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Adolescent and Parental Contributions to Parent-Adolescent Hostility across Early Adolescence

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Abstract

Early adolescence is characterized by increases in parent-adolescent hostility, yet little is known about what predicts these changes. Utilizing a fairly large sample ($N = 416$, 51% girls, 91% European American), this study examined the conjoint and unique influences of adolescent social anxiety symptoms and parental intrusiveness on changes in parent-adolescent hostility across early adolescence. Higher mother and father intrusiveness were associated with increased mother- and father-adolescent hostility. An examination of reciprocal effects revealed that mother- and father-adolescent hostility predicted increased mother and father intrusiveness. Significant associations were not substantiated for adolescent social anxiety symptoms. These findings suggest that intrusive parenting has important implications for subsequent parent-adolescent interactions and that similar patterns may characterize some aspects of mother- and father-adolescent relationships.

Keywords

adolescence; hostility; intrusiveness; parent-adolescent relationship; social anxiety

Introduction

Early adolescence is characterized by multiple life changes for adolescents, parents, and their relationships. For example, adolescents experience the transition into middle school, which is accompanied by new teachers, friends, and school structures (Holas & Huston, 2012). This transition happens conjointly with adolescent pubertal maturation (Rudolph, 2014) and increases in peer influence (Steinberg & Monahan, 2007). Concurrently, parents begin to experience physical and cognitive effects of aging (Lachman 2004). These

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individual changes and transitions have the potential to create stress in parent-adolescent relationships (McCubbin & Patterson, 1983), and studies suggest that parent-adolescent hostility increases during early adolescence (De Goede, Branje, & Meeus, 2009). Parent-adolescent hostility is defined as overt behavior and expression/communication between parents and adolescents that includes arguing, angry comments, contempt, yelling, swearing, name-calling, and/or physical aggression (Buehler, 2006). Research suggests that greater parent-adolescent hostility is associated with a range of adolescent maladaptive emotional and behavioral outcomes, including higher depressive symptoms (El-Sheikh & Elmore-Staton, 2004), anxiety (Pasch et al., 2006), and aggression (Steege & Gondoli, 2013). Thus, it is imperative to prevention efforts that research produces valuable information regarding what predicts parent-adolescent hostility.

Guided by Bowen's family systems theory (Kerr & Bowen, 1988) and empirics, we utilized a fairly large sample of two-parent families to examine the influence of adolescent social anxiety symptoms and intrusive parenting on parent-adolescent hostility across early adolescence (sixth, seventh, and eighth grades; for conceptual model, see Figure 1). Prior research has identified several parent and adolescent correlates of parent-adolescent hostility, including adolescent temperament (Trentacosta et al., 2011) and specific aspects of ineffective parenting (Sorkhabi & Middaugh, 2014). A major limitation of this research, however, is that many studies have not reflected the interconnected nature of individuals and relationships within families (Cox, Paley, & Harter, 2001). Specifically, the established adolescent and parental correlates and predictors of parent-adolescent hostility have largely been examined in isolation of one another. As such, prior research has not reflected the dyadic nature of parent-adolescent hostility, such that it is a construct that may be influenced uniquely and conjointly by the behaviors and experiences of the parent *and* the adolescent. In contrast to previous research, this study makes a substantive contribution to the literature on parent-adolescent hostility by discerning the amount of variance in parent-adolescent hostility that is accounted for uniquely by adolescent social anxiety symptoms and parental intrusiveness, while also taking into account their conjoint influence.

Adolescent Social Anxiety Symptoms and Parent-Adolescent Hostility

Developmentally, early adolescence also is an important time to examine social anxiety symptoms. Social anxiety symptoms are defined as feelings of nervousness, insecurity, and avoidance with regard to peers and nonfamilial adults in social interactions and settings (Mallot, Maner, DeWall, & Schmidt, 2009). One of the hallmarks of early adolescence is changes in adolescent cognitive functioning and capabilities (Steinberg & Silk, 2002), which have important implications for adolescents' perceptions and reasoning regarding their relationships with peers and parents. Adolescents develop increasingly advanced social cognitive skills that promote heightened involvement with peers and the importance that adolescents place on these relationships (Blakemore & Choudhury, 2006). Likewise, research suggests that beginning in early adolescence, peers become increasingly important influences on adolescent behavior and well-being (Lam, McHale, & Crouter, 2014). For example, adolescents become more concerned with how they are perceived by peers and nonfamilial adults during social interactions (Ollendick & Hirshfeld-Becker, 2002), fears of

negative evaluation increase (Westenberg, Gullone, Bokhorst, Heyne, & King, 2007), and social anxiety symptoms and disorders become more prominent (Kessler et al., 2005).

This study focused specifically on adolescent social anxiety symptoms rather than other indicators of maladjustment for two reasons. First, social anxiety is prominent during early adolescence. Social anxiety ranks third among all mental health disorders and is the most prevalent anxiety disorder. Moreover, the average age of onset for clinical level symptoms of social anxiety is during adolescence (Kessler et al., 2005). Thus, symptoms of social anxiety increase across early adolescence. This trajectory is in contrast to adolescent externalizing symptoms and antisocial behaviors that are more commonly examined in relation to parent-adolescent relationships. Specifically, studies have found that externalizing problems (Castelao & Kröner-Herwig) and antisocial behaviors (Light, Rusby, Nies, & Snijders, 2014) decrease, on average, during early adolescence.

Second, a focus on social anxiety symptoms is important, because it acknowledges that adolescents' developmentally salient experiences and interactions with peers and adults that exist *on the periphery* of family systems may have important implications for parent-adolescent interactions *within families*. Although some studies have examined the impact that adolescents have on parent-adolescent hostility (e.g., Trentacosta et al., 2011), research on parent-adolescent interactions is still largely parent-driven. There is less focus on the effects that children and their experiences have on parent-adolescent relationships. This study makes an important and novel contribution by not only examining the effects of adolescents on parent-adolescent hostility, but by connecting the developmental salience of peer relationships during early adolescence to familial relationships.

In this study, we took a developmental approach to social anxiety and examined social anxiety symptoms, characterized by fears of negative evaluation and social withdrawal, rather than clinical diagnoses. Research on psychopathology indicates that, when assessed over time, patients often do not consistently meet diagnostic cutoffs for diagnoses. Moreover, there can be great fluctuation and variability in social anxiety symptoms over time (Cummings, Davies, & Campbell, 2000). Thus, a focus on symptoms captures this variability over time.

Bowen's family systems theory suggests that anxiety symptoms reverberate throughout family subsystems (Kerr & Bowen, 1988). Additionally, Kerr and Bowen (1988) suggested that anxiety symptoms, such as fears of rejection and feelings of inadequacy, can manifest in anger and hostility that affects family functioning. Theoretically, heightened adolescent social anxiety may increase parents' general anxiety (Schrock & Woodruff-Borden, 2010) such that parents may experience worry and concern regarding adolescents'; well-being. Heightened anxiety among both adolescents and parents, moreover, may increase the likelihood that adolescents and parents will engage in anxiety-related, hostile behaviors. As such, we hypothesized that adolescent social anxiety is associated positively with increases in parent-adolescent hostility across early adolescence.

Previous cross-sectional studies have reported significant associations between social anxiety and expressed hostility (Hawkins & Cougle, 2011), and suggest that socially anxious

individuals express hostility and anger significantly more often than do nonanxious controls (Erwin, Heimberg, Schneier, & Liebowitz, 2003). Other studies have found that higher levels of fear of negative evaluation, an important component of social anxiety, is associated with greater hostility (Erwin et al., 2003), higher perceptions of hostility during social interactions (DeWall, Buckner, Lambert, Cohen, & Fincham, 2010), and less prosocial behavior (Maner, DeWall, Baumeister, & Schaller, 2007). Among adolescents, specifically, higher levels of fear of negative evaluation has been associated with more social and overt aggression (Loukas, Paulos, & Robinson, 2005) as well as physical and psychological dating aggression among males (Hanby, Fales, Nangle, Serwik, & Hedrich, 2012).

The findings summarized above, however, are limited to associations between social anxiety and *individual* hostile thoughts and behavior. Prior research on parent-child interactions has suggested similar associations. Findings suggest that parents of children with anxiety diagnoses express more negative tone (Suveg et al., 2008) and are less positive and encouraging (Hudson & Rapee, 2000) during observed parent-child interactions than are parents of children without anxiety diagnoses. Other research has found that anxious adolescents express less positive affect during discussions with mothers and fathers than adolescents without anxiety disorders (Suveg et al., 2008). Existing research, however, has been limited to examinations of adolescents with generalized anxiety. Moreover, the comparative and clinical natures of these studies do not discern if there is an association between social anxiety symptoms and parent-adolescent hostility or the directional nature of this association. Overall, to our knowledge, research to date has not provided evidence regarding whether hostility, as predicted by social anxiety symptoms, also manifests in dyadic interchanges between relationship partners. This study extends the literature by examining adolescent social anxiety symptoms within a community-based sample of families as a predictor of dyadic mother- and father-adolescent hostility across early adolescence.

Intrusive Parenting and Parent-Adolescent Hostility

Another important characteristic of adolescence is developmentally normative increases in adolescent differentiation from parents (Laursen & Collins, 2009) in which adolescents strive to develop an individual sense of self while maintaining connection and closeness with their parents (Kerr & Bowen, 1978). This idea is mirrored by attachment theory (Bowlby, 1973), which emphasizes that the balance of autonomy and relatedness is important for close relationships. Specifically, scholars suggest that adolescents who fail to strike a balance between autonomy and relatedness are more likely to utilize hostile tactics in relationship interactions as a way to maintain control (Oudekerk, Allen, Hessel, & Molloy, 2015). From an attachment perspective, parental intrusiveness damages adolescents' working models of themselves and relationships, because it inhibits adolescents' confidence in navigating social interactions (Bowlby, 1973).

During adolescence, growing cognitive abilities also facilitate adolescent reflection about parents' social rules and expectations. Adolescents reconsider the boundaries that divide which issues are subject to parents' authority versus adolescents' personal jurisdictions (Laursen & Collins, 2009). This occurs at a time when parents are experiencing increases in

parenting stress (Putnick et al., 2010) and must adjust their parenting in order to balance individuality and togetherness in the parent-adolescent relationship to accommodate adolescents' increasing needs for autonomy (Oudekerk et al., 2015). For example, adolescents and parents tend to agree that parents should set limits for adolescent safety, social conduct, and morality issues. In contrast, adolescents believe that parents should have less authority regarding issues located in their personal domain, such as their emotional and physical expression (Darling, Cumsille, & Martinez, 2008). We examined intrusive parenting, which is defined as parental control and inhibition of adolescents' thoughts, feelings, and emotional expression through the use of love withdrawal, guilt induction, and manipulative tactics (Barber, Xia, Olsen, McNeely, & Bose, 2012), as a parenting behavior that might disturb this balance during a developmentally sensitive period.

Theoretically, higher parental engagement in control over adolescents' personal domain may upset the dynamic equilibrium between individuality and togetherness in parent-adolescent relationships (Kerr and Bowen, 1988). Parental control also may undermine developmentally normative increases in adolescent differentiation from parents (Soenens & Vansteenkiste, 2010). Higher parental intrusion may constitute boundary violations in the parent-adolescent relationship for adolescents (Barber et al., 2012), and adolescents will likely attempt to restore balance by establishing less permeable emotional boundaries between themselves and their parents. At the same time, parents may struggle to maintain control. Poorly differentiated families, moreover, tend to be more emotionally reactive to one another (Skowron, Stanely, & Shapiro, 2009). Thus, parents and adolescents who disagree about emotional boundaries will likely engage in more hostile interactions. As such, we hypothesized that parental intrusiveness is associated with increases in parent-adolescent hostility across early adolescence.

Prior studies have reported that higher intrusive parenting is significantly associated with higher parent-adolescent anger during disagreements (Smetana & Gaines, 1999). Other studies have substantiated associations when specifically examining expressed parent-adolescent hostility (Steege & Gondoli, 2013). Few studies, however, have examined the connection between intrusive parenting and parent-adolescent hostility, and most of these studies have been cross-sectional (for an exception, see Steeger & Gondoli, 2013). Thus, research has not adequately demonstrated how some of these patterns unfold across early adolescence. Furthermore, although prior research has studied mothers' intrusive parenting, none of these studies examined fathers' intrusiveness as a predictor of father-adolescent hostility. As such, this study extends the literature by elucidating how the associations between mother and father intrusiveness and parent-adolescent hostility unfold across early adolescence.

Co-occurrence of Adolescent Social Anxiety Symptoms and Intrusive Parenting

In addition to the unique effects of adolescent social anxiety symptoms and parental intrusiveness on changes in parent-adolescent hostility, it also is important to note their possible conjoint relationship and influence. Cross-sectional studies have found positive associations among mother intrusiveness, adolescent social anxiety symptoms (Loukas, Paulos, & Robinson, 2005), and social phobia diagnoses (Knappe, Beesdo-Baum, Fehm,

Lieb, & Wittchen, 2012). Only two studies have examined associations over time. One prospective study found a positive association between parental intrusiveness and later social anxiety symptoms (Lewis-Morrarty et al., 2012). Loukas (2009) found that adolescent social anxiety symptoms were associated with increased maternal intrusiveness one year later. Likewise, only one study has examined specially father intrusions and found that paternal intrusiveness was not associated with adolescent social phobia diagnoses (Knappe et al., 2012). Overall, a review of the research indicates that the strength of the association between parental intrusiveness and adolescent social anxiety symptoms or diagnoses is between .10 and .32. This study makes an important contribution to existing research by examining the conjoint influence of adolescent social anxiety symptoms and parental intrusiveness over time among both mothers and fathers.

The Importance of Parent and Adolescent Gender

This study utilized a sample of two-parent families because it allowed us to examine the associations with father-adolescent hostility, which rarely has been examined in previous research. This study makes an important contribution to existing research on parent-adolescent hostility by examining both mother- and father-adolescent relationships. Studies suggest that mothers spend more time with their children than do fathers (Craig, 2006). Moreover, mother-adolescent relationships are more intimate than are father-adolescent relationships (Steinberg & Silk, 2002). As such, in the context of greater time and higher intimacy in mother-adolescent relationships, it is possible that mother-adolescent dyads might simply have more time to discuss issues and engage in parent-adolescent hostility than do father-adolescent dyads. Likewise, greater intimacy might heighten the transfer of anxiety within mother-adolescent dyads leading to greater mother-adolescent hostility. Mothers also might experience more difficulty adjusting their parenting to fit adolescents' needs for greater autonomy.

Among the few studies that have examined father-adolescent hostility and conflict, some studies have shown that father-adolescent hostility is uniquely associated with indicators of adolescent maladjustment, including internalizing and externalizing problems (El-Sheikh & Elmore-Staton, 2004), problem behaviors (Hakvoort, Bos, Van Balen, & Hermanns, 2010), and depressive symptoms (Pasch et al., 2006). Thus, these results suggest that father-adolescent hostility is important for adolescent well-being. Research that also elucidates whether the *predictors* of father- and mother-adolescent hostility are shared or are unique will be crucial to prevention efforts. Thus, this study makes an important contribution by examining adolescent social anxiety symptoms and parental intrusiveness as predictors of mother- and father-adolescent hostility. Given that no studies to our knowledge have done this, we did not formulate specific hypotheses about differences in associations between mother- and father-adolescent dyads.

It also is important to note that this study examines mother- and father-adolescent hostility in separate models rather than the alternatives of: (a) examining an aggregate of mother- and father-adolescent hostility, or (b) examining mother- and father-adolescent hostility in the same model, but as separate constructs. Studies have shown that the correlation between mother- and father adolescent hostility is high (i.e., $r > .50$) (e.g., Hakvoort et al., 2010).

However, research also has shown that mother- and father-adolescent hostility are uniquely associated with some indicators of adolescent well-being (Adams & Laursen, 2007). As such, the aggregation of mother- and father-adolescent hostility into one construct might obscure the unique effects related to these relationships. Likewise, due to the high correlation between mother- and father-adolescent hostility, examining mother- and father-adolescent hostility separately but in the same model might obscure associations which, if examined in separate models, would be significant and shared by mother- and father-adolescent dyads.

This study also examined adolescent gender as a potential moderator. Research has found that girls tend to engage in more harmony-maintenance in relationships than boys (Davies & Lindsay, 2004), such that girls try to appease others through repression of their own thoughts and feelings (Rosenfield, Vertefuille, & McAlpine 2000). In contrast, boys may be more assertive than girls in relationships (Rosenfield et al., 2000). Thus, conceptually, the associations among adolescent social-anxiety symptoms, intrusive parenting, and parent-adolescent hostility might be stronger for boys than girls, because boys might be more willing to engage in parent-adolescent hostility. However, research that has examined whether adolescent gender moderates associations among adolescent social anxiety, intrusive parenting, and parent-adolescent hostility is very limited, and has produced inconsistent findings. Loukas et al. (2005) found that fear of negative evaluation (a component of social anxiety) was associated with overt aggression (a component of parent-adolescent hostility) among boys but not girls. With regards to parental intrusiveness, Steeger and Gondoli (2013) found that adolescent gender did not moderate the association between mother intrusiveness and mother-adolescent hostility. Prior studies typically have controlled for adolescent gender or have utilized small sample sizes that did not allow for moderation analyses. Given that evidence of adolescent gender moderation is scant, our examination of adolescent gender was exploratory and we did not make any specific hypotheses regarding adolescent gender moderating effects.

It also is possible adolescent social anxiety symptoms and intrusive parenting might be differentially associated with parent-adolescent hostility depending on the gender of the parent *and* the adolescent. Research suggests that same-sex parent-child dyads are typically more engaged with one another than are opposite-sex parent-child dyads (Raley & Bianchi, 2006). Moreover, the salience of this engagement seems to be stronger for fathers than mothers. Based on an investment hypothesis, scholars have suggested that fathers might be more invested in and involved with their sons than daughters (Pleck & Masciadrelli, 2004). In terms of parenting influences on adolescent well-being, however, some studies have found stronger associations for opposite-sex dyads than same-sex dyads (Gaylord-Harden, Campbell, & Kesselring, 2010). In contrast, other studies have not substantiated gender differences (Fosco, Stormshak, Dishion, & Winter, 2012). Given these inconsistent findings and the lack of research that has examined the role that the intersection between parent and adolescent gender might play in associations among adolescent social anxiety, parental intrusiveness, and parent-adolescent hostility, specific hypotheses were not formulated in this study.

Covariates

Studies have demonstrated that several adolescent-, parent-, and family-level characteristics are important to consider when examining parent-adolescent hostility. As such, this study includes several covariates. First, we controlled for adolescent pubertal maturation during sixth grade. A developmental readiness hypothesis suggests that adolescents might not be cognitively or emotionally equipped to deal with the experience of earlier pubertal maturation (Ge & Natsuaki, 2009). Thus, early maturation might foster adolescent maladjustment and problems in parent-adolescent relationships. Likewise, studies have found that earlier pubertal maturation is associated with greater parent-adolescent conflict (Collins & Laursen, 2004).

Second, we controlled for the number of children in the family, birth order, and the age of the eldest child in the family. Studies have found that more children in families increases the odds that parents will engage in abusive and neglectful behaviors (Kim, 2009). Numerous children in families might deplete parents' resources to effectively engage with adolescents (McCubbin & Patterson, 1983), leading to the use of more coercive, hostile tactics. Alternatively, scholars have suggested that parents with multiple children might learn from their experiences with older children, and parent-adolescent hostility might be lower among subsequent parent-child dyads (Shanahan, McHale, Osmand, & Crouter, 2007). Whiteman, McHale, and Crouter (2011) found that birth order, as well as the first child leaving home, were significantly associated with mother- and father-child conflict frequency. Specifically, first-born adolescents experienced greater conflict with parents than second-born adolescents. Moreover, when the first-adolescent left home, there was an increase in second-born conflict. Thus, although Whiteman et al. (2011) focused on conflict frequency instead of hostility, these results suggest that the birth order, as well as age of the eldest child in the family, might have important implications for parent-adolescent hostility.

Third, we controlled for marital satisfaction. A negative spillover hypothesis suggests that negative moods, feelings, and/or behaviors in the marital subsystem may transfer into parents' interactions with children (Cox et al., 2001). Additionally, studies have found that marital conflict is associated with both concurrent (Low & Stocker, 2005) and later (Gerard, Krishnakumar, & Buehler, 2006) parent-adolescent conflict. Finally, we controlled for parental education and family income. It is possible that lower family income and lower parental education might deplete parental resources, and thus their ability to parent effectively. Thus, parents might resort to more hostile and coercive parenting strategies (McCubbins & Patterson, 1983). Likewise, studies have found that parental education (Whiteman et al., 2011) and greater economic security (Delgado, Killoren, & Updegraff, 2013) are associated with greater parent-adolescent conflict.

Direction of Effects

The focus of this study was to examine how adolescent social anxiety symptoms and parental intrusiveness might conjointly and uniquely predict changes in parent-adolescent hostility across early adolescence. Good research designs, however, also consider alternative explanations. This study utilized a complete short-term longitudinal design that reduces endogeneity problems and helps identify temporal precedence. Additionally, the guiding

family systems theoretical framework for this study suggests reciprocal influences among family subsystems may occur over time (Minuchin, 1985). Thus, it is plausible that levels of and changes in parent-adolescent hostility also may influence changes in adolescent social anxiety symptoms and parental intrusiveness across early adolescence. Cross-sectional research has found that, controlling for adolescent depressive symptoms, father-daughter hostility is associated with daughters' social anxiety symptoms (Starr & Davila, 2008). Other cross-sectional research also has found that, controlling for other indicators of maladjustment, parent-adolescent hostility is associated positively with adolescent general anxiety symptoms (El-Sheikh & Elmore-Staton, 2004). Regarding parental intrusiveness, studies have found that parent-adolescent hostility is associated positively with higher levels of (Buehler, 2006) and changes in (Steege & Gondoli, 2013) intrusive parenting. As such, the models tested in this study also estimated the influence of parent-adolescent hostility on adolescent social anxiety and intrusive parenting, although these paths were not the primary focus of this study and no hypotheses were made.

Present Study and Hypotheses

The goal of this study was to examine the influence of two developmentally and theoretically important constructs, adolescent social anxiety and intrusive parenting, on parent-adolescent hostility across early adolescence. Guided by family systems theory and empirics, we hypothesized that adolescent social anxiety symptoms and intrusive parenting are each uniquely associated with increases in parent-adolescent hostility across early adolescence (model depicted in Figure 1). As such, this study makes an important contribution to the literature by examining the proposition that the dyadic parent-adolescent relationship responds to the influences of each individual in the parent-adolescent dyad. Additionally, this study makes an important contribution to the literature by situating parent-adolescent relationships within the context of the growing salience of peers for adolescents, as well as their increasing need for individuation. Furthermore, in addition to its longitudinal design, this study also adds to existing literature by examining father-adolescent functioning (in addition to the more commonly studied mother-adolescent functioning), as well as adolescent gender as a moderator.

Method

Sampling Procedures and Characteristics

The sample utilized in this study was selected from a larger project that examined family life during youth's transition into adolescence (Buehler, 2006). Adolescents from 13 middle schools in a southeastern United States county (and their families) were recruited through 6th grade homeroom classrooms. Of the 71% of families that returned consent forms within three contacts, 80% agreed to participate in the study. The resulting sample was reasonably representative of the county in terms of race, parents' marital status, and family poverty status (contact author for statistical details).

Families were eligible to participate in the longitudinal study if parents were married or long-term cohabitants and there were no step-children in the family. There were 1,131 families that fulfilled the study requirements and were invited to participate. Of those

eligible, 37% (416 families) agreed to join the longitudinal study. Using survey data from the larger, cross-sectional part of the study, eligible participating families were similar to eligible nonparticipating families on all study variables. Specifically, eligible participating and nonparticipating were compared on over 100 variables that assessed a range of topics including aspects of adolescent, parent-child, marital, and family functioning. There were no differences on any of the multiple variables assessed using adolescent survey information. Results indicated that there were only two differences from the teacher-report data. Eligible, participating adolescents had better class adjustment ($M = 5.17$, $SD = 1.26$) than did eligible, nonparticipating adolescents ($M = 4.78$, $SD = 1.37$). Additionally, eligible, participating adolescents had higher grades ($M = 3.37$, $SD = .76$) than did eligible nonparticipating adolescents ($M = 3.15$, $SD = .92$) (Buehler, 2006).

Participating adolescents were 11 to 14 years old and in 6th grade at Wave 1 (W1) ($M = 11.86$, $SD = 0.69$). Girls comprised 51% of the youth ($n = 211$). Participating families were 91% European American and 3% African American. African American participation was somewhat different than the percentage of married African American couples with children younger than 18 years old in the county (5%) and in the United States (7.8%; U.S. Census Bureau, 2000a, Table PCT27 of SF4). On average, parents had earned an associate's degree, which is similar to county education statistics of European American adults over 24 years of age (U.S. Census Bureau, 2000b, Table P148A of SF4). The median household income for families in this study was about \$70,000, which was higher than the county-level median income (\$59,548) for European American families (U.S. Census Bureau, 2000c, Table PCT40 of SF3; \$64,689 inflation-adjusted dollars through 2001).

Data Collection Procedures

Data were collected via questionnaires and observations. Participants were asked to complete questionnaires and participate in observations once a year for three years. The first data collection was when adolescents were in 6th grade (W1). Questionnaires and observational tasks were completed again one year later when adolescents were in 7th grade (W2) and again in 8th grade (W3). During W1 of data collection, adolescents completed questionnaires at school and were compensated with a pizza party. Additional questionnaires were mailed to parents and adolescents to complete independently. During a yearly home visit, completed mailed questionnaires were collected, and parents and adolescents completed another set of questionnaires. During the home visit, families also participated in several observed interaction tasks.

This study utilized observational data from a 20-minute problem-solving activity that included the mother, father, and adolescent. For the problem solving task mothers, fathers, and adolescents each independently completed the 28-item Issues Checklist (IC; Conger et al., 1992). Based on family member responses, home visitors selected eight issues for discussion. Participants were asked to elaborate on the issue, identify who was usually involved, and suggest possible solutions during their discussion. Families were instructed that they did not need to get through all of the discussion cards and to discuss issues at their own pace. The interaction from this task was videotaped and later coded by trained observers using the Iowa Family Interaction Rating Scales (IFIRS; Melby & Conger, 2001).

Each family member's behaviors were coded. Coders were trained in concordance the Iowa State Observational Laboratory procedures and criteria. Coders-in-training passed written exams (score of 90% or higher) and a viewing exam (score of 80% or higher within 1 rating point on a 9-point scale of the Iowa criterion scores). Monthly training checks also were conducted to minimize coder drift.

Families were compensated \$100 for their participation at W1, \$120 at W2, and \$135 at W3. There was some attrition: 416 families participated at W1, 366 families participated at W2, 340 families at W3 (82% retention of W1 families). Analyses revealed, however, that there were no significant differences between retained families and families lost to attrition on any study variables (Buehler, 2006).

Measures

Parent-adolescent hostility—Parent-adolescent hostility was a manifest variable.

Mother-adolescent and father-adolescent hostility were examined in separate models and were each measured using adolescent, mother or father, and observer report.

Adolescent, mother, and father reports of parent-adolescent hostility were measured using the 7-item hostility subscale of the Iowa Youth and Families assessment protocol (Conger, Ge, Elder, Lorenz, & Simons, 1994). Adolescents reported on their own and their mothers' and fathers' hostility. Mothers and fathers reported on their own and their adolescents' hostility. Hostile behaviors were rated on a 7-point response format (1 = *always* to 7 = *never*; reverse coded). Sample items were "Shout at him/her because you were upset with him/her" and "Call you bad names." Cronbach's alpha for adolescent, mother, and father report of their own and each other's expressed hostility ranged from .80 to .90 for W1 to W3 measures.

Observer reports of mother- and father-adolescent expressed hostility were measured using 12 ratings of hostility, angry coercion, and antisocial behavior from the IFIRS (Melby & Conger, 2001). Hostility was indicated by verbal instances of anger, contempt, and critical comments directed toward the other person. Angry coercion was indicated by participants' attempts to control the other person through hostile behavior. Antisocial behavior was indicated by egocentric behavior that demonstrated resistance and insensitive remarks and behaviors towards others. Trained coders rated mother-to-adolescent, adolescent-to-mother, father-to-adolescent, and adolescent-to-father behaviors on a 9-point scale (1 = *not characteristic* to 9 = *mainly characteristic*).

To assess interrater reliability, 20% of the interaction tasks in this study were coded by two coders. The average level of agreement between the two coders (within one rating point) was 72% for the mother-adolescent ratings and 73% for the father-adolescent ratings. Intraclass correlations were .51 for the mother-adolescent ratings and .48 for the father-adolescent ratings. Inconsistencies in codes were resolved through discussion and consensus coding. Cronbach's alpha for observational composites ranged from .73 to .90 for W1 to W3 observations.

Adolescent and mother reports of their own and each other's hostility and the observational ratings of mother-to-adolescent and adolescent-to-mother hostility, angry coercion, and antisocial behavior were each standardized and averaged to create a composite of mother-adolescent hostility at each wave. This same method was used to create the summary score for father-adolescent hostility. Higher scores indicated more mother- or father-adolescent hostility.

Adolescent social anxiety symptoms—Adolescent social anxiety symptoms was a manifest variable. Symptoms were measured at each of the three waves using adolescent reports on the Social Anxiety Scale for Children-Revised (SASC-R; La Greca & Stone, 1993). This scale consists of fear of negative evaluation and social avoidance subscales. Adolescents indicated the frequency of social experiences using a 5-point response format (1 = *not at all* to 5 = *all the time*). Sample items included “I worry about what other kids think of me” and “I feel shy around kids I don't know.” Adolescent reports on the fear of negative evaluation and social avoidance subscales were averaged to create a composite summary of adolescent social anxiety symptoms. Cronbach's alpha for W1 to W3 ranged from .83 to .87. Higher scores indicated greater adolescent social anxiety symptoms.

Intrusive parenting—Mother and father intrusive parenting were manifest variables examined in separate models. Intrusive parenting was measured at each of the three waves using adolescent report and mother or father self-report on an 11-item measure. This measure was created by combining two existing measures of parental psychological intrusion (Barber, 1996; Bogenschneider, Small, & Tsay, 1997). Adolescents, mothers, and fathers responded to items such as, “My mother/father is/I am the kind of person who is always trying to change how I/my child feel/s or think/s about things” on 3-point response format (1 = *not like her/him/me* to 3 = *a lot like her/him/me*). Cronbach's alpha for adolescent, mother, and father reports of intrusive parenting for W1 to W3 ranged from .64 to .88. Adolescent and mother reports of mothers' intrusive parenting were averaged across reporters to create a composite summary of mother intrusiveness. Adolescent and father reports of fathers' intrusive parenting were averaged to create a composite of father intrusiveness. Higher scores indicated greater intrusive parenting.

Covariates—This study controlled for several adolescent, parent, and family factors. Covariates were adolescent pubertal maturation, the number of children in the family, age of the eldest child in the family, the birth order of the target adolescent, parents' marital satisfaction, mother and father education, and family income. Each of these covariates was a manifest variable.

Adolescent pubertal maturation: Adolescent pubertal maturation was measured at W1 using adolescent report on the 5-item Pubertal Developmental Scale (Petersen, Crockett, Richards, & Boxer, 1988). Male and females each completed three items assessing their growth in height, growth in body hair, and skins changes on a 4-point scale (1 = *has not started* to 4 = *seems completed*). Males also completed an additional two items about their voice deepening and facial hair which were assessed on the same 4-point scale. Females also completed two additional items. One item asked about breast development on the same 4-

point scale. The other item asked if they had begun to menstruate (1 = *yes*, 2 = *no*). A total score on pubertal maturation was computed for males and females by averaging the scores across items. For females, because one item was dichotomous, items were standardized and then averaged to create a score (Schelleman-Offermans, Knibbe, Engels, Burk, 2011). Cronbach's alpha for males and females was .66 and .72, respectively.

Number of children and the age of the eldest child: The number of children and the age of the eldest child in the family were measured at W1 using mother report.

Birth order: Birth order of the target adolescent was measured at W1 using mother report. Mothers indicated the ages of each child living in the family. The birth order variable was created by coding if the target adolescent was an only child, the youngest, the middle, or the oldest child in the family (0 = *only child* to 3 = *oldest*) (Pollet & Nettle, 2009).

Marital satisfaction: Parents' marital satisfaction was measured at each of the three waves using mother and father report on the 3-item Kansas Marital Satisfaction Scale (Schumm et al., 1986). Mothers and fathers responded to items such as, "How satisfied are you with your husband/wife as a spouse" on a 7-point response format (1 = *extremely dissatisfied* to 7 = *extremely satisfied*). Cronbach's alpha for mother and father reports of marital satisfaction from W1 to W3 ranged from .93 to .97. Mother and father reports were averaged to create a composite summary of marital satisfaction.

Educational attainment: Mothers and fathers reported on their educational attainment at W1 on a 14-point scale (1 = *no schooling completed* to 14 = *professional degree/Ph.D.*).

Family income: Mothers reported on family income at W1 (1 = "*under \$2500*" to 41 = *\$100,000 or more*).

Analytic Procedures

Descriptive statistics were calculated using SPSS (version 20). Hypotheses were tested using path analysis in AMOS, version 20. Separate mother-adolescent and father-adolescent models were estimated. Three fit indices were used to assess the acceptability of each analytic model: the chi-square statistic, comparative fit index (CFI), and root-mean-square error of approximation (RMSEA). A nonsignificant chi-square statistic indicated good model fit. However, due to the large sample size, a significant chi-square was expected for most models. Therefore, other fit indices also were examined (Byrne, 2001). Adequate model fit was indicated by CFI values of .90 to .95 (Byrne, 2001; Hu & Bentler, 1999) and RMSEA values ranging from .06 to .08 (Browne & Cudeck, 1993; Byrne, 2001). Good model fit was indicated by CFI values greater than .95 and RMSEA values less than .05 (Browne & Cudeck, 1993; Byrne, 2001; Hu & Bentler, 1999). The significance level for all estimates was set at $p < .05$. Missing values were addressed using full information maximum likelihood estimation methods, a preferred technique for producing estimates with minimal bias (Schlomer, Bauman, & Card, 2010).

To test for adolescent gender moderation, mother- and father-adolescent models were examined across sons and daughters using multiple-group path analysis. Two models were

estimated and compared. The first model constrained all parameters to be equal across groups. The second model allowed regression estimates to vary across sons and daughters. A significant change in chi-square indicated that gender differences in the structural paths existed. In order to locate the source of differences, critical ratios were examined. Critical ratios greater than 1.96 ($p < .05$) indicated adolescent gender differences for a specific regression path.

Results

Preliminary Analyses

Descriptive statistics, including correlations, are shown in Table 1 for the mother- and father-adolescent models. Zero-order correlations were in the expected directions. Importantly, adolescent social anxiety symptoms and parental intrusiveness were each associated with parent-adolescent hostility within data collection waves. With regards to the problem-solving context of the observational component of the parent-adolescent hostility composite, the most frequent family issues discussed during 6th, 7th, and 8th grades included family disagreements about chores at home, kids fighting with each other, and attitudes and/or respect among family members.

Stability and change from 6th to 8th grade—Mother-adolescent and father-adolescent hostility demonstrated both stability and change from 6th to 8th grade. Standardized regression estimates across 6th to 8th grade were .62 and .49 ($ps < .001$) and .60 and .44 ($ps < .001$) for mother- and father-adolescent hostility, respectively. This suggests that parent-adolescent hostility scores from 6th to 8th grades share between 24% and 38% of variance over time. Thus, there was adequate change in parent-adolescent hostility across early adolescence to examine predictors of this change. Stability and change also were demonstrated for adolescent social anxiety symptoms from 6th to 8th grades in the mother-adolescent ($\beta = .53$ and .46; $p < .001$) and father-adolescent ($\beta = .54$ and .47; $p < .001$) models. There also was stability and change in mother ($\beta = .47$ and .51; $ps < .001$) and father ($\beta = .52$ and .45; $ps < .001$) intrusiveness.

Mother-Adolescent Hostility

The mother-adolescent model fit the data well ($[\chi^2(67) = 89.55, p = .03, CFI = .99, RMSEA = .03]$; see Figure 2). As hypothesized, higher 7th grade mother intrusiveness was associated with increased mother-adolescent hostility during 8th grade ($\beta = .14, p = .001$). Contrary to our hypothesis, significant unique associations were not found between adolescent social anxiety symptoms and mother-adolescent hostility across 6th to 8th grades.

There was some evidence of reciprocal effects. Higher 6th grade mother-adolescent hostility was associated with increased mother intrusiveness ($\beta = .22, p < .001$) during 7th grade. Additionally, higher 7th grade mother-adolescent hostility was associated with increased mother intrusiveness during 8th grade ($\beta = .16, p < .001$). Significant associations were not found between mother-adolescent hostility and later changes in adolescent social anxiety symptoms.

Multi-group analyses indicated that the mother-adolescent model differed for sons and daughters [$\chi^2(41) = 59.52, p = .03$]. Examination of critical ratios revealed that the association between 6th and 8th grade mother-adolescent hostility (i.e., the stability coefficient) was significant for daughters ($\beta = .34, p < .001$) but not for sons ($\beta = .06, p = .43$). Thus, adolescent gender differences occurred in the stability of mother-adolescent hostility across two years, rather than in the prediction of mother-adolescent hostility.

Father-Adolescent Hostility

The father-adolescent model fit the data well ($\chi^2(67) = 71.40, p = .33, CFI = .99, RMSEA = .01$]; see figure 3). As hypothesized, higher 7th grade father intrusiveness was associated with increased father-adolescent hostility during 8th grade ($\beta = .15, p = .001$). Contrary to our hypothesis, significant associations were not found between adolescent social anxiety symptoms and father-adolescent hostility across 6th to 8th grades.

There was some evidence of reciprocal effects. Higher 6th grade father-adolescent hostility was associated with increased father intrusiveness during 7th grade ($\beta = .13, p = .002$). Significant associations were not found between father-adolescent hostility and increases in adolescent social anxiety symptoms during early adolescence. Multi-group analyses indicated that adolescent gender did not moderate these associations [$\chi^2(41) = 48.15, p = .21$].

Discussion

Research has demonstrated that hostile parent-adolescent relationships are an important risk factor for adolescent well-being (Laursen & Collins, 2009). Yet, little is known about how much of the variance in parent-adolescent hostility can be uniquely accounted for by relevant factors located in each member of the parent-adolescent dyad. Research also has been limited regarding how patterns unfold over time and whether associations are similar or different for mother- and father-adolescent dyads. This study contributes to research on parent-adolescent hostility by examining both adolescent and parental contributions to mother- and father-adolescent relationships. Although results indicated that the stability estimates of social anxiety and parental intrusiveness over time were comparable, significant findings were substantiated only for pathways between parental intrusiveness and parent-adolescent hostility.

As we hypothesized, mothers' and fathers' intrusive parenting were associated with increases in mother- and father-adolescent hostility, but only between 7th and 8th grades. Consistent with prior longitudinal research (Buehler, 2006), we also found that the increases in 7th grade mother and father intrusiveness were predicted by higher mother- and father-adolescent hostility during 6th grade. Together, these findings suggest that 7th grade may represent an important developmental window for parental influences on subsequent parent-adolescent interactions. Higher parent-adolescent hostility during 6th grade may increase parenting distress and deplete mothers' and fathers' abilities to engage in positive parenting practices (Papp, Cummings, & Goeke-Morey, 2005). Thus, mothers and fathers may attempt to manage higher 6th grade parent-adolescent hostility by engaging in increased control and manipulation of adolescents' thoughts and feelings during 7th grade.

This developmental and systemic pattern may be salient when adolescents are 12 to 13 years old (i.e., 7th grade), in part, because of transformational shifts in adolescents' desires for increased autonomy and for an increased need for adequate levels of family differentiation (Laursen & Collins, 2009). For 7th grade adolescents, higher parental intrusiveness may constitute disrespect and violations of adolescent boundaries regarding their emotional independence (Barber et al., 2012). Therefore, adolescents are likely to reject parents' intrusion which may manifest in increased hostility with parents during 8th grade (Smetana & Gaines, 1999). This finding is consistent with prior cross-sectional research that found that higher parental intrusiveness was associated with higher parent-adolescent disagreement (Hawk et al., 2009) and expressed anger (Smetana & Gaines, 1999). Contrary to the results of the current study, however, Steeger and Gondoli (2013) did not find a significant association between mothers' intrusive parenting during 7th grade and mother-adolescent conflict during 8th grade. These contrasting results might be due to differences in measurement methods and reporters. Steeger and Gondoli examined mother and adolescent reports of parenting and mother-adolescent conflict separately and solely utilized questionnaire data. The present study is an improvement over prior research because it enhanced construct validity by: (a) utilizing observational measurement of parent-adolescent hostility, and (b) utilizing composites of parent and adolescent reports on intrusive parenting and parent-adolescent hostility. Nonetheless, future research will need to clarify these inconsistencies and replicate the current findings.

Findings did not support the hypothesis that adolescent social anxiety is associated positively with increases in parent-adolescent hostility across early adolescence. There are a few possible explanations for these results. First, other mechanisms may be important to examine when considering the relationship between adolescent social anxiety and dyadic parent-adolescent hostility. For example, in addition to positing that anxiety may manifest in hostility, Bowen (1978) suggested that individual anxiety may reverberate throughout family systems. More specifically, increases in adolescent social anxiety may increase parents' worries and concerns regarding their adolescents' well-being (Schrock & Woodruff-Borden, 2010). Future research should consider parental anxiety symptoms as mechanisms of influence in the association between adolescent social anxiety and parent-adolescent hostility. Additionally, the link between social anxiety and parent-adolescent hostility may characterize only a subgroup of individuals with social anxiety (Kashdan, McKnight, Richey, & Hofmann, 2009). Thus, the association between adolescent social anxiety and parent-adolescent hostility might depend on levels of adolescent or environmental characteristics such as emotional regulation or social support (Kashdan et al., 2009). To our knowledge, this is the first study to examine the association between adolescent social anxiety symptoms and dyadic parent-adolescent relationships (i.e., hostility). Given the theoretical and developmental saliency of adolescent social anxiety symptoms, future research should build on this study and continue to examine the ways in which adolescent social anxiety symptoms may influence dyadic, family relationships across adolescence. Important areas of consideration will include possible moderating effects that may suggest for whom or under which conditions these associations are significant.

An important contribution of this study to existing research was its examination of both mother- and father-adolescent relationships. As such, this study demonstrates both

similarities and differences in the processes related to mother- and father-adolescent hostility across early adolescence. Consistent with findings of prior research on mother-adolescent hostility (Steeger & Gondoli, 2013), results indicated that mothers continued to respond to higher mother-adolescent hostility during 7th grade with increased intrusive parenting during 8th grade. This study adds to existing research by finding that this path was not significant in the father-adolescent model. Possibly due to more closeness and intimacy in mother-adolescent relationships than father-adolescent relationships (Steinberg & Silk, 2002), mothers might be more resistant than fathers to modifications in maternal-adolescent boundaries during 8th grade in response to higher 7th grade mother-adolescent hostility. Thus, some mothers may continue to manage or diffuse higher mother-adolescent hostility through increases in guilt induction and manipulative parenting tactics during 7th to 8th grades. In contrast to mothers, fathers may become more comfortable with less permeable boundaries or might increase their use of other conflict management tactics, such as withdrawal (Van Doorn, Branje, & Meeus, 2011), in response to higher father-adolescent hostility during 7th grade. Moreover, these findings might reflect differences in mothers and fathers parenting more generally. Scholars have suggested that, on average, fathers spend less time interacting with their children than mothers. With regards to more specific types of involvement, mothers tend to engage in more daily caregiving and management of adolescents daily lives than fathers. In contrast, father involvement is typically characterized by engagement in weekend social activities and playful interactions with children and adolescents (for a review, see Parke, 2013). As such, scholars suggest that fathers' interaction behaviors might reflect more flexible attitudes about parenting adolescents. Additionally, fathers' interaction behaviors might be perceived by adolescents as support for more egalitarian and peer-like parent-adolescent relationships (Parke, 2013).

It is important to note, however, that the observational measure of parent-adolescent hostility used in this study was situated in the context of a triadic interaction. Although this study only used codes for dyadic interactions, it is important to consider the impact that each dyadic relationship within this triad might have for other dyadic relationships. This study controlled for marital satisfaction as a way to reduce the influence that the interparental relationship might have on dyadic, parent-adolescent hostility. Future research, however, should compare results when parent-adolescent hostility is observed in dyadic versus triadic contexts.

Although exploratory, this study also examined adolescent gender differences. Results indicated only one adolescent gender difference, which occurred in the stability coefficient for mother-adolescent hostility across two years. The pathway between 6th grade and 8th grade mother-adolescent hostility was significant for daughters but not sons. Prevention efforts should consider that mother-adolescent hostility during the transition into adolescence may have particularly important implications for the quality of mother-daughter relationships later during adolescence. Programs should target the communication techniques of both parents and adolescents, such as problem solving and responsiveness, but possibly in differential ways. Studies have found that more positive interactions between mothers and children were predicted by greater child engagement in problem solving. However, child engagement in problem solving was promoted by greater emotional

responsiveness and less oppositional communication among mothers (Nelson, Boyer, Sang, & Wilson, 2014).

Beyond this finding, adolescent gender did not moderate the associations among adolescent social anxiety symptoms, intrusive parenting, and parent-adolescent hostility across early adolescence. Other research also has examined the association between intrusive parenting and mother-adolescent hostility across early adolescence and did not find gender differences (Steege & Gondoli, 2013). The results from this study contribute to existing research by also examining father-adolescent hostility, and suggest that the patterns of mother-*and* father-adolescent hostility examined in this study are, overall, very similar for male and female adolescents across early adolescence.

Although this study makes several important contributions to the existing literature, there are several limitations. First, the intraclass correlations for observed parent-adolescent hostility were relatively low. However, by compositing the observational ratings with additional measures of hostility, the reliability of the overall composited measure of parent-adolescent hostility was improved. Second, the examinations in this study were largely focused on direct effects between variables. Thus, the current study cannot elucidate more complex processes of influence that might occur within families across early adolescence. Future research would be improved by examining mediators of these associations as well as important contextual moderators. Third, the findings are limited to a sample of primarily European American families. As such, findings are not generalizable to families of other racial or ethnic groups and family structures. This is an important avenue for future research, as some scholars suggest that “the broader cultural context in which adolescent-parent relationships occur would be expected to determine the types of issues and specific ways in which conflicts are expressed” (Smetana & Gaines, 1999, p. 1447). Studies have found that Mexican-American adolescents were less likely than European-American adolescents to endorse open disagreement with their parents (Phinney, Kim-Jo, & Osorio, 2005). In terms of parenting behaviors, some scholars have concluded that Mexican-American adolescents might equate parental psychological control with parental care and involvement (Sher-Censor, Parke, & Coltrane, 2011). In other cultural contexts, parent-adolescent-hostility and parental intrusiveness might be perceived differently than among European-American families, which might affect the pattern of associations demonstrated in this study. It is possible that across cultural, racial, and ethnic groups, the predictors and processes of parent-adolescent hostility may vary from the findings of this study.

Likewise, the sample solely consisted of two-parent families, and the results may vary by family structure. Divorce may bring multiple transitions and perturbations in the parent-adolescent relationship that may inherently change family systems; therefore, the predictors of parent-adolescent hostility and how processes unfold over time among single-parent and/or divorced families may be different than those of two-parent families (Demo & Fine, 2010). Overall, there is a dearth of research in this area and future research should aim to fill this gap.

Conclusion

Guided by family systems theory (Kerr & Bowen, 1988), this study examined adolescent and parent predictors of parent-adolescent hostility across early adolescence and detailed some of the interconnected nature of individuals and parent-adolescent relationships within families. In addition to its longitudinal, multi-method research design, this study makes important contributions to existing research by suggesting that parent-adolescent hostility at the beginning of adolescence shapes subsequent interactions via parental intrusiveness for both mother- and father-adolescent dyads. Moreover, although significant findings were not substantiated between adolescent social anxiety and parent-adolescent hostility, this study makes an important, novel contribution to the literature by examining how parent-adolescent relationships might be influenced by adolescents' experiences with peers and nonfamilial adults. Future research should focus on examining additional mechanisms of influence and extend its scope to families of other races, ethnicities, and family structures.

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Figure 1. Conceptual model

Figure 2.

Mother-adolescent path model 6th to 8th grade. Estimates are standardized coefficients. Bolded estimates are significant at $p < .05$. Associations were estimated between 6th and 8th grade adolescent social anxiety, mother-adolescent hostility, and mother intrusiveness, but are not shown in the figure. Within each wave, disturbances between adolescent social anxiety, mother-adolescent hostility and mother intrusiveness were estimated but are not shown in the figure. Covariates are not depicted for simplicity.

Figure 3.

Father-adolescent path model 6th to 8th grade. Estimates are standardized coefficients.

Bolded estimates are significant at $p < .05$. Associations were estimated between 6th and 8th grade adolescent social anxiety, father-adolescent hostility, and father intrusiveness but are not shown in the figure. Within each wave, disturbances among adolescent social anxiety, father-adolescent hostility, and father intrusiveness were estimated but are not shown in the figure. Covariates are not depicted for simplicity.

Table 1

Descriptive Statistics and Intercorrelations between Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. YR PA hos W1	.66 ^c	.36 ^c	.19 ^c	.33 ^c	.48 ^c	.23 ^c	.48 ^c	.38 ^c	.10	.13 ^b	.31 ^c	.24 ^c	.45 ^c	.41 ^c	.20 ^c	.13 ^a	.28 ^c	.22 ^c	.14 ^b
2. PR PA hos W1	.45 ^c	.42 ^c	.23 ^c	.10 ^a	.25 ^c	.43 ^c	.27 ^c	.72 ^c	.28 ^c	.05	.19 ^c	.41 ^c	.32 ^c	.66 ^c	.22 ^c	.10	.15 ^b	.34 ^c	.06
3. OB PA hos W1	.22 ^c	.28 ^c	.66 ^c	.07	.16 ^c	.14 ^b	.15 ^b	.25 ^c	.41 ^c	.01	.15 ^b	.15 ^b	.11 ^a	.21 ^c	.45 ^c	-.01	.09	.15 ^b	-.04
4. YR SA W1	.26 ^c	.13 ^b	.03	1	.29 ^c	.10 ^a	.27 ^c	.16 ^b	.03	.55 ^c	.11 ^a	.20 ^c	.17 ^b	.16 ^b	.08	.47 ^c	.16 ^b	.14 ^b	.01
5. YR intru W1	.45 ^c	.25 ^c	.14 ^b	.25 ^c	.46 ^c	.28 ^c	.27 ^c	.23 ^c	.07	.10 ^a	.47 ^c	.30 ^c	.31 ^c	.27 ^c	.15 ^b	.09	.45 ^c	.25 ^c	.13 ^b
6. PR intru W1	.27 ^c	.42 ^c	.07	.15 ^c	.20 ^c	.21 ^c	.16 ^b	.36 ^c	.18 ^c	.08	.17 ^c	.56 ^c	.27 ^c	.44 ^c	.25 ^c	.14 ^b	.26 ^c	.60 ^c	-.05
7. YR PA hos W2	.46 ^c	.41 ^c	.19 ^c	.25 ^c	.19 ^c	.29 ^c	.74 ^c	.29 ^c	.16 ^b	.18 ^c	.42 ^c	.16 ^b	.54 ^c	.28 ^c	.16 ^b	.19 ^c	.29 ^c	.21 ^c	.04
8. PR PA hos W2	.37 ^c	.71 ^c	.22 ^c	-.01	.20 ^c	.34 ^c	.45 ^c	.43 ^c	.33 ^c	.14 ^b	.25	.45	.31	.77	.19	.16	.20	.38	.09
9. OB PA hos W2	.20 ^c	.25 ^c	.46 ^c	.05	.14 ^a	.12 ^c	.36 ^c	.29 ^c	.60 ^c	-.01	.13 ^b	.17 ^c	.22 ^c	.30 ^c	.54 ^c	-.01	.13 ^a	.21 ^c	-.06
10. YR SA W2	.12 ^a	.10	.06 ^c	.55 ^c	.10 ^b	.16 ^c	.22 ^c	.09	.04	1	.13 ^b	.21 ^c	.05	.10	-.03	.59 ^c	.15 ^b	.11 ^a	-.04
11. YR intru W2	.31 ^c	.34 ^c	.13 ^b	.21 ^c	.45 ^c	.27 ^c	.42 ^c	.33 ^c	.28 ^c	.18 ^c	.62 ^c	.26 ^c	.34 ^c	.26 ^c	.19 ^c	.10	.51 ^c	.36 ^c	.09
12. PR intru W2	.26 ^c	.43 ^c	.13 ^c	.12 ^a	.16 ^c	.61 ^c	.25 ^c	.53 ^c	.16 ^b	.20 ^c	.30 ^c	.21 ^c	.24 ^c	.46 ^c	.16 ^b	.25 ^c	.25 ^c	.60 ^c	.03
13. YR PA hos W3	.40 ^c	.38 ^c	.19 ^c	.17 ^b	.19 ^c	.28 ^c	.52 ^c	.43 ^c	.24 ^c	.10	.39 ^c	.33 ^c	.73 ^c	.36 ^c	.28 ^c	.21 ^c	.43 ^c	.26 ^c	.01
14. PR PA hos W3	.41 ^c	.64 ^c	.28 ^c	.11 ^a	.16 ^c	.34 ^c	.44 ^c	.67 ^c	.33 ^c	.04	.25 ^c	.39 ^c	.48 ^c	.47 ^c	.24 ^c	.15 ^b	.26 ^c	.45 ^c	.12 ^a
15. OB PA hos W3	.23 ^c	.24 ^b	.42 ^c	.04	.18 ^c	.18 ^c	.27 ^c	.27 ^c	.52 ^c	.00	.25 ^c	.23 ^c	.31 ^c	.34 ^c	.57 ^c	-.03	.16 ^b	.14 ^b	-.08
16. YR SA W3	.15 ^b	.15 ^c	.09	.47 ^c	.12 ^c	.27 ^c	.22 ^c	.11 ^a	.03	.59 ^c	.21 ^c	.19 ^c	.24 ^c	.12 ^a	-.06	1	.16 ^b	.09	-.10
17. YR intru W3	.37 ^c	.33 ^c	.16 ^b	.14 ^b	.40 ^c	.28 ^c	.37 ^c	.30 ^c	.25 ^c	.13 ^a	.62 ^c	.28 ^c	.49 ^c	.33 ^c	.28 ^c	.13 ^a	.69 ^c	.33 ^c	.12
18. PR intru W3	.30 ^c	.39 ^c	.26 ^c	.17 ^b	.16 ^c	.55 ^c	.30 ^c	.40 ^c	.23 ^c	.16 ^b	.29 ^c	.66 ^c	.38 ^c	.49 ^c	.29 ^c	.21 ^c	.28 ^c	.21 ^c	.04
19. Adol gender	.03	-.06	-.06	.01	.06	-.03	-.05	-.05	-.05	-.04	.05	-.08	-.08	-.02	-.04	-.10	.10	-.12 ^a	1
<i>M</i>	1.65	1.89	3.00	2.14	1.36	1.30	1.66	1.80	3.25	2.32	1.32	1.28	1.64	1.87	3.23	2.30	1.35	1.28	0.49
	1.53	1.82	2.90	2.14	1.28	1.30	1.55	1.79	3.10	2.32	1.27	1.31	1.57	1.83	3.09	2.30	1.32	1.31	.49
<i>SD</i>	0.51	0.66	1.29	0.72	0.32	0.23	0.49	0.57	1.40	0.87	0.33	0.22	0.52	0.63	1.35	0.90	0.36	0.22	0.50
	.45	.58	1.30	.72	.27	.23	.41	.58	1.40	.87	.32	.24	.49	.64	1.28	.90	.37	.25	.50
Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Max	4.29	5.36	9.00	4.61	3.00	2.27	3.63	4.44	7.17	5.00	2.73	2.09	4.19	4.00	8.33	5.00	3.00	2.09	1.00
	3.21	4.00	9.00	4.61	2.55	2.09	3.00	3.88	7.50	5.00	2.73	2.36	3.63	5.19	7.50	5.00	3.00	2.55	1.00

Note. Correlations for mothers are depicted on the lower diagonal. Correlations for fathers are depicted on the upper diagonal. Correlations along the diagonal are correlations between mother and fathers. Descriptives for mothers are located in the first row. Descriptives for fathers are located in second row. YR = Youth report, PR = Parent report, OB = Observed, PA = Parent-adolescent, hos = Hostility, SA = Social anxiety, Intru = Intrusiveness, Adol = Adolescent, W1 = 6th grade, W2 = 7th grade, W3 = 8th grade.

^a $p < .05$,

^b $p < .01$,

^c $p < .001$