impact</td>
<td>4.14$^{2,3,4}$</td>
<td>.77</td>
<td>3.65$^1$</td>
<td>.83</td>
</tr>
<tr>
<td>Emotional Regulation</td>
<td>3.59</td>
<td>.50</td>
<td>3.63</td>
<td>.45</td>
</tr>
<tr>
<td>Relationship Quality</td>
<td>3.97</td>
<td>.54</td>
<td>3.91</td>
<td>.58</td>
</tr>
</tbody>
</table>

Females

<table>
<thead>
<tr>
<th></th>
<th>Group 5</th>
<th>Group 6</th>
<th>Group 7</th>
<th>Group 8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intact</td>
<td>Adolescence</td>
<td>Childhood</td>
<td>Preschool</td>
</tr>
<tr>
<td></td>
<td>$n = 2,404$</td>
<td>$n = 324$</td>
<td>$n = 295$</td>
<td>$n = 425$</td>
</tr>
<tr>
<td>Composite Scales</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Mother-child Relationship</td>
<td>3.93$^{7,8}$</td>
<td>.92</td>
<td>3.75</td>
<td>1.02</td>
</tr>
<tr>
<td>Father-child Relationship</td>
<td>3.58$^{6,7,8}$</td>
<td>.97</td>
<td>3.13$^5$</td>
<td>1.03</td>
</tr>
<tr>
<td>Family Impact</td>
<td>3.99$^{6,7,8}$</td>
<td>.90</td>
<td>3.26$^5$</td>
<td>.91</td>
</tr>
<tr>
<td>Emotional Regulation</td>
<td>3.40</td>
<td>.52</td>
<td>3.36</td>
<td>.49</td>
</tr>
<tr>
<td>Relationship Quality</td>
<td>3.94</td>
<td>.62</td>
<td>3.87</td>
<td>.65</td>
</tr>
</tbody>
</table>

Note: The minimum possible value of each scale was 1 while the maximum possible value was 5.
Table 3

*Model Fit*

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1: Male Intact</td>
<td>480.979</td>
<td>108</td>
<td>.950</td>
<td>.965</td>
<td>.043</td>
</tr>
<tr>
<td>G2: Male Adolescence</td>
<td>197.936</td>
<td>108</td>
<td>.883</td>
<td>.917</td>
<td>.065</td>
</tr>
<tr>
<td>G3: Male Childhood</td>
<td>142.673*</td>
<td>108</td>
<td>.943</td>
<td>.960</td>
<td>.040</td>
</tr>
<tr>
<td>G4: Male Preschool</td>
<td>185.088</td>
<td>108</td>
<td>.933</td>
<td>.953</td>
<td>.047</td>
</tr>
<tr>
<td>G5: Female Intact</td>
<td>572.708</td>
<td>108</td>
<td>.960</td>
<td>.972</td>
<td>.042</td>
</tr>
<tr>
<td>G6: Female Adolescence</td>
<td>213.809</td>
<td>108</td>
<td>.926</td>
<td>.948</td>
<td>.055</td>
</tr>
<tr>
<td>G7: Female Childhood</td>
<td>179.422</td>
<td>108</td>
<td>.929</td>
<td>.950</td>
<td>.047</td>
</tr>
<tr>
<td>G8: Female Preschool</td>
<td>269.259</td>
<td>108</td>
<td>.914</td>
<td>.939</td>
<td>.059</td>
</tr>
</tbody>
</table>

*TLI = Tucker Lewis Index; CFI = Comparative Fit Index; RMSEA = root mean square error of approximation*  
* $\chi^2$ is statistically significant at $p<.05$. The remaining $\chi^2$ are significant at $p<.001.$
Table 4

Path Model Differences Between Groups

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>$\chi^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1 &amp; G2</td>
<td>Male Intact &amp; Male Adolescence</td>
<td>2.793</td>
<td>5</td>
<td>.732</td>
</tr>
<tr>
<td>G1 &amp; G3</td>
<td>Male Intact &amp; Male Childhood</td>
<td>3.497</td>
<td>5</td>
<td>.624</td>
</tr>
<tr>
<td>G1 &amp; G4</td>
<td>Male Intact &amp; Male Preschool</td>
<td>3.267</td>
<td>5</td>
<td>.659</td>
</tr>
<tr>
<td>G1 &amp; G5</td>
<td>Male Intact &amp; Female Intact</td>
<td>14.784</td>
<td>5</td>
<td>.011</td>
</tr>
<tr>
<td>G2 &amp; G3</td>
<td>Male Adolescence &amp; Male Childhood</td>
<td>2.272</td>
<td>5</td>
<td>.810</td>
</tr>
<tr>
<td>G2 &amp; G4</td>
<td>Male Adolescence &amp; Male Preschool</td>
<td>2.931</td>
<td>5</td>
<td>.711</td>
</tr>
<tr>
<td>G2 &amp; G6</td>
<td>Male Adolescence &amp; Female Adolescence</td>
<td>1.117</td>
<td>5</td>
<td>.953</td>
</tr>
<tr>
<td>G3 &amp; G4</td>
<td>Male Childhood &amp; Male Preschool</td>
<td>1.980</td>
<td>5</td>
<td>.852</td>
</tr>
<tr>
<td>G3 &amp; G7</td>
<td>Male Childhood &amp; Female Childhood</td>
<td>2.346</td>
<td>5</td>
<td>.799</td>
</tr>
<tr>
<td>G4 &amp; G8</td>
<td>Male Preschool &amp; Female Preschool</td>
<td>5.702</td>
<td>5</td>
<td>.336</td>
</tr>
<tr>
<td>G5 &amp; G6</td>
<td>Female Intact &amp; Female Adolescence</td>
<td>5.360</td>
<td>5</td>
<td>.374</td>
</tr>
<tr>
<td>G5 &amp; G7</td>
<td>Female Intact &amp; Female Childhood</td>
<td>4.396</td>
<td>5</td>
<td>.494</td>
</tr>
<tr>
<td>G5 &amp; G8</td>
<td>Female Intact &amp; Female Preschool</td>
<td>20.468</td>
<td>5</td>
<td>.001</td>
</tr>
<tr>
<td>G6 &amp; G7</td>
<td>Female Adolescence &amp; Female Childhood</td>
<td>3.452</td>
<td>5</td>
<td>.631</td>
</tr>
<tr>
<td>G6 &amp; G8</td>
<td>Female Adolescence &amp; Female Preschool</td>
<td>6.175</td>
<td>5</td>
<td>.290</td>
</tr>
<tr>
<td>G7 &amp; G8</td>
<td>Female Childhood &amp; Female Preschool</td>
<td>9.043</td>
<td>5</td>
<td>.107</td>
</tr>
</tbody>
</table>