HOW FATHERS INFLUENCE THEIR ADOLESCENTS’ SELF-ESTEEM:
A LONGITUDINAL ASSESSMENT

by

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A thesis submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Master of Science in Human Development and Family Studies

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ABSTRACT

This study used data from the first two collection intervals of the National Longitudinal Study of Adolescent Health (Add Health) to investigate whether various dimensions of fathering were able to predict adolescent self-esteem a year later. Fathering was separated into five distinct dimensions or categories: availability, engagement, verbal involvement, school involvement, and relationship quality. This study also looked at whether baseline levels of the five fathering variables could predict their corresponding levels a year later. Finally, this study examined whether an adolescent’s self-esteem level at baseline is able to predict self-esteem level a year later. The results demonstrated that baseline levels of all five fathering variables and adolescent baseline self-esteem level predicts self-esteem level a year later. Furthermore, four of the five fathering variables (all but verbal involvement) provided a statistically significant prediction of adolescent self-esteem a year later. Of the four statistically-significant fathering variables, relationship quality provided the strongest relationship. This finding suggests that while behavioral measures of involvement such as engagement and availability do provide significant, albeit small contributions to adolescent self-esteem, an adolescent’s unique perception of their fathers’ involvement (relationship quality) may be a stronger predictor of their self-esteem.
Chapter 1
INTRODUCTION

G. Stanley Hall’s legacy on the period of adolescence may be that he characterized it as a time of raging hormones and storm and stress (Dahl & Harris, 2005). Since the early twentieth century this claim has been for the most part discredited with many adolescents progressing through the period of adolescence with little outward difficulty. However, adolescence still represents a time of great transition and opportunities to shape trajectories for positive or negative developmental outcomes. Call, Riedal, Hein, McLoyd, Peterson, & Kipke (2002) have described adolescence as a time for both positive and negative changes. One of the many changes during adolescence is growth in one’s level of self-esteem. Self-esteem has been defined as a person’s overall evaluation of themselves (Bachman, O’Malley, Freedman-Doan, Trzesniewski, & Donnellan, 2011). Most teenagers experience gradual increases in self-esteem during adolescence (Coleman and Hendry, 1990; Scriven & Stevenson, 1998) although decreases or disruptions in self-esteem can occur. Thankfully, these decreases and disruptions are usually temporary (Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991). Therefore, while a person’s evaluation of self may increase or decrease in particular areas, overtime and overall an individual’s evaluation of self will reflect a net increase during adolescence. In general, girls are more likely to have less positive self-evaluations (Bachman, et al., 2011) while boys typically report higher levels of self-esteem during adolescence (Wigfield, et al., 1991).
Well-being and Self-Esteem

Within the well-being literature, self-esteem has been positioned as one of several constructs used to assess well-being. Masse, Poulin, Dassa, Lambert, Belair, and Battaglini (1998) reported well-being having six distinct dimensions: control of self and events, happiness, social involvement, self-esteem, mental balance and sociability. Studies have also looked at other dimensions such as global life satisfaction and positive affect to assess well-being (Huebner, Gilman, & Laughlin, 1999). Well-being is not only multi-faceted but each dimension may be predicated upon the social context and the meanings carried within that context. For example, Diener and Diener’s (1995) cross cultural study found that self-esteem and life satisfaction were highly correlated across the entire sample but that the relationship was moderated by the culture’s level of individualism. In other words, in individualistic cultures that place high value on the individual such as the United States, the relationship between self-esteem and life satisfaction were higher than in collectivist cultures such as Japan where there is less emphasis on an individual’s satisfaction. Furthermore, this study will be assessing adolescent self-esteem levels of American adolescents and self-esteem has been shown to be a strong correlate of well-being in individualistic societies (Diener, Suh, Lucas, & Smith, 1999).

Relationship with Parents and Self-Esteem during Adolescence

Studies have shown that parents play an instrumental role in their child’s transition to adulthood and development of healthy emotional functioning (Boutelle,
Eisenberg, Gregory, & Neumark-Sztainer, 2009). Using an ethnically and socioeconomically diverse sample of adolescents in the St. Paul/Minneapolis area, Boutelle, et al. (2009) found that parent-child connectedness predicted increases in adolescent self-esteem and decreases in depressive symptoms in both males and females. In another study, authoritative parenting style which is characterized by high discipline and high warmth was related to higher levels of adolescent self-esteem (Milevsky, Schlechter, Netter, & Keehn, 2007). Adolescents who report having greater levels of parental support also describe themselves as having more self-worth and self-competence (Rubin, Dwyer, Booth-LaForce, Kim, Burgess, & Rose-Krasnor, 2004). Additionally, adolescents who are securely attached to their parents report having higher levels of self-esteem than those having insecure attachments to their parents (Laible, Carlo, & Roesch, 2004). Thus, parents and caregivers play an important role in supporting and protecting of their child’s psychosocial development by promoting self-esteem and self-reliance through close, warm relationships during adolescence (Boutelle et al., 2009).

Fathering and Self-Esteem during Adolescence

Research studies have often used aggregate measures, or combined scores of mothers and fathers, for assessing parental influences on children’s well-being (Bulanda & Majumdar, 2009). As a result only modest investigation has been done to assess the effect fathers have on adolescent well-being. This has led some to argue that little is known about the influence fathers have on adolescent’s social competence (Rubin et al., 2004; Parke, McDowell, Kim, Killian, Dennis, Flyr, & Wild, 2002) and well-being (Videon, 2005). Sir Richard Bowlby, son of attachment pioneer John
Bowlby, has stated that “we must push to really understand the father’s role in children’s emotional lives” (Newland & Coyl, 2010, p.31). Attachment to father has been shown to be positively related to higher levels of self-esteem (Noo, Dekovic, & Meeus, 1999). Others have found paternal factors to outweigh maternal factors in predicting emotional symptoms (Michiels, Grietens, Onghena, & Kuppens, 2010). Furthermore, children with positively involved fathers show more psychological adjustment, perform better in school, display less antisocial behavior, and have more successful intimate relationships than children with uninvolved fathers, or those with negatively involved fathers (Flouri & Buchanan, 2003). When adolescents have a quality relationship with their fathers, there is an increased likelihood that their adult life will be happy, satisfying, and be characterized by lower degrees of psychological distress (Aquilino, 2006). Positive father involvement affects social competence, interpersonal skills, self-esteem levels, and proper emotional adjustment (Williams & Kelly, 2005).

**Fathering in the U.S.**

A recent survey revealed that 72% of Americans believe that the issue of “fatherlessness” is the most significant family or social problem (DeBell, 2007). To clarify, fatherlessness is used to describe issues of father absence or neglect. No one is actually “fatherless”, if only from a biological perspective. Research studies have shown that fathers play an important role in the healthy development of children (e.g. Finley & Schwartz, 2006) so focusing on fatherlessness from a family or social
perspective does highlight several concerns. Boys especially have been found to be severely harmed by growing up in families where their fathers are absent for long periods of time (Lamb, 2000). Although family and situational circumstances may dictate the level of involvement to a degree (Williams, 2008), contemporary men generally want and expect to be involved in their children’s lives and at much greater levels than fathers of previous generations. This attitude towards fathering as Lamb (2000) highlights is indicative of the nurturant father. As nurturant fathers, men are expected to be involved in the daily activities and day-to-day caregiving of their children (Lamb, 2000). Fathers assume the responsibilities of prior eras such as role modeling, moral teaching, or the traditional “breadwinner”, while also being highly-involved with their children on a daily basis. The onset of this ideological shift towards fathering has been attributed by some to the sexual revolutions of the 1960’s and 70’s (Finley & Schwartz, 2006). Additionally, Atkinson and Blackwelder (1993) state that women’s behavior and definitions of what it means to be a man or woman have been undergoing renovations since the 1900’s. Accordingly, with women entering the workforce in increasing numbers over the past several decades, men have increased interaction time with their children. Mothers are away from the home more, but are not less engaged with their kids overall. Women are actually spending the same amount of time with their children as in prior decades; men have just significantly increased their involvement over this time frame (Livingston & Parker, 2011). This has created a higher expectation for men to be available to and involved with their children to a greater extent. There is however a bit of disconnect between
what men say they should be doing and what they actually do. LaRossa (1988) has made a similar statement distinguishing the disconnection between the culture and conduct of fatherhood. Specifically, (ideal) role prescriptions for involved fatherhood often surpass the observed behavioral levels of paternal engagement. This may be because fathers’ parenting behaviors often mirrors how their fathers parented them and their perceptions of fathering are gathered from the negative or positive experiences with their own fathers (Morman & Floyd, 2006). Williams (2008) conducted interviews with fathers and found that the breadwinner was still the dominant view of fathering. Fathers were aware of the preferred type of fathering (i.e., what they should be doing) but confessed it was not how they were actually parenting. They believed that societal circumstances have changed like women entering the workforce and that traditional models of fathering had now become outdated (Williams, 2008). The majority of fathers rejected their own father’s style of parenting saying it was no longer relevant. As a result, fathers believed that they were now expected to be more involved in the family process and even wished that their own fathers would have been more involved with them as children (Williams, 2008). Interestingly though, these men confessed that it was still unclear what “involved” truly meant but they were pretty clear about what it meant to be “uninvolved” (Williams, 2008). This sentiment suggests that fathers are struggling to navigate through the disjunctions between contemporary views of fathering and the traditional roles of earlier periods (Williams, 2008). In families with adolescents this struggle with appropriate conduct of fathering roles can be exacerbated. Parents and adolescent children are up against
many individual and family transitions including role renegotiation and increases in autonomy and personal space. These transitions can thwart involvement, facilitate involvement, or create tensions between fathers, their parenting partners, and adolescents. The manner in which these obstacles will be handled depends in part on the history of the father-child relationship and their style of attachment.

Theoretical Consideration: Attachment Theory

Attachment theory draws its principles from several theoretical backgrounds including psychoanalytic, cognitive, and ethological theories. Adopted from the psychoanalytic tradition is the idea that parents play a critical role in opening children up to the outside world (Paquette, 2004). Cognitive and ethological theories have provided attachment theory with its constructs of the internal working model and the secure base for exploration, respectively. Bowlby (1973) stated that individuals build internal working models of how attachment figures behave towards them in a wide variety of settings and situations. These internal working models then serve as templates to build expectations and future plans about relationships. The secure base for exploration is described as a safe haven, a place of retreat and comfort in times of distress. Parental support, in light of attachment behaviors, supplies the child with information to construct a schema about relationships and is a basis for interpretation and action in settings of peer interaction (Parker & Benson, 2004). During adolescence when identity formation and exploration is usually most pronounced, healthy parent-child relationships can provide a secure base for individuals to explore and express
their feelings and opinions (Freeman & Almond, 2010). A healthy, internalized schema of parental support can encourage safe negotiation of autonomy and promote a healthy trajectory towards adaptive social functioning (Parker & Benson, 2004).

Historically, studies grounded in attachment theory have focused primarily on the mother-infant relationship. The pioneering work of Mary Ainsworth’s “Strange Situation” in the 1970’s (Bretherton, 2010) has been the platform for a rich body of research on infant attachment. Father-child attachment on the other hand has been a growing field of study and research in this area has shown the beneficial effects of a nurturing, positively involved father for children. However, compared to the empirical evidence available for mother-child attachments and relationships, father-child attachment studies are still scant. Furthermore, little is known about the attachment relationships that children have with their fathers during adolescence. The scope and goal of the current study is to seek a greater understanding of the father-child relationship during adolescence and how this relationship affects adolescent’s self-esteem levels. Additionally, this project was informed and guided by original research published by Bulanda and Majumdar (2009) in their paper Perceived Parent-Child Relations and Adolescent Self-Esteem. Their work used data from Wave I of the National Longitudinal Study of Adolescent Health (Add Heath) to investigate the effects of paternal and maternal parenting on adolescent self-esteem. Their study included the following measures of parenting: parental availability, parental involvement, and parent-child relations. The current project used similar measures of parenting except for parental involvement which was expanded into three distinct
dimensions of involvement. Furthermore, the dependent variable, *adolescent self-esteem*, was modified for the current study by including three additional items in the measure which also resulted in a higher alpha reliability. Thus, this project complements the work published by Bulanda and Majumdar (2009) by expanding and refining their measures and by extending analysis beyond the Wave I data to include Wave II data. Therefore, a further purpose of this study is to assess whether the independent variables (parenting measures), at Wave I can predict the dependent variable (adolescent self-esteem) at Wave II. Additionally, this study purposed to investigate whether baseline levels of the parenting measures and adolescent self-esteem could predict their levels at Wave II. For example, can adolescent self-esteem at Wave I predict adolescent self-esteem at Wave II?

**Research Questions**

- To what extent do father involvement, father availability, and father’s relationship quality with their adolescent child predict adolescent psychological well-being as indicated by adolescent self-esteem?
- Do father’s involvement, availability, and relationship quality with their adolescent child at baseline predict father’s availability, involvement, and relationship quality at Time 2?
- Does an adolescent’s baseline self-esteem level predict their self-esteem level at Time 2?
Do father’s involvement, availability, and relationship quality with their adolescent child at baseline predict adolescent’s self-esteem level at Time 2?

**Hypotheses**

- Father involvement, father availability, and father’s relationship quality with adolescent at baseline will each have a significant and independent effect on adolescent self-esteem at Time 2, even after mother’s involvement, mother’s availability, and mother’s relationship quality with the adolescent has been accounted for.

- Father involvement, father availability, and father’s relationship quality with their adolescent at baseline will predict their involvement, availability, and relationship quality at Time 2.

- An adolescent’s self-esteem at baseline will predict their self-esteem at Time 2.
Chapter 2

METHODS

Sample and Data Information

This project is a secondary analysis of data collected during the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a nationally representative sample of adolescents in the United States in grades 7-12. The purpose of Add Health was to study how behaviors and environmental influences in adolescence affect a variety of health and achievement outcomes in early adulthood. The Add Health Sample design included 80 high schools and 52 middle schools across the United States. Using systematic sampling methods, stratification, and oversampling, Add Health assures researchers that the sample is representative of schools in the US in regard to school size, ethnicity, region of the country, and school type (Harris, Halpern, Whitsel, Hussey, Tabor, Entzel, & Udry, 2009). Additionally, a genetic sample containing pairs of siblings living in the same household including twins, half-siblings, step-siblings, adopted siblings, and foster children was generated to study the role the environment has in development (Harris, et al., 2009). This project will use data from the in-home interviews conducted during the Wave I and Wave II time intervals. Wave I in-home interviews were conducted between April and December 1995 and Wave II in-home interviews were held between April and August 1996. The in-home interview consisted of a variety of questions including family dynamics, peer networks, general health, career goals and aspirations, criminal behaviors, and decision-making processes.
Wave 1 Sampling: In-home

To be eligible for the in-home sample, students had to have completed the in-school questionnaire or be listed on the school roster. Students were stratified by grade and sex. Approximately 17 students were randomly chosen from each stratum resulting in approximately 200 students being selected from each of the 80 pairs of schools. A total of 12,105 students were interviewed (Harris, et al, 2009).

Wave 1 interview

Respondents participated in a 1-2 hour interview depending on age and experiences. All participants received the same interview and the majority of them occurred in the participant’s home. All information was directly recorded on a laptop instead of paper questionnaires via the interviewer or respondent to protect respondent confidentiality (Harris, et al, 2009).

Wave 2 Sampling

The Wave II in-home interview sample included the respondents who participated in the Wave I in-home interview, with the following exceptions:

- Respondents who were in the 12th grade at Wave I and who were not part of the genetic sample were not interviewed at Wave II.
- Respondents who were in only the Wave I disabled sample were not re-interviewed.
- An additional 65 adolescents who were members of the genetic sample and who had not been interviewed at Wave I were recruited at Wave II (Harris, et
al., 2009). Again, the genetic sample consisted of pairs of twins living in the same household including twins, half-siblings, step-siblings, adopted siblings, and foster children (Harris, et al., 2009).

Wave 2 Interview

The Wave II interview was similar to the Wave I interview with a few modifications. For the purpose of the current study, all questions asked during Wave I that were used for measuring the dependent and independent variables were re-asked during the Wave II in-home interview.

Measures

Mentioned below are the independent variables and control variables that resemble those from Bulanda and Majumdar’s (2009) study. The dependent variable was modified for this project to include three additional items not used in Bulanda and Majumdar’s (2009) study. Additionally, father involvement was expanded to include two additional dimensions of involvement not analyzed in Bulanda and Majumdar’s (2009) study. All measures were generated from adolescent’s self-reported answers to questions prompted by the interviewer. Regarding the fathering measures, questions were answered by adolescents in reference their residential father.

Dependent Variable

Adolescent self-esteem is assessed using nine survey items which reflect the adolescent’s feelings and perceptions of themselves. Seven of the items are positively worded and two of the items are negatively worded. The responses to these nine items
were added together to form the respondents self-esteem score. The two negatively worded items, “You thought your life had been a failure” and “You felt life was not worth living”, were reverse coded so that a high score reflects high self-esteem. The scale range is 0-33. The reliability of this scale is 0.82. The nine items included in the self-esteem measure are:

- You felt you were just as good as other people
- You thought your life had been a failure
- You felt life was not worth living
- You have a lot of good qualities
- You have a lot to be proud of
- You like yourself just the way you are
- You feel like you are doing everything just about right
- You feel socially accepted
- You feel loved and wanted

**Independent Variables**

*Father availability* is assessed using three items that asked adolescents whether their father was home when the adolescent a) left for school, b) returned home from school, and c) went to bed. Possible responses ranged from (4) always to (0) never. The father availability score is the sum of these three items with a possible range of 0-12.
Relationship quality with father is assessed using five items that target the adolescent’s attitude, feelings toward, or perception of their relationship with their father. The first two items below had responses of (4) very much to (0) not at all. The last three items had responses of (4) strongly agree to (0) strongly disagree. The Relationship with Father score is the sum of these five items with a response range of 0-20. The reliability of this scale is 0.86. The survey items include:

- How close do you feel to your father?
- How much do you think your father cares about you?
- Most of the time, you father is warm and loving towards you
- You are satisfied with the way you and your father communicate with each other
- Overall, you are satisfied with your relationship with your father

Father involvement was expanded for this analysis to include additional dimensions of involvement. Involvement items came from a section of the in-home interview that asked the adolescent if they had done certain activities with their father in the last four weeks. The number of activities totaled ten. An exploratory factor analysis (EFA) rather than confirmatory factor analysis (CFA) was chosen to determine whether the ten involvement items loaded on the same factor. An important decision in an EFA is to determine the correct number of factors to retain and rotate (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Tabachnick & Fidell, 2007). The most common rule is to retain factors when eigenvalues are $\geq 1.0$. However, using a single criterion tends to under- or over-estimate the number of true latent dimensions (Gorsuch, 1983; Zwick & Velicer, 1986). Thus, each model was evaluated against the
following three rules: (a) eigenvalues greater than 1.0 (Kaiser, 1960); (b) breaks in the line of plotted eigenvalues on the scree plot (Cattell, 1966), and (c) interpretability, which calls for retention of factors that make sense to the researcher (Fabrigar et al., 1999; Gorsuch, 1983). After conducting the EFA, results from Bartlett’s Test of Sphericity (Bartlett, 1954) indicated that the correlation matrix was not random ($\chi^2 = 3,482.8; df = 45; p = .001$). The Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) statistic tests sampling adequacy to infer relationships between variables and values range from 0.0-1.0. The Kaiser-Meyer-Olkin statistic for this analysis was .65 which is above the .60 minimum recommended by Kline (1994).

Figure 1
Scree plot of factors from father involvement EFA
Kaiser’s criterion (1960) which states that factors with eigenvalues greater than 1.0 should be retained suggested that three factors from the current EFA should be retained. The scree plot criterion pointed towards discretionary retention of two or three factors. However, the three-factor solution satisfied requirements for simple structure (i.e. interpretability) in that all variables either (a) showed appreciable factor loadings or (b) loaded on only one factor (Field, 2005; Tabachnick & Fidell, 2007). Thus, the three-factor solution was accepted given the statistical considerations previously mentioned.

Table 1 presents the rotated pattern matrix for the three-factor solution. The three factors were interpreted according to the magnitude and meaning of their salient pattern coefficients. All coefficients were considered against Comrey and Lee’s (1992) standards for appreciable loadings. The first factor was characterized by items targeting father’s concern for and engagement in their adolescent’s school activities. Thus, the first factor was labeled school-involvement. The second factor was characterized by items targeting father’s participating in a variety of activities with their adolescent. These items highly reflect Lamb, Pleck, Charnov, & Levine’s construct of engagement (1985, 1987) and therefore the second factor was labeled engagement. The third factor was characterized by items targeting fathers having a conversation across various topics with their adolescent. Therefore, the third factor was labeled verbal-involvement.
Table 1  
*Rotated Pattern Matrix from father involvement factors*

<table>
<thead>
<tr>
<th>Variable</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad – went shopping</td>
<td>.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – played a sport</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – religious service</td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – talked about life</td>
<td></td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>Dad – went to movie, play, museum, etc.</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – discussed personal problem</td>
<td></td>
<td></td>
<td>.73</td>
</tr>
<tr>
<td>Dad – argued about behavior</td>
<td></td>
<td></td>
<td>.55</td>
</tr>
<tr>
<td>Dad – talked about school or grades</td>
<td>.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – worked on school project</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dad – talked about other school things</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>2.11</td>
<td>1.26</td>
<td>1.18</td>
</tr>
<tr>
<td>% of var.</td>
<td>21.06</td>
<td>12.64</td>
<td>11.80</td>
</tr>
<tr>
<td>cum. % of var.</td>
<td>21.06</td>
<td>33.70</td>
<td>45.50</td>
</tr>
</tbody>
</table>

*Note: N = 6504. Pattern coefficients greater than or equal to .71 are excellent (50% of variance), > .63 are very good (40% of variance), > .55 are good (30% of variance), > .45 are fair (20% of variance), and < .32 are poor (10% of variance). All coefficients rounded to second decimal position for convenient presentation.*
Control Variables

- Mother’s education
- Adolescent Biological Sex
- Race
  - African American
  - Asian
  - Other

Analytic Strategy

Initially the Add Health Wave I and Wave II data files were merged into a single data set in order to perform predictive analysis between baseline (Time 1) and Time 2. Descriptive statistics and zero-order correlations among the key independent and dependent variables were recorded. Next, multiple regression analysis (MRA) models for each of the independent variables (father availability, father’s school involvement, father’s engagement, father’s verbal involvement, and father’s relationship quality with their adolescent) predicting the dependent variable (adolescent self-esteem) at Time 2 were conducted. Each of the MRA models controlled for the mother’s influence on adolescent self-esteem by including identical measures from information available for mothers in Add Health. Thus, the associated independent variables for the mothers were the first step in each MRA model. The second step in each MRA contains the various socio-demographic variables including the adolescent’s race, biological sex, and their mother’s level of education. The fathering variables were the third and final level in each MRA model. The resulting output from each model reflects the father’s independent contribution to adolescent’s
self-esteem across the various independent variables after accounting for the contribution from mothers and socio-demographic variables. Next, to test whether the independent and dependent variables at Time 2 are predictable from their baseline levels, simple bivariate regression models were conducted with baseline measures serving as the independent variable and Time 2 variables being the dependent variable.
Chapter 3

RESULTS

Table 2 presents ranges, means/percentages, and standard deviations of key variables used in this analysis. The sample was roughly half female and about 70% white. Adolescent self-esteem, the dependent variable, had a range of 0-33 and a standard deviation of roughly three points. A high score on the self-esteem scale reflects high adolescent self-esteem. Adolescents in this sample generally had high self-esteem at baseline and Time 2 ($m = 24.26$, $m = 24.52$, respectively).

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean/Percent</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>51.60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>24.60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>3.60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>5.70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mom Education level</td>
<td>1-9</td>
<td>5.74</td>
<td>2.55</td>
</tr>
<tr>
<td>Dad Availability T1</td>
<td>0-12</td>
<td>7.15</td>
<td>2.61</td>
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<tr>
<td>Dad Engagement T1</td>
<td>0-4</td>
<td>1.13</td>
<td>1.08</td>
</tr>
<tr>
<td>Dad Verbal Involvement T1</td>
<td>0-3</td>
<td>0.71</td>
<td>0.85</td>
</tr>
<tr>
<td>Dad School Involvement T1</td>
<td>0-3</td>
<td>1.07</td>
<td>1.00</td>
</tr>
<tr>
<td>Dad Relationship Quality T1</td>
<td>0-20</td>
<td>16.20</td>
<td>3.80</td>
</tr>
<tr>
<td>Mom Availability T1</td>
<td>0-12</td>
<td>9.13</td>
<td>2.38</td>
</tr>
<tr>
<td>Mom Engagement T1</td>
<td>0-4</td>
<td>1.48</td>
<td>0.98</td>
</tr>
<tr>
<td>Mom Verbal Involvement T1</td>
<td>0-3</td>
<td>1.19</td>
<td>0.99</td>
</tr>
<tr>
<td>Mom School Involvement T1</td>
<td>0-3</td>
<td>1.28</td>
<td>1.00</td>
</tr>
<tr>
<td>Mom Relationship Quality T1</td>
<td>0-20</td>
<td>17.13</td>
<td>3.19</td>
</tr>
<tr>
<td>Adolescent Self-Esteem T1</td>
<td>0-33</td>
<td>24.26</td>
<td>3.09</td>
</tr>
<tr>
<td>Adolescent Self-Esteem T2</td>
<td>0-33</td>
<td>24.52</td>
<td>2.98</td>
</tr>
</tbody>
</table>
Hypothesis 1

Hypothesis 1 stated that father involvement, father availability, and father’s relationship quality with adolescent at baseline would each have a significant and independent effect on adolescent self-esteem at Time 2, even after mother’s involvement, mother’s availability, and mother’s relationship quality with the adolescent has been accounted for. Results from the father’s availability MRA are summarized in Table 3. The addition of the father availability measure resulted in a statistically significant increase in the explained variance of adolescent self-esteem at Time 2, $\Delta R^2 = .002$, $F (1, 3218) = 6.337, p = .01$. This finding reveals that father’s availability at Time 1 made a contribution to the prediction of adolescent self-esteem at Time 2 above and beyond that offered by mother’s availability at Time 1 and the socio-demographic controls. Additionally, all of the predictors made a statistically-significant, unique contribution to the prediction of adolescent self-esteem at Time 2 except for African-American race. Independent contributions were evaluated through the interpretation of squared partial coefficients (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). The relative contributions reveal that father’s availability at Time 1 contributed more to the variance of adolescent self-esteem at Time 2 compared to mothers. Lastly, effect sizes were estimated for the predictors using Cohen’s (1988) $f^2$, where values of .02 equal a small effect, values of .15 equal a medium effect, and values of .35 a large effect. Results here show that although father’s availability is statistically significant and had twice the effect on adolescent self-esteem at Time 2 as mother’s availability (father’s $f^2 = .002$ compared to mother’s $f^2 = .001$), the effect is small. Among all predictors in the availability model, the item
that demonstrated the largest effect on adolescent self-esteem at Time 2 was being female, $\beta = -.127, p = .001, f^2 = .016$.

Table 3
*Regression analysis summary for father's baseline availability predicting adolescent self-esteem at Time 2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$pr^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom Availability</td>
<td>.042</td>
<td>.022</td>
<td>.034*</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Sex – Female</td>
<td>-.729</td>
<td>.099</td>
<td>-.127***</td>
<td>.016</td>
<td>.016</td>
</tr>
<tr>
<td>Race - African American</td>
<td>.221</td>
<td>.137</td>
<td>.028</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>-1.369</td>
<td>.248</td>
<td>.096***</td>
<td>.009</td>
<td>.009</td>
</tr>
<tr>
<td>Race – Other</td>
<td>-.921</td>
<td>.218</td>
<td>-.074***</td>
<td>.005</td>
<td>.005</td>
</tr>
<tr>
<td>Mom’s Education Level</td>
<td>.078</td>
<td>.020</td>
<td>.069***</td>
<td>.005</td>
<td>.005</td>
</tr>
<tr>
<td>Dad’s Availability</td>
<td>.049</td>
<td>.019</td>
<td>.044**</td>
<td>.002</td>
<td>.002</td>
</tr>
<tr>
<td>Constant</td>
<td>23.942</td>
<td>.272</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: $R^2 = .042 (N = 3226, p = .01)$, $sr^2 =$ squared partial coefficient, $f^2 =$ Cohen’s (1988) effect size statistic for multiple regression analyses.

* $p = .05$, ** $p = .01$, *** $p = .001$.

Results from the father’s engagement MRA are summarized in Table 4. The addition of the father engagement measure resulted in a statistically significant
increase in the explained variance of adolescent self-esteem at Time 2, $\Delta R^2 = .007$, $F (1, 3214) = 25.540, p = .001$.

Table 4
Regression analysis summary for father’s baseline engagement predicting adolescent self-esteem at Time 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$pr^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom Engagement</td>
<td>.181</td>
<td>.061</td>
<td>.062**</td>
<td>.003</td>
<td>.003</td>
</tr>
<tr>
<td>Sex – Female</td>
<td>-.709</td>
<td>.101</td>
<td>-.124***</td>
<td>.015</td>
<td>.016</td>
</tr>
<tr>
<td>Race – African American</td>
<td>-.253</td>
<td>.136</td>
<td>.033</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>-1.285</td>
<td>.246</td>
<td>-.090***</td>
<td>.008</td>
<td>.009</td>
</tr>
<tr>
<td>Race – Other</td>
<td>-.852</td>
<td>.216</td>
<td>-.069***</td>
<td>.005</td>
<td>.005</td>
</tr>
<tr>
<td>Mom’s Education Level</td>
<td>.049</td>
<td>.020</td>
<td>.044**</td>
<td>.002</td>
<td>.002</td>
</tr>
<tr>
<td>Dad’s Engagement</td>
<td>.272</td>
<td>.054</td>
<td>.105***</td>
<td>.008</td>
<td>.009</td>
</tr>
<tr>
<td>Constant</td>
<td>24.215</td>
<td>.150</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $R^2 = .059 (N = 3221, p = .001)$, $sr^2 = $ squared partial coefficient, $f^2 = $ Cohen’s (1988) effect size statistic for multiple regression analyses.

* $p = .05$, ** $p = .01$, *** $p = .001$.

This finding reveals that father’s engagement at Time 1 made a contribution to the prediction of adolescent self-esteem at Time 2 above and beyond that offered by mother’s engagement at Time 1 and the socio-demographic controls. Within the entire
model, all of the predictors made a statistically-significant, unique contribution to the prediction of adolescent self-esteem at Time 2 except for African American race. Independent contributions were evaluated through the interpretation of squared partial coefficients (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). The relative contributions revealed that father’s engagement at Time 1 contributed more to the variance of adolescent self-esteem at Time 2 compared to mothers. Lastly, effect sizes were estimated for the predictors using Cohen’s (1988) $f^2$. Results here show that although father’s engagement was three times as effective at predicting adolescent self-esteem at Time 2 (father’s $f^2 = .009$ compared to mother’s $f^2 = .003$), once again, the effect is small. Among all predictors in the engagement model, the item that demonstrated the largest effect on adolescent self-esteem at Time 2 was being female, $\beta = -.124$, $p = .001$, $f^2 = .016$.

Results from the father’s school involvement MRA are summarized in Table 5. The addition of the father school involvement measure resulted in a statistically significant increase in the explained variance of adolescent self-esteem at Time 2, $\Delta R^2 = .007$, $F (1, 3214) = 25.332$, $p = .001$. This finding reveals that father’s school involvement at Time 1 made a contribution to the prediction of adolescent self-esteem at Time 2 above and beyond that offered by mother’s school involvement at Time 1 and the socio-demographic controls. Within the entire model, all of the predictors made a statistically-significant, unique contribution to the prediction of adolescent self-esteem at Time 2 except for mother’s school involvement at Time 1. Independent contributions were evaluated through the interpretation of squared partial coefficients (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). Lastly, effect sizes were estimated for the predictors using Cohen’s (1988) $f^2$. Among all predictors in the
school involvement model, the item that demonstrated the largest effect on adolescent self-esteem at Time 2 was being female, $\beta = -0.130, p = 0.001, f^2 = 0.018$.

Table 5

*Regression analysis summary for father's baseline school involvement predicting adolescent self-esteem at Time 2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$pr^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom school involvement</td>
<td>0.042</td>
<td>0.066</td>
<td>0.015</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sex – Female</td>
<td>-0.745</td>
<td>0.099</td>
<td>-0.130***</td>
<td>0.017</td>
<td>0.018</td>
</tr>
<tr>
<td>Race – African American</td>
<td>0.268</td>
<td>0.136</td>
<td>0.034*</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>-1.365</td>
<td>0.246</td>
<td>-0.096***</td>
<td>0.009</td>
<td>0.010</td>
</tr>
<tr>
<td>Race – Other</td>
<td>-0.891</td>
<td>0.216</td>
<td>-0.072***</td>
<td>0.005</td>
<td>0.004</td>
</tr>
<tr>
<td>Mom’s Education Level</td>
<td>0.063</td>
<td>0.020</td>
<td>0.056***</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>Dad school involvement</td>
<td>0.330</td>
<td>0.066</td>
<td>0.113***</td>
<td>0.008</td>
<td>0.008</td>
</tr>
<tr>
<td>Constant</td>
<td>24.354</td>
<td>0.148</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: $R^2 = 0.053 (N = 3221, p = 0.001), pr^2$ = squared partial coefficient, $f^2$ = Cohen's (1988) effect size statistic for multiple regression analyses.*

* $p = 0.05$, ** $p = 0.01$, *** $p = 0.001$.

Results from the father’s verbal involvement MRA are summarized in Table 6. The addition of the father verbal involvement measure did not result in a statistically significant increase in the explained variance of adolescent self-esteem at Time 2, $\Delta R^2$.
= .001, $F(1, 3214) = 2.722, p = .099$. However, although the addition of the father verbal involvement variable did not result in a statistically significant increase in the

Table 6
Regression analysis summary for father’s baseline verbal involvement predicting adolescent self-esteem at Time 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$pr^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom Verbal Involvement</td>
<td>-.155</td>
<td>.061</td>
<td>-.053**</td>
<td>.002</td>
<td>.002</td>
</tr>
<tr>
<td>Sex – Female</td>
<td>-.657</td>
<td>.103</td>
<td>-.115***</td>
<td>.013</td>
<td>.014</td>
</tr>
<tr>
<td>Race – African American</td>
<td>.217</td>
<td>.137</td>
<td>.028</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>-1.396</td>
<td>.249</td>
<td>-.098***</td>
<td>.010</td>
<td>.010</td>
</tr>
<tr>
<td>Race – Other</td>
<td>-.901</td>
<td>.218</td>
<td>-.073***</td>
<td>.004</td>
<td>.004</td>
</tr>
<tr>
<td>Mom’s Education Level</td>
<td>.075</td>
<td>.020</td>
<td>.067**</td>
<td>.004</td>
<td>.004</td>
</tr>
<tr>
<td>Dad’s Verbal Involvement</td>
<td>.117</td>
<td>.071</td>
<td>.033</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Constant</td>
<td>24.749</td>
<td>.148</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $R^2 = .039$ ($N = 3222, p = .096$), $pr^2 =$ squared partial coefficient, $f^2 =$ Cohen’s (1988) effect size statistic for multiple regression analyses.

* $p = .05$, ** $p = .01$, *** $p = .001$.

variance explained, the overall model remained statistically significant in explaining the variance of adolescent self-esteem at Time 2, $F(7, 3221) = 18.834, p=.001$. Within the entire model, all of the predictors made a statistically-significant, unique
contribution to the prediction of adolescent self-esteem at Time 2 except for African American race and father’s verbal involvement. Independent contributions were evaluated through the interpretation of squared partial coefficients (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). Lastly, effect sizes were estimated for the predictors using Cohen’s (1988) $f^2$. Among all predictors in the verbal involvement model, the predictor that demonstrated the largest effect on adolescent self-esteem at Time 2 was female sex, $\beta = -1.15$, $p = .001$, $f^2 = .014$.

Results from the father’s relationship quality MRA are summarized in Table 7. The addition of the father relationship quality measure resulted in a statistically significant increase in the explained variance of adolescent self-esteem at Time 2, $\Delta R^2 = .027$, $F (1, 3218) = 98.951$, $p = .001$. This finding reveals that father’s relationship quality at Time 1 made a contribution to the prediction of adolescent self-esteem at Time 2 above and beyond that offered by mother’s relationship quality at Time 1 and the socio-demographic controls. Within the entire model, all of the predictors made a statistically-significant, unique contribution to the prediction of adolescent self-esteem at Time 2 except for African American race. Independent contributions were evaluated through the interpretation of squared partial coefficients (Meyers, Gamst, & Guarina, 2006; Tabachnick & Fidell, 2007). The relative contributions reveal that father’s relationship quality at Time 1 contributed more to the variance of adolescent self-esteem at Time 2 compared to mothers. Lastly, effect sizes were estimated for the predictors using Cohen’s (1988) $f^2$. 

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Table 7
Regression analysis summary for father’s baseline relationship quality predicting adolescent self-esteem at Time 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$β$</th>
<th>$pr^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mom Relationship quality</td>
<td>.168</td>
<td>.018</td>
<td>.180***</td>
<td>.027</td>
<td>.031</td>
</tr>
<tr>
<td>Sex – Female</td>
<td>-.525</td>
<td>.095</td>
<td>-.092***</td>
<td>.009</td>
<td>.010</td>
</tr>
<tr>
<td>Race – African American</td>
<td>.194</td>
<td>.130</td>
<td>.025</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Race – Asian</td>
<td>-1.112</td>
<td>.235</td>
<td>-.078***</td>
<td>.007</td>
<td>.008</td>
</tr>
<tr>
<td>Race – Other</td>
<td>-.804</td>
<td>.207</td>
<td>-.065***</td>
<td>.005</td>
<td>.006</td>
</tr>
<tr>
<td>Mom’s Education Level</td>
<td>.069</td>
<td>.019</td>
<td>.061***</td>
<td>.004</td>
<td>.005</td>
</tr>
<tr>
<td>Dad Relationship quality</td>
<td>.145</td>
<td>.015</td>
<td>.188***</td>
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<td>.035</td>
</tr>
<tr>
<td>Constant</td>
<td>19.342</td>
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<td></td>
</tr>
</tbody>
</table>

Note: $R^2 = .138$ ($N = 3226$, $p = .001$), $pr^2 =$ squared partial coefficient, $f^2 =$ Cohen’s (1988) effect size statistic for multiple regression analyses.

* $p = .05$, ** $p = .01$, *** $p = .001$.

Results show that although father’s relationship quality was slightly more effective at predicting adolescent self-esteem at Time 2 (father’s $f^2 = .035$ compared to mother’s $f^2 = .031$) than mothers, both predictors represent a small effect size. Among all predictors in the relationship quality model, the item that demonstrated the largest effect on adolescent self-esteem at Time 2 was father’s relationship quality, $β = .188$, $p = .001, f^2 = .035$. 
In total, four of the five fathering variables made a statistically significant contribution to adolescent self-esteem. Father’s verbal involvement did not make a statistically significant contribution to the overall model. Therefore, since it was hypothesized that all five fathering variables would be statistically significant, hypothesis 1 can only be partially confirmed.

Hypothesis 2

Hypothesis 2 stated that father involvement, father availability, and father’s relationship quality with their adolescent at baseline will predict their involvement, availability, and relationship quality at Time 2.

Table 8
Regression Analysis Summary for Dad’s baseline availability predicting availability at W2

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>R²</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad availability</td>
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<td>.015</td>
<td>.543***</td>
<td>.295</td>
<td>.418</td>
</tr>
<tr>
<td>Constant</td>
<td>3.265</td>
<td>.115</td>
<td>\</td>
<td>\</td>
<td>\</td>
</tr>
</tbody>
</table>

Note: $N = 3183$, ***$p = .001$, $f^2$ = Cohen’s (1988) effect size statistic

Results from the simple bivariate regression for father’s baseline availability predicting availability at Time 2 are summarized in Table 8. The overall association was statistically significant, $F (1, 3182) = 1332.519, p = .001$. The relative
contribution of father’s baseline availability in predicting availability at Time 2 was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007). Father’s baseline availability accounted for roughly 30% ($R^2 = .295$) of the variance in father’s availability at Time 2. Lastly, effect size was calculated using Cohen’s (1988) $f^2$.

Results show the father’s baseline availability has a considerably large effect size ($f^2 = .418$) in predicting availability at Time 2.

Table 9

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad engagement</td>
<td>.504</td>
<td>.014</td>
<td>.532***</td>
<td>.283</td>
<td>.395</td>
</tr>
<tr>
<td>Constant</td>
<td>.429</td>
<td>.023</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: $N = 3182$, *** $p = .001$, $f^2 = $ Cohen’s (1988) effect size statistic*

Results from the simple bivariate regression for father’s baseline engagement predicting engagement at Time 2 are summarized in Table 9. The overall association was statistically significant, $F (1, 3180) = 1254.048, p = .001$. The relative contribution of father’s baseline engagement in predicting engagement at Time 2 was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007). Father’s baseline engagement accounted for roughly 30% ($R^2 = .283$) of the variance in father’s
engagement at Time 2. Lastly, effect size was calculated using Cohen’s (1988) $f^2$.

Results show the father’s baseline engagement has a considerably large effect size ($f^2 = .395$) in predicting availability at Time 2.

Table 10
*Regression Analysis Summary for Dad’s baseline school involvement predicting school involvement at W2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad school involvement</td>
<td>.279</td>
<td>.017</td>
<td>.284***</td>
<td>.081</td>
<td>.088</td>
</tr>
<tr>
<td>Constant</td>
<td>.926</td>
<td>.025</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $N = 3182$, *** $p = .001$, $f^2 = $ Cohen’s (1988) effect size statistic

Results from the simple bivariate regression for father’s baseline school involvement predicting school involvement at Time 2 are summarized in Table 10. The overall association was statistically significant, $F (1, 3181) = 278.337$, $p = .001$. The relative contribution of father’s baseline school involvement in predicting school involvement at Time 2 was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007). Father’s baseline school involvement accounted for 8% ($R^2 = .080$) of the variance in father’s availability at Time 2. Lastly, effect size was calculated using Cohen’s (1988) $f^2$. Results show the father’s baseline school involvement has a small effect size ($f^2 = .088$) in predicting availability at Time 2.
Table 11
*Regression Analysis Summary for Dad’s baseline verbal involvement predicting verbal involvement at W2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad verbal involvement</td>
<td>.401</td>
<td>.017</td>
<td>.392***</td>
<td>.154</td>
<td>.182</td>
</tr>
<tr>
<td>Constant</td>
<td>.467</td>
<td>.018</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N = 3182, ***p = .001, $f^2 = $Cohen’s (1988) effect size statistic*

Results from the simple bivariate regression for father’s baseline verbal involvement predicting verbal involvement at Time 2 are summarized in Table 11. The overall association was statistically significant, $F(1, 3181) = 578.958, p = .001$. The relative contribution of father’s baseline verbal involvement in predicting verbal involvement at Time 2 was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007). Father’s baseline verbal involvement accounted for roughly 15% ($R^2 = .154$) of the variance in father’s verbal involvement at Time 2. Lastly, effect size was calculated using Cohen’s (1988) $f^2$. Results show the father’s baseline verbal involvement has a medium effect size ($f^2 = .418$) in predicting availability at Time 2.

Results from the simple bivariate regression for father’s baseline relationship quality predicting relationship quality at Time 2 are summarized in Table 12. The overall association was statistically significant, $F(1, 3184) = 2205.226, p = .001$. The relative contribution of father’s baseline relationship quality in predicting relationship quality at Time 2 is calculated using Cohen’s (1988) $f^2$. Results show the father’s baseline relationship quality has a large effect size ($f^2 = .418$) in predicting relationship quality at Time 2.
quality at Time 2 was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007). Father’s baseline relationship quality accounted for 41% ($R^2 = .409$) of the variance in father’s relationship quality at Time 2. Lastly, effect size was calculated using Cohen’s (1988) $f^2$. Results show the father’s baseline relationship quality has a large effect size ($f^2 = .700$) in predicting availability at Time 2.

Table 12
*Regression Analysis Summary for Dad’s baseline relationship quality predicting relationship quality at W2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dad relationship quality</td>
<td>.658</td>
<td>.014</td>
<td>.640***</td>
<td>.410</td>
<td>.700</td>
</tr>
<tr>
<td>Constant</td>
<td>5.070</td>
<td>.236</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N = 3185, *** $p = .001, f^2 = Cohen’s (1988) effect size statistic*

In total, all five of the fathering variable levels at baseline were able to predict their levels at Time 2. Therefore, since it was hypothesized that baseline levels of all five fathering variables would make a statistically significant prediction of Time 2 levels, hypothesis 2 was fully confirmed.

Hypothesis 3

Results from the simple bivariate regression for adolescent baseline self-esteem predicting self-esteem at Time 2 is summarized in Table 13. The overall
association was statistically significant, $F (1, 4823) = 2258.568, p = .001$. The relative
contribution of adolescent’s baseline self-esteem in predicting self-esteem at Time 2
was evaluated through the interpretation of $R^2$ (Tabachnick & Fidell, 2007).
Adolescent’s baseline self-esteem accounted for about 32% ($R^2 = .319$) of the variance
in adolescent self-esteem at Time 2. Lastly, effect size was calculated using Cohen’s
(1988) $f^2$. Results show the adolescent baseline self-esteem has a large effect size ($f^2 =
.468$) in predicting self-esteem at Time 2.

Table 13
*Regression Analysis Summary for Adolescent baseline self-esteem predicting self-
estee at W2*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$f^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent self-esteem</td>
<td>.544</td>
<td>.011</td>
<td>.565***</td>
<td>.319</td>
<td>.468</td>
</tr>
<tr>
<td>Constant</td>
<td>11.331</td>
<td>.280</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N = 4824, ***p = .001, $f^2$ = Cohen’s (1988) effect size statistic*

Hypothesis 3, like hypothesis 2, stated that an adolescent’s baseline self-
estee level would predict their self-esteem level at Time 2. Since this relationship
was found to be statistically significant, hypothesis 3 was confirmed.
Chapter 4

DISCUSSION

The primary purpose of this study was to determine whether a father’s baseline availability, school involvement, engagement, verbal involvement, and relationship quality with their adolescent would each be able to predict adolescent self-esteem at Time 2. Additionally, this study proposed to determine whether baseline levels of the fathering variables could predict their levels at Time 2. Finally, this study sought to determine whether adolescent self-esteem at baseline could predict adolescent self-esteem at Time 2. The first hypothesis was that each of the five fathering variables would have a statistically-significant, independent contribution to their adolescent’s self-esteem level at Time 2 even after accounting for the contribution mothers and the socio-demographic variables had on adolescent self-esteem. In order to test this hypothesis, five separate MRA models were conducted, one for each of the fathering variables. Each model had three steps. The first step included comparable measures of each fathering variable for mothers. The second step included socio-demographic variables that have been found to influence adolescent’s self-esteem including biological sex, race, and their mother’s education level. At the third step the fathering variables were added to the model so that the resulting output would reflect the father’s unique contribution to adolescent self-esteem. The second hypothesis was that each of the five fathering variable levels at baseline would predict their levels at Time 2. To test this hypothesis, simple bivariate regression models were conducted for each of the fathering variables with baseline values acting as the independent variable
and Time 2 values serving as the dependent variable. The third and final hypothesis was that adolescent self-esteem at baseline would predict adolescent self-esteem at Time 2. To test this hypothesis, simple bivariate regression was conducted with baseline adolescent self-esteem serving as the independent variable and adolescent self-esteem at Time 2 acting as the dependent variable.

Hypothesis 1

Consistent with the first hypothesis, a father’s availability level at baseline is a significant predictor of adolescent self-esteem at Time 2. Father’s availability was found to have a statistically-significant, independent contribution to adolescent’s self-esteem at Time 2. This finding suggests that adolescents who have fathers that are in the home during times that they are home have higher self-esteem levels than adolescents who do not. It may be that adolescents who have frequent physical access to their fathers in their home have a better chance to develop a strong, healthy parental bond with their father than adolescents who have fathers that are frequently absent while they are home. Because of heightened physical access, adolescents can have more face-to-face contact with their father which in turn is associated with higher levels of self-esteem during adolescence.

The second component of the first hypothesis was whether a father’s engagement level at baseline could predict adolescent self-esteem at Time 2. Engagement was operationalized by adolescent responses to questions about four activities done with their father. Consistent with the hypothesis, a father’s engagement level at baseline was able to predict adolescent self-esteem at Time 2. This finding suggests that adolescents who engage in a variety of shared activities with their father
have higher levels of self-esteem across time than adolescents who engage less in shared activities with their father. It appears that not only are opportunities for face-to-face contact with your father in the home (i.e. availability) associated with increased self-esteem during adolescence, but that this principle is also important outside the home. Adolescents who do more things with their fathers such as going to a sporting event or movie theatre have more opportunities to build and strengthen this relationship through activities done outside the home which is associated with increased self-esteem levels during adolescence.

The third component of the first hypothesis was whether a father’s level of school involvement at baseline could predict adolescent self-esteem at Time 2. Consistent with the hypothesis, a father’s level of school involvement at baseline was able to predict adolescent self-esteem at Time 2. This finding suggests that adolescents who have fathers who are concerned and active in their education have higher self-esteem levels during adolescence than those who have fathers who are less active and involved in their education. School and school-related topics make up and take up a large proportion of most adolescent’s time and energy. Fathers who express interest and concern about these things may in some way be communicating to their adolescent that they care about and want to be included in an important part of their adolescent’s life. Though the present study does not assess school achievement, it may also be that adolescents that have fathers who are highly involved in their education do better in school than adolescents who do not. If this is the case, a father’s level of school involvement may have both a direct effect on self-esteem as well as a mediating effect through adolescent school performance.
The fourth component of the first hypothesis was whether a father’s level of verbal involvement at baseline could predict adolescent self-esteem at Time 2. Verbal involvement was operationalized by adolescent responses to questions about types of conversations they’ve had with their father over the past four weeks. In the present study, a father’s level of verbal involvement at baseline was unable to predict adolescent self-esteem at Time 2 and does not support the first hypothesis. It is uncertain whether the fathers or adolescents initiate these conversations in the present study but it appears that having these conversations with your father is not an important dimension towards facilitating and maintaining high levels of self-esteem during adolescence based on these findings. An alternative conclusion may be that adolescents prefer to discuss things with their mother although the current findings demonstrated a negative relationship between mother’s verbal involvement and adolescent self-esteem. Also, since adolescence is a period where peer relationships take on greater importance and adolescents in the present study may have “talked about life” or “personal problems” with their peers rather than parents. Furthermore, the quality of the discussions or the adolescent’s perceptions of the discussions is not tapped in the data. It is possible, for instance, that the adolescents view the discussions to be “lectures” or controlling, rather than conversations that enhance mutual respect and understanding. Once again, quality and meaning of interactions may be more important than levels. Future research needs to be more sensitive to quality and meaning variables.

The final component of the first hypothesis was whether an adolescent’s perceived relationship quality with their father at baseline could predict adolescent self-esteem at Time 2. Consistent with the first hypothesis, adolescents who perceived
high relationship quality with their father at baseline have high self-esteem levels at Time 2. Relationship quality with father targeted multiple dimensions of the father-child relationship that included feelings of warmth, care, communication, and overall satisfaction with the relationship. This fathering variable included questionnaire items that were more comprehensive and over-arching and resulted in more than twice the amount of variance in adolescent self-esteem being explained than any other fathering variable. What is intriguing about this finding is that while the previous four fathering variables addressed how more objective characteristics of father’s involvement and behavior influence adolescent self-esteem, this variable focused more on the subjective feelings adolescents have towards their father that may not be as observable, detectable, or quantifiable as the four other fathering variables studied here. In other words, father’s availability, engagement, verbal involvement, and school involvement focused on what the father does and relationship quality with father focused on how the adolescent feels. This finding highlights the importance of fathering behaviors being perceived and emotionally felt by their adolescent child as positive, caring, and satisfying. The argument has been made that father involvement extends beyond simple behavioral components to also capture the “co-occurring cognitive and affective components that accompany them” (Palkovitz, 1997, p. 210). If father involvement can be conceptualized as having affective, behavioral, and cognitive dimensions then perceived father involvement should also include affective, behavioral, and cognitive dimensions of involvement. The data here support that position and theoretical construction of involvement. The fathering variables that could most aptly be categorized as behavioral in nature made significant albeit small contributions to adolescent self-esteem. From the adolescent’s point of view it is likely
that these small and important doses of behavioral involvement are considered in triangulation with the co-occurring affective and cognitive dimensions of involvement. This holistic view of their fathers’ involvement then shapes adolescents overall perception of the relationships they have with their father. The data here have demonstrated that the perception of a high-quality father-child relationship which is shaped by the subjective feelings of warmth, closeness, and care is more important than the objective behavioral aspects of father involvement because more than twice the amount variance in adolescent self-esteem was explained by perceived relationship quality with father than by any of the other fathering variable. In other words, it is important for fathers to be available, proactive, and involved in their adolescent’s life because these efforts make small and important contributions to their child’s self-esteem. However, the data here demonstrate that it is more important for self-esteem levels during adolescence that their father’s actions and involvement behaviors are perceived and felt emotionally as positive, caring, and satisfying.

**Hypothesis 2**

Consistent with the second hypothesis, all five of the fathering variable levels at baseline were able to predict variable levels at Time 2. Father’s availability at baseline predicted father’s availability at Time 2. This suggests a general stability in the times that fathers and adolescents are both home. Next, father’s level of engagement at baseline predicted father’s engagement level at Time 2. This finding suggests that fathers who spend time with their adolescent and engaged in a variety of activities continue to do so a year later. Father’s baseline school involvement at baseline was also found to predict levels of school involvement at Time 2. This
finding suggests that fathers who are proactive and concerned about their adolescent’s school work and school activities continue to be involved the following year. Fourthly, father’s baseline verbal involvement predicted verbal involvement at Time 2. This suggests that fathers who currently communicate and discuss things with their adolescents continue to have these conversations in the future. Lastly, relationship quality with father at baseline predicted relationship quality levels at Time 2. This finding suggests that adolescents who perceive and feel that the relationship they have with their father is positive and caring generally continue to have these feelings towards their in the future. It is notable that 41% of the variance in relationship quality with father at Time 2 is explained by baseline levels of relationship quality with father. In other words, a large proportion of how you currently feel about the relationship you have with your father is explained by how you felt about the relationship a year ago.

Hypothesis 3

Consistent with the third hypothesis, adolescent self-esteem at baseline predicted self-esteem at Time 2. Results demonstrated that 32% of the variance in adolescent self-esteem at Time 2 was explained by baseline levels of self-esteem. This finding suggests that self-esteem remains relatively stable a year later.

Limitations

Although the current study provides a number of interesting findings about father-child relationships during adolescence, these findings should be critiqued in light of the study’s limitations. First, this study was a secondary analysis of data already collected so measures were constrained to the information gathered by the
original researchers. Several of the measures used in the present investigation could have been strengthened if more refined questions and further inquiry of general topics of development and father-child relationships had been investigated. For example, father’s engagement was drawn from questions asking adolescents whether or not they had done a variety of activities with their father in the past four weeks. This is a short period of time and it is possible that some adolescent’s responses were due to unusual or unspecified circumstances. For instance, some could have responded yes to shopping with their father because they went shopping with their father and their mother. The question did not ask if adolescents did these things alone with their father. Thus, responses could have been given simply under the impression that their father was present. There also may have been family characteristics during the particular month that influenced adolescent’s responses such as their father’s work schedule, the adolescent’s own scheduling demands such as school or extra-curricular activities, and other non-routine, non-typical occurrences. Furthermore, it would have been useful to know how often these activities took place. Results pertaining to how a father’s engagement level influences adolescent self-esteem would surely be different if engagement could have been measured by frequency rather than in principle. In other words, perhaps there were adolescents who have fathers who could have scored a 15 on the engagement measure (meaning 15 times in the past month they did something with their father). These adolescents probably have a different relationship with their father than adolescents whose father scored a 4 (currently, the highest possible score) and therefore could have affected their self-esteem level differently. However, in the current study, these fathers would have been scored the same. Therefore, we do not
know what a score of “4” actually means because we cannot distinguish between fathers who scored a true “4”, fathers who could have scored higher than a “4”.

Father’s verbal involvement also would have benefited from further refinement. One question asked adolescents if they had talked about “life” with their father. It’s presumable that “life” meant different things to different respondents. “Life” is a very general topic and those who responded “yes” probably referenced a variety of issues when providing their responses. This measure could have been strengthened if questions were available that addressed more specific dimensions of “life” that fathers and adolescents discussed. Examples of such dimensions could be educational plans or aspirations, a recent or upcoming family event, a shared hobby or activity, or something of special interest or value to either them. Furthermore, the two other items in this measure were questions that asked adolescents whether they had discussed 1) a personal problem they were having or 2) argued about their behavior with their father. In regards to discussing a personal problem, the question of “from whose viewpoint?” comes to mind. In other words, if a respondent and their father had a discussion about a personal problem was it because the adolescent identified the problem themselves and sought council from their father or did their father feel that a problem was occurring and approached the adolescent? Although having these conversations carries a certain importance and could denote good communication between father and child, knowing who initiates these conversations, the reasons these conversations occur, and the topics discussed during these conversations provides a deeper understanding of the nuances and pathways of communication between father and child. Additionally, arguments about behavior can emerge from a myriad of reasons. It would be useful to know the types of behavior adolescents were displaying
that evoked arguments between them and their fathers. An argument due to an adolescent annoying their father when he doesn’t want to be bothered is quite different from an argument because they were just brought home by the police for vandalism. Furthermore, these two questions carry a different connotation than “talking about life” and could suggest verbal fighting or discussion of uncomfortable topics. This measure would have benefited from a better balance of easy and difficult (or common and atypical) dimensions of dialogue between father and adolescents as well as more defined/specific topics of discussion. It is possible that the lack of scope and refinement available to construct this measure contributed to the father’s verbal involvement measure being non-significant in predicting adolescent self-esteem a year later.

A final limitation that should be noted is that the data used for this analysis is approaching 20 years since the time it was collected. Since the mid 1990’s, our society and culture has endured and been subjected to tremendous changes in demographics, education, technology, employment, and other areas that affect families and family relationships. Although the data confirms many of our supposed beliefs about parents and their children, fathers and adolescents, or involvement and self-esteem, these relationships are currently couched within a complex and rapidly changing social climate. Influences of the social media boom, economic and financial instabilities, and changes in socio-ethnic demographics have certainly altered and facilitated shifts in intergenerational relationship dynamics not captured in this data. In the years to come, researchers will be hard-pressed to investigate and study the emerging mediums through which families communicate and relate to each other that are currently scant in the empirical landscape.
Conclusions and Future Directions

The current study has contributed to the current literature base that focuses on fathering and intergenerational relationships during adolescence in several ways. First, the results from this study have demonstrated that adolescent’s prior experiences with their fathers impact their self-esteem levels a year later even after accounting for the impact their mothers have had on their self-esteem. This finding has important implications for men with young adolescent children and those with children approaching adolescence. A rich body of evidence exists, especially in the attachment literature, which demonstrates the influence of prior psychosocial experiences on later development. Men who are currently parenting young adolescents and pre-adolescents (and any age child for that matter) should be aware that the ways in which they interact, model behavior, support, and guide their children will have enduring effects on their child’s development during adolescence. Additionally, this study has also shown that fathers, not just mothers, play an important role in caregiving and parenting their children and facilitating development during adolescence. Fathers should make conscious efforts to be aware of how their adolescent children are responding to their parenting approaches and style and make the appropriate adjustments if their child feels like they are unresponsive, unavailable, or does not “understand” them. As the results here have also demonstrated, it is important that a father’s effort to be “involved” is received and interpreted positively by their adolescent child because the perception of a high-quality relationship with their father was the best predictor of adolescents having high self-esteem a year later. Future research investigating the dynamics between father and child during adolescence
should be sensitive to the variations in quality and meaning adolescents make among the fathering variables studied here. Interviews and focus groups with adolescents could be useful methods to try and capture the connections between father’s involvement and adolescent’s responses.

Secondly, the findings here have demonstrated that fathers’ current level of involvement predicts involvement a year later. This underscores the general stability of involvement levels and means that what you are doing now as a father is predictive of what you will be doing a year from now. For men who are content with their level of involvement with their children and/or have a mutually satisfying and positive relationship with them, this finding should be encouraging. However, for men who are unsatisfied with their current level(s) of involvement or feel that particular dimensions of their relationship with their child could use some work, it’s likely that this dissatisfaction and discontentment will remain unless conscious energy is put into their efforts to change their involvement habits and strengthen the father-child bond. Again, it may not be a simple solution such as “doing more”. Rather it may entail both father and child taking a thoughtful assessment of the meaning and value they each place on their interactions together, stepping back and evaluating the disconnections and gaps, and together deciding what are the best moves going forward. Conducting studies in the future that track how fathers and adolescents rework, repair, and maintain their relationship over time would help in understanding the reciprocal dynamics of the father-child relationship during adolescence.

Finally, the results here have shown that an adolescent’s current self-esteem level predicts self-esteem level a year later. This finding supports previous empirical work demonstrating self-esteem levels to be relatively consistent during adolescence.
(Block & Robins, 1993). The emphasis here is placed on “relatively” since other work has shown self-esteem levels during adolescence to have a net increase during adolescence (Coleman and Hendry, 1990; Scriven & Stevenson, 1998). Therefore, any changes in adolescent self-esteem appear to follow a more continuous and subtle pattern rather than abrupt or discontinuous trajectories. In the same vein, this also suggests that changes in self-esteem levels take time to be noticeable. Accordingly, any changes in self-esteem levels during adolescence should stem from the cumulative effects of the myriad experiences and interactions which have taken place over a long period of time that influence self-esteem either positively or negatively. This study has shown how fathers are among those many influences and how their involvement levels make important contributions to self-esteem levels during adolescence.
REFERENCES


Appendix A

PERMISSION FROM JOE GLUTTING TO USE TABLE TEMPLATES

---

Date: Tue Nov 27 13:02:06 EST 2012
From: Joe Glutting <glutting@UDel.Edu>  Add To Address Book | This is Spam
Subject: Re: permission to use table templates for thesis
To: jhull@UDel.Edu

Jimmy,

Good to hear from you! You have my permission. Joe

On 11/27/2012 11:38 AM, Jimmy Hull wrote:
> Hi Zoe,
> It's completely possible that you do not remember me but I was in your 854 class last spring and you helped my out with some of my thesis analysis (I was looking at father involvement and self-esteem). I don't have any of the emails we sent back and forth to jog your memory about or discussions. Anyway, In at the point where I am submitting the work to the grad office and I was wondering if you could send me a written permission letter to use your table templates? They were a big help by the way:) I remember you saying in class that we could use the results examples and tables if we wanted and I used the NIA table templates in my thesis. The grad office wants written permission from you to be included in the final version as an appendix. Thanks for the help!
>
> ———
> Jimmy Hull
> Graduate Assistant
> University of Delaware
> Human Development and Family Studies

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