



Published in final edited form as:

Attach Hum Dev. 2014 October ; 16(5): 437–461. doi:10.1080/14616734.2014.921718.

Parental Attachment Style: Examination of Links with Parent Secure Base Provision and Adolescent Secure Base Use

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Abstract

The secure base construct is a core aspect of attachment theory and, according to Bowlby (1988), represents one of attachment theory's most important contributions to our understanding of parent-child relationships and child development. The present study represents the first examination of how parents' self-reported attachment styles relate to parental secure base provision and adolescent ($M_{age} = 16.6$ years, $SE = .59$) secure base use during an observed parent-adolescent interaction. Further, the present study is the first to examine how fathers', as well as mothers', attachment styles relate to observed behavior in a parent-child interaction. At the bivariate level, maternal avoidance, but not anxiety, was negatively associated with observed adolescent secure base use. In addition, path analysis revealed that maternal avoidance was indirectly related to less adolescent secure base use through mothers' self-reported hostile behavior toward their adolescents and through adolescents' less positive perceptions of their mothers. Further, paternal anxiety, but not avoidance, was indirectly related to less adolescent secure base use through fathers' self-reported hostile behavior toward their adolescents. No significant findings emerged in relation to parental secure base provision. We discuss these results in the context of attachment theory and suggest directions for future research.

Keywords

attachment style; parenting; adolescence; secure base; perceptions of parents

Adult attachment styles are conceptualized as relatively stable patterns of thoughts, feelings, and behaviors in adult close relationships (Shaver & Mikulincer, 2002). A substantial body of empirical work demonstrates that self-reported adult attachment styles influence many important aspects of adult functioning, including social information processing, emotion regulation, coping strategies, defensive processes, unconscious conflicts, empathy, and compassion (Mikulincer & Shaver, 2007, and Shaver & Mikulincer, 2002, for reviews). Despite the wide range of constructs found to relate to adult attachment styles, the primary focus of this area of attachment research has been on romantic relationship processes. In their influential paper, Hazan and Shaver (1987) found patterns of adult attachment that parallel Ainsworth's (Ainsworth, Blehar, Waters, & Wall, 1978) infant attachment patterns, and suggested that these individual differences in adult attachment style would relate to

individuals' experience of and behavior in romantic relationships. An abundance of research conducted over nearly 30 years supports Hazan and Shaver's proposal. Specifically, research shows that an avoidant attachment style – characterized by discomfort with intimacy, dependency, and disclosure in close relationships – is related to a style of caregiving in romantic relationships that is cold, unsupportive, and insensitive (e.g., Kunce & Shaver, 1994; Rholes, Simpson, & Oriña, 1999; Simpson, Rholes, & Nelligan, 1992). On the other hand, an anxious attachment style – characterized by fears of rejection and abandonment and a strong desire for closeness in relationships – is related to a style of caregiving in romantic relationships that is intrusive, unresponsive, controlling, and out-of-sync with the needs of romantic relationship partners (Collins & B. Feeney, 2000; B. Feeney & Collins, 2001; Kunce & Shaver, 1994).

These compelling findings related to adult attachment and caregiving in romantic relationships have led some researchers to explore the possibility that adult attachment styles also relate to thoughts, feelings, and behaviors in parent-child relationships (e.g., Edelstein et al., 2004; Mills-Koonce et al., 2011; Rholes, Simpson, & Blakely, 1995; Rholes, Simpson, & Friedman, 2006; Selcuk et al., 2010). Overall, these studies support an association between parents' self-reported attachment styles and various aspects of parenting across a range of child ages (see Jones, Cassidy, & Shaver, 2014, for a review). However, relative to the substantial body of literature on adult attachment styles and romantic relationships, much less research has focused on parenting and parent-child relationships. Further, of the research that has focused on attachment styles and parenting, the vast majority has focused on *self-reported* thoughts, feelings, and behaviors related to parenting, with only five studies examining links between parents' attachment styles and *observed* behavior in parent-child interactions (Berlin et al., 2011; Edelstein et al., 2004; Mills-Koonce et al., 2011; Rholes et al., 1995; Selcuk et al., 2010). It is also noteworthy that fathers were almost completely excluded from the five prior observational studies (Edelstein et al., 2004, included four fathers), and that these studies were limited to parents of children under the age of 7. Therefore, the present study aimed to advance this literature by examining how mothers' and fathers' attachment styles relate to parental secure base provision and adolescent secure base use during an observed parent-adolescent interaction.

Parental Attachment Style and Parenting Behavior

The five prior observational studies revealed that parental attachment insecurity is associated with less sensitive and responsive parental behavior (Edelstein et al., 2004; Mills-Koonce et al., 2011; Selcuk et al., 2010), less supportive behavior (Berlin et al., 2011; Rholes et al., 1995), missing the child's signals and interfering with exploration (Selcuk et al., 2010), and lower quality teaching behavior during a laboratory task (Rholes et al., 1995). However, the link between attachment style and observed parenting behavior appears to be more consistent for attachment-related avoidance than for attachment anxiety. In fact, only one study (Selcuk et al., 2010) reported significant associations between attachment anxiety and more negative observed parenting behavior. Yet it is important to note, as mentioned above, that fathers were almost completely excluded from these five studies; it may, in fact, be the case that attachment anxiety will emerge as a predictor of parenting once more research is conducted with fathers.

It is also worth noting that some of these studies found interactions between avoidance and characteristics of the parent (i.e., maternal psychological distress) and characteristics of the child (i.e., positive behavior, distress) in predicting parenting behaviors. For example, in addition to finding that mothers who endorsed being avoidant at two time points were less sensitive than consistently secure mothers, Mills-Koonce et al. also found a significant avoidance X maternal psychological distress interaction in predicting less sensitive maternal behavior. Similarly, Rholes et al. found a main effect of avoidance on maternal supportiveness as well as a significant avoidance X child behavior interaction in predicting less supportive behavior.

In addition to the five observational studies of parental behavior reported above, several studies have examined individual differences in a variety self-reported caregiving behaviors as a function of parents' attachment styles. These studies revealed that greater parental insecurity is related to less responsive (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1997), less consistent (Coyle, Newland, & Freeman, 2010; Kilmann, Vendemia, Parnell, & Urbaniak, 2009), less caring (J. Feeney, 2002), less accepting (Kilmann et al., 2009), and more authoritarian (Millings, Walsh, Hepper, & O'Brien, 2013) self-reported parental behavior.

Parental Attachment Style and Child Behavior Toward and Perceptions of Parents

Considerably less is known about the important issue of how parents' attachment styles relate to the ways in which their children behave towards them. To our knowledge, only two studies have investigated this link (Mayseless, Sharabany, & Sagi, 1997; Volling, Notaro, & Larsen, 1998). Both studies examined infant secure base behavior in the context of the Ainsworth Strange Situation (Ainsworth et al., 1978), but the two studies yielded inconsistent results, with the former but not the latter study finding links between maternal attachment style and child behavior. Specifically, Mayseless et al. found that maternal avoidance was positively related to infant avoidant behavior and maternal anxiety was positively related to infant resistant and avoidant behavior. To our knowledge, no study has examined how parents' attachment styles relate to secure base behaviors in observed interactions between parents and older children or adolescents.

In addition to a focus on overt behavior toward parents, attachment theory is also concerned with the cognitive-affective schemas children develop of their parents, which vary as a function of the quality of care received (Bowlby, 1969/1982, 1973; Bretherton & Munholland, 2008). These schemas include, but are not limited to, perceptions of parents (e.g., as warm/loving) and expectations about parental behavior (e.g., availability/responsiveness). To date, four studies have found associations between parental attachment styles and child/adolescent perceptions of their parents and the parent-child relationship. Specifically, children of more insecure parents perceive their parents as less warm (Newland, Coyle, & Chen, 2010), as less able to constructively resolve conflicts in the parent-child relationship (J. Feeney, 2006), and as possessing less knowledge about their whereabouts and activities (Jones, Ehrlich, Lejuez, & Cassidy, 2014). In addition, parental security is positively related to college-aged children's reports of satisfaction with the

parent-child relationship (La Valley & Guerrero, 2012). Although these initial findings are intriguing, more research is needed to better understand the link between parental attachment styles and child perceptions of parents and how these perceptions relate to child behavior and adjustment. Theory suggests that the link between parental attachment and children's perceptions and expectations of their parents should be at least partially mediated by parental caregiving behavior, and that perceptions and expectations should guide children's behavior toward their parents (Ainsworth et al., 1978; Bowlby, 1969/1982, 1980). In the present study, we test these theoretical propositions.

A Focus on the Secure Base Construct

Bowlby stated that “No concept within the attachment framework is more central to developmental psychiatry than that of the secure base” (1988, p. 163–164), and contemporary attachment researchers continue to call for a focus on the secure base construct (Cassidy, Jones, & Shaver, 2013; Waters & Cummings, 2000). As such, the lack of focus on child secure base use and parental secure base provision in the attachment style literature is rather surprising. The secure base phenomenon refers to two inter-related components: a *secure base* from which a child can explore the environment and a *safe haven* to which the child can return in times of need or distress. The ability to use one's parent as a secure base is at the core of attachment security in both infancy (Ainsworth et al., 1978) and adolescence (Allen et al., 2003). However, theory and the available empirical evidence suggest that parents with insecure attachment styles may have trouble serving as a secure base for their children and that the children of insecure parents may be less willing or able to use their parent as a secure base. For example, in addition to the difficulties serving as a secure base for and responding to the needs of romantic relationship partners noted above (e.g., Collins & B. Feeney, 2000; B. Feeney & Thrush, 2010; Rholes et al., 1999; Simpson et al., 1992), insecure adult attachment styles are associated with maladaptive responses to distress (Mikulincer & Florian, 1995, 1998), greater hostility, anger, and conflict in parent-child interactions (J. Feeney, 2006; Scher & Dror, 2003; Selcuk et al., 2010), and less empathy and compassion (Mikulincer et al., 2001; Mikulincer, Shaver, Gillath, & Nitzberg, 2005). This constellation of findings suggests that parents with insecure attachment styles might struggle with the challenges and stresses of serving as a secure base for their child.

Similarly, children whose parents tend to behave in a hostile and angry manner toward them and who tend to be less empathic and compassionate may be unlikely to turn to their parents for comfort and support in times of need. Indeed, high hostility and low compassion are the very antithesis of a secure base for a child. An additional possibility is that children of insecure parents develop negative perceptions of their parents (e.g., as cold, unavailable, hostile) and these negative perceptions guide their behavior. That is, a child or adolescent who perceives his or her parent in a negative light may be unlikely to seek support and comfort from that parent. A third possibility is that there is a cascade of effects in which parental insecurity predicts more negative parental behaviors, which in turn predicts more negative child/adolescent perceptions of parents, which then predicts less secure base use. We test these various possibilities in the present investigation.

The Present Study

The first goal of the present study was to examine the links between parents' self-reported attachment styles and observed secure base provision to their adolescent children in the context of a parent-adolescent conflict discussion task. We selected a conflict discussion task because discussing areas of conflict acts as a stressor on the parent-adolescent relationship, thereby creating a situation in which differences in support-seeking and support-provision are likely to be evident. We note that conflict discussion tasks have been useful in eliciting attachment-related differences in secure base behaviors in research with both romantic partners and parent-child dyads (Allen et al., 2003; Crowell et al., 2002). We hypothesized that parents with more insecure attachment styles (i.e., higher avoidance or anxiety) would receive lower scores on observed secure base provision. Given that (a) both avoidance and anxiety have been associated more negative caregiving behavior in research with both romantic partners and children (B. Feeney & Collins, 2001; Goodman et al., 1997; Selcuk et al., 2010; Simpson et al., 1992), (b) there has been inconsistency across studies with respect to which dimension of attachment insecurity is linked to parenting outcomes (see Jones, Cassidy, et al., 2014, for a discussion of this issue), and (c) this is the first study to examine how attachment styles relate to behavior in observed parent-adolescent interactions, we did not make differential hypotheses for the subtypes of attachment insecurity. In addition, due to the absence of prior observational research with fathers, we had no empirical basis to make differential hypotheses for mothers and fathers.

In line with the findings of prior research in this area (Mills-Koonce et al. 2011; Rholes et al., 1995), we also examined whether parents' attachment styles interact with parent-reported marital quality and psychological distress (i.e., depressive symptoms) to predict secure base provision. We hypothesized that greater psychological distress and lower marital quality, respectively, would interact with greater attachment insecurity to predict less secure base provision.

The second goal of the present study was to examine the links between parents' self-reported attachment styles and observed adolescent secure base use in the context of a parent-adolescent conflict discussion task. In order to gain a deeper and more complete understanding of the processes and mechanisms by which parental attachment styles influence adolescent secure base use, we examined three potential pathways through which parental attachment styles may indirectly relate to adolescent secure base use (see Figures 1 and 2). First, we examined whether parental attachment styles indirectly relate to adolescent secure base use through adolescents' perceptions of their parents (indirect path A). We focused specifically on perceptions that are relevant to attachment theory and secure base use and which we feel capture the adolescents' overall perceptions of their parents as attachment figures. These perceptions include: perceived parental warmth, understanding, and hostility, as well as perceptions of parents as available and responsive (i.e., as a secure base). Second, we tested whether parental attachment styles indirectly relate to adolescent secure base use through parent-reported hostile behavior toward their adolescents (indirect path B). As noted above, theoretically, the link between a parent's attachment and his or her child's cognitive-affective schema (i.e., perceptions) of the parent should be at least partially mediated by parenting behavior. Therefore, we also tested whether hostile parental behavior

mediates the link between parental attachment styles and adolescents' perceptions of their parents and whether these perceptions in turn predict adolescent secure base use (indirect path C). We focused on hostility because it is a particularly pernicious and salient aspect of interpersonal relationships that has previously been associated with greater attachment insecurity in both parents and romantic partners (J. Feeney, 2006; Rholes et al., 1999; Scher & Dror, 2003). In addition, parental hostility has previously been associated more negative adolescent perceptions of parents (Harold & Conger, 1997).

We made the following three hypotheses. First, we hypothesized that greater parental insecurity would be associated with less adolescent secure base use. Second, we hypothesized that greater parental insecurity would indirectly relate to less adolescent secure base use through parent-reported hostile behavior and through adolescents' less positive perceptions of their parents. Finally, we hypothesized that greater parental attachment insecurity would relate to greater parent-reported hostile behavior, which in turn would relate to less positive adolescent perceptions of parents, which then would relate to less adolescent secure base use.

In sum, this study fills important gaps in the attachment literature. In addition to being the first study to examine how parents' attachment styles relate to observed secure base provision, this investigation adds to the small number of studies that have examined links between parents' self-reported attachment styles and observed parent-child interactions, all of which were conducted with parents of children under the age of 7. No study has examined links between parents' self-reported attachment and caregiving behavior directed toward adolescent children. In addition, fathers were conspicuously absent from the previous observational studies. The current sample consisted of only two-parent families, which enabled us to examine links between attachment styles and parenting in fathers as well as mothers. This study also adds to the sparse literature on the links between parents' attachment styles and children's perceptions of their parents, and is the first to examine how parents' attachment styles relate to observed adolescent secure base use. Finally, this study is the first to test whether adolescents' perceptions of their parents and parents' self-reported hostile behavior mediate the link between parents' attachment styles and adolescents' secure base use.

Method

Participants

Participants were drawn from a sample of 189 adolescents and their parents who participated in a larger study about family and peer relationships in adolescence. The present analyses were restricted to the 99 adolescents who enrolled in the larger study during the final two years of data collection (following the addition of the parent attachment style measure). Importantly, this sub-sample did not differ from the larger sample in terms of demographics or on any of the variables included in the present study. Adolescents (57 female, mean age = 16.6 years, $SD = .59$) were recruited from 11th grade classrooms of seven public suburban high schools in the Washington, DC area. All adolescents included in the study lived in two-parent households. The racial/ethnic distribution of the sample was 68% White/Caucasian, 21% Black/African-American, 7% Asian, and 4% Hispanic. Annual household incomes

ranged from \$20,000 to greater than \$61,000 with the majority of the sample (79%) reporting an income in excess of \$61,000. The majority of parents (66% of mothers, 74% of fathers) had at least a college degree.

Procedure

During the spring or summer of the adolescents' junior year of high school, adolescents and both their parents came to the university laboratory to participate in a data collection session. During this visit, participants completed a packet of questionnaires and participated in an observational conflict discussion task. Adolescents participated in the conflict discussion task separately with each parent in a counterbalanced order. The conflict discussions lasted 10 minutes and were video recorded for later coding. Families received \$125 for participating in the larger study.

Measures

Parent Questionnaires

Experiences in Close Relationships Scale: (ECR; Brennan, Clark, & Shaver, 1998). This widely used 36-item measure assesses two dimensions of adult attachment style: avoidance (18 items) and anxiety (18 items). Attachment-related avoidance reflects the degree to which individuals are uncomfortable with closeness in relationships and are reluctant to rely on or open up to others. Attachment anxiety reflects the degree to which individuals fear abandonment and rejection and are preoccupied with intimacy and closeness with relationship partners. Sample items from the avoidance and anxiety subscales, respectively, include "I try to avoid getting too close to others" and "I worry about being alone." Parents indicated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) the extent to which they agree with each statement. Although the original ECR items focused on experiences with romantic partners specifically, more recently researchers have used the ECR to assess experiences in close relationships more globally (Mikulincer & Shaver, 2007). In the present study, parents completed the ECR with reference to close relationships more broadly. The ECR has been used in hundreds of studies and has demonstrated very strong psychometric properties (Brennan et al., 1998; Mikulincer & Shaver, 2007). In the present study, both subscales demonstrated high internal consistency (maternal avoidance, $\alpha = .85$; maternal anxiety, $\alpha = .88$; paternal avoidance, $\alpha = .83$; paternal anxiety, $\alpha = .89$).

Parents' Self-Reported Hostile Behavior Toward their Adolescents: Each parent completed Harold & Conger's (1997) 4-item measure that assesses the degree to which the parent behaved in a hostile or angry manner toward his/her adolescent in the past month (e.g., "During the past month I criticized my teen for his or her ideas" and "During the past month I shouted or yelled at my teen because I was mad at him or her"). Parents responded to each item on a 7-point Likert-type scale ranging from 1 (*always*) to 7 (*never*). Items were reverse coded so that higher scores reflect greater hostility. This scale has demonstrated good reliability, and scores on this measure are highly correlated with observer ratings of hostile parental behavior (Harold & Conger, 1997). In the present study, this scale demonstrated high internal consistency (maternal hostility, $\alpha = .83$; paternal hostility, $\alpha = .$

85). Because parents with multiple children may think and behave differently with each child, parents were instructed to respond to the hostility measure in reference to the adolescent participating in the study.

Center for Epidemiological Studies Depression Scale: (CES-D; Radloff, 1977). This widely used 20-item scale assesses the extent to which individuals experienced symptoms of depression during the past week (e.g., “I felt sad”). Each parent rated the frequency of each symptom from 0 (*rarely or none of the time [less than 1 day]*) to 3 (*most or all of the time [5–7 days]*). The CES-D has been shown to be a reliable and valid measure of adult depression symptoms (Radloff, 1977). In the present study, this measure demonstrated high internal consistency (maternal depression, $\alpha = .83$; paternal depression, $\alpha = .83$).

Revised Dyadic Adjustment Scale: (RDAS; Busby, Crane, Larson & Christensen, 1995). The RDAS is a 14-item measure that provides a broad index of overall marital quality. Each parent completed items pertaining to satisfaction, consensus, and coherence in the marital relationship. Response scale varies across items. The RDAS has demonstrated strong psychometric properties including internal consistency, construct validity, and discriminant validity (Busby et al., 1995). In the present study, this measure demonstrated high internal consistency (mother-reported quality, $\alpha = .89$; father-reported quality, $\alpha = .90$).

Adolescent Questionnaires—Adolescents completed each measure separately for mothers and fathers.

Parent as a Secure Base Scale – Revised: (Cassidy & Woodhouse, 2003). This 13-item scale assesses adolescents’ perceptions of their parents as sensitive, available, and as someone they can depend on in times of need (e.g., “My mother/father is there for me in times of trouble”). Adolescents indicated on a 5-point Likert-type scale ranging from 1 (*not at all true*) to 5 (*definitely true*) how accurately each item describes his/her parent. This scale has been linked to adolescent attachment security and to adolescents’ perceptions of parental understanding (Cassidy, Ziv, Rodenberg, & Woodhouse, 2003). In the present study, this measure demonstrated high internal consistency ($\alpha = .92$ for mother; $\alpha = .92$ for father).

Parental Understanding Inventory: (Cassidy & Woodhouse, 1997). This 6-item scale assesses adolescents’ perceptions of their parents’ ability to understand what they are feeling and to recognize when it is necessary to provide comfort and support. Adolescents indicated on a 7-point Likert-type scale ranging from 1 (*I’m not sure at all*) to 7 (*I’m completely sure*) the degree to which they are confident in their parents’ ability to understand their feelings and needs (e.g., “How confident are you in your mother’s/father’s ability to understand how you are truly feeling about things?”). Higher scores on the mother and father versions of this scale have been associated with adolescent attachment security (Cassidy et al., 2003). In the present study, this measure demonstrated high internal consistency ($\alpha = .91$ for mother; $\alpha = .94$ for father).

Behavioral Affect Rating Scale: (BARS; Conger, 1989). Adolescents completed 12 items assessing adolescent perceptions of parental hostility and eight items assessing perceptions

of parental warmth. For both subscales, adolescents indicated on a Likert-type scale ranging from 1 (*always*) to 7 (*never*) how often each parent acted in a warm or hostile manner toward the adolescent in the past month. Sample items from the hostility and warmth subscales, respectively, include “How often did your mother/father criticize you or your ideas?” and “How often did your mother/father act loving and affectionate towards you?” Adolescents’ responses on the warmth subscale were reverse coded so that higher scores reflected more warmth. Responses to the hostility subscale were not recoded; higher scores indicated lower hostility. This measure has demonstrated good psychometric properties (e.g., Harold & Conger, 1997; Reeb & Conger, 2010). In the present study, both subscales demonstrated high internal consistency (maternal warmth, $\alpha = .92$; maternal hostility, $\alpha = .89$; paternal warmth, $\alpha = .93$; paternal hostility, $\alpha = .90$).

Conflict Discussion Task—Adolescents participated in a 10-minute conflict discussion task with each parent separately. During this task, each adolescent-parent dyad discussed one to three topics about which they frequently disagree. The experimenter selected three topics of disagreement for the dyad to discuss based on adolescent and parent ratings of nineteen common contentious issues in adolescent-parent relationships (e.g., homework, fighting with siblings, talking back to parents, dating). The experimenter chose the three topics that were rated as most contentious based on the combined parent and adolescent ratings. The experimenter then instructed the dyad to discuss and try to resolve the first topic of disagreement and to continue on to the second and third topic if time permitted (see Allen et al., 2003, who used a similar procedure to assess secure base behaviors in mother-adolescent interactions). The order in which parents participated in the conflict discussions was counterbalanced. Because adolescents participated in the conflict discussion twice, we examined potential order effects. The order in which adolescents participated in the task was unrelated to adolescent secure base behavior toward mothers or fathers.

Coders used the *Adolescent-Parent Conflict Interaction Coding System* (Ziv, Cassidy, & Ramos-Marcuse, 2002) to code both the verbal and non-verbal behavior of adolescents and parents during the conflict discussions. This coding system is based on earlier work by Kobak and colleagues (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993). Coders assigned adolescents and parents scores ranging from 1 (*low*) to 7 (*high*) on secure base use and secure base provision, respectively. In this coding system, parents and adolescents also receive scores on several other behavioral scales (e.g., avoidance of discussing the disagreement, assertiveness), which are not included in the present study given our conceptual focus on the secure base construct.

Parent Secure Base Provision/Maintaining Secure Relatedness Scale: This scale measures parents’ ability to encourage their adolescent’s exploration of the potentially distressing thoughts and feelings associated with the conflict topics and to serve as a support resource when necessary. It also reflects the parents’ ability to (a) demonstrate understanding of the teen’s position (whether or not they agree with it), (b) refrain from destructive anger and frustration during the conversation, and (c) convey to their adolescent that even though they disagree about these topics, there is no threat to their relationship. Non-verbal cues of secure base provision include: active listening without abruptly

interrupting, relaxed body language, and maintenance of eye contact. Verbal indicators of secure base provision include: expressing warmth and concern, acknowledging and accepting the adolescent's position, and providing constructive suggestions for resolving areas of disagreement.

Adolescent Secure Base Use/Maintaining Secure Relatedness Scale: This scale measures adolescents' ability to maintain a positive relationship (i.e., "secure relatedness") with the parent even while discussing contentious issues. It also reflects adolescents' comfort stating their position in a direct, yet respectful, manner and using the parent as a source of support when emotionally and cognitively exploring potentially upsetting areas of conflict. Support seeking may take the form of direct bids for assistance (e.g., "Can you help me talk to Dad so that I can get the car sometimes?"). Non-verbal cues of secure base use include maintenance of eye contact, relaxed body language oriented toward the parent, and apparent comfort level during the interaction. Verbal indicators of secure base use include: asking parent for help, valuing or understanding of parent's opinion, and a warm, respectful tone.

Six coders, who were blind to all other information about the adolescents and parents, coded the conflict discussions from videotapes. The coders received extensive training with the coding system and achieved a high level of inter-rater agreement with the coding supervisor (i.e., ICC of at least .80) before coding began. In addition, reliability with the coding supervisor was continuously monitored throughout the coding period to prevent coder drift. Two coders individually coded a randomly selected 15% ($n = 15$) of adolescent-father discussions and 10% ($n = 10$) of adolescent-mother discussions. To reduce the potential for bias, different coders rated adolescent and parent behavior within each dyad (i.e., two coders rated maternal secure base provision, two different coders rated adolescent secure base use with mother). In addition, coders only provided ratings for one dyad within each family (i.e., two coders rated adolescent secure base use with mother, two different coders rated adolescent secure base use with father). Inter-coder reliability for the four behavior scales (mother and father secure base provision and teen secure base use with each parent) was assessed using intraclass correlations (ICCs). The coders demonstrated good to excellent agreement on all the behavioral scales based on the frequently cited criteria of Fleiss (1981). ICCs ranged from .65 on mother secure base provision to .93 on adolescents' use of mother as a secure base (mean ICC = .81). Coder disagreements were resolved by group discussions and consensus scores were used in all analyses.

Results

Data Analysis Overview

First, we examined descriptive statistics and bivariate correlations among the key study variables. Second, we used data reduction techniques to consolidate the multiple measures of adolescent perceptions of parents into one total perception score in relation to each parent. Third, we tested whether mothers and fathers differed on the two attachment style dimensions and examined whether adolescent gender was associated with any of the outcome variables. Fourth, we performed hierarchical regression analyses to examine the links between parents' attachment styles and observed secure base provision and tested the

interactions between attachment style and parental depression and marital quality, respectively. Following Aiken and West (1991), all predictors in the regression models were mean-centered when testing interactions. Finally, we used path analysis to test the hypothesized direct and indirect paths from parental attachment styles to adolescent secure base use using Mplus statistical software Version 7 (Muthén & Muthén, 1998–2012). To test the proposed indirect effects, we used resampling methods (i.e., bootstrapping) to generate bias-corrected confidence intervals and then used those confidence intervals to determine the significance of the indirect effects. The bias-corrected bootstrapping approach has been shown to be the best overall method for generating accurate confidence intervals and testing indirect effects (MacKinnon, Lockwood, & Williams, 2004). The bootstrapping method has also been recommended for testing indirect effects with small to moderate sample sizes (Shrout & Bolger, 2002). When testing the path models, we used full information maximum likelihood (FIML) estimation to handle missing data (Graham, 2009).

Preliminary Analyses and Data Reduction

Means and standard deviations of key study variables are presented in Table 1. The correlations among study variables are presented in Table 2. Given that the correlations between parent secure base provision and adolescent secure base use were significant, but only moderate in size ($r = .44, p < .001$, for mothers and adolescents; $r = .38, p < .001$ for fathers and adolescents), we decided to keep the parent secure base provision and adolescent secure base use variables separate rather than combine them into one variable for each dyad.

As indicated in Table 2, the four measures of adolescents' perceptions of each parent (i.e., as warm, understanding, hostile [reverse-scored], and as a secure base) were significantly correlated with each other. For adolescent perceptions of mother, correlations ranged from .53 to .81 (all $ps < .001$); for adolescent perceptions of father, correlations ranged from .31 to .79 (all $ps < .01$). The results of separate principal components analyses (PCAs) for adolescent perceptions of mothers and fathers revealed that the four perception variables all loaded onto a single factor that accounted for a large proportion of the variance among the variables. For mothers, one factor was extracted with an eigenvalue of 3.1 that accounted for 77% of variance among the variables. All factor loadings exceeded .80. For fathers, one factor was extracted with an eigenvalue of 2.1 that accounted for 71% of the variance among the variables. All factor loadings exceeded .70. Based on these results, we combined the four individual perception variables to create composite perception scores for mothers and fathers. Higher composite scores reflect more positive perceptions of the parent.

We performed paired samples *t*-tests to examine mother and father differences in parental attachment styles. The results revealed that fathers, on average, reported significantly more attachment-related avoidance compared to mothers, $t(87) = 2.66, p < .05$. However, mothers and fathers did not differ in their reports of attachment-related anxiety.

Adolescent gender was unrelated to mother and father reports of hostile behavior, adolescent perceptions of either parent, adolescent secure base use with either parent, and maternal secure base provision (all $ps > .05$). However, adolescent gender was significantly associated with father secure base provision: Fathers, on average, received higher secure base provision scores when interacting with daughters compared to sons, $t(90) = 2.88, p < .$

01). Therefore, we included adolescent gender as a covariate in the regression models for paternal secure base provision.

Principal Analyses

Maternal secure base provision—To test the link between maternal attachment style and secure base provision, and to examine the interactions between maternal attachment style and maternal depression and marital quality, we performed two separate hierarchical regression analyses. In the first analysis, we entered avoidance, anxiety, and depression in the first step and added the two interaction terms in the second step. The initial step did not explain a significant amount of variance in maternal secure base provision and the addition of the interaction terms did not yield a significant increase in the amount of variance explained. In the second analysis, we entered avoidance, anxiety, and marital quality in the first step and added the two interaction terms in the second step. The initial step did not explain a significant amount of variance in maternal secure base provision and the addition of the interaction terms did not yield a significant increase in the amount of variance explained.

Paternal secure base provision—We performed two hierarchical regression analyses nearly identical to those described above for mothers. Because adolescent gender was significantly associated with paternal secure base use, we entered adolescent gender in the first step of each regression model as a covariate. Across both models, the only significant predictor of paternal secure base provision was adolescent gender: Fathers received higher secure base provision scores with daughters compared to sons ($b = .86$, $SE = .31$, $p < .01$, for model including paternal depression; $b = .75$, $SE = .31$, $p < .05$, for model including paternal marital satisfaction).

Adolescent secure base use with mother—At the bivariate level, maternal avoidance, but not anxiety, was significantly negatively correlated with observed adolescent secure base use ($r = -.21$, $p < .05$). To test the hypothesized direct and indirect paths from maternal attachment style to adolescent secure base use we first tested the just-identified path model presented in Figure 1. The model accounted for 35% of the variance in adolescents' perceptions of their mothers, 5% of the variance in mother-reported hostile behavior, and 21% of the variance in adolescent secure base use. Maternal avoidance, but not anxiety, was related to more mother-reported hostile behavior ($b = .23$, $SE = .12$, $p < .05$) and to less positive adolescent perceptions ($b = -1.40$, $SE = .36$, $p < .001$). Neither maternal avoidance nor anxiety was directly associated with adolescent secure base use. However, both mother-reported hostile behavior ($b = -.35$, $SE = .15$, $p < .05$) and positive adolescent perceptions ($b = .10$, $SE = .05$, $p < .05$) were significantly related to adolescent secure base use. In addition, mother-reported hostile behavior was related to less positive adolescent perceptions ($b = -1.40$, $SE = .31$, $p < .001$).

Despite the absence of a significant direct effect of maternal attachment style on secure base use, we proceeded with testing the indirect pathways (Rucker, Preacher, Tormala, & Petty, 2011; Shrout & Bolger, 2002). Examination of the bias-corrected confidence intervals revealed three significant indirect effects of maternal avoidance on adolescent secure base

use (i.e., the 95% confidence interval did not include zero). First, maternal avoidance was related to less positive adolescent perceptions, which in turn were related to less adolescent secure base use (indirect effect = $-.14$, 95% CI: $[-.32, -.02]$). Second, maternal avoidance was related to more mother-reported hostile behavior, which in turn was related to less adolescent secure base use (indirect effect = $-.08$, 95% CI: $[-.27, -.02]$). Third, maternal avoidance was related to more mother-reported hostile behavior, which in turn was related to less positive adolescent perceptions, which then were related to less adolescent secure base use (indirect effect = $-.03$, 95% CI: $[-.11, -.01]$). In addition, maternal avoidance was indirectly (as well as directly) related to less positive adolescent perceptions of their mothers through mother-reported hostile behavior (indirect effect = $-.33$, 99% CI: $[-.99, -.002]$).

Because this initial model is just-identified, and therefore cannot provide any information about data-model fit, we removed the non-significant direct paths from maternal attachment style to adolescent secure base use, and tested whether this over-identified model fit the data well. In this reduced model, the effects of maternal attachment style on adolescent secure base use were modeled as completely indirect through the three indirect paths shown in Figure 1. The reduced model yielded excellent data-model fit ($\chi^2[2] = .11$, $p = .95$; $RMSEA = .00$, 90% CI: $[.00, .02]$; $SRMR = .01$) according to the widely used criteria of Hu and Bentler (1999) and accounted for 35% of the variance in adolescents' perceptions of their mothers, 5% of the variance in mother-reported hostility, and 21% of the variance in adolescent secure base use. All significant indirect effects reported in the initial model remained significant.

Adolescent secure base use with father—To test the hypothesized direct and indirect paths from paternal attachment style to adolescent secure base use we first tested the just-identified path model presented in Figure 2. The model accounted for 9% of the variance in adolescents' perceptions of their fathers, 9% of the variance in father-reported hostile behavior, and 9% of the variance in adolescent secure base use. Neither paternal avoidance nor anxiety was directly related to adolescent secure base use or adolescents' perceptions of their fathers. Paternal anxiety, but not avoidance, was related to more father-reported hostile behavior at the trend level ($b = .28$, $SE = .14$, $p = .051$). Father-reported hostility was marginally related to less positive adolescent perceptions ($b = -.57$, $SE = .32$, $p = .074$) and significantly related to less adolescent secure base use ($b = -.25$, $SE = .12$, $p < .05$). No other significant paths emerged. Examination of the bias-corrected confidence intervals revealed one significant indirect effect of paternal anxiety on adolescent secure base use. Paternal anxiety was related to more father-reported hostile behavior, which in turn was related to less adolescent secure base use (indirect effect = $-.07$, 95% CI: $[-.23, -.002]$).

Following the same procedure described above for adolescent secure base use with mother, we tested a reduced, over-identified model to assess data-model fit. This reduced model yielded excellent data-model fit ($\chi^2[2] = 1.83$, $p = .40$; $RMSEA = .00$, 90% CI: $[.00, .19]$; $SRMR = .03$) and accounted for 9% of the variance in adolescents' perceptions of their fathers, 9% of the variance in father-reported hostile behavior, and 7% of the variance in observed adolescent secure base use with father. The indirect effect of paternal anxiety on adolescent secure base use through father-reported hostile behavior remained significant.

Discussion

Decades of research show that self-reported adult attachment styles relate to the ways individuals think, feel, and behave in the context of romantic relationships (see Mikulincer & Goodman, 2006, and Mikulincer & Shaver, 2007, for reviews). Much less research has focused on how attachment styles relate to behaviors and functioning in parent-child relationships. The present study aimed to advance this sparse literature by examining (a) how parents' attachment styles relate to observed secure base provision during a laboratory conflict discussion task, (b) how parents' attachment styles relate to adolescents' observed secure base use, and (c) the complex pathways through which parents' attachment styles indirectly influence adolescent secure base use (i.e., through adolescents' perceptions of their parents and parent-reported hostile behavior).

Contrary to our predictions, we found no significant links between parents' self-reported attachment styles and their observed secure base provision to their adolescent children. However, the present study provided the first evidence for a link between parental attachment styles and observed adolescent secure base use. Interestingly, the results suggest that this link may be better conceptualized as indirect, rather than direct, through parent-reported hostile behavior and adolescents' perceptions of their mothers (but not fathers). In addition, the pattern of results differed somewhat for adolescents' secure base use with their mothers compared to with their fathers. We discuss these results in more detail below.

Parental Secure Base Provision

Contrary to our expectations, we found no main effects of parental attachment styles on parental secure base provision, nor did we find any interactions between attachment styles and parental depression or marital quality in predicting secure base provision. Given that this is the first study to examine links between parental attachment styles and observed secure base provision to adolescent children, it is difficult to ascertain why no links emerged. However, we propose four possibilities.

First, in line with our findings related to adolescent secure base use, it is possible that the link between parental attachment styles and secure base provision is better captured by indirect pathways models rather than by direct effects or interaction models. For example, it is possible that the link between parents' attachment styles and secure base provision is mediated by a variety of potential variables such as parents' emotion regulation abilities or parents' perceptions of their children and the parent-child relationship. Alternatively, it is possible that parental attachment styles interact with characteristics of the child or situation, rather than characteristics of the parent, to predict secure base provision. Studies examining links between attachment styles and caregiving in romantic relationships suggest that attachment-related individual differences in caregiving may be most evident under conditions of partner distress or relationship strain (e.g., B. Feeney & Collins, 2001; Rholes et al., 1999; Simpson et al., 1992). It is possible that a similar phenomenon occurs in relation to parental caregiving (see Edelman et al., 2004, for some initial evidence). Unfortunately, the present study did not include a measure of adolescent distress, and we were therefore unable to test this possibility. A third possibility is that in this community sample of primarily middle-class two-parent families, the conflict discussion task did not afford

parents sufficient opportunity to overtly provide support or encourage adolescents' exploration of the conflict topics. It may be easier to detect attachment-related individual differences in secure base provision in higher-risk samples or in the context of a task that is more stress inducing to both adolescents and parents.

Finally, a fourth possibility is that parental attachment styles assessed with self-report measures, originally designed with a focus on romantic relationship processes, may not be very strong predictors of observed parenting behavior with adolescent children. In fact, some researchers have suggested that self-report attachment style measures may not be well-suited to capture attachment-related individual differences in observed secure base processes (e.g., Waters, Crowell, Elliot, Corcoran, & Treboux, 2002). On the other hand, the Adult Attachment Interview (AAI; George, Kaplan, and Main, 1984) was developed with the goal of using a *parent's state of mind with respect to attachment* to predict his or her infant's attachment pattern in the Strange Situation (see Hesse, 2008, for a detailed description of the AAI and an empirical review). If the goal is to predict parental secure base provision specifically, it is possible that the AAI is a better measure to use than self-report attachment style measures. Additional research with parents using both the AAI and ECR could address this issue.

Although we did not find links between parental attachment style and observed parenting behavior in the present study, it is too early to conclude that this link does not exist. Several studies have found links between attachment styles and observed parenting behavior in parents of infants and young children (Edelstein et al., 2004; Mills-Koonce et al., 2011; Rholes et al., 1995; Selcuk et al., 2010). In addition, several studies have demonstrated links between parental attachment styles and parent- and child-reported parental behavior with college-aged children (e.g., J. Feeney, 2002, 2006; Kilmann et al., 2009; La Valley & Guerrero, 2012). Thus, additional studies are needed to clarify the nature of these links and explore the four possibilities outlined above.

Adolescent Secure Base Use

Although maternal avoidance was significantly negatively correlated with adolescent secure base use at the bivariate level, neither mothers' nor fathers' attachment styles were directly related to adolescent secure base use in the path models. However, the path models revealed interesting indirect pathways from parents' attachment styles to adolescent secure base use. Maternal avoidance was significantly related to less adolescent secure base use via three indirect pathways. First, maternal avoidance was related to more mother-reported hostile behavior, which in turn was related to less adolescent secure base use. Second, maternal avoidance was related to less positive adolescent perceptions of mothers, which in turn were related to less adolescent secure base use. Third, maternal avoidance was related to more mother-reported hostile behavior, which in turn was related to less positive adolescent perceptions of mothers, which then were related to less adolescent secure base use. For fathers, one significant indirect effect of paternal anxiety on adolescent secure base use emerged: paternal anxiety was related to more father-reported hostile behavior, which in turn was related to less adolescent secure base use.

Due to the complexity of the secure base use model, we first discuss the individual paths from parents' attachment styles to parent-reported hostile behavior and adolescents' perceptions, and then discuss how the overall model advances our understanding of the secure base use construct.

Parents' attachment styles and parent-reported hostile behavior—The present results showing that insecure parental attachment is related to greater parent-reported hostile behavior are consistent with those from prior studies that have found links between insecure parental attachment styles and more negative self-reported parental behaviors (e.g., J. Feeney, 2006; Goodman et al., 1997; Kilmann et al., 2009). Specifically related to hostility, our findings mesh with prior work showing that insecure attachment styles (both avoidance and anxiety) are related to greater dispositional (i.e., not specific to a particular relationship or context) anger and hostility (Meesters & Muris, 2002; Muris, Meesters, Morren, & Moorman, 2004), more observed hostile and angry behavior toward romantic partners (avoidance only; Rholes et al., 1999), more hostile feelings towards children in mothers of infants (anxiety only; Scher & Dror, 2003), and greater parent-reported hostile behavior toward college-aged children during conflict situations (avoidance and anxiety for mothers; only anxiety for fathers; J. Feeney, 2006).

It is evident from the results of these prior studies that there is variability in the literature with respect to which dimension of attachment insecurity is related to hostility and that the patterns of associations may differ for mothers and fathers. Similarly, in the present study, we found that avoidance, but not anxiety was related to greater mother-reported hostile behavior, whereas anxiety, but not avoidance, was related to greater father-reported hostile behavior. It is noteworthy that in both the present study and the study by J. Feeney that fathers' attachment anxiety, but not avoidance, was related to greater father-reported hostile behavior toward children, suggesting that attachment anxiety may be particularly problematic for father-child relationships. However, it is unclear why the present findings related to mothers' hostility were only partially consistent with those of J. Feeney and inconsistent with those of Scher and Dror. Additional research on the links between attachment styles and parental hostility is needed to uncover factors underlying the consistency or variability of findings across studies.

Parents' attachment styles and adolescents' perceptions of parents—Our results revealed that mothers' attachment styles were related to adolescents' perceptions of their mothers; in contrast, fathers' attachment styles were unrelated to adolescents' perceptions of their fathers. Specifically, maternal avoidance, but not anxiety, was related to less positive adolescent perceptions of mothers (i.e., as less of a secure base, as less warm and understanding, and as more hostile). In addition, consistent with the theoretical notion that the link between parents' attachment and children's cognitive-affective schemas of parents is partially mediated by parental behavior, maternal avoidance was indirectly related to adolescents' perceptions of their mothers through mother-reported hostile behavior. That is, more avoidant mothers tend to behave in a more hostile manner toward their adolescents and the adolescents, in turn, hold more negative perceptions of their mothers. It is worth noting that the combination of maternal attachment style and mother-reported hostile

behavior explained 35% of the variance in adolescents' perceptions of their mothers, suggesting that these variables have a rather powerful influence on how adolescents perceive their mothers.

It is also noteworthy that maternal avoidance, rather than anxiety, was related to adolescents' negative perceptions of their mothers. Traditional gender stereotypes for women have been characterized by warmth, affection, nurturance, and understanding (e.g., Bem, 1974). In addition, prior research has shown that adolescents tend to perceive their mothers as caring, accepting, and emotionally available (Bosco, Renk, Dinger, Epstein, & Phares, 2003; Youniss & Smollar, 1985). These findings could provide some insight into why maternal avoidance, rather than anxiety, may lead adolescents to perceive their mothers so negatively. The discomfort with intimacy, closeness, and emotional expressiveness characteristic of avoidant mothers violates the maternal stereotype of a warm, nurturing mother and, therefore, may lead to adolescents to view their mothers in a more negative light. By contrast, adolescents may not view the strong desire for closeness and intrusiveness characteristic of anxious mothers as particularly aversive because it is more consistent with stereotypical maternal behavior.

The present findings related to mothers are also consistent with several prior studies that have demonstrated links between insecure parental attachment styles and more negative child/adolescent perceptions of parents (J. Feeney, 2006; Jones, Ehrlich, et al., 2014; Newland et al., 2010). Yet it is unclear why we failed to find a significant link between fathers' attachment styles and adolescents' perceptions of their fathers in the present study, given prior evidence for links between paternal insecurity and more negative child perceptions (e.g., J. Feeney, 2006; Newland et al., 2010).

Overall model of adolescent secure base use—For both mothers and fathers, our model of adolescent secure base use met the established criteria for good data-model fit. However, as discussed above, the pattern of results was somewhat different for secure base use with mothers compared to with fathers. These findings advance the sparse literature on the links between parents' attachment styles and their children's behavior toward them, and provide novel insight into the complex ways in which parents' attachment styles shape their children's behavior toward them. As noted in the introduction, only two prior studies have examined this link, with one study (Mayseless et al., 1997) finding moderate correlations between maternal attachment insecurity and infant secure base behavior and the other (Volling et al., 1998) finding no significant links. Unlike the findings of Mayseless et al., the present results suggest that the link between parents' attachment styles and adolescent secure base use may be better conceptualized as indirect rather than direct. Specifically, we found that not only do insecure parental attachment styles predict more parent-reported hostile behavior and adolescents' more negative perceptions of their mothers, but also that parental hostility and adolescents' perceptions of their mothers actually guide adolescents' secure base use. Further, the link between maternal avoidance and adolescents' perceptions of their mothers was partially mediated by maternal hostility, thus demonstrating a cascade of effects from maternal avoidance to greater hostility to more negative perceptions to less secure base use.

Given the central role of the secure base construct in attachment theory, the far-reaching implications of having a secure base for current and future functioning (see Cassidy & Shaver, 2008, for reviews), and the absence of prior research examining links between parents' attachment styles and adolescent secure base use, we believe that these results represent an important contribution to the attachment literature. As this is the first study to test this novel and complex model of adolescent secure base use, replication of the current work with different samples will be important.

A Note on Adult Attachment Measures

The initial and now most substantial body of research examining how parental attachment relates to parenting and child behavior toward parents has measured parental attachment with the AAI (George et al., 1984). In contrast to attachment style measures, which capture individual differences in attachment via self-reports that focus on experiences in current close relationships, the quality of an adult's attachment in the AAI (i.e., their *state of mind with respect to attachment*) is assessed by the linguistic properties (e.g., coherence) of his or her responses to questions about early attachment experiences, current experiences with parents and children, and recent losses. Consistent with theory, a considerable amount of research has demonstrated that parental attachment in the AAI is related to parenting and to infant secure base use as tapped in the Strange Situation. Specifically, parents' with a secure state of mind are more sensitive and responsive parents, and the infants of secure parents are better able to use their parent as a secure base than are infants of insecure parents (see van IJzendoorn, 1995, for a meta-analysis).

Interestingly, meta-analytic evidence suggests that the relation between attachment state of mind in the AAI and self-reported attachment style is "trivial to small" (Roisman et al., 2007, p. 682). However, research shows that both types of measures are similarly related in theoretically expected ways to a host of attachment-relevant constructs, such as social information-processing (e.g., Dykas & Cassidy, 2011), emotion regulation (see Mikulincer & Shaver, 2007, 2008, for reviews), and functioning in romantic relationships (e.g., B. Feeney & Collins, 2001; Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001; Simpson et al., 1992). Although we failed to find significant links between parental attachment styles and observed parenting behavior in the present study, there is accumulating empirical evidence suggesting that functioning in parent-child relationships can be added to the list of attachment-related constructs related to both kinds of measures of adult attachment (see Jones, Cassidy, et al., 2014, for further discussion). Our results showing that parents' self-reported attachment styles are related (albeit indirectly) to their children's secure base use complements the well-replicated link between parents' state of mind in the AAI and their children's secure base use. (See Crowell, Fraley, & Shaver, 2008, and Shaver, Belsky, & Brennan, 2000, for more detailed discussions of adult attachment measures.)

Study Limitations

Although this study yielded important and novel insights into how parental attachment styles relate to parental behavior, adolescents' perceptions of parents, and adolescent secure base use, the results should be interpreted in the context of several study limitations. First, our

sample included only maritally intact two-parent families, most with annual household incomes in excess of \$61,000. Therefore, it is possible that the present findings would not generalize to parents and adolescents living in alternative family structures (e.g., single-parent households, households with step-parents) or to higher risk samples. For example, in the current sample, although there was substantial variability across families, several of the measures had mean values that fell at the positive end of their respective scales. That is, most adolescents in this sample had relatively positive perceptions of their parents and most families received scores on the higher end of the secure base behavior scales. It is possible that greater variability in scores would emerge in higher risk samples.

Second, the moderate sample size prevented us from testing larger and even more complex models of parent and adolescent secure base behavior. Including parent and adolescent attachment styles, parent and adolescent perceptions, parent secure base provision, and adolescent secure base use all in the same model could help elucidate the transactional and dyadic processes involved in parent-adolescent interactions. Future research using larger samples and other sophisticated data analytic techniques (e.g., dyadic data analysis) to test more complex models is warranted.

Third, although path models make strong assumptions about causality, and the present findings are consistent with theory, the data used in the present study were non-experimental. Applying the more tightly controlled experimental and quasi-experimental methods used by social psychologists to study attachment processes in romantic relationships (e.g., B. Feeney & Collins, 2001; Mikulincer, Shaver, Sahdra, & Bar-On, 2013) to the study of parenting would allow for stronger inferences about how parents' attachment styles causally relate to parenting.

Finally, the data used in the present study were cross-sectional. Prospective studies examining longitudinal links among parental attachment styles, parental hostile behavior, adolescent perceptions, and parent-adolescent interactions would advance our understanding of how these links unfold over time and whether they are same or different at various stages of development.

Future Directions

In addition to addressing the limitations of the present study, there are several important avenues that future research should explore. First, given the sparse literature on relations between parental attachment styles and observed parent and child behavior during interactions, additional studies should examine these links in different samples, at various child ages, and in varying contexts. Second, given that this is the first study to examine links between fathers' attachment styles and observed father-child interactions, and given that we found slightly different patterns of results for mothers and fathers, more research with fathers is clearly warranted. Third, given that we failed to find significant main or interaction effects of parents' attachment styles on parental secure base provision, researchers should continue to develop and test alternative models. For example, in line with our findings related to adolescent secure base use, it is possible that the link between parents' attachment styles and observed secure base provision is better conceptualized as indirect rather than direct. In addition, future research should consider the role of context

and child distress in greater detail when examining relations between parental attachment styles and parenting behavior. In line with the findings of Edelstein et al. (2004) related to parental responsiveness, it is possible that links between parental attachment styles and observed secure base provision will emerge only when child or adolescent distress is high. Future research should explore these possibilities.

Finally, future studies examining links among parental attachment, parenting, and child perceptions and behaviors should measure parental attachment with *both* the AAI and self-report attachment style measures. Some initial evidence suggests that the two types of measures predict both unique and overlapping aspects of cognitions and emotions related to parenting in a sample of non-parents (e.g., desire to have children, perceived ability to care for future children, perceptions of future children; Scharf & Mayseless, 2011). To our knowledge, no study has examined how parental AAI and self-report attachment style measures relate to observed parent and adolescent behaviors in the same study. This will be an important next step for future research in this area.

Acknowledgments

This research and the writing of this article were supported by grant R01HD36635 from the National Institute of Child Health and Human Development to Jude Cassidy and by grant F31DA033848 to Jason Jones from the National Institute on Drug Abuse.

We thank the families who participated in this research and Mindy Rodenberg Cabrera for supervising data collection. We are grateful to Kristen Intlekofer, Daniel Isenberg, Laura Long, Fatima Ramos-Marcuse, Amber Wong, and Yair Ziv for coding the interactions.

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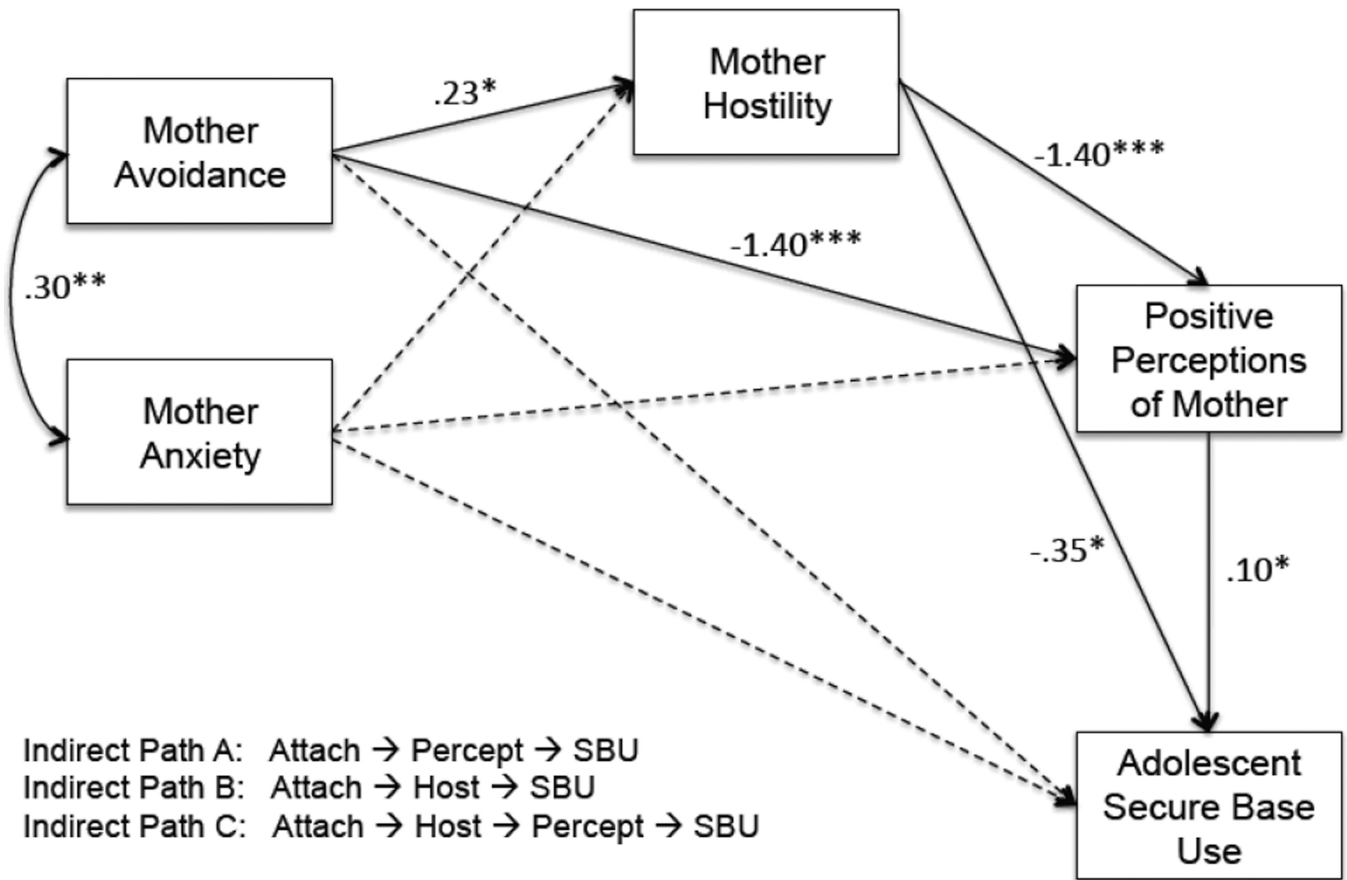


Figure 1. Path Model of Adolescent Secure Base Use with Mother

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$. Solid lines indicate significant paths. Dashed lines indicate non-significant paths.

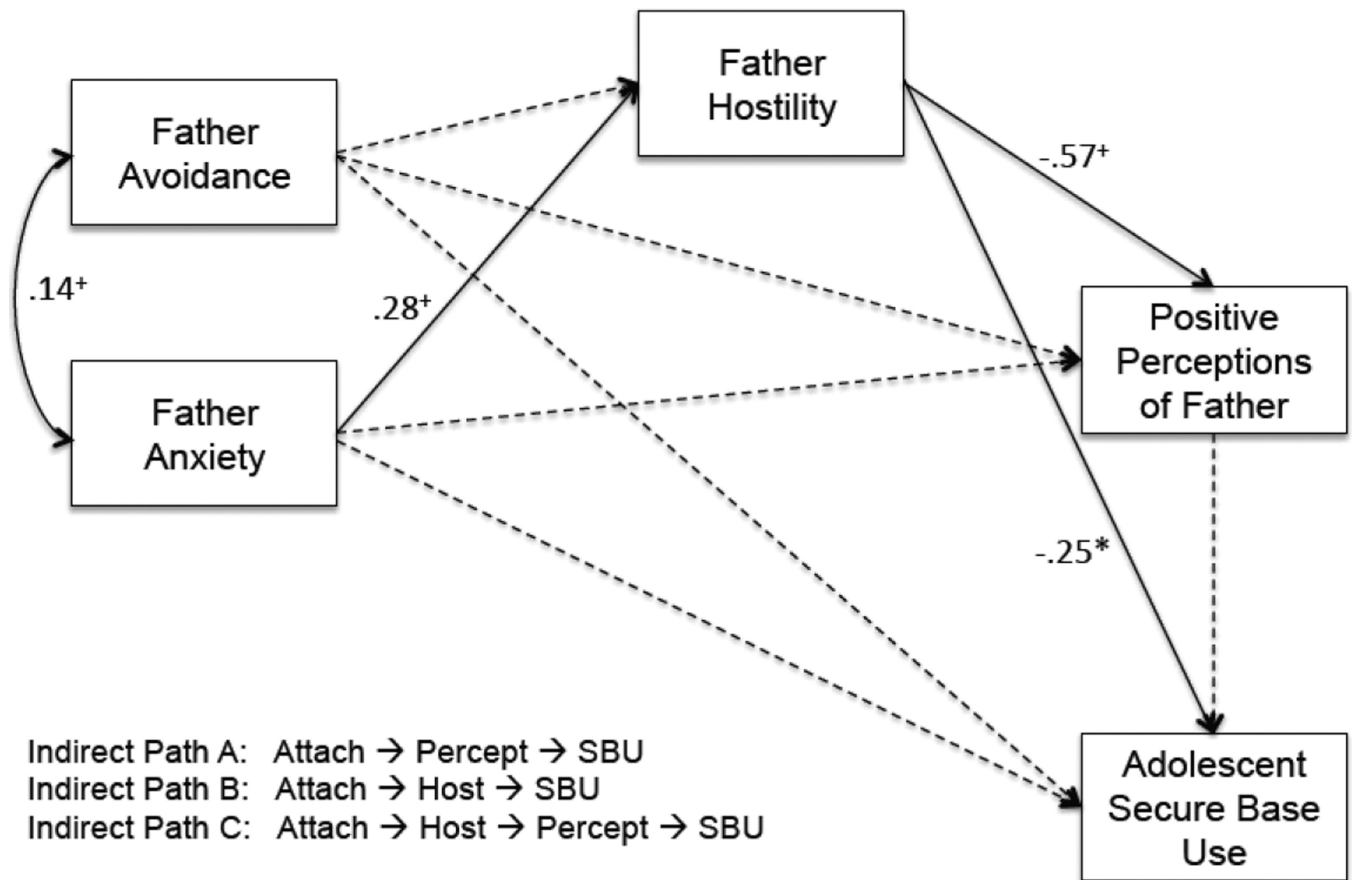


Figure 2. Path Model of Adolescent Secure Base Use with Father

Notes. * $p < .05$. + $p < .08$. Solid lines indicate significant or marginally significant paths.

Dashed lines indicate non-significant paths.

Table 1

Means and Standard Deviations of Key Study Variables

Variable	<i>M (SD)</i>
Parent Questionnaires	
Maternal Attachment-Related Avoidance	2.95 (0.92)
Maternal Attachment-Related Anxiety	2.41 (0.97)
Paternal Attachment-Related Avoidance	3.28 (0.84)
Paternal Attachment-Related Anxiety	2.49 (1.00)
Maternal Hostility Toward Adolescent	2.91 (1.01)
Paternal Hostility Toward Adolescent	3.03 (1.21)
Maternal Depression	1.37 (0.33)
Paternal Depression	1.40 (0.35)
Maternal Marital Quality	3.38 (0.61)
Paternal Marital Quality	3.44 (0.66)
Adolescent Questionnaires	
Perceptions of Mother as Secure Base	4.38 (0.61)
Perceptions of Father as Secure Base	4.09 (0.73)
Perceptions of Maternal Understanding	5.21 (1.39)
Perceptions of Paternal Understanding	4.29 (1.54)
Perceptions of Maternal Hostility (R)	5.68 (0.89)
Perceptions of Paternal Hostility (R)	5.74 (0.91)
Perceptions of Maternal Warmth	5.64 (1.15)
Perceptions of Paternal Warmth	5.10 (1.40)
Observational Measures	
Mother Secure Base Provision	5.22 (1.19)
Father Secure Base Provision	5.11 (1.39)
Teen Secure Base Use with Mother	5.17 (1.36)
Teen Secure Base Use with Father	5.03 (1.41)

Note. (R) = reverse-scored.

Table 2

Correlations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Avoidance	(.13)	.17	.19	.27**	-.18	-.15	-.12	-.08	-.18	-.17	-.18	.02
2. Anxiety	.33**	(.26*)	.26*	.37***	-.17	-.18	-.12	-.27*	-.17	-.20	-.14	-.18
3. Hostility (PR)	.22*	.10	(.51***)	.25*	-.03	-.26*	-.05	-.34**	-.29**	-.24*	-.26*	-.25*
4. Depression	.34**	.32**	.26*	(.09)	-.31**	-.25*	-.18	-.21*	-.27**	-.24*	-.14	-.13
5. Marital Quality	-.24*	-.14	.01	-.28**	(.59***)	.34**	.25*	.16	.36***	.34**	-.11	.08
6. Parent as Secure Base	-.45***	-.10	-.41***	-.33**	.37***	(.59***)	.69***	.61***	.79***	.89***	.37***	.11
7. Parent Understand	-.29**	.03	-.35***	-.11	.24*	.71***	(.48***)	.31**	.69***	.86***	.19	.05
8. Hostility (R) (AR)	-.41***	-.12	-.49***	-.28**	.27**	.69***	.53***	(.58***)	.55***	.66***	.37***	.27*
9. Warmth	-.42***	-.11	-.42***	-.23*	.34**	.81***	.67***	.71***	(.53***)	.92***	.34**	.06
10. Overall Perception	-.43***	-.07	-.48***	-.26*	.34**	.89***	.87***	.82***	.91***	(.62***)	.38***	.17
11. SBP	-.17	-.06	-.39***	-.06	.04	.33**	.29**	.33**	.31**	.35**	(.27*)	.38***
12. SBU	-.21*	-.05	-.40***	-.11	.01	.36***	.36**	.31**	.36***	.40***	.44***	(.49***)

Notes: Correlations below the diagonal are for the mother-adolescent variables; correlations above the diagonal are for the father-adolescent variables. Correlations on the diagonal in parentheses are for mother-father variables.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

PR = parent report. AR = adolescent report. R = reverse-scored. SBP = secure base provision. SBU = secure base use.