Adolescent Self-Disclosure and Father Involvement Transactions Across Early to Midadolescence

Stephanie Blickfeldt
Brigham Young University - Provo

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Adolescent Self-Disclosure and Father Involvement Transactions
Across Early to Madolescence

Stephanie Blickfeldt

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

Master of Science

Randal D. Day, Chair
Wm. Justin Dyer
Erin K. Holmes

School of Family Life
Brigham Young University
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ABSTRACT

Adolescent Self-Disclosure and Father Involvement Transactions Across Early to Midadolescence

Stephanie Blickfeldt
School of Family Life, BYU
Master of Science

This study investigates the transactional relationship between father involvement and adolescent self-disclosure from early to midadolescence. Four hundred and ninety-six adolescents reported on their general self-disclosure to fathers, and mothers reported on father involvement behaviors and maternal involvement behaviors at ages 11, 13, and 15. Results from a longitudinal cross-lagged model indicated a unidirectional relationship from father involvement to child self-disclosure in both early and midadolescence, and a transactional relationship from adolescent self-disclosure to father involvement in early adolescence. A multiple group analysis by gender revealed that both unidirectional and transactional relationships were significant for boys only. Future research efforts should be sensitive to developmental changes and gender differences within father-child communication processes across adolescence.

Keywords: father involvement, self-disclosure, adolescence, transactions
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Chapter I: Introduction

Fathers matter in the lives of adolescents (Lamb, 2010; Sarkadi, Kristiansson, Oberklaid & Bremer, 2008), but how do adolescents influence fathers’ behaviors over time? As we begin to understand the nature of parent-child relationships as interactional and transactional rather than unidirectional (Fanti, Henrich, Brookmeyer, Kuperminc, 2008; Sameroff & McKenzie, 2003) one must consider how adolescents influence fathers’ involvement through their own relational reciprocations and autonomous decisions. From a unidirectional perspective of father-adolescent relationships in the domain of communication, researchers typically find that children self-disclose to fathers less than mothers and fathers know less about their children’s day-to-day activities (Hosley & Montemayor, 1997). Further, adolescents report that as a result of fathers’ lack of involvement or inability to relate in conversation, relationships with fathers tend to be indifferent, weak, and distant in comparison to relationships with mothers (Hosley & Montemayor, 1997; Lamb & Lewis, 2010; Markiewicz, Lawford, Doyle, & Haggart, 2006). Conversely, from a transcational perspective, research has also shown that teens (particularly girls) hierarchically place fathers as a less important attachment figure compared to mothers, peers, and romantic interests (Rosenthal & Kobak, 2010). Likewise, Fanti et al. (2008) found that children’s negative behaviors significantly and negatively influenced father-adolescent relationship quality over time rather than the reverse.

A less explored idea in family research is that the effectiveness and continuity of fathers’ involvement efforts may be predicated upon the authenticity and quality of relationship he shares with his adolescent (Buehler, 2006; Smetana, Metzger, Gettman, & Campione-Barr, 2006). According to this idea, a child will influence the quality of the father/child relationship given the
child’s temperament and choices (Flouri, 2004; Fanti et al. 2008). In the domain of communication, adolescent self-disclosure has been associated with father-adolescent relationship quality (Bumpus, Crouter, & McHale, 2006) which may be an indicator of an authentic, positive response to fathers’ involvement due to the voluntary nature of the behavior (Keijsers, Frijns, Branje, & Meeus, 2009). Fathers may view children’s level of self-disclosure as a marker that simultaneously allows him to navigate his adolescents’ growing autonomy and desire for his influence (Hosley & Montemayor, 1997; Keijsers, Frijns, Branje, & Meeus, 2009). How these processes unfold across adolescence, however, has not been explored empirically. Assessing fathers’ influence on self-disclosure processes and vice versa will assist interventionists and researchers to delineate how families can work together to make the most out of monitoring effects. Therefore, in this paper I explore the developmental changes of father involvement and self-disclosure by examining how fathers’ involvement efforts influences teens’ disclosure levels, and how the tendencies of adolescents to disclose to fathers influences his future involvement efforts over time.

**Theoretical Framework**

Ample evidence suggests that fathers and children influence each other in important ways (Lamb, 2010; Sarkadi et al, 2007), but typically, researchers have not empirically explored how or why fathers influence children the way they do (Pleck, 2010, 2012). In terms of developmental processes, scholars have argued that one must first investigate the details of how individuals functionally associate before one can speculate why their behaviors relate (Sameroff & McKenzie, 2003). For example, it has been well-researched that fathers’ involvement behaviors can lessen children’s externalizing behaviors (Sarkadi et al, 2007); but researchers seldom explore empirically how father-child interactions operate in a way that would lead
involvement behaviors to influence children’s behavioral regulation. As a starting point, it is necessary to observe how fathers’ behaviors solicit a direct response from their children and vice versa, before ancillary behaviors such as delinquency or internalizing behaviors (that may or may not be a response to their actions) can be confidently generalized as a consequence of involvement. Therefore, in this paper, adolescent self-disclosure to fathers is an adequate response measure to fathers’ involvement since it demonstrates a relational aspect of their relationship directly. As a starting point of understanding how father-adolescent processes work Pleck (2007, 2010) has suggested that scholars should consider exploring father-child interactions within the proximal process framework suggested by Bronfenbrenner and Ceci (1994).

**Proximal process theory.** Proximal processes are the interactional mechanisms whereby individuals actualize their genetic potentials. They are defined as complex reciprocal interactions between a person and “the persons, objects, and symbols that exist in [his or her] immediate environment (pg. 572).” The immediate environment referred to by Bronfenbrenner and Ceci (1994) was termed the microsystem and is commonly typified as one’s home, one’s peers’ homes, one’s school, or one’s work environment. Family life in one’s home(s) is a particularly salient developmental microsystem as it serves as the primary space for constant interpersonal interaction from a person’s most formative stages of life until adulthood and beyond. Bronfenbrenner and Ceci (1994) alluded that ongoing interactions and connections with family members are typically the most stable relative to peers, school teachers or church leaders, etc. As primary caregivers for children, parents will likely have the most salient influence on their children of all family members, and fathers have been established as an equally important
parental figure as mothers (Pleck, 2012). Therefore, firstly, fathers are important in child development.

Secondly, as the first proposition of proximal process theory attests, it is important to understand that fathers establish themselves as salient interactive figures with his child (and vice versa) because the nature of interactions with his child become more complex and intelligent over time. In terms of father-child communication, fathers set parameters for communicative exchanges from their child’s infancy. Fathers initiate ongoing open and expressive behaviors with their children (e.g., speak positively to them, give them encouragement, ask questions, act like their friend, etc.) in order to solicit a reciprocal and open response from their child about needs (Halberstadt & Eaton, 2003). Fathers maintain this process throughout their children’s lives to continually gain information about their physical, emotional, and social needs, in order to care, mentor, and protect them with suitable and appropriate methods (Hunter, Barber, Olsen, McNeely & Bose, 2011). Over time, as both father and child increase in competence about the other through observing the others’ behavior, each person learns how to “play” off of the other in increasingly complex interactions. Pleck (2007) describes this process as Bronfenbrenner’s “Ping-Pong match” metaphor. Both father and child become more aware of the others’ specific tactics to open conversation at the most effective times, use certain expressions, and approach topics of conversation in order to express or gain the resources needed from the other. As one “player” reads the others’ “move” in conversation, they respond effectively to regulate a pattern of communication that works most effectively toward a desired outcome. Again, this is the most effective when interactions between fathers and children are frequent and stable.

However, the second proposition of proximal process theory qualifies this pattern by stating that the fluidity and effectiveness of these exchanges are influenced by the individual
characteristics of each person in the dyad (e.g., age, gender, temperament, personality, behavioral choices, etc.) and the other salient parties that exist within the microsystem (e.g., mother, siblings, extended family, etc.). Over time, father-adolescent relationship quality deviates from past father-child relationship quality in terms of time spent together, feelings of closeness, and frequency of communication more than mother-adolescent relationships deviate from a former mother-child relationships (Hosley & Montemayor, 1997; Lamb & Lewis, 2010). This trend is particularly true for girls, but boys also mention decreased disclosure to fathers in later adolescence. Keijers et al. (2009) suggests that this occurs because adolescents become more measured and controlling in their general disclosure as an expression of greater autonomy toward their parents. Further, developmental events such as pubertal timing and maturation lead boys to feel more comfortable disclosing to fathers than girls, especially during early adolescence (Hosley & Montemayor, 1997; Smetana et al., 2006). As for gender and symbolic meaning for parents, fathers’ have had a history of being socialized as a breadwinner and firm disciplinarian, and this role may inform some men to be less involved with their children than mothers (Hosley & Montemayor, 1997). As a final proposition, Bronfenbrenner and Ceci (1994) postulated that parent-child interactions (in this case, father-child communication) operate as a joint function of historical interactive patterns, individual characteristics of interactive parties, and environmental influences within the microsystem that evolve together over time.

**Transactions.** Related to Bronfenbrenner and Ceci’s proximal process theory is the idea of developmental transactions. Sameroff & McKenzie (2003) postulated that development happens through interpersonal interactions that occur within a shared environment that is reciprocally influenced by the processes that happen within it. Quoting Bell & Harper (1977) in their review, the explained, “if parents are effective, they must be affected by the products of
their tutelage” (pg. 615). Inevitably, past interactions between parent and child will influence future all family processes within the microsystem. However, it may be difficult for individuals to see a grander picture of adapting family operations within their own dyadic exchanges.

Mothers are prominent actors within the child’s environment and her involvement is closely associated with fathers’ involvement (Pleck & Hofferth, 2008). She interacts with the child and father on a regular basis, likely even more with her child than the father himself (Lamb & Lewis, 2010). In order to gain a shared view of the operations of a father and his child within a holistic family microenvironment, mothers are likely the most reliable source for this perspective (Wm. J. Dyer, conversation, 2013). Indeed, it has been documented that fathers gain knowledge about children through self-disclosure indirectly from mothers (Waizenhofer, Buchanan, and Jackson-Newsom, 2004), and mothers may encourage children to mimic self-disclosure processes with fathers as they do with them (Pleck & Hofferth, 2008). Therefore, mothers’ holistic view of father-child processes and her presence within the holistic family system will be an important aspect of exploring the mechanization of father involvement and adolescent self-disclosure as they develop throughout early to midadolescence.

**Literature review**

Father involvement and adolescent self-disclosure patterns have been indirectly explored in family science research. Below, I offer information regarding the possible nature of how father involvement and adolescent-disclosure processes will develop over time based on the information available in the literature.

**Child’s tendencies to disclosure to fathers.** As a child develops, he or she often solicits parents for help with life skills as they begin to apply their learned behaviors in more adult-like situations outside the home (Desjardins & Leadbeater, 2011; Smetana, 2011). The father-
adolescent relationship can be a particular forum for acquiring instrumental problem-solving advice (Dejardins & Leadbeater, 2011; Hosley & Montemayor, 1997) and social capital (Pleck, 2010). There is additional evidence that warm fathers can create emotionally accessible “safe havens” for teens in time of need (Markiewicz, Lawford, Doyle, & Haggart, 2006) and Desjardins and Leadbeater (2011) found that fathers’ emotional support through communication predicted emotional adjustment in teens over and above mothers. However, what we do know about the nature of child to father disclosure is still fairly primitive at this point. For example, Smetana, Villalobos, Tasopoulous-Chan, Gettman, and Campione-Barr (2009) found that disclosure decreases over time from early to midadolescence, and this is tied to personal matters that adolescents deem to be irrelevant to one’s opposite sex parent (Daddis & Randolph, 2009; Smetana et al., 2006). Some scholars have suggested that teens tend to disclose more to their same-sex parent in early adolescence (Hosley & Montemayor, 1997), but Smetana et al. (2006) suggested that this bias tends to disappear into mid to late adolescence. A clarification of this pattern of who more frequently discloses to fathers about daily activities over time will be explored in this study.

Father involvement influences on self-disclosure. There is abundant evidence that warm, accepting parenting behaviors (also demonstrated by fathers) encourages self-disclosure from adolescents (Hare, Marston & Allen, 2011; Hunter et al., 2011; Smetana et al., 2006). Smetana et al. (2009) found that high-quality father relationships were positively related to increased adolescent disclosure of personal topics (e.g., how teens spend their free time, general details about romantic “crushes,” how teens spent their allowance, etc.). Daddis and Randolph (2009) also found that ongoing trust was an important precursor to disclosure levels, and Halberstadt and Eaton (2003) suggested that trust is likely built on past patterns of family
positive expressiveness that ultimately influences children’s development of positive expressiveness in the later developmental stages. Further, Keijers et al. (2009) found that higher support networks in families amplify the power of self-disclosure in terms of protecting children from negative outcomes. It is therefore suggested that increased warmth behaviors from fathers will increase the likelihood of child self-disclosure.

**Self-disclosure influences on father involvement.** Researchers suggest that self-disclosure is an important means of maintaining connection and involvement with parents as adolescents become more physically and emotionally mature (Solomon, Warin, Lewis, & Langford, 2002; Urry, Nelson, Padilla-Walker, 2011). However, to my knowledge, there are no studies that directly explore how adolescent self-disclosure levels influence father involvement levels over time in adolescence. There are a number of studies that provide some support for a theory of transaction between these dyadic behaviors. For example, Buehler (2006) found that dyadic hostility between adolescents and fathers (i.e., lack of warmth in communication) was negatively associated with fathers’ well-being (i.e. life satisfaction, depression, physical health), and fathers’ well-being has been associated with level of father involvement in other research (Hosley & Montemayor, 1999). Flouri (2004), Fanti et al. (2008) similarly found that fathers were less likely to be involved with children who were behaviorally difficult or withdrawn, and more agreeable children are more likely to disclose to fathers (Hunter et al., 2010). Based on these preliminary studies, it may be reasonable to infer that children with a higher propensity to self-disclose with fathers encourage increased engagement over time.

**Gender’s influence on disclosure to fathers.** The literature about gender differences between fathers’ and mothers’ influence on adolescents is thin (Lamb & Lewis, 2010); however, there is evidence that there are gendered responses and decisions made by children in child
disclosure processes. In earlier research, scholars found that boys and girls typically disclose to mothers more than to fathers (Hosley & Montemayor, 1997); but other researchers indicate that girls typically disclose to both parents more than boys disclose overall (Willoughby & Hamza, 2011). Though there is a seeming bias from children toward mothers in general self-disclosure discussions (Daddis & Randolph, 2009; Waizenhofer et al. 2004), fathers are also deemed as disclosure targets in specific contexts such as dilemmas with school work or morally-based predicaments (Hosley & Montemayor, 1997). Markiewicz et al., (2006) found that boys were more likely to consider fathers as a “safe haven” for advice than girls, and the authors speculated that this is likely due to boys needing advice on “common gender concerns” such as issues relating to pubertal development, and socialized common interests in recreation. Therefore, it is highly plausible that boys and girls may diverge in father involvement and child-disclosure exchanges across adolescence.

The present study. In this paper, a number of key research questions are considered. First, how does father involvement influence teens’ self-disclosure patterns? I hypothesize that increases in father involvement will instigate increases in self-disclosure patterns, though both disclosure and father involvement will both significantly decrease over time given adolescents’ assertion for autonomy. Second, how does adolescent self-disclosure to fathers influence the continuation of father involvement behaviors? I hypothesize that self-disclosure will instigate increases in father involvement patterns, and this relationship may be stronger in midadolescence when expectations for general disclosure are decreasing and instances of disclosure become more valuable and rare (Hare, Marston & Allen, 2011). It is also expected that there will be a stronger relationship in father involvement and self-disclosure processes for boys than for girls in these processes since boys typically disclose less than girls in general, but that this pattern will likely
dissipate in midadolescence. In summary, the present study investigates how father involvement and self-disclosure processes are interrelated and transactional as adolescence mature. It is hypothesized that both fathers and adolescents will significantly contribute to changes in self-disclosure transactions.

Chapter II: Method

Sample

The participants of this study are taken from Waves I through V of the *Flourishing Families Project (FFP)*, a comprehensive, ongoing longitudinal study of inner-family life. Families were selected from a large urban community in the Pacific Northwest and from suburban communities in the Intermountain West, based on the criterion that each family had one adolescent between the ages of 10-14. In-home interviews consisted of families (both parents and the adolescent) completing questionnaires within a one-and-one half hour time period under the direction of research assistants. Video tasks were also completed simultaneously by parents and the adolescent, but are not included as a part of this study.

A sub-sample of 465 adolescents (232 males, 233 females) was selected from two-parent family structures in research sites from the Pacific Northwest and Intermountain regions. Demographics of age, race, education level, income, and religion were surveyed for each family. At Wave II, approximately 80% of families were identified as Caucasian, 8% were identified as multi-ethnic, 7% were identified as African-American, 2% were identified as Asian, and 1% was identified as Hispanic, and 1% was described as “other.” Only European-American families and African-American families were retained for this study. Nearly 70% of fathers and had achieved a Bachelor’s degree or higher and only 6% had no college experience after high school. Parents’
income was higher than the national average of $52,609 (US Census Bureau, 2010), with parents combined income averaging $5,636 per month ($67,615 annually) after taxes. As for religion, 41% of families identified themselves as Protestant, 16% as Catholic, 9% as LDS, 5% as Agnostic or Atheist, 4% as Jewish, 2% of Eastern Asian religions, 1% as Muslim, and 4% as “Other.” Similar figures were noted across Waves III and IV.

**Procedures**

Families were primarily recruited using a purchased national telephone survey database. This database claimed to contain over 80 million households across the United States and had detailed information about each household, including presence and age of adolescent. Families identified using the survey database was selected from targeted census tracts that mirrored the socioeconomic and racial stratification of reports of local school districts. All families with an adolescent between the ages of 10 and 14 living within target census tracts were deemed eligible to participate in the *FFP*.

In addition to the random selection protocol used with the survey database, approximately 200 families were recruited into the study through family referral, permitting us to identify eligible families in the targeted area that were not found in the survey database. The survey database is national in scope and was generated using telephone, magazine, and internet subscription reports; therefore, families of lower socioeconomic status were underrepresented in the database. By broadening our approach and allowing for referrals, we were able to significantly increase the social-economic and ethnic diversity of the overall sample. Unfortunately, most of the families with lower income in the broader sample were single-parent mothers and were excluded from this study. For this studies’ population, the average income was still much higher than the national average.
Families were visited in their home and questionnaires were completed. Of the 1000 eligible families contacted, 700 agreed to participate (70% response rate). The most frequent reasons families cited for not participating in the study were lack of time and concerns about privacy. As interviewers collected each segment of the in-home interview, questionnaires were screened for missing answers and double marking resulting in little missing data. The retention rate from Wave I to Wave IV (T3) was 93%.

Measures

Measures were taken from mothers’ reports of father involvement, and adolescents’ own level of self-disclosure to their fathers ages 11, 13, and 15 (drawn from Waves I through V).

Parental involvement. The warmth subscale for both mother and father involvement was measured using 3 items of an 8-item modified version of the Inventory for Father Involvement (Hawkins, Bradford, Palkovitz, Day, Christiansen, & Call, 2002). Responses ranged from 1 (never) to 5 (very often) with the items “Give you encouragement” “Act as a friend to you,” and “Make it easy to talk to you.” Mothers answered items for fathers and for themselves, since recent research has indicated that maternal reports are the most indicative of shared family interaction (Wm. J. Dyer, conversation, October 21st, 2013). Higher scores indicated higher levels of parental involvement. Cronbach’s alphas for parental warmth subscale for fathers were .82 and .62 for mothers at Wave V.

Child self-disclosure. Child’s willingness to share information with parents was assessed using 4 items from a modified 12-item scale (Kerr & Stattin, 2000). Children answered how often each item occurred with each parent. Responses ranged from 1 (never) to 5 (always) with higher scores indicating greater parental monitoring. For responses about P2, Cronbach’s Alpha coefficient was found to be .78 in Wave V. Items were averaged into an observed variable from a
four-item scale including, “I tell my [dad] about my day at school,” “I tell my [dad] what I have done with friends when I get home.”

Covariates. Gender was dummy coded as female=0 and male=1 for multiple group analysis. An observed variable for mother involvement at each age (11, 13, and 15) was also used to control for father involvement and to correlate with child disclosure levels. Family monthly income was used as control variable for changes in father involvement over time (ages 13 and 15), since higher income fathers are typically more involved with their children (Coley & Medeiros, 2007). Family ethnicity was also added as a control variable and was dummy coded as 0=European American and 1=African American. There is evidence that support from African American fathers is more likely to be variable than support from European American fathers (Bean, Barber & Crane, 2006), and could contribute to the transaction processes overall.

Analysis Plan

The primary analyses were conducted via structural equation modeling in AMOS 21.0. First, in order to investigate my first research question about the tendencies of adolescents to disclose to fathers, I provide basic frequency statistics calculated in SPSS 19.0 with relevant correlations, means, and t-tests to assess for basic trends and changes in the variables of interest across time.

To assess research questions 2 and 3, a three-wave transactional cross-lagged model was proposed for this study. The hypothesized model is illustrated in Figure 1. Two different pathways of association were planned to be simultaneously evaluated: cross-lagged and autoregressive. The cross-lagged analyses were of primary interest in the present study. These represented associations of father involvement and self-disclosure at ages 11, 13, and 15 between the mothers' report of father involvement at t (e.g. age 11) and self-disclosure at time t+ 1 (i.e.,
two years). Further, I investigated the reciprocal associations between self-disclosure at t and father involvement at t +1. This same pattern was repeated between t+1 and t+2 and t and t+2. Autoregressive pathways were estimated for the associations between father involvement at t with father involvement t + 1 and t+2. This pattern was repeated for associations between child disclosure at t and t+1 and t+2. Both cross-lagged and autoregressive pathways after time t were allowed to vary freely across time.

For research question four, covariates of income and family ethnicity were entered as predictors of father involvement and self-disclosure at time ages 13 and 15 to assess for each covariates’ contribution to these variables across time, and they were also correlated with father involvement and child disclosure at age 11. Mother involvement was correlated with father involvement and child disclosure at each age, and mother involvement at 11 regressed onto child disclosure at t+1 and t+2, and mother involvement at age 13 was regressed onto child disclosure at t+1 to account for changes over time. Missing data was estimated with maximum likelihood in AMOS 21.0. For research question five, a multiple group analysis was used to assess for the moderation of gender differences across all paths of interest within the main model.

Chapter III: Results

Descriptive statistics for the latent mean subscales and zero-ordered bivariate correlations for latent variables were conducted in SPSS 19.0 and are presented in Table 1. Zero-ordered bivariate correlations for observed variables of interest by gender are listed in Table 2. Gender was significantly correlated with two observed measures: the reversed code item “I keep secrets from my dad about what I did with my free time” (r=-.14, p=.04) at age 11; and “I tell my dad what I have done with friends when I get home,” (r=-.15, p=.03) at age 11. This result gave...
evidence of possible gender differences indicating lower child disclosure from girls. Next, t-tests were conducted to investigate latent mean differences in constructs across time and latent mean differences across gender. All latent mean differences are listed in Table 3. As predicted, there were decreases in involvement levels and child disclosure over time. There were no significant differences in mother involvement and father involvement from ages 11 to 13, but there were significant differences in involvement between ages 13 and 15 (FI: \( t(357) = 4.23, p < .001 \); MI: \( t(423) = 5.07, p < .001 \)). There were also significant decreases in child disclosure to fathers from ages 11 to 13 (\( t(225) = 4.03, p < .001 \)) and 13 to 15 (\( t(385) = 5.85, p < .001 \)). There were no significant mean differences between gender for mother involvement, father involvement or child disclosure.

Three standard fit indices were used in addition to the chi-square statistic to evaluate model fit: the root mean square error of approximation (RMSEA), the Tucker-Lewis Index (TLI), and the comparative fit index (CFI). Values less than .05 for the RMSEA are considered a close fit, .05 -.08 are considered a fair fit, .08 -.10 are considered a mediocre fit, and values greater than .10 are considered a poor fit (Hu & Bentler, 1999). For TLI and CFI, values of .90 are considered acceptable, and values equal to or greater than .95 are considered ideal.

**Measurement Model**

The measurement model was based on a three wave cross-lag model illustrated in Figure 1. The model was constructed with both father involvement and child disclosure being estimated as latent variables at each time point, with mother involvement being used as an observed control variable at each time point. Father involvement and child disclosure latent residuals were all correlated across each time point, and factor loading residuals were correlated across each time point to ensure latent construct validity over time. Mother involvement was correlated with both
father involvement and child disclosure at each time point. The measurement model showed acceptable fit, $\chi^2 (244, n=465) = 386.265$, TLI=.94, CFI=.96, RMSEA=.04. The covariance between father involvement and child disclosure was significant at age 11 ($r = .30, p < .001$) but not at age 13 ($r = .12, p = .23$) or age 15 ($r < .01, p = .91$). Co-variances between mother involvement and father involvement were significant at each time point (age 11, $r = .16, p = .003$; age 13, $r = .41, p < .001$; age 15, $r = .35, p < .001$) but co-variances between mother involvement and child disclosure to fathers were not significant (age 11, $r = .01, p = .79$; age 13; $r = .05, p = .30$; age 15, $r = -.02, p = .69$). Nonsignificant co-variances were retained in the model due to no significant improvement in model fit when removed ($\Delta$TLI<.01, $\Delta$CFI=0, $\Delta$RMSEA =0). Factor loadings for latent constructs are listed in Table 4.

**Main Model**

Similar to the measurement model, mother involvement, income, and ethnicity were included as control variables. Autoregressive paths for father involvement were all significant between ages 11 and 13 ($\beta = .69$, SE = .06, $p < .001$) 13 and 15 ($\beta = .45$, SE = .09, $p < .001$) and 11 to 15 ($\beta = .44$, SE = .09, $p < .001$). Autoregressive paths for child disclosure were significant from ages 11 to 13 ($\beta = .62$, SE = .08, $p < .001$) and 13 to 15 ($\beta = .48$, SE = .09, $p < .001$) but not from 11 to 15 ($\beta = .03$, SE = .10, $p = .76$) Regarding the cross-lagged paths illustrated in Figure 3, father involvement at age 11 was positively associated with child disclosure at age 13 ($\beta = .18$, SE = .08, $p = .01$), but not at age 15 ($\beta = -.02$, SE = .16, $p = .87$). Father involvement at age 13 was also positively associated with child disclosure at age 15 ($\beta = .33$, SE = .19, $p = .03$). As for any transactional associations, child disclosure at age 11 was positively associated with father involvement at age 13 ($\beta = .21$, SE = .05, $p < .001$), but was not associated with father involvement at 15 ($\beta = -.12$, SE = .07, $p = .14$) and child disclosure at 13 was not significantly associated with
father involvement at 15 (β=.63, SE =.07, p=.41) Therefore, analyses detected one longitudinal reciprocal associations between father involvement and child disclosure. For the covariates, income was significantly related to father involvement at ages 13 (β=.10. SE =.00, p=.04) and 15 (β=.13, SE =.000, p=.002). Mother’s involvement at 11 was not related to child disclosure at age 13 (β=.24, SE=.09, p=.68) or 15 (β=.12, SE=.16, p=.16) but mother involvement at 13 was significantly related to child disclosure at age 15 (β=-.20, SE =.17, p=.04).

**Moderation Model**

Although basic t-tests revealed no gender differences in the data initially, a multiple group model was computed to investigate potential moderating effects of gender in the entire model where observed measures were allowed to be estimated freely. The freely estimated model had acceptable fit, χ² (488, n=465) =699.008, TLI=.92, CFI=.94, RMSEA=.03. Model comparison procedures followed Little’s (1997) statistical guidelines. First, I used a chi-square difference test to test for equality of the latent means by comparing a measurement model in which latent means were constrained to be equal across groups to a model in which the latent means were freely estimated in all groups. If the chi-square change test was not significant, I concluded that there were no cross-group differences in the latent means (Little, 1997). Measurement equivalence was found for gender (χ² (23) =22.83, p=.47, ΔTLI<.01, ΔCFI=0, ΔRMSEA <.01).

**Gender.** Individual paths were examined to determine significant gender differences in the cross-lagged model (see Figure 4). The difference in models was accounted for by significant gender differences in six cross-lagged paths: father involvement at age 11 influenced child disclosure at age 13 for boys only (β=.22, SE =.11, p=.03); father involvement age 13 influence child disclosure at 15 for boys only (β=.39, SE =.21, p=.04); the transaction from child
disclosure at 11 to father involvement at 13 was significant for boys only ($\beta=.26$, SE = .08, $p=.01$). As for the covariates in the moderation model, income was related to child disclosure at 13 for boys only ($\beta=-.15$, SE = .08, $p=.05$); income influenced father involvement at age 15 for girls only ($\beta=.20$, SE = .00, $p<.001$) and ethnicity was related to father involvement at age 13 ($\beta=.16$, SE = .08, $p=.05$) for boys only. Ethnicity was also related to child disclosure at age 15 for both boys ($\beta=-.18$, SE = .30, $p=.05$) and girls ($\beta=-.26$, SE = .29, $p<.001$). All other paths of interest for girls and boys (aside from structural autoregressive paths) were nonsignificant.

**CHAPTER IV: Discussion**

The present study contributes to the current literature about father-adolescent relationships by specifically investigating the communicative exchanges of warm father involvement and adolescent self-disclosure as a family-based process (Willoughby & Hamza, 2011). Following Bronfenbrenner and Ceci’s (1994) theory of proximal processes I used a longitudinal cross-lagged model to investigate the transactional interrelationship of these two variables during a developmentally sensitive period for adolescents. Though reports of father involvement were stable throughout adolescence, adolescents’ disclosure to fathers was highest at early adolescence and decreased at each time point as expected. Father involvement positively predicted disclosure levels throughout midadolescence for the entire sample, and support was found for a transactional relationship between child disclosure and father involvement in early adolescence. Maternal involvement had a negative influence on child disclosure to fathers during midadolescence, and gender influenced the response of boys’ and girls’ disclosure to fathers’ involvement and self-disclosure differentially.
Parental involvement and child disclosure. The hypothesis for research question one—that increases in father involvement would be associated with increases in teen self-disclosure—was supported in both the main model and in the moderation model for boys. In the main model, father involvement at age 11 predicted child disclosure at age 13, and father involvement at age 13 predicted child disclosure at age 15. Interestingly, when moderated by gender, only boys’ disclosure levels were influenced by father involvement levels at age 13. This suggests that adolescent boys may respond to fathers’ involvement efforts more positively than girls do, or girls may not need fathers to actively engage in involvement activities with them in order to encourage their self-disclosure. This latter presumption was also supported by Waizenhofer, Buchanan, and Jackson-Newsom (2004), who found that girls generally disclose about general daily activities and problems to parents more than boys on average (Hosley & Montemayor, 1997).

In terms of proximal processes, adolescents’ disclosure patterns followed developmental trends (Keijers et al., 2009, Smetana et al., 2006) and disclosure decreased significantly at each time point. Father involvement (and mother involvement) followed suit, with decreases in involvement from ages 13 to 15. Therefore, it is reasonable to assume that parents recognized adolescents’ withdrawal from typical disclosure activities and parents’ appropriately respond with decreased involvement levels. Therefore, evidence of a transactional relationship may have occurred in basic frequency patterns. Future research should qualitatively establish whether or not parents’ behaviors are reacting directly to their children’s disclosure level cues.

It is also noteworthy that the relationship between father involvement and child disclosure to fathers becomes substantially stronger in midadolescence than in early adolescence. Adolescents naturally begin to decrease disclosure to their parents about general daily activities
over time (e.g., casual conversations how they are doing with school work, what they are doing with friends, etc.) and therefore their disclosure to fathers becomes increasingly dependent upon fathers’ efforts to express care and concern for them. This relates to Rosenthal and Kobak’s (2011) research, which indicates that adolescents’ hierarchical placement of fathers as an attachment figure is significantly dependent on his demonstrated level of affect, and fathers are typically considered secondary in closeness to adolescents compared to mothers, romantic interests, and friends and may have to work harder to gain direct information from his children. This is idea is also supported by Markiewicz et al. (2006), whom explained that fathers are less frequently chosen as a “safe haven “ for teens when advice is needed (though boys are more inclined to approach fathers than girls), and fathers compete for time and attention when peers and romantic interests become more influential to their children with age. However, it is important to notes that fathers who are overinvolved or intrusive in their advice-giving have a negative influence on their children’s adjustment (Poulin, Nadeau, Scaramella, 2012. Therefore, fathers must seek natural and appropriate contexts for showing warmth and interest toward their teens at moderate levels (Desjardins & Leadbetter, 2011) and keenly understand how and when involvement is appropriate with their individual children.

As for other microsystem influences on father-adolescent exchanges, maternal involvement also mattered in disclosure processes in midadolescence. Mothers are an attractive disclosure target to teens during midadolescence since mothers usually spend more shared time with both boys and girls than fathers (Hosley & Montemayor, 1997). Interestingly, Waizenhofer, Buchanan, & Jackson-Newsom (2004) found that mothers were the preferred disclosure target for teens regardless of their shared relationship quality with fathers. Alternatively, Smetana et al. (2006) suggested that adolescents may bias disclosure less toward one parent over the other.
about general daily activities as they get older. After major pubertal changes in early adolescence, boys may become less discriminant about which parent they approach to disclose to over time; however, the moderation model did not reveal mothers’ influence on disclosure practices by gender. On the other hand, Waizenhofer, Buchanan and Jackson-Newsom (2004) also suggest that mothers compensate for low levels of direct disclosure to fathers by informing fathers about their child’s needs indirectly. Teens may be fully aware that directly disclosing to father is unnecessary given mothers’ role in family disclosure processes. It is also possible that involved mothers act a gatekeeper and direct children’s disclosure away from fathers purposefully (McBride, Brown, Bost, Shin, Vaughn, & Korth, (2005). Future research efforts should identify how and when children approach parents as a couple in disclosure processes versus individual parent-child dyadic disclosure, and investigate how marital processes influence teens’ disclosure to fathers at different adolescent ages.

**Transaction of self-disclosure to father involvement.** The findings for hypothesis two reflect findings from Fanti et al. (2008) and Flouri (2004) that transactional relationships between adolescents to parents exist over time. In the present study, self-disclosure contributed to the continuity of father involvement across early adolescence, but not during midadolescence. To that end, as hypothesized, child disclosure at age 11 was positively associated with father involvement at age 13, but contrary to my hypothesis, child disclosure in early adolescence did not predict fathers’ involvement behaviors at age 15.

It seems likely that fathers continue in active roles as a mentors and advocates for their adolescent children regardless of observed decreasing disclosure levels. This was evident in the main model where past instances of father involvement at both age 11 and 13 robustly predicted father involvement levels at age 15, yet child disclosure levels to fathers at age 11 were not
related to child disclosure levels at age 15. Further, father involvement significantly predicted child disclosure across adolescence but child disclosure only influenced father involvement in early adolescence. This finding is an important qualification to Fanti et al.’s (2008) research and also to findings reported by Kerr, Stattin and Burk (2010): that is, while youth may contribute to parent-child interactions, their contributions are unequal to parents’ contributions in earlier stages of adolescence. Fathers’ efforts seem to more assuredly predict both their own future behaviors and adolescents’ future responses than adolescents’ behaviors. Future research should further explore how adolescent contributions may become more egalitarian with fathers’ as they enter into a more mature phase in late adolescence and emerging adulthood.

The enhancing effect of adolescents’ disclosure levels on father involvement in early adolescence may be indicative of developmental expectations during this period of time. Fathers may expect children to have higher disclosure levels in early adolescence than midadolescence, yet conflict between parents and children is also known to occur most frequently in early adolescence during pubertal onset and development (Hosley & Montemayor, 1997; Smetana, 2011). Bronfenbrenner and Ceci (1994) and Sameroff and McKenzie (2003) expressed that parents’ future behaviors are reactive to past experiences with children, and children with high voluntary disclosure levels during a stage of high conflict may be especially encourage to remain continuously involved. Alternatively, children with lower disclosure levels in early adolescence may especially discourage fathers’ continuous involvement by age 13. Fathers may be less dependent on children’s disclosure levels in midadolescence because they do not expect them to be as open about their daily activities as in early adolescence. Again, when this relationship was moderated by gender, it was only significant for boys. It is possible that fathers’ do not depend on girls’ disclosure levels in order to approach them in midadolescence, especially when father-
daughter conflict is lower than father-son conflict during in early adolescence (Hosley & Montemayor, 1997; Smetana, 2011).

**Limitations**

There are several limitations within this study that are in need of mention. The sample was not representative of the general population due to its lack of diversity. African American girls especially seemed to disclose to fathers less than European American girls, and African American fathers seemed to be more involved at age 13 than European American fathers. Accounting for these differences in father involvement and self-disclosure across diverse groups (e.g., including low and high income families, and/or families with two family-structure or single-parent structure families with nonresident fathers) has rarely occurred within the same study. Second, the income level of this sample was substantively middle-class or higher, and income had a positive significant effect on father involvement levels. Had there been more variability in family income within our sample, the transaction relationship may have been more realistically represented for families within lower-income contexts. This theory is supported by Coley and Medeiros (2007), who found that fathers with higher income levels are typically more accessible than fathers with lower income salaries and must work multiple jobs.

Also, the general nature of the disclosure levels used in this study did not delineate how specific disclosure topics relate to parent-child relationship transactions. The latest research on disclosure reveals that disclosure levels by gender of both parent and child are highly sensitive to discussion topic (Daddis & Randolph, 2009; Hunter et al., 2010; Markiewicz et al., 2006). The measures used in the present study were related to general school work and general descriptions about free time with friends, and it has been suggested that adolescents feel comfortable discussing these topics with fathers as long it does not lead to personal intrusion or punishment.
(Smetana et al., 2006; Smetana et al., 2009). Sex-specific topics such as romantic relationships have been particularly influential on girls’ disclosure habits toward mothers (Daddis & Randolph, 2009) and would likely influence disclosure levels or transactions. Further, regardless of fathers’ efforts to be appropriately open or friendly to adolescents, there will be circumstances when adolescents will choose to disclose less to fathers at different stages given teens’ perceived risk of punishment (Smetana et al., 2009) or from feeling that they are not obligated to disclose to parents (Hunter et al., 2010; Smetana et al. 2006). Understanding how topics of discussion and relationship quality interact will be essential in to more accurately represent how instances of father-adolescent interaction unfold over time.

**Conclusion**

This study supports the claim that fathers’ behaviors matter in the lives of teens. The present study is the first to demonstrate how father involvement behaviors can influence adolescents’ disclosure levels over time. Importantly, while adolescents may positively influence fathers’ behaviors at specific times, fathers seem to have an overall stronger influence on adolescents’ willingness to directly disclose to them in the future. This was seemed to significantly true for fathers’ involvement behaviors towards boys and vice versa.

As for methodological contributions of this study, father involvement scholars currently debate whether gender of parent matters in terms of theoretical or methodological differences in parenting processes (Lamb & Lewis, 2010; Pleck, 2012). Evidence presented here suggests that fathers may not treat their children very differently in terms of involvement levels by gender, but children seem to respond to fathers’ behaviors differentially by gender in self-disclosure processes. The presence of mothers also seemed to influence these processes differentially for boys and girls. What may need to be further explored is whether fathers have differential role
expectations for children or if children have differential expectations for fathers as they are socialized within a highly symbolic environment (Bronfenbrenner & Ceci, 1994). Though the communication domain of father-adolescent relationships is only one facet of many father involvement processes, the results from this study indicate a greater need to understand how fathers function in disclosure and monitoring processes at developmentally sensitive stages. Pubertal timing in early adolescence and romantic relationship development in mid to late adolescence will likely influence disclosure processes by gender. With evidence that gender does matter in parent-adolescent processes, I recommend that scholars follow Sameroff and McKenzie’s (2003) suggestion that deeper, systematic explorations of family processes must occur in developmental science before greater generalizations about individual and family system operations are extrapolated from variable on construct based studies. Further explication of the details about the mechanistic roles and contributions of fathers, mothers, and children within a grander family system should be pursued on a more “molecular” level first.

Fathers’ appropriate efforts toward children matter in terms of adolescent self-disclosure, especially as teens get older. In terms of intervention with families, this is an important process to reiterate. Fathers have been deemed as incompetent, uninvolved, and less important than mothers in culture (Day & Mackey, 1986; Pehlke, Hennon, Radina, Kuvalanka, 2009) and in research, especially as adolescents get older (Hosley & Montemayor, 1997). However, the most recent studies suggest that fathers emotional support and advice (over and above mothers’) is significantly predictive of teens’ emotional adjustment (Desjardins & Leadbeatter, 2011), and teens’ self-disclosure has been linked to lowered externalizing behaviors and internalizing behaviors (Stattin, Kerr, & Burk, 2010), peer competence (Poulin, Nadeau, and Scaramella, 2012), and school achievement (Cheung, Pomerantz, & Dong, 2013). Though Stattin, Kerr, &
Burk (2010) assert that youth’s voluntary disclosure is the only authentic means to arm parents with the knowledge needed to protect them from deviant behaviors, this study suggests that appropriate warmth and mentorship from fathers becomes an increasingly important antecedent to this process in adolescence. Indeed, adolescents have reported an admiration and respect for fathers’ instrumental and problem-solving approaches to life situations (Desjardins & Leadbetter, 2003; Lamb & Lewis, 2010) which may become increasingly important as adolescents gain more autonomy. Sameroff and McKenzie (2003) importantly iterate that the influence of adjusted children as partial function of fathers’ mentoring behaviors (as a part of the mentoring dyad) will have a positive transactional influence on the grander community environment in which they exist.
References


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behavior across the high school years. *Journal of Youth and Adolescence, 40*(4), 463-478. doi:10.1007/s10964-010-95
Table 1

Correlations among Primary Variables of Interest (Means of Observed Variables)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
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<td>M (SD)</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. FI at 11</td>
<td>3.87 (.74)</td>
<td>-</td>
<td>.63*</td>
<td>.63*</td>
<td>.25*</td>
<td>.24*</td>
<td>.31*</td>
<td>.36*</td>
<td>.18*</td>
<td>.21*</td>
<td>-.11</td>
<td>-.02</td>
</tr>
<tr>
<td>2. FI at 13</td>
<td>3.87 (.75)</td>
<td>-</td>
<td>.67*</td>
<td>.33*</td>
<td>.35*</td>
<td>.32*</td>
<td>.22*</td>
<td>.39*</td>
<td>.31*</td>
<td>-.07</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td>3. FI at 15</td>
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<td>-</td>
<td>.15*</td>
<td>.27*</td>
<td>.30*</td>
<td>.10</td>
<td>.28*</td>
<td>.38*</td>
<td>-.03</td>
<td>.16*</td>
<td>-.09</td>
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</tr>
<tr>
<td>4. CD at 11</td>
<td>3.89 (.88)</td>
<td>-</td>
<td>.59*</td>
<td>.34*</td>
<td>.13</td>
<td>.08</td>
<td>.21*</td>
<td>-.11</td>
<td>.16*</td>
<td>-.16*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. CD at 13</td>
<td>3.66 (.91)</td>
<td>-</td>
<td>.52*</td>
<td>.11</td>
<td>.13*</td>
<td>.14*</td>
<td>-.02</td>
<td>-.05</td>
<td>-.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. CD at 15</td>
<td>3.39 (.89)</td>
<td>-</td>
<td>.07</td>
<td>.04</td>
<td>.08</td>
<td>-.01</td>
<td>-.07</td>
<td>-.29*</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7. MI at 11</td>
<td>4.20 (.53)</td>
<td>-</td>
<td>.62*</td>
<td>.55*</td>
<td>.01</td>
<td>-.03</td>
<td>.08</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8. MI at 13</td>
<td>4.22 (.54)</td>
<td>-</td>
<td>.61*</td>
<td>.02</td>
<td>-.03</td>
<td>.14*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. MI at 15</td>
<td>4.09 (.57)</td>
<td>-</td>
<td>.06</td>
<td>.04</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>10. Gender</td>
<td>.50 (.50)</td>
<td>-</td>
<td>.03</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Income</td>
<td>5622.28 (4805.59)</td>
<td>-</td>
<td>-.17*</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12. Ethnicity</td>
<td>.08 (.27)</td>
<td>-</td>
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<td></td>
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</tr>
</tbody>
</table>

Notes. N’s range from - due to occasional missing data. FI= father involvement CD=child disclosure, MI=mother involvement, Ethnicity=family ethnicity, Income=combined monthly income. *p < .05
Table 2

*Correlations of Individual Observed Variables by Gender*

<table>
<thead>
<tr>
<th>Observed variable</th>
<th>Age 11</th>
<th>Age 13</th>
<th>Age 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gives him/her encouragement</td>
<td>-.06</td>
<td>-.05</td>
<td>-.03</td>
</tr>
<tr>
<td>Act as a friend to him/her</td>
<td>-.11</td>
<td>-.05</td>
<td>-.04</td>
</tr>
<tr>
<td>Make it easy to talk to him/her</td>
<td>-.10</td>
<td>-.06</td>
<td>-.00</td>
</tr>
<tr>
<td>Talk to dad about school work</td>
<td>-.02</td>
<td>-.02</td>
<td>-.01</td>
</tr>
<tr>
<td>Talk about your day at school</td>
<td>-.06</td>
<td>-.02</td>
<td>-.03</td>
</tr>
<tr>
<td>Keep secrets from dad about free time</td>
<td>-.14*</td>
<td>-.02</td>
<td>-.02</td>
</tr>
<tr>
<td>Tell dad what I did with friends when I get home</td>
<td>-.15*</td>
<td>-.03</td>
<td>-.01</td>
</tr>
</tbody>
</table>

*N*=465. *p*<.05
Table 3

*T-Test results for Means and Standard Deviation Differences for Latent Variables of Interest*

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Overall Mean (SD)</th>
<th>T-Test t-value</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>T-Test</td>
<td>Female</td>
</tr>
<tr>
<td>FI at 11</td>
<td>3.87 (.74)</td>
<td>vs. FI13</td>
<td>3.95 (.74)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td>FI at 13</td>
<td>3.87 (.75)</td>
<td>vs. FI15</td>
<td>3.91 (.70)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.23*</td>
<td></td>
</tr>
<tr>
<td>FI at 15</td>
<td>3.70 (.87)</td>
<td>vs. FI11</td>
<td>3.71 (.93)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.41*</td>
<td></td>
</tr>
<tr>
<td>MI at 11</td>
<td>4.20 (.53)</td>
<td>vs. MI13</td>
<td>4.19 (.52)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.71</td>
<td></td>
</tr>
<tr>
<td>MI at 13</td>
<td>4.22 (.54)</td>
<td>vs. MI15</td>
<td>4.21 (.56)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.07*</td>
<td></td>
</tr>
<tr>
<td>MI at 15</td>
<td>4.09 (.57)</td>
<td>vs. MI11</td>
<td>4.13 (.57)</td>
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<td></td>
<td></td>
<td>3.20*</td>
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</tr>
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<td>CD at 11</td>
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<td>vs. CD13</td>
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<td></td>
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<td>CD at 13</td>
<td>3.66 (.91)</td>
<td>vs. CD15</td>
<td>3.68 (.96)</td>
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<tr>
<td>CD at 15</td>
<td>3.39 (.89)</td>
<td>vs. CD11</td>
<td>3.40 (.89)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.67*</td>
<td></td>
</tr>
</tbody>
</table>

Notes. N’s range from 251 to 430 for the overall sample and 106 to 216 per gender group
For sex, 0 = male, 1 = female. FI=father involvement, MI=mother involvement, CD=child disclosure, Income=household monthly income. *p<.001
Table 4

*Standardized Factor Loadings for Latent Constructs*

<table>
<thead>
<tr>
<th>Observed Variable</th>
<th>Latent Variable</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gives him/her encouragement</td>
<td>FI at age 11</td>
<td>.78</td>
</tr>
<tr>
<td>Act as a friend to him/her</td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>Make it easy to talk to him/her</td>
<td></td>
<td>.86</td>
</tr>
<tr>
<td>Gives him/her encouragement</td>
<td>FI at age 13</td>
<td>.76</td>
</tr>
<tr>
<td>Act as a friend to him/her</td>
<td></td>
<td>.70</td>
</tr>
<tr>
<td>Make it easy to talk to him/her</td>
<td></td>
<td>.76</td>
</tr>
<tr>
<td>Gives him/her encouragement</td>
<td>FI at age 15</td>
<td>.84</td>
</tr>
<tr>
<td>Act as a friend to him/her</td>
<td></td>
<td>.70</td>
</tr>
<tr>
<td>Make it easy to talk to him/her</td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>Talk to dad about school work</td>
<td>CD at age 11</td>
<td>.81</td>
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<tr>
<td>Talk about your day at school</td>
<td></td>
<td>.83</td>
</tr>
<tr>
<td>Keep secrets from dad about free time</td>
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<td>.34*</td>
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<td>Tell dad what I did with friends when I get home</td>
<td></td>
<td>.67</td>
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<tr>
<td>Talk to dad about school work</td>
<td>CD at age 13</td>
<td>.75</td>
</tr>
<tr>
<td>Talk about your day at school</td>
<td></td>
<td>.83</td>
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<tr>
<td>Keep secrets from dad about free time</td>
<td></td>
<td>.48</td>
</tr>
<tr>
<td>Tell dad what I did with friends when I get home</td>
<td></td>
<td>.74</td>
</tr>
<tr>
<td>Talk to dad about school work</td>
<td>CD at age 15</td>
<td>.75</td>
</tr>
<tr>
<td>Talk about your day at school</td>
<td></td>
<td>.89</td>
</tr>
<tr>
<td>Keep secrets from dad about free time</td>
<td></td>
<td>.25*</td>
</tr>
<tr>
<td>Tell dad what I did with friends when I get home</td>
<td></td>
<td>.82</td>
</tr>
</tbody>
</table>

N=465. All factors were significant at the p<.001 level. Note=*although these factors were lower than the typical .40 validity standard, they were retained within the model to maintain construct continuity over time.
Figure 1

*Conceptual Three-Wave Cross-lagged Model*
Figure 2

*Full measurement and structural model*
Figure 3

Main Structural Model with Standardized Coefficients (Significant Paths Only)

* p<.05, ** p<.01, *** p<.00
Figure 4

*Structural Gender Model with Standardized Coefficients (Significant Paths Only)*

*p<.05, ** p<.01, ***p<.001. Boys’ coefficients are listed in parentheses.*