ABSTRACT

Title of dissertation: Attachment Security and the Processing of Attachment-
                            Relevant Social Information in Late Adolescence

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According to attachment theory, internal working models of attachment function to

influence the ways in which individuals obtain, organize, and operate on attachment-

relevant social information (Bowlby, 1980). The principal aim of this investigation was

the examination of whether adolescents' internal working models of attachment are

linked to their memory for attachment-relevant social information. I proposed that

adolescents who possess negative internal working models of attachment (i.e., insecure

adolescents and adolescents who possess negative representations of their parents)

process attachment-relevant social information differently from adolescents who possess

positive internal working models of attachment (i.e., secure adolescents and adolescents

who possess positive representations of their parents). I also proposed that such

differences are associated with two distinct patterns of attachment-relevant social

information-processing. More precisely, I hypothesized that insecure adolescents and

adolescents who possess negative representations of their parents are more likely to

suppress attachment-relevant social information (from entering conscious awareness) in

some circumstances, and to process attachment-relevant social information in a *negatively-biased schematic manner* in others. To test this hypothesis, I tapped adolescents' (*n* = 189) internal working models of attachment by assessing their "state of mind with respect to attachment" (as assessed using the Adult Attachment Interview), representations of parents, and attachment-related romantic anxiety and avoidance (as assessed using the Experiences in Close Relationships Inventory). I used four experimental tasks to assess adolescents' memory for attachment-relevant social information. Many of the findings reported in this investigation can be viewed as supporting the notion that insecure adolescents and adolescents who possess negative representations of their parents either suppress attachment-relevant social information or process such information in a negatively-biased schematic manner. For example, in the experimental task that tapped suppression, insecure adolescents showed poorer memory for emotionally-significant childhood experiences. Moreover, in all three of the experimental tasks tapping schematically-driven social information-processing, insecure adolescents and adolescents who possessed negative representations of their parents showed either greater memory for negative parental attributes or more negative reconstructive memory for conflict. In addition to these principal findings, evidence emerged that adolescent attachment was linked to memory for peer-related information, as well as to parents' reconstructive memory for adolescent-parent conflict.

ATTACHMENT SECURITY AND THE PROCESSING OF ATTACHMENT-
RELEVANT SOCIAL INFORMATION IN LATE ADOLESCENCE

by

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CHAPTER 1

INTRODUCTION

Decades of research have shown that across the lifespan, individuals differ in how they process information in their social environments. Information related to close social relationships with parents, peers, and romantic partners, for example, is often processed by individuals with varying degrees of accuracy, objectivity, and positivity. Because these variations in social information-processing have been linked repeatedly to the quality of individuals' social and emotional functioning throughout development (Crick & Dodge, 1994; Dodge & Pettit, 2003; Gifford-Smith & Rabiner, 2004), researchers have been interested in understanding how individual differences in social information-processing might emerge and persist. Although a variety of factors have been identified as contributing to these individual differences (see Dodge & Pettit, 2003, for a review), many researchers have hypothesized that these differences stem largely from individuals' experiences in close personal relationships.

One theoretical model that has been used frequently to explain the effects of close personal relationships on the processing of social information has been attachment theory (Bowlby, 1969/1982, 1973, 1980; see also Cassidy & Shaver, 1999). According to this theory, individuals develop either *secure* or *insecure* experienced-based mental representations (internal working models) of their attachment relationships. These secure and insecure internal working models of attachment, in turn, are thought to govern social information-processing across the lifespan by regulating the basic cognitive and affective mechanisms that function to filter, store, and interpret social information, particularly information that is relevant to attachment (e.g., information related to attachment-related events like separation and loss, and information related to attachment figures). Although

a large and converging body of literature supports the notion that security of attachment is linked to the processing of attachment-relevant social information during childhood and adulthood, relatively few studies have examined this link during adolescence.

The principal goal of this investigation was to examine how security of attachment is linked to the processing of attachment-relevant social information during adolescence. I used a multi-method experimental approach to examine an important aspect of social information-processing that has been linked repeatedly to attachment in both children and adults: memory for attachment-relevant social information. Moreover, I used a multi-method approach to tap adolescents' internal working models of attachment, which enabled me to capture adolescents' (a) "state of mind with respect to attachment," (b) representations of mothers and fathers, and (c) attachment-related romantic anxiety and avoidance. In the remainder of this introduction, I first provide a detailed theoretical account of how attachment is believed to shape the cognitive and affective mechanisms responsible for the processing of attachment-relevant social information. Then, in order to set the background for the present investigation, I provide a brief overview of the empirical literature that has examined links between attachment and social information-processing in children, adolescents, and adults. (A comprehensive review of this literature is provided in Chapter 2 of this dissertation proposal.) Finally, I describe the present investigation: the principal research aims, hypotheses, and strengths of this investigation.

Attachment and Social Information-Processing: A Theoretical Perspective

According to attachment theory, all infants have the innate, biologically-based tendency to form attachments to individuals who are bigger, stronger, and wiser (Bowlby, 1969/1982). Infants typically form these attachments to their mothers and their fathers

because these figures are perceived by infants as a source of psychological and/or physical protection from the many phenomena that infants fear (Bowlby, 1969/1982; see also Goldberg, Grusec, & Jenkins, 1999). Because parents serve these protective functions, attachment theorists often refer to parents as safe havens to whom infants can turn in times of trouble. Moreover, in addition to serving as safe havens, parents also serve as secure bases from which infants can confidently explore their environments during normal day-to-day activities (Bowlby, 1969/1982; Goldberg et al., 1999); access to a secure base is believed to be of much importance considering that a core developmental task in infancy is to master one's environment (see Grossmann, Grossmann, & Zimmermann, 1999), and there is experimental evidence that having access to a parental secure base enhances such exploration (e.g., Sorce & Emde, 1981).

Attachment theorists believe that through repeated daily experiences with attachment figures, infants (between the ages of 6 and 9 months; see Marvin & Britner, 1999) begin to develop mental representations of their attachment figures' tendencies to be available, responsive, and sensitive to their needs for protection and their desires for exploration (Bowlby, 1973; Bretherton & Munholland, 1999). Attachment theorists often refer to these mental representations as "internal working models" (or, alternatively, "representational models") of attachment. The content of these internal working models is believed to vary as a function of how infants have been responded to and treated by their attachment figures. Infants who have used their attachment figures as secure bases and safe havens successfully, for example, are believed to develop internal working models of their attachment figures as available, responsive, and sensitive. Infants who have not been successful in using their attachment figures as secure bases and/or safe havens, however, are believed to develop less positive internal working models of their

attachment figures as unavailable, unresponsive, and insensitive. This notion – that internal working models vary as a function of "real-life" attachment-related experiences – is central to attachment theory and distinguishes the theory from other perspectives which suggest that infants (and older individuals) internalize and mentally represent their experiences with attachment figures through other means (e.g., through unconscious fantasies; Freud, 1909/1999).

Attachment theorists' belief that infants develop internal working models of attachment and that the content of these models varies as a function of real-life events is similar to other notions found in broader relationship-oriented theories of social cognition. According to Baldwin's (1992, 1995) relational schema theory, for example, individuals develop cognitive structures of their transactional experiences with other persons, and these cognitive structures contain an interpersonal script for how these experiences tend to unfold, as well as interactional sub-schemas of the self in relation to others (see also Schank & Abelson, 1977, and Nelson & Gruendel, 1986). Bretherton and Munholland (1999) have also suggested that the internal working model concept is consistent with more classical theories of social cognition, such as those purported by Mead (1934; i.e., that children understand themselves, and their worlds, through how others respond to their social bids) and Lewin (1933; i.e., that individuals understand their environments subjectively through the personal "meaning" they derive from how their behaviors are elicited and responded to by environmental agents).

In developmental research, the content of infants' internal working models of attachment is typically inferred by observing infants engaging in dyadic interactions with their attachment figures, usually during the Strange Situation procedure (Ainsworth, Blehar, Waters, & Wall, 1978). During the Strange Situation, infants undergo a series of

separation/reunion episodes with their attachment figures. Observations of infants'
responses during these episodes have revealed that infants typically display one of three
distinct patterns of attachment behavior, and each of these behavioral patterns has been
associated with a particular type of internal working model of attachment. Secure
infants, for example, will use their parent as both a safe haven and secure base during the
Strange Situation; they will seek proximity to their parents when stressed and/or
frightened (usually through, but not limited to, direct physical contact), derive comfort
from such proximity, and reengage in exploration once they have been comforted
satisfactorily. Attachment theorists have proposed that secure infants use their parents as
safe havens and secure bases during the Strange Situation because these infants possess
internal working models of their parents as available, responsive, and sensitive to their
attachment and exploratory needs (Ainsworth et al., 1978). This proposition is supported
by a wealth of empirical data indicating that mothers of secure infants are more likely
than other mothers to be available, responsive, and sensitive to their infants in both home
and laboratory settings (see DeWolff & van IJzendoorn, 1997, for a review).

Insecure-avoidant, insecure-resistant, and insecure-disorganized infants, on the
other hand, are blocked from using their parents successfully as safe havens and/or secure
bases during the Strange Situation. More precisely, insecure-avoidant infants do not seek
proximity to their parents during the Strange Situation. These infants are thought to
possess an internal working model of their parent as unwilling to provide a safe haven in
times of need, and thus will not attempt to use their parents as a safe haven during the
Strange Situation. Insecure-resistant infants, in contrast, seek proximity to their parents,
yet are unable to derive comfort from this proximity or to reengage successfully in
exploratory behavior. These infants are believed to possess an internal working model of

their parent as unpredictable in their caregiving, and thus will maintain proximity to their

parent during the Strange Situation in order to increase the likelihood that their parents

will behave sensitively towards them. Insecure-disorganized infants, on the other hand,

display relatively odd, overtly conflicted, and/or fearful behaviors in the presence of their

parents (see Main & Solomon, 1986, 1990). They will, for example, display anomalous

movements and postures, engage in sequential or simultaneous displays of contradictory

attachment behavior (e.g., strong avoidance coupled with strong proximity seeking),

and/or show subtle/overt signs of being frightened by the parent. It is believed that these

infants possess an internal working model of their parent as a source of danger, which

leads them to behave in a frightened and/or disoriented manner. The notion that infants

classified as insecure-avoidant, insecure-resistant, and insecure-disorganized in the

Strange Situation possess internal working models of their parents as unavailable,

unresponsive, insensitive, and/or frightening is supported by empirical studies indicating

that mothers of insecure infants are less likely than other mothers to serve as a safe haven

and/or secure base for their children (see DeWolff & van IJzendoorn, 1997, & Lyons-

Ruth & Jacobvitz, 1999, for reviews).

Bowlby (1973, 1980) believed that internal working models of attachment have a

strong propensity for stability and become increasingly resistant to change over time (see

also Main et al., 1985). Individuals who possess internal working models of their parents

as secure bases and safe havens will thus be inclined to retain those models even when

their parents sometimes fail to perform effectively in such roles. According to Bowlby

(1973), internal working models of attachment have a propensity for stability because

such stability allows individuals to habituate to their social worlds. If internal working

models of attachment were allowed to change easily, individuals would develop muddled

and confused understandings of their social worlds (which would cause severe anxiety and psychological suffering; see Bretherton & Munholland, 1999), and the load on cognitive functioning would be overwhelming.

At their core, internal working models of attachment are mental structures that play a role in the processing attachment-related social information. As described above, and as articulated first in the writings of Bowlby (1973), a basic function of these models is to store attachment-related information that has been obtained from infants' relational histories with their attachment figures (Bretherton & Munholland, 1999). Of particular importance is the degree to which attachment figures have been available, responsive, and sensitive to the infant in times of need and/or distress (Bowlby, 1973). Internal working models of attachment also function to generate predictions regarding the ways in which attachment figures will behave in subsequent attachment-related interactions (Bowlby, 1973; Thompson, 1998); these predictions will then be used to calibrate the attachment behavioral system. Interestingly, this notion is consistent with cognitive developmentalists' belief that individuals use existing cognitive structures in coming to understand new information (Piaget, 1954). As individuals acquire more advanced cognitive capacities, internal working models of attachment will also perform other important functions related to social information-processing. For example, Bowlby (1973) proposed that beginning in toddlerhood, internal working models of attachment function to provide individuals with information about the self. According to Bowlby (1973), children will begin to understand how acceptable or unacceptable they are in the eyes of their attachment figures, and this information will in turn be used to develop a complementary representation of the self as a person who is meant (or alternatively not meant) to be loved and valued by attachment figures.

According to attachment theory, internal working models of attachment also function to influence the ways in which individuals obtain, organize, and operate on attachment-relevant social information (Bowlby, 1980). More precisely, these models are thought to provide individuals with both conscious and unconscious rules "for the direction and organization of attention and memory, rules that permit or limit the individual's access to certain forms of knowledge regarding the self, the attachment figure, and the relationship between the self and the attachment figure" (Main, Kaplan, & Cassidy, 1985, p. 77). Building on this thinking, it is reasonable to believe that individuals will implement these rules differently according to the type of attachment-relevant social information that they are required to process. It is also reasonable to believe that these rules will be implemented differently across individuals depending on whether these individuals possess a secure or an insecure internal working model of attachment. Thus, when processing attachment-relevant social information that could activate the attachment system, for example, insecure (but not secure) individuals will implement rules that will enable them to filter out (from conscious awareness) negative information so that it does not cause emotional distress (see Bowlby, 1980). In contrast, when processing attachment-relevant social information that would not activate the attachment system, insecure (but not secure) individuals will process this information in a negatively-biased schematic fashion so that this information can be processed rapidly and efficiently (see Bretherton & Munholland, 1999). I discuss these two social information-processing patterns below in greater detail.

Bowlby (1980) posited that when insecure individuals are presented with negative attachment-relevant social information that could activate their attachment systems, their internal working models of attachment will function to defend these individuals from this

information. Their internal working models perform this function because the attachment

system's activation has, in the past, brought about emotional distress (e.g., emotional

distress could have arisen during times in which these individuals sought care from a

parent but was rejected), and these models are functioning to protect insecure individuals

from re-experiencing such distress in the present. Thus, under the guidance of their

internal working models of attachment, insecure individuals will acquire strategies to

help them minimize the activation of their attachment system, and one of these strategies

is to limit access to negative attachment-relevant social information that could potentially

cause emotional distress (Bowlby, 1980).

It is believed that in many cases, insecure internal working models of attachment

will function to filter out negative attachment-relevant social information that could

activate the attachment system completely through the process of *defensive exclusion*

(Bowlby, 1980). Bowlby used the term defensive exclusion to refer to a capacity to

prohibit information from entering conscious awareness that has, in the past, activated the

attachment system; defensive exclusion essentially enables individuals to process

attachment-relevant information in ways that deactivate (or maintain a low activation of)

the attachment system. Through the process of defensive exclusion, individuals will be

capable of turning their attention away from, and limiting their memory for, attachment-

relevant social information. Alternatively, if this information cannot be defensively

excluded from conscious awareness, it is believed that insecure internal working models

of attachment will function to help individuals *suppress* the affectively-laden content of

this information. By suppressing the affectively-laden content of this information,

individuals are able to remove the emotional pain from the more rote aspects of the

information (e.g., the context in which the information was obtained). Therefore, an

insecure individual might be able to remember a negative attachment-related experience, but not the full extent of the emotional pain associated with it.

.   Evidence of attachment-related defensive exclusion and suppression comes from several sources. Clinical studies, for example, have shown that individuals who have experienced a severe attachment-related trauma sometimes develop disorders of severe social cognitive impairment, such as dissociative disorder (i.e., disorders in which a person disengages his or her attention from certain aspects of the social environment; e.g., Carlson, 1998; West, Adam, Spreng, & Rose, 2001; see Dozier, Stovall, & Albus, 1999, for a review) and post-traumatic stress disorder (i.e., disorders in which a severe trauma causes inattentiveness to social stimuli, avoidance to trauma-related information, cognitive disturbances, and emotional numbing; see Fearon & Mansell, 2001, and Kobak, Cassidy, & Ziv, 2004, for reviews). Experimental research has also shown that insecure adults often attempt to suppress the negative emotional content of attachment-relevant social information related to their childhood attachment experiences (Dozier & Kobak, 1992; Roisman, Tsai, & Chiang, 2004). Roisman and his colleagues, for example, recently reported physiological data indicating that when insecure adults think about these attachment-related experiences, they show increased electrodermal activity (which is considered to be an indicator of the effortful suppression of negative emotion).

It is believed that when individuals are presented with attachment-relevant social information that would not activate the attachment system, these individuals' experience-based internal working models of attachment will function to process this information differently. More precisely, it is believed that internal working models of attachment will function to process this information *schematically*, and in ways that are consistent with previously obtained attachment-related knowledge (e.g., information related to the

availability, responsiveness, and sensitivity of attachment figures; see Bretherton &
Munholland, 1999). Insecure individuals, for example, will process this attachment-
relevant social information in a negatively-biased schematic fashion (because they have
had negative experiences with attachment figures and will draw on their knowledge of
these experiences when processing social information). Secure individuals, in contrast,
will process this information in a positively-biased schematic fashion (because they have
had positive experiences with attachment figures and will draw on knowledge of these
experiences when processing social information).

     The belief that insecure individuals process certain types of attachment-relevant
social information in a negatively-biased schematic fashion is based on the notion that
internal working models of attachment function to process social information in the most
rapid and efficient ways possible (Bowlby, 1973; Bretherton & Munholland, 1999). By
tapping into experienced-based knowledge, internal working models of attachment
provide individuals with the capacity to interpret and evaluate attachment-relevant social
information relatively quickly, a capacity which is highly adaptive for individuals
considering that such interpretations and evaluations often need to be made in real-time.
Moreover, it is efficient for individuals to draw on stored knowledge when processing
new information so that they do not have to spend valuable time (and limited mental
resources) processing this information from scratch. Indeed, the notion that individuals'
engage in schema-driven social information-processing is not new, and individuals are
believed to process many other types of social information in a schematic fashion.
According to Bem's (1981, 1985) gender schema theory, for example, individuals acquire
stereotypical information about gender roles early in life and later use this knowledge
schematically when interpreting and evaluating new gender-related information (e.g.,

when individuals are asked to judge whether a particular trait applies to male or a female, individuals will make their judgments quickly if the trait is stereotypical, and slowly and/or erroneously if the trait is not stereotypical; Bem, 1985).

To summarize, insecure individuals are thought to engage in one of two social information-processing patterns when they are required to process attachment-relevant social information. If the attachment-relevant social information could activate the attachment system (consequently causing emotional distress), then insecure individuals will either defensively exclude or suppress this information. If the attachment-relevant social information would not activate the attachment system, insecure individuals will tap into their negative attachment-related knowledge and thus process this information in a negatively-biased schematic fashion. In contrast to insecure individuals, secure individuals are not thought to process attachment-related information in these ways. Because the activation of the attachment system has not been linked to emotional distress (and thus the individual does not need protection from attachment-related emotional discomfort), secure individuals will not need to defensively exclude or suppress negative attachment-relevant social information from conscious awareness. Moreover, because secure individuals are believed to possess more positive experienced-based attachment-related knowledge, it is thought that these individuals will draw on this knowledge and process attachment-relevant social information that would not activate the attachment system in a positively, rather than negatively, biased schematic fashion.

As individuals mature, the rules that internal working models of attachment provide to process attachment-relevant social information related to the self – and the underlying content of the internal working models themselves – are typically observed by examining the "state of mind with respect to attachment" that adolescents and adults

exhibit during the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996). An individual's state of mind with respect to attachment is generally thought to be the manner with which information related to both positive and negative childhood attachment-related experiences is processed (Hesse, 1999; Main, 2000). During the AAI, this state of mind is assessed principally by having interviewees give both *general descriptions* of their childhood relationships with their parents and *specific memories* in support of such descriptions.

AAI interviewees classified as having a secure state of mind with respect to attachment demonstrate that they can attend properly to questions regarding their attachment experiences and can answer these questions in an open, thoughtful, and coherent manner, which suggests sufficient access to attachment-relevant memories. For example, these individuals can provide specific memories in support of the general descriptions that they provide of their attachment relationships, and also show a capacity to freely explore thoughts and feelings related to both the positive and negative aspects of their attachment experiences (Hesse, 1999). Individuals are thought to exhibit a secure state of mind with respect to attachment for two reasons. For some individuals, a secure state of mind is thought to stem from positive attachment-related experiences with caregivers (i.e., experiences in which they were able to use their attachment figures successfully as both secure bases and safe havens; Beckwith, Cohen, & Hamilton, 1999; Hamilton 2000; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). For other individuals, a secure state of mind is not thought to stem from positive attachment-related experiences with caregivers, because these individuals insist that such experiences did not occur (i.e., they admit that they were not able to use their attachment figures as either secure bases or safe havens during their lives; Roisman, Padrón, Sroufe, & Egeland,

2002). Instead, these individuals (who are classified as "earned secure" in the AAI) have developed a capacity to think about and discuss their negative attachment-related childhood experiences coherently and thoughtfully. They have also developed a capacity to value and appreciate attachment relationships, despite the fact that these relationships have been unfulfilling in their own lives.

AAI interviewees classified as having an insecure state of mind with respect to attachment appear to defensively exclude and/or suppress attachment-relevant social information when answering questions about their own attachment-related experiences. Insecure-dismissing individuals, for example, exhibit especially limited access to attachment-related childhood memories and do not answer questions regarding their attachment experiences in an open, thoughtful, and coherent manner. They may state that their attachment relationships were generally positive (and may idealize such relationships), yet they are unable to provide specific memories from childhood that would corroborate this sentiment. In fact, these individuals sometimes provide specific memories that actually contradict their positive assessments of their childhood attachment-related experiences. Other individuals in this group, however, may derogate their attachment experiences, yet insist that their negative attachment-related experiences had no negative effect on them. It is believed that insecure-dismissing individuals discuss their attachment experiences in these ways because their internal working models of attachment are limiting access to childhood memories that may be emotionally difficult and painful (see Cassidy & Kobak, 1988). Attachment theorists believe that individuals develop an insecure-dismissing state of mind with respect to attachment if they have experienced considerable rejection, insensitivity, and/or lack of love in relationships with their own parents (Cassidy & Kobak, 1988; Hesse, 1999).

In contrast, insecure-preoccupied individuals exhibit "uncontained" access to attachment-related childhood memories. Although these individuals are willing to answer questions regarding their attachment-related childhood experiences, their answers demonstrate an angry, unobjective, and/or confused preoccupation with these experiences (Hesse, 1999). These individuals often attend inappropriately to a specific question by focusing excessively on the details of particular childhood memories that have angered them. This excessive focus in turn limits their capacity to objectively critique the general quality of their attachment experiences and to express how these experiences have influenced their development. It is believed that insecure-preoccupied individuals discuss their attachment-related experiences in this manner because their internal working models are diverting attention away from the individual's genuine memories of emotional pain and redirecting this attention to less damaging and less emotionally-hurtful memories (Main & Goldwyn, 1998). It is thought that an insecure-preoccupied state of mind with respect to attachment may emerge in individuals who had mothers who were overwhelmed and lacked competence, or who were intrusive and enmeshing (Cassidy & Berlin, 1994). This state of mind may also emerge in individuals who have experienced severe trauma at the hands of their parents and/or other attachment figures (see Lyons-Ruth & Jacobvitz, 1999).

In addition to using the AAI, many researchers have used self-report measures to assess the content of both adolescents' and adults' experienced- based internal working models of attachment. Most of these researchers (principally from the social psychology tradition) have used self-report measures to assess individuals' *attachment styles*, or the stylistic attachment-related expectations, needs, and emotions that individuals exhibit in the context of close adult romantic relationships (see Feeney, 1999, for a review). These

researchers have proposed that individual differences in these attachment styles can be assessed on two attachment-related dimensions: avoidance and anxiety. Avoidance refers to an unwillingness to go to close others for comfort and support when needed. Anxiety, in contrast, refers to the fear of losing others or being abandoned by them. Individuals who display a secure attachment style have relatively little attachment-related anxiety and avoidance. Individuals who display an insecure attachment style, however, show one of three patterns: high avoidance and low anxiety (an insecure-dismissing style), low avoidance and high anxiety (an insecure-ambivalent style), or high avoidance and high anxiety (an insecure-fearful style). Like an individual's "state of mind with respect to attachment," an individual's attachment style is believed to reflect the ways in which internal working models of attachment function to processes attachment-related information (i.e., they reflect differences in the rules that internal working models of attachment provide to help individuals manage romantic attachment-related cognition and emotion), with insecure (but not secure) romantic attachment styles functioning to reduce attachment-related emotional pain that is associated with the activation of the attachment system (Shaver & Mikulincer, 2002). It is thought that individuals' attachment styles emerge from their childhood attachment experiences, and research has shown that individuals with insecure attachment styles, compared to individuals with secure attachment styles, provide more negative reports of their childhood attachment relationships (see Feeney, 1999, for a review).

Developmental researchers have also used self-report measures to assess the representational content of adolescents' and adults' experienced-based internal working models of attachment, particularly these individuals' attachment-related representations of their parents (see Crowell, Fraley, & Shaver, 1999, for a review). When researchers

assess individuals' representations of their parents, they are tapping the conscious mental representations that individuals hold of their parents' capacity to provide a secure base and/or a safe haven (on both physical and psychological planes). For example, the Parent as a Secure Base Scale (Cassidy & Woodhouse, 2003) has been used to assess whether adolescents feel that their parents are available to them "in times of trouble" and whether their parents understand the ways they "feel about things." Adolescents who report that they can use their parent as a secure base have been shown to use their parent as a secure base during adolescent-parent interactions (Cassidy, Ziv, Feeney, Rodenberg, & Woodhouse, 2003).

In both adolescence and adulthood, both the content of individuals' internal working models of attachment and the rules that these models provide to process attachment-relevant social information about the self are thought to be observable through examination of individuals' attachment security (e.g., their "state of mind with respect to attachment" and their romantic attachment styles) and their representations of parents. According to attachment theory, an individual's attachment security and his or her representations of parents can also be used to make predictions regarding how that individual will process other types of attachment-relevant social information about self and others. That is, by knowing an individual's security of attachment and representations of parents, the content of that individual's experienced-based internal working models can be ascertained (theoretically); and by knowing the content of that individual's internal working models of attachment, predictions can be made regarding how that individual processes attachment-relevant social information about the self and others. I provide a model describing these theoretical linkages between attachment and social information processing in Figure 1 (p. 18).

Figure 1

Theoretical Model Depicting the Linkages between Adolescent/Adult Attachment and

Social Information-Processing

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                    ┌─────────────────────┐
                    │  Experienced-Based  │
                    │   Internal Working  │
                    │ Models of Attachment│
                    └─────────────────────┘
```

Knowledge of Attachment   Set of Rules for Processing
Figures and Experiences   Attachment-Relevant Social
                                                 Information

```
   ┌──────────────────────┐          ┌──────────────────────────────┐
   │      Attachment      │          │  Nature of Attachment-Relevant│
   └──────────────────────┘          │       Social Information:     │
                                      │ Is this information likely to │
                                      │  activate the attachment      │
                                      │          system?              │
                                      └──────────────────────────────┘
```

```
┌───────────────┐   ┌───────────────┐
│ "State of mind│   │Representations│
│ with respect to│  │  of Parents   │
│  attachment"  │   └───────────────┘
└───────────────┘
```

```
┌───────────────┐
│  Attachment   │
│    Style      │
└───────────────┘
```

```
   ┌──────┐        ┌──────┐
   │ Yes  │        │  No  │
   └──────┘        └──────┘
```

```
                    ┌──────────────────┐
                    │ Process Information│
                    │ in a Schema-Driven│
                    │      Manner       │
                    └──────────────────┘
```

```
┌──────────────────────┐
│  Would processing this│
│  information be Painful?│
└──────────────────────┘
```

```
   ┌──────┐        ┌──────┐
   │  No  │        │ Yes  │
   └──────┘        └──────┘
```

```
┌──────────────────┐        ┌──────────────────┐
│Process Information│        │   Defensively    │
│      Openly       │        │Exclude/Suppress  │
└──────────────────┘        │   Information    │
                            └──────────────────┘
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For example, individuals who demonstrate a secure "state of mind with respect to attachment" in the AAI, a secure attachment style, or positive representations of their parents are believed to have positive attachment-related knowledge stored in their internal working models of attachment. Thus, when these individuals are required to process attachment-relevant social information, they will process this information in one of two ways: if the information is likely to activate the attachment system, these individuals will process this information openly because such processing is not painful to process. If the information is not likely to activate the attachment system and is related to others, these individuals will process this information in a positively-biased schematically-driven manner. On the other hand, individuals who demonstrate an insecure "state of mind with respect to attachment," an insecure attachment style, or negative representations of their parents are believed to have negative attachment-related knowledge stored in their internal working models of attachment. Thus, when these individuals are required to process attachment-relevant social information, they will also process this information in one of two ways: if the information is likely to activate the attachment system, these individuals will process this information defensively and will either exclude or suppress this information from conscious awareness because processing such information would be emotionally distressing. If the information is not likely to activate the attachment system and is related to others, these individuals will process this information in a negatively-biased schematically-driven manner.

Although attachment theorists believe that internal working models of attachment function principally to process social information related directly to attachment, many attachment theorists also believe that these models have considerable influence over how individuals process social information that is related only indirectly to attachment (Main

et al., 1985). This argument rests on Bowlby's (1973) claim that attachment experiences, and the internal working models forged from them, *generalize* to influence behavior and relationships with other persons that do not contain an attachment-related component. It is believed, for example, that in the absence of information about other persons, individuals will draw on knowledge about people they do know, including their attachment figures, to understand their relationships with these new persons. (Note again that this argument is similar to the more widespread notion held by developmentalists that individuals use existing cognitive structures in coming to understand new information; Piaget, 1954). More specifically, it is conceivable that the rules that internal working models of attachment employ to process attachment-related information will generalize – lawfully – to the processing of other types of social information (e.g., individuals who have come to expect that their attachment figures will be unresponsive when needed will likely expect that others also will be unresponsive in such situations). Although there is considerable debate surrounding the extent to which internal working models of attachment guide the processing of social information related only indirectly to attachment (see Berlin & Cassidy, 1999), there is growing evidence that these models guide the processing of social information related to non-parental family members (e.g., siblings), peers, and strangers.

Research Background

The empirical literature on associations between attachment and the processing of attachment-relevant social information has grown rapidly over the past two decades. To date, considerable evidence has emerged indicating that individual differences in internal working models of attachment (as assessed using a variety of measures that include observational, interview, and self-report assessments) are connected contemporaneously

and/or longitudinally to various aspects of social information-processing (as assessed using experimental and non-experimental tasks). Although I provide an in-depth review of this evidence in Chapter 2, I highlight some key findings here.

Compared to children with secure attachment histories, children with insecure attachment histories have been shown to have poorer attention to information related to attachment figures and attachment-related events (Kirsh & Cassidy, 1997; Main et al., 1985), poorer memory for secure base interactions and negative social events (Belsky, Spritz, & Crnic, 1996), poorer autobiographical memory for negative life events (Farrar, Fasig, & Welch-Ross, 1997), and poorer memory for positive mother-related information (e.g., Rudolph, Hammen, & Burge, 1995). Children with insecure attachment histories have also been shown to have poorer self-perceptions, expectations, and attributions related to both self and others. For example, these children have been shown to have less realistic and balanced self-perceptions (e.g., Cassidy, 1988), and to show a propensity to maintain their negative self-perceptions (Cassidy, Aikins, & Chernoff, 2003; Cassidy, Ziv, Mehta, & Feeney, 2003). They have also been shown to have perceptions and expectations of their parents as less supportive, available, accepting, and/or comforting (e.g., Booth, Rubin, Rose-Krasnor, 1998; Howes, Hamilton, & Philipsen, 1998; Ziv, Oppenheim, Sagi-Schwartz, 2004), and to have negative perceptions, expectations, and attributions of their peers (e.g., Cassidy, Kirsh, Scolton, & Parke, 1996; Granot & Mayseless, 2001; Suess, Grossmann, & Sroufe, 1992). Finally, children with insecure attachment histories have also been shown to have poorer access to and knowledge of mental secure base scripts (i.e., mental scripts in which an individual attempts to use another person as a secure base and expects that that person will provide such a base; Waters, Rodrigues, & Ridgeway, 1998) and poorer performance on both theory of mind

and emotional understanding tasks (e.g., de Rosnay & Harris, 2002; McElwain & Volling, 2004).

Similar links between attachment and social-information processing have also emerged in studies of adults. For example, in studies using the AAI to assess adults' attachment security, insecure adults, compared to secure adults, have shown greater attention to negative and threatening social stimuli (Maier, Bernier, Pekrun, Zimmermann, Strasser, & Grossmann, 2005). AAI attachment insecurity has also been linked to adults' poorer perceptions, expectations, and attributions of self and others. For example, insecure adults have been shown to have less positive perceptions of self (e.g., Kobak & Sceery, 1988), family members (e.g., Kobak & Sceery, 1988), romantic partners (e.g., Crowell, Treboux, & Waters, 2002), and offspring (e.g., Slade, Belsky, Aber, & Phelps, 1999). Finally, greater AAI attachment insecurity has been linked to poorer access to and knowledge of mental secure base scripts (H. Waters & Rodrigues-Doolabh, 2001).

Studies that have used self-report romantic attachment-style questionnaires to assess adults' attachment security have reported similar links between attachment and social information-processing. Compared to adults with secure romantic attachment styles, adults with insecure romantic attachment styles have been shown to have poorer attention to both attachment-related and emotionally-salient social information (e.g., Fraley, Garner, & Shaver, 2000; Mikulincer, 1998; Miller & Noirot, 1999), poorer memory for childhood memories (e.g., Mikulincer & Orbach, 1995), and less accurate and positive memory for other adults, including romantic partners (e.g., Mikulincer & Horesh, 1999; Pietromonaco & Barrett, 1997). Adults with insecure romantic attachment styles have also been shown to have less positive perceptions, expectations, and

attributions of self and others. For example, these individuals have been shown to have less positive self-perceptions (e.g., Bartholomew & Horowitz, 1991; Pietromonaco & Barrett, 1997), and to base their self-worth on more superficial factors (e.g., their degree of physical attractiveness; Park, Crocker, & Mickelson, 2004). Similarly, these adults have been shown to have more negative expectations of interpersonal relationships (Rowe & Carnelley, 2003) and to show a hostile attribution bias against other persons (e.g., Mikulincer, 1998).

Intriguingly, intergenerational links between attachment and social-information processing have also emerged in studies of adults and their young children. Children of insecure adults (as assessed using measures of romantic attachment), for example, have been shown to have poorer memory for stressful life events (Alexander, Goodman, Schaaf, Edelstein, Quas, & Shaver, 2002; Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1997), and to perform more poorly on emotional understanding tasks (Steele, Steele, & Johansson, 2002). Similarly, parents of insecure children (as assessed using the Strange Situation) have been shown to have poorer access to and knowledge of mental secure base scripts (e.g., Rafferty, Corcoran, & Waters, 2005) and poorer maternal "mind-mindedness" (i.e., a poorer capacity to attend fully to their infants' dynamic and complex mental states; e.g., Meins, Fernyhough, Russell, & Carter, 1998; Meins, Fernyhough, Fradley, & Tuckey, 2002).

Taken as whole, this literature provides substantial evidence that internal working models of attachment are linked to the processing of attachment-relevant information in both children and adults. Conspicuously missing from this literature, however, is a substantial collection of studies examining this link in *adolescents*. Only within the past few years have researchers begun to investigate how adolescents' attachment is linked to

aspects of their social information-processing. For example, to date, only one study has examined attachment-related differences in adolescents' memory for attachment-relevant social information (Feeney & Cassidy, 2003). In this study (which was a previous report of the data set used in this investigation), adolescents' more negative representations of parents were linked to more negative reconstructive memory for adolescent-parent conflict. A handful of other studies have examined adolescents' perceptions, expectations, and attributions of self and others. With respect to the self, greater AAI and romantic attachment insecurity both have been linked to lower ego-resiliency and more negative self views (Cooper, Shaver, & Collins, 1998; Zimmermann & Grossmann, 1997). With respect to perceptions of others, greater AAI attachment insecurity has been linked to more negative perceptions of parents (e.g., Allen, McElhaney, Land, Kuperminc, Moore, O'Beirne-Kelly, & Kilmer, 2003; Cassidy, Woodhouse, & Dykas, 2005), more negative and less flexible expectations in hypothetical peer rejection situations (Zimmermann, 1999), and more negative attributions of peer integration and friendships (Zimmermann, 2004). More recently, adolescent AAI and romantic attachment insecurity have also both been linked to poorer access to and knowledge of mental secure base scripts (Dykas, Woodhouse, Cassidy, & H. Waters, 2005). One notable AAI study of cross-generational links between attachment and social information processing has also shown that mothers of insecure adolescents are less likely than mothers of secure adolescents to understand their adolescents' self-perceptions (Allen, McElhaney, Land, Kuperminc, Moore, O'Beirne-Kelly, & Kilmer, 2003). Because of the relative paucity of studies examining links between attachment and the processing of attachment-relevant social information in adolescence, additional studies are required to more fully understand this link in both adolescence and across the lifespan.

The Present Investigation: Research Aims, Hypotheses, and Strengths

The principal aim of this investigation was to examine further whether attachment is linked to the processing of attachment-relevant social information in adolescence. More specifically, I examined whether attachment is linked to a core aspect of attachment-relevant social-information processing: *memory* for attachment-relevant social information. In the following sections, I first review briefly attachment in adolescence and note some important reasons why adolescence is considered a significant period in attachment development (for a more comprehensive review, see Allen & Land, 1999). Following this review, I delineate my research plan and state my hypotheses. (I provide a summary of these hypotheses at the end of this introduction; Table 1, p. 36). I end with a description of the strengths of this investigation.

Attachment in adolescence. Adolescence is considered a significant transitional period in attachment development for several important reasons. First, adolescents desire increasingly to engage in autonomous exploration away from their parents (Allen & Land, 1999), and such autonomous exploration takes many forms. For example, adolescents often begin to take on new responsibilities related to school and work, and also often begin to spend more time in the company of peers and other important persons rather than in the company of parents (Rubin, Bukowski, & Parker, 1998). In the face of these changes, adolescent researchers and attachment theorists have both proposed that healthy adjustment during adolescence is marked by behaviors that demonstrate a healthy balance between establishing autonomy while at the same time maintaining emotional connectedness (i.e., relatedness) to one's parents (Allen & Land, 1999; Grotevant & Cooper, 1986; Hill & Holmbeck, 1986). For example, Cooper and Cooper's model of healthy adolescent-parent relationships has at its core "the proposition that central to all

relationships is the transactive interplay of individuality and relational development"
(1992, p. 141). This concept is similar to a concept in attachment theory that security is
associated with the capacity for autonomous exploration while maintaining relatedness to
an attachment figure who serves as a secure-base for such exploration (Ainsworth et al.,
1978; Bowlby, 1988).

Adolescents' attempts to strike a balance between autonomy and relatedness can
often lead to different outcomes. For example, adolescents will often change the ways in
which they seek comfort from their parents so that their emerging independence is not
undermined (Allen & Land, 1999; Hazan & Zeifman, 1994; Marvin & Britner, 1999).
Frequently, adolescents' attempts to gain independence will also lead to conflict between
adolescents and their parents. Conflict between adolescents and their parents is not
uncommon and it is often the case that relatively "trivial" matters (e.g., household chores,
curfew) cause the most conflict within these dyads (Smetana, 2005). Developmental
psychologists have noted that although conflict can often place great stress on adolescents
and their parents, conflict can also be part of an adaptive socialization process that often
promotes greater autonomy in adolescents (Collins & Laursen, 1992; Smetana, 2005).
Interestingly, adolescent autonomy-relatedness behaviors and parental support of these
behaviors have been linked both contemporaneously and longitudinally to adolescent
attachment quality (e.g., Allen & Hauser, 1996; Kobak, Cole, Ferenz-Gillies, Fleming, &
Gamble, 1993). More specifically, adolescent attachment security has been linked to
adolescents' abilities to autonomously explore a topic of disagreement with one's parent
while maintaining a sense of relatedness to that parent.

Intriguingly, besides these changes in the adolescent-parent relationship,
attachment theorists have also proposed that the representational structure of attachment

begins to change during adolescence through a process in which different representations of attachment for mother and father are consolidated into one overarching attachment organization, which is often referred to as a "state of mind with regard to attachment" (Main & Goldwyn, 1996; see Allen & Land, 1999, for a detailed account of this process). The acquisition of a general state of mind with respect to attachment, however, does not necessarily mean that adolescents will relinquish their separate representations of attachment for mother and for father. Allen and Land (1999) have even suggested that "these distinctions [of representations between parents] may be clarified and sharpened during this period" (p. 320). Moreover, during this period, many adolescents are developing (or are preparing to develop) novel romantic attachments to peers. In developing these romantic attachments, it is believed that adolescents will develop a romantic attachment style (i.e., a set of attachment-related expectations, needs, and emotions with respect to romantic partners; Brennan et al., 1998). Thus, the changing representational structure of attachment in adolescence is characterized by the (a) acquisition of a "state of mind with respect to attachment," (b) the retention (and perhaps clarification) of separate representations of attachment for mother and for father, and (c) the development of romantic attachment styles.

Indeed, adolescence is an important period in attachment development and is marked by changes in both the adolescent-parent relationship and the representational structure of attachment. For these reasons, it is interesting to examine whether attachment is linked to adolescents' attachment-related social information-processing, and whether these links are similar or dissimilar to those found in children and adults.

Research plan and hypotheses guiding the present study. I examined whether attachment was linked to adolescents' memory for attachment-relevant social information

in three ways. First, I examined adolescents' memory for emotionally-significant childhood experiences. According to attachment theory, insecure individuals and individuals who possess negative representations of their parents will either defensively exclude or suppress negative attachment-relevant social information that could activate their attachment system. These individuals are believed to process this information this way because their underlying negative experienced-based internal working models of attachment function to minimize the activation of the attachment system (because such activation could cause, and has in the past caused, emotional distress; Bowlby, 1980). Secure individuals and individuals who possess positive representations of their caregivers, in contrast, will not defensively exclude or suppress attachment-relevant social information that could activate their attachment system. These individuals are believed to process this information this way because their underlying positive experienced-based internal working models of attachment function to process this information openly (because although this information could activate the attachment system, such activation will not cause emotional distress). It is believed that these two distinct patterns of social information-processing can be evident when adolescents are required to recall emotionally-significant childhood experiences because such experiences had activated their attachment systems. Although these experiences did not necessarily have to involve parents or other attachment figures, attachment theorists have proposed that children will want to seek out an older, wiser, and stronger caregiver when distressed (e.g., in times of anger, anxiety, and despair; see Bowlby, 1973, 1980). It is thought that children will want to seek out these caregivers even in times of happiness (e.g., Waters, Wippman, & Sroufe, 1978, found that children will sometimes engage in "positive affect sharing" with their parents; children smile at their parents when playing

with new – and presumably exciting – toys and often share these toys with their parents as to presumably share their happiness and excitement).

In this investigation, I proposed that within this normative sample of adolescents, insecure adolescents and adolescents who possess negative representations of their parents would be more likely than secure adolescents and adolescents who possess positive representations of their parents to suppress emotionally-significant memories from childhood that could potentially activate their attachment systems (and consequently cause emotional distress), a proposition that is supported by empirical evidence gathered from both children and adults (Belsky et al., 1996; Farrar et al., 1997; Mikulincer & Orbach, 1995). More specifically, I hypothesized that attachment insecurity and negative representations of parents are linked to (a) slower retrieval of emotionally-significant childhood memories, (b) less accessibility to earlier memories for emotionally-significant childhood experiences, and (c) less emotionally-intense memory for emotionally-significant childhood experiences.

Second, I examined whether attachment was linked to adolescents' memory for parental attributes. More precisely, I examined whether attachment was connected to adolescents' memory for both *specific* parental attributes (i.e., attributes concerning adolescents' own parents) and *hypothetical* parental attributes (i.e., attributes not concerning adolescents' parents, but parental-figures more generally). According to attachment theory, when individuals are required to process attachment-relevant social information that would not activate their attachment system, these individuals will process such information in a schematic fashion and in ways that are compatible with their internal working models of attachment. It is thought that compared to secure individuals and individuals with positive representations of their parents, insecure

individuals and individuals who posses negative representations of their parents will process this information in a negatively-biased schematic fashion because their internal working models of attachment contain proportionality more negative knowledge about attachment experiences than positive knowledge. Thus, in this investigation, I proposed that compared to secure adolescents and adolescents who possess positive representations of their parents, insecure adolescents and adolescents who possess negative representations of their parents have better memory for negative information related to attachment-figures because their internal working models of attachment facilitate information storage and memory search for this information, a proposition which is supported by empirical evidence gathered from both children and adults (Rudolph et al., 1995; Miller & Noirot, 1999). More specifically, I hypothesized that attachment insecurity and negative representations of parents are linked to greater memory for (a) negative parental attributes, and (b) negative hypothetical parental attributes.

Third, I will examine whether attachment was linked to three types of conflict-related reconstructive memory: adolescents' reconstructive memory for adolescent-parent conflict, adolescents' reconstructive memory for adolescent-peer conflict, and parents' reconstructive memory for adolescent-parent conflict. With respect to adolescents' reconstructive memory for adolescent-parent, it is reasonable to believe that if insecure individuals and individuals who possess negative representations of parents do process attachment-relevant social information about others in a negatively-biased schematic fashion, then these individuals should show a negatively-biased memory for their interactions with others (provided that these interactions are not unusually distressing to the self, which might instead lead individuals to defensively exclude or suppress this information). Moreover, as this information degrades over time (i.e., as individuals

forget the specific details of these specific interactions), individuals will need to "fill in the gaps" or reconstruct their memory for this information so that they can bring to mind a mental image of these interactions. Attachment theorists believe that the ways in which individuals reconstruct their memory for this information will be governed by their internal working models of attachment (Feeney & Cassidy, 2003): Insecure individuals and individuals who possess negative representations of their parents will reconstruct their memory for these interactions in a negatively-biased manner (i.e., they will remember these interactions with a degree of negativity equal to or greater than their original perceptions). Secure individuals and individuals who possess positive representations of their parents, in contrast, will reconstruct their memory for these interactions in a positively-biased manner (i.e., they will remember these interactions with a degree of positivity equal to or greater than their original perceptions). Indeed, preliminary support for this proposition comes from an earlier report of this data set (Feeney & Cassidy, 2003). Thus, I hypothesized that adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-parent conflict. More specifically, I expected that compared to secure adolescents and adolescents who possess positive representations of their parents, insecure adolescents and adolescents who possess negative representations of their parents will describe these conflicts as less positive and more negative than they described them originally six weeks earlier.

With respect to adolescents' reconstructive memory for adolescent-peer conflict, some attachment theorists posit that although internal working models of attachment function to process social information related directly to attachment, these models may also generalize to function to process social information that is not related directly to

attachment, such as information related to peers. On the basis of both this theoretical model, and empirical data indicating that attachment influences the processing of peer-related social information (e.g., Zimmermann, 1999, 2004), I hypothesized that adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-peer conflict. More specifically, I expected that compared to other adolescents, insecure adolescents and adolescents who possess negative representations of their parents will describe these conflicts as less positive and more negative than they described them originally two weeks earlier.

I examined parents' reconstructive memory for adolescent-parent conflict because although this investigation's principal focus is on attachment-related differences in *adolescents'* social information-processing, another aim is to examine whether adolescent attachment is linked to *parents'* social information-processing of attachment-relevant social information. For some time, attachment researchers have been interested in understanding whether and how children's attachment is linked to their parents' attachment-related social cognition (George & Solomon, 1999). This interest has stemmed largely from a theoretical model suggesting that parents' attachment-related social cognition guides parents' caregiving behaviors towards their children, and these behaviors, in turn, contribute to their children's quality of attachment to them (van IJzendoorn, 1995; Belsky, 1999). It is thought, for example, that parents who process information about their children in a negatively-biased way will likely have difficulties serving as secure bases and/or safe havens for their children; this lack of a parental secure base and/or safe haven is thought, in turn, to contribute to an insecure attachment. This theoretical model is supported by a wealth of data (e.g., Alexander et al., 2002, described

earlier; see van IJzendoorn, 1995, for a review), yet only one study has examined the link between attachment and parents' social information-processing of attachment-relevant social information in adolescence (Allen et al., 2003). I hypothesized that adolescent attachment insecurity and negative representations of parents are linked to more negative parental reconstructive memory for adolescent-parent conflict. More specifically, I expected that compared to parents of secure adolescents and parents whose adolescents' possess positive representations of them, parents of insecure adolescents and parents whose adolescents' possess negative representations of them will describe these conflicts as less positive and more negative than they described them originally six weeks earlier.

Adolescent gender. Although attachment and social information-processing research has been marked by relatively few gender differences (Cassidy & Shaver, 1999; Feldman & Dodge, 1987), links between adolescent attachment and social information-processing could be moderated by adolescents' gender. This possibility exists because gender is believed to have special importance in adolescent development. For example, during middle to late adolescence, gender roles become more intense and less flexible as gender-related beliefs, attitudes, and expectations become increasingly stereotypical as adolescents are socialized into adult-like roles (Alfieri, Ruble, & Higgins, 1996). It is possible that this intensification of gender roles (as a function of attachment) could be associated with different patterns of attachment-relevant social information-processing. Moreover, during mid to late adolescence, gender differences have been found in important areas of adolescents' psychosocial functioning, such as depression (Marcotte, Alain, Gosselin, 1999). Thus, although the attachment literature does not provide any hints as to whether gender will moderate links between adolescent attachment and

attachment-relevant social information-processing, I will examine the role of gender in this study, but have no specific expectations about the role that gender will play.

Strengths of this investigation. This investigation has several important strengths. First, this investigation contributes to the relatively small body of literature that has examined links between attachment and attachment-relevant social information-processing in adolescents. This contribution is significant because although attachment theorists claim that there is developmental continuity in attachment-relevant social information-processing across the lifespan (e.g., Bowlby, 1980), the limited data on adolescents' attachment-relevant social information-processing makes this claim premature. This investigation will provide much needed insight into whether possible links between attachment and attachment-relevant social information-processing found in adolescents are similar to those found in children and adults.

A second important strength of this investigation is that I employed a multi-method design to assess three different aspects of adolescents' internal working models of attachment: (a) "state of mind with respect to attachment," (b) representations of attachment for mother and for father, and (c) romantic attachment styles. By examining these three different aspects, I was able to determine for the first time whether and how these different aspects of internal working models of attachment were linked (both separately and in combination) to adolescents' information-processing of attachment-relevant social information.

A third important strength of this investigation is that in addition to using a multi-method design to examine adolescent attachment, I used a multi-method design to examine adolescents' processing of attachment-relevant social information. This design permitted an assessment of various types of memory that have been linked theoretically

to attachment. This design also permitted an assessment of the extent to which these measures were tapping related or different social information-processing constructs.

An additional strength of this investigation is that I assessed adolescents' social information-processing related to both mothers and fathers. A focus on fathers in this study is noteworthy because although clear data indicate that fathers play a significant role in their children's development (Lamb, 2003; Parke, 1996), research on fathers' relationships with their children is underrepresented in both the attachment literature and the developmental literature more broadly (Costigan & Cox, 2001; Cowan, 1997; Phares, 1999; Phares, Fields, Kamboukos, & Lopez, 2005).

Similarly, another strength of this investigation is that in addition to examining *adolescents'* social information-processing, I examined whether *parents'* processing of attachment-relevant social information is linked to adolescent attachment. To date, only one study (Allen et al., 2004) has examined whether individual differences in adolescent attachment are associated with differential patterns of social-information processing in parents, despite much evidence that such associations exist in children.

Still another strength of this investigation is that I explored the important issue of generalization by examining how adolescent attachment is linked to the processing of attachment-relevant social information related to *peers*. Indeed, peer interactions do not typically contain a "full-blown" attachment-related component (see Allen & Land, 1999), and if such a link were found between attachment and adolescents' processing of peer-related information, it would support the notion that attachment plays a role in how individuals process social information related to others outside of these relationships.

Finally, another strength of this investigation is that it will bridge the two larger – and relatively independent – attachment and social information-processing literatures.

Table 1

Hypotheses Guiding the Present Study

Memory for Emotionally-Significant Childhood Experiences

H1a: Adolescent attachment insecurity and negative representations of parents are linked to slower retrieval of emotionally-significant childhood memories.

H1b: Adolescent attachment insecurity and negative representations of parents are linked to less accessibility to earlier memories for emotionally-significant childhood experiences.

H1c: Adolescent attachment insecurity and negative representations of parents are linked to less emotionally-intense memory for childhood experiences.

Memory for Parent-Related Attributes

H2: Adolescent attachment insecurity and negative representations of parents are linked to greater memory for negative parental attributes.

Reconstructive Memory for Conflict

H3a: Adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-parent conflict.

H3b: Adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-peer conflict.

H3c: Adolescent attachment insecurity and negative representations of parents are linked to more negative parental reconstructive memory for adolescent-parent conflict.

CHAPTER 2

COMPREHENSIVE REVIEW OF THE EMPERICAL LITERATURE

In this chapter, I review the empirical literature that has examined relations between attachment and the processing of social information. This review of research has four parts. In the first three parts, I examine these relations in three developmental periods: childhood, adolescence, and adulthood. I then examine intergenerational connections between attachment and social information-processing in parents and their children. Throughout this research review, I focus on several specific aspects of information-processing (i.e., attention and memory) as well as some broader aspects (i.e., perceptions and expectations of self and others, theory of mind, maternal mind-mindedness). Moreover, although I focus on a number of experimental studies that provide causal evidence for links between attachment and social information-processing, I also focus on many non-experimental studies that lend further (albeit non-causal) support to attachment theorists' claims that attachment shapes the ways in which individuals process social information.

Attachment and the Processing of Social Information in Childhood

Research on children has yielded much insight into how internal working models of attachment are linked to the processing of social information. In this section, I review this research and focus principally on studies that have assessed children's internal working models of attachment using the Strange Situation and other attachment measures. In addition, I focus on several studies that have investigated the effects of parental abuse and/or neglect on children's abilities to interpret and understand social information. Although these latter studies have not typically assessed children's quality of attachment, it is well documented that children whose parents maltreated them

typically have poorer internal working models of attachment than non-maltreated children, and that the incidence of attachment insecurity in these children (particularly disorganized attachment) is much higher (see Cicchetti, Toth, & Lynch, 1995, and Lyons-Ruth & Jacobvitz, 1999, for reviews).

Attachment and Children's Attention to Social Information

Several studies have examined whether attachment is linked to children's attention to social information. With respect to children's attention to attachment-relevant information, children with insecure attachment histories, compared to children with secure attachment histories, have been observed to have more limited attention to information involving attachment figures and attachment-related events. In an early study, for example, Main et al. (1985) reported that 6-year-old children who had been classified as insecure in infancy (as assessed by the Strange Situation) had greater difficulty attending to family photographs than did secure children. Children classified as insecure-avoidant would often avoid these photographs and actively turn away from them. In contrast, children classified as insecure-disorganized would sometimes show a disorganized pattern of attention. They would, for example, focus excessively on the picture for a relatively long period of time and would not attend to the experimenter interviewing them in ways similar to other children.

In another study, Kirsh and Cassidy (1997) found similar longitudinal links between infant attachment and children's later attention to attachment-relevant information. In one task, 3 ½-year-old children were presented with three drawings of a child-mother dyad that contained different attachment-relevant material. In one drawing, the dyad was engaging in an affectively-positive interaction, and in the other two drawings, the dyad was engaging in either an affectively-neutral or affectively-negative

interaction. To assess children's attention to these pictures, Kirsh and Cassidy recorded children's eye movements and found that children classified as insecure-avoidant in infancy looked away from all three drawings proportionately longer than children classified as either secure or insecure-ambivalent. In another task, children viewed eight sets of complementary drawings. In each set, one drawing was of a child-mother dyad engaging in a positive interaction and displaying positive affect, whereas the other drawing was a of a pair of non-interacting adults who were both displaying neutral affect. Both children with insecure-avoidant and insecure-ambivalent attachment histories looked away from the attachment-relevant (child-mother) drawings for a longer proportion of time than did children with secure attachment histories. Moreover, when these children did eventually look at the attachment-relevant drawings, they spent a disproportionately shorter amount of time looking at these drawings than did children with secure attachment histories.

With respect to children's attention to more general types of social information, only one study has examined attachment-related differences. In this study, Belsky, Spritz, and Crnic (1996) investigated whether infant attachment was linked longitudinally to 3 ½-year-olds' attention to social events. To examine this link, Belsky and his colleagues preformed a pair of puppet shows that contained a series of both positive and negative social events (e.g., a puppet's happy response to a birthday gift and a puppet spilling his juice) and when either a positive or negative even occurred, the researchers' attempted to distract the children with an audio stimulus (i.e., a clicking sound). Although Belsky and his colleagues hypothesized that children with insecure attachment histories would be more attentive to the negative social events than the positive social

events (with the reverse being true for children with secure attachment histories), no such link between attachment and attention emerged.

Studies from the child maltreatment literature, however, have indicated that children who have been abused and/or neglected by their attachment figures are likely to be more attentive to emotionally-salient social information. Rieder and Cicchetti (1989), for example, reported several differences between maltreated and non-maltreated children's attention to aggressive and non-aggressive stimuli. Using a field articulation task (Santostefano, 1978), Rieder and Cicchetti presented children with a series of visual displays that required children to attend selectively to stimuli in the visual field that was relevant to the task at hand (e.g., attending to and naming non-aggressive images such as colored bars) while withholding attention from irrelevant stimuli (e.g., aggressive images such as guns and knives). Maltreated children performed more poorly on this task than did non-maltreated children because they experienced more difficulties withholding their attention to the irrelevant aggressive stimuli (e.g., they were more likely to make errors in naming non-aggressive stimuli when they presented simultaneously with the aggressive stimuli).

Compared to non-maltreated children, maltreated children have also demonstrated greater attention to negative emotional stimuli. In a recent study, Pollak and Sinha (2002) employed a feature detection paradigm to assess physically abused children's attention to angry and sad facial expressions. The purpose of this paradigm was to present children with a highly degraded facial photograph and to slowly restore the facial photograph so that the person's face (and overt facial expression) became more organized and more easily understandable. As expected, compared to non-abused children, physically abused children required less time to correctly identify facial photographs

when the persons in the photographs displayed angry facial expressions, and a greater amount of time to correctly identify facial photographs when the persons in the photographs displayed sad facial expressions. In other words, physically abused children were more attentive to the defining features of angry facial expressions and less attentive to the defining features of sad facial expressions. Pollack and Sinha argued that these findings corroborated earlier research indicating that the mothers of maltreated children often display angry facial expressions, and often have difficulties expressing their sadness (Camras, Ribordy, Hill, Martino, Sachs, Spacarelli, & Stefani, 1990).

Pollak and colleagues (e.g., Pollak, Cicchetti, Klorman, & Brumaghim, 1997; Pollak & Tolley-Schell, 2003) have also provided electrophysiological evidence (related to electroencephalogram event-related potentials; ERPs) that maltreated children's attention to affective information is associated with discrete neurobiological processes. Maltreated children, for example, have shown lower neural arousal while attending to human facial expressions than have non-maltreated children (Pollak et al., 1997). Yet, maltreated children have also shown an increase in cognitive processing when they are required to turn their attention away from angry faces, which indicates that these children have difficulties disengaging their attention from these negative emotional stimuli (Pollak & Tolley-Schell, 2003).

Attachment and Children's Memory for Social Information

Both longitudinal and contemporaneous data indicate that attachment is associated with children's memory for social information. Longitudinal connections between infant-parent attachment and young children's memory for social events, for example, have been established in two studies (Belsky et al., 1996; Kirsh & Cassidy, 1997; but see Ziv, Oppenheim, & Sagi-Schwartz, 2004, for contradictory findings). In

one study, Kirsh and Cassidy (1997) asked children to listen to six stories about a child's bid for care from his or her mother following a minor injury. In these stories, mothers were either responsive and sensitive to the child's bid, rejecting of the child's bid, or self-involved with the child's injury (i.e., the mother was concerned more with her own distress than her child's distress). After listening to each story, children's memory for the events in the story was probed with a series of specific questions, and the number of questions answered correctly served as an index of memory. Between-group analyses indicated that after controlling for general cognitive functioning, children with secure attachment histories had better memory for the responsive/sensitive stories than children with insecure-avoidant attachment histories. These children also had better memory for the rejecting stories than did children with insecure-ambivalent attachment histories, which indicated that security was associated with openness to a range of both positive and *negative* emotions. Moreover, within-group analyses indicated that children with secure and insecure-ambivalent attachment histories had better memory for the responsive/sensitive stories than either the rejecting or self-involved stories. Children with insecure-avoidant attachment histories, in contrast, showed no difference in their memory for the three stories.

In the other longitudinal study (Belsky et al., 1996), children viewed a puppet show that contained a series of positive and negative social events. After viewing the puppet show, children were presented with a pair of drawings that reflected each of the positive and negative events that occurred in the puppet show, but only one of these drawings depicted the event as it actually occurred. The other drawing depicted the affective opposite of the event. Children were then asked to indicate which drawing represented the actual event; correct responses served as the index of memory. After

controlling for verbal intelligence, significant attachment-related differences were revealed: Children classified as secure in infancy remembered the positive social events more accurately than the negative events, whereas children classified as insecure in infancy remembered the negative social events more accurately than the positive events.

Attachment has also been linked contemporaneously to girls' (but not boys') memory for positive and negative autobiographical memories (Farrar, Fasig, & Welch-Ross, 1997). In this study, children between the ages of 3 ½ and 4 ½ years of age discussed two emotionally-positive (a family outing and a special occasion) and two emotionally negative (a visit to the doctor and a child-mother separation) experiences with their mothers. These children's attachment security was also rated by mothers using the Attachment Q-Sort (Waters & Deane, 1985). Results indicated that compared to insecure daughter-mother dyads, secure daughter-mother dyads discussed emotional memories less negatively. Moreover, when discussing these negative emotional memories, secure daughter-mother dyads were more likely than insecure daughter mother dyads to openly explore and elaborate on these memories. A similar pattern also emerged with respect to discussion of positive emotional memories, with secure daughter-mother dyads showing a greater exploration and elaboration.

Contemporaneous links between attachment and memory for social information have also been revealed in two studies examining older children's attachment-related representations of their mothers. In one study, Rudolph, Hammen, and Burge (1995) investigated the ways in which children's expectations of their mothers' availability and sensitivity in times of need and/or distress were linked to their performance on two tasks assessing their memory for mother-related information: a levels-of-processing task and a story task. In the levels-of-processing task, children were presented with a series of

positive and negative mother-relevant trait adjectives (e.g., nice, mean). Each adjective was presented briefly and separately, and children were instructed to encode each of the adjectives under a set of counterbalanced instructions. One set of instructions pertained to the adjectives referent properties (i.e., "Does this word describe your mother?"), whereas the other set of instructions pertained to the adjectives structural properties (i.e., "Is this word in capital letters?"). Children were then asked unexpectedly to recall as many of the adjectives as possible. As expected, children who remembered a greater ratio of positive to negative mother-relevant trait adjectives were more likely than other children to have more positive perceptions of their mothers. Similar results also emerged in the story task. Children were read a story about a child's day with his or her mother and embedded in this story were both positive and negative mother relevant traits. After listening to the story, children were asked unexpectedly to recall as many of the mother-relevant traits as possible. Results indicated that more positive representations of mothers were linked to better memory for positive mother-related trait adjectives.

In a related study, Lynch and Cicchetti (1998) used Rudolph et al.'s (1995) levels-of-processing task to examine similar links between children's representations of mother and their memory for mother-related information in a sample of maltreated children (i.e., children who were maltreated by one or more family members, who may or may not have been the children's mother). Interestingly, in this study, individual differences in children's attachment-related representations of their mothers moderated the connection between maltreatment status and memory for mother-relevant information. Although most maltreated children had insecure representations of their mothers, not all children did. These maltreated children who reported secure patterns of relatedness to their mother were more likely than the maltreated children who reported insecure patterns of

relatedness to their mother to show *better* memory for negative mother-relevant trait

adjectives. These findings suggest that maltreated children who possess a secure

representational model of their mother have a capacity to remain open to information

related to their mother's negative characteristics. These findings also mesh with Kirsh

and Cassidy's (1997) earlier results indicating that children with secure attachment

histories had better memory for negative mother-related information than children with

insecure-ambivalent histories.

Associations between maltreatment and memory have also emerged in a study

examining children's memory for aggressive and non-aggressive social stimuli using a

pair of level-sharpening tests (Rieder & Cicchetti, 1989). In these level-sharpening tests,

children viewed two different drawings over the course of 60 trials (i.e., a non-aggressive

drawing of a house scene or an aggressive drawing of a scene containing two fighting

cowboys). Although both the drawings remained unchanged during the first several

trials, non-essential elements from the drawings were gradually removed from these

drawings over the course of the subsequent trials (e.g., the doorknob was removed from

the house scene on the fourth test trial and remained absent for the rest of the test). To

assess memory, children were instructed to indicate when any changes in the drawings

occurred. If a child correctly identified a change, it suggested that he or she was both

capable of constructing accurate memories of past information and of recalling these

memories so that they could be compared to the current information. Results indicated

that compared to non-maltreated children, maltreated children produced fewer errors in

remembering the aggressive drawing and more errors remembering the non-aggressive

drawing. These data underscore the notion that when processing social stimuli, children

with poor attachment histories have biased memory for aggressive stimuli.

Attachment and Children's Perceptions, Expectations, and Attributions

Links between attachment and children's perceptions, expectations, and attributions of self and others have received much attention during the past several decades. With respect to children's perceptions of self, four studies have linked greater attachment security to more realistic and balanced self views (Cassidy, 1988; Clark & Symons, 2000; Verschuren & Marcoen, 1999; Verschuren, Marcoen, & Schoefs, 1996). In Cassidy's (1988) study, for example, secure children perceived themselves in generally positive terms, yet were capable of acknowledging that they had some personal flaws. Insecurely attached children, in contrast, either perceived themselves more negatively than positively, or perceived themselves in highly positive/idealistic ways (e.g., they were not capable of admitting that they had any personal flaws). Recent evidence also indicates that attachment is associated with how children might maintain these self views. Cassidy, Ziv, Mehta, and Feeney (2003), for example, reported that children who were deemed as having insecure internal working model of their mothers tended to seek out information about the self that corroborated their own negative self perceptions. Experimental data also provides intriguing hints that children with insecure internal working models of attachment will affiliate themselves with individuals who will reinforce their negative self views (Cassidy, Aikins, & Chernoff, 2003).

A number of inquiries have also revealed associations between attachment and children's perceptions of other persons. Contemporaneous, longitudinal, and experimental data suggest that children with secure attachment histories are more likely than their insecure counterparts to perceive their parents as supportive, available, accepting, and/or comforting (see Booth, Rubin, Rose-Krasnor, 1998, and Howes, Hamilton, & Philipsen, 1998, for longitudinal data; see Booth, Rose-Krasnor, McKinnon,

& Rubin, 1994, for contemporaneous data; see Ziv et al., 2004, for experimental data; see also Shields, Ryan, & Cicchetti, 2001, and Toth, Cicchetti, & Kim, 2002, for evidence linking child maltreatment to more negative perceptions of parents). Attachment has also been linked repeatedly to children's perceptions of other important persons in their lives, particularly their peers. Compared to children with insecure attachment histories, children with secure attachment histories have shown more favorable perceptions of peer acceptance (Granot & Mayseless, 2001), peer-related feelings (Cassidy, 1988), close personal relationships (Elicker, Englund, & Sroufe, 1992), peer aggression (Wright, Binney, & Smith, 1995), and social support (Anan & Barnett, 1999).

Several experimental studies have also shown that children with secure attachment histories are more likely to have positive perceptions and attributions of peer-related events than children with insecure attachment histories. In an early longitudinal study, Suess, Grossmann, and Sroufe (1992) reported that children classified as insecure-ambivalent in infancy were more likely than children classified as secure to perceive cartoon stimuli of peer interactions negatively. In a related study, Ziv et al. (2004) reported that children's Strange Situation classifications were connected longitudinally to the attributions they generated in response to a videotaped peer-group entry script (i.e., a script portraying a child who attempts to initiate play with two peers but is responded to either aggressively, non-aggressively, or ambiguously; see Dodge & Price, 1994). When children were asked to evaluate the interpersonal and instrumental outcomes of the different responses, secure children were more capable than insecure children of discriminating between the different types of responses (e.g., they attributed the non-aggressive responses to positive motives and the aggressive responses to negative motives). Insecure children, in contrast, attributed both the aggressive and non-

aggressive responses to negative motives regardless of whether these motives were positive or negative. In another set of three studies, Cassidy et al. (1996) reported that attachment was linked longitudinally and contemporaneously to children's attributions of hypothetical stories (based on the work of Dodge & Frame, 1982) in which a peer clearly caused something negative to happen to the child, but the circumstances and the peer's intent were ambiguous. Longitudinal data indicated that children classified as secure and insecure-ambivalent in infancy were more likely than children classified as insecure-avoidant to have positive perceptions of the negative event (e.g., they showed a willingness to forgive the peer); contemporaneous data also indicated that children classified as secure (using the Main & Cassidy, 1988, classification system) were more likely than their insecure counterparts to have more positive perceptions of the peer's feelings and to attribute the peer's behavior to more positive underlying intentions/motives. Parallel contemporaneous data with older children also showed significant associations between positive internal working models of attachment (as assessed using the Parental Acceptance-Rejection Questionnaire; Rohner, 1991) and more positive attributions of peer intent.

Although the studies reviewed in this section have provided evidence in support of associations between attachment and perceptions of self and others, other studies have also hinted that attachment is connected to the more basic types of perceptions that children generate. Investigations examining children's abilities to identify facial expressions, for example, have provided intriguing evidence that attachment experiences influence the ways in which children perceive basic affective and emotional information. In one longitudinal investigation, Steele, Steele, Croft, and Fonagy (1999) administered an affect understanding task to tap children's perceptions of individuals' responses to

social and emotional dilemmas. Compared to children classified as insecure, children

classified as secure in infancy were more likely to (a) appropriately identify which facial

expressions individuals would express in these dilemmas and (b) justify why such

expressions would be warranted. Similar contemporaneous data have also emerged with

respect to attachment and children's perceptions of affective responses to emotional

events (Greig & Howe, 2001). In another investigation, Pollak, Cicchetti, Hornung, and

Reed (2000) reported that children neglected by their parents had more difficulty

discriminating between facial expressions than did non-neglected children (i.e., they

perceived a lesser distinction between angry, sad, and fearful facial expressions; see also

Fries & Pollak, 2004). Moreover, neglected children were more likely to perceive an

ambiguous face as sad, whereas physically abused children were more likely to perceive

this type of face as angry.

Attachment and Children's Secure Base Scripts

A core proposition of attachment theory is that internal working models of

attachment are shaped by repeated daily attachment-related experiences with parents and

other attachment figures. According to attachment theorists, the general characteristics of

these experiences are retained in cognitive structures called "scripts" (Bretherton, 1991;

see also Nelson & Gruendel, 1986; Schank & Abelson, 1977). These attachment-related

scripts (most commonly referred to as "secure base" scripts; H. Waters, Rodrigues, &

Ridgeway, 1998) serve a useful function in that they provide individuals with a casual-

temporal prototype of the ways in which attachment-related events should unfold (e.g.,

"when I am hurt, I go to my mother and my mother, in turn, comforts me"). Thus, when

individuals are presented with an attachment-related situation, they can employ a script to

predict how they and their attachment figure will respond. Typically, individuals are said

to have a secure base script when they demonstrate that a person can successfully use his or her attachment figures as a secure base from which to explore and as a safe haven to which to return to in time of need and/or distress (see H. Waters et al., 1998). From an information-processing perspective, these attachment-related scripts show that these individuals will have acquired knowledge of positive attachment-related experiences and can access this knowledge accurately when necessary.

According to attachment theory, the link been child-parent secure base behavioral interactions (i.e., parental secure base provision and child secure base use) and attachment security reflects a causal pathway from behavior to security; it is the parent's capacity to provide a secure base, along with the child's capacity to use his or her parent as a secure base, that largely contributes to the quality of the child's attachment to the parent (i.e., secure versus insecure; Bowlby, 1988; see also E. Waters & Cummings, 2000). Following this logic, if individuals internalize these secure base interactions in the form of secure base scripts, then these scripts should contribute to individuals' security of attachment (Bretherton, 1991). To date, one study has examined whether attachment is linked to children's knowledge of and access to secure base scripts (H. Waters et al., 1998). In this study, H. Waters and her colleagues examined children's responses to an attachment-related story completion task (Bretherton, Ridgeway, & Cassidy, 1990). In this task, children were given the beginning of a story and were instructed to describe how the story would end (e.g., participants are asked to finish a story in which a child is rock climbing with his parents and hurts his knee). Children classified as secure at 25 months of age (assessed using the Attachment Q-Set; Waters, 1987/1995) were more likely than other children to have knowledge of and access to secure base scripts at ages 37 and 54 months.

Attachment and Children' Theory of Mind

Investigations of attachment and children's theory of mind (ToM) have provided

much insight into how attachment is related to children's capacities to understand the

mental states of other individuals. Generally speaking, children are considered to possess

a ToM when they understand that the mental states (e.g., emotions, feelings, beliefs) of

other individuals are independent from their own and can evaluate accurately how mental

states influence behavior (e.g., by explaining how a person's behavior is motivated by

independent knowledge, desires, and/or perceptions; see Wellman, 1990). Attachment

theorists have hypothesized that secure children should demonstrate better ToM

performance than insecure children because secure children should have better access to

the feeling states of others and should possess a greater capacity to reflect on these

feeling states thoughtfully and systematically (Bretherton, 1990). Moreover, Fonagy and

his colleagues (Fonagy, Steele, Moran, Steele, & Higgitt, 1991; Fonagy & Target, 1997)

have proposed that secure children should have a more well developed "reflective

function," which is considered a catch-all term for the "psychological processes

underlying… the capacity to perceive and understand oneself and others' behavior in

terms of mental states" (Fonagy, Steele, Steele, & Target, 1997, p. 5). Essentially, secure

children should have a greater capacity to "read" the minds of others and to make other

individuals' behaviors meaningful and predictable (Slade, 1999).

The most frequent tool used to assess children's ToM performance has been the

false-belief task (Wellman, Cross, & Watson, 2001). In this task, children are typically

presented with a situation in which they must predict the behavior of an actor based on

the actor's perceived mental state. A standard version of this task requires children to

watch as candy (or another treat) is hidden in a certain location (Wimmer & Perner,

1983). An actor (Maxi) also watches while the candy is hidden, but then leaves the room. When Maxi leaves the room, the candy is taken from its original position and moved to a new location. At this point, children are asked to identify the location in which Maxi would look for the candy. Children who pass this task successfully solve the problem by indicating that Maxi will look for the candy in its original location. Children who fail this task, however, state erroneously that Maxi will look for the candy in its new location, not realizing that Maxi would not have had access to this new information.

With a few notable exceptions (Greig & Howe, 2001; Meins, Fernyhough, Wainwright, Das Gupta, Fradley, & Tuckey, 2002), significant links have emerged between attachment and children's ToM performance. Compared to children classified as insecure in infancy, children classified as secure have demonstrated better false-belief understanding at age 4 years (McElwain & Volling, 2004, Symons & Clark, 2000; see also Fonagy, 1996), and better understanding of the mental states of a story protagonist (Meins, Fernyhough, Russel, & Clark-Carter, 1998). Contemporaneous linkages have also emerged between attachment and ToM (Repacholi & Trapolini, 2004; see also de Rosnay & Harris, 2002). In addition to using standard false-belief tasks, attachment researchers have also used modified versions of these tasks to assess children's understanding of the mental states of attachment figures. Repacholi and Trapolini (2004), for example, recently reported intriguing data indicating that when insecure children are required to read the mental states of both attachment figures and other individuals, their poor mind reading capacities become more pronounced when they are required to read the mental states of their attachment figures (i.e., children who scored high on attachment avoidance showed particular difficulties reasoning about their mothers' false beliefs, but not the false beliefs of an adult stranger). These data, while

important, should be interpreted with caution, however, considering that another study

failed to link attachment either longitudinally or contemporaneously to children's

attachment-related false beliefs (Symons & Clark, 2000).

Evidence linking attachment to children's understanding of mental states also

comes from a recent study examining older children's "mentalising" capacities

(Humfress, O'Connor, Slaughter, Target, & Fonagy, 2002). In this study, children

listened to several short stories in which the main characters engaged in some type of

behavior (e.g., joking about someone, lying to another person). Children were asked to

explain the characters' behaviors and these explanations were rated for references to the

characters' mental states. Their explanations were also rated to assess the degree to

which the children understood that the characters' behaviors might not have reflected the

characters' actual thoughts or feelings. As expected, a greater degree of attachment

coherence (as assessed using the Child Attachment Interview; Target, Fonagy, Shmueli-

Goetz, Datta, & Schneider, 1999) was linked to a greater capacity to infer mental states

and to a more sophisticated understanding of behaviors and their underlying mental

states.

Finally, studies examining children's *emotional understanding* have also shown

that attachment security is associated with a greater capacity to interpret and understand

other persons' emotions (Laible & Thompson, 1998; Main et al., 1985; Ontai &

Thompson, 2002; de Rosnay & Harris, 2002; but see Steele, Steele, & Johansson, 2002,

for contradictory evidence). In an early longitudinal study, Main et al. (1985) asked six-

year-olds to indicate how a hypothetical child should respond to an expected two-week

separation from his or her parents. Children who had been classified as secure in infancy

tended to give a variety of positive responses, such as that the child should engage in fun

activities to pass the time or should find another alternative attachment figure to stay with. Children with insecure-avoidant attachment histories, however, had great difficulty discussing the child's response to the separation and often refused to discuss any possible ways in which children could cope with the separation. In contrast, children with insecure-disorganized/disoriented attachment histories tended to become distressed, silent, self-destructive, and/or irrational when discussing the hypothetical separations. In a more recent study, de Rosnay and Harris (2002) reported similar contemporaneous data that greater attachment security (as assessed using the Separation Anxiety Test; Klagsbrun & Bowlby, 1976) was linked to children's abilities to understand positive and negative emotionality in different situations, including child-parent separations. Thompson and his colleagues (Laible & Thompson, 1998; Ontai & Thompson, 2002) have also reported contemporaneous data indicating that securely attached children (as assessed using mother's ratings of the Attachment Q-Sort; Waters & Deane, 1985) were more likely than insecurely attached children to understand and infer the emotions of others.

Attachment and Children's Social Information-Processing: Summary

A variety of longitudinal and contemporaneous data indicate that attachment is linked to the ways in which children process social information. Children who possess (or alternatively show a history of possessing) an insecure internal working model of attachment are particularly likely to defensively exclude social information that is related both directly and indirectly to the positive features of attachment. These children are also particularly likely to access and have knowledge of a variety of social information that is hostile and/or negative in nature. Taken as a whole, these data support attachment

theorists' claims that internal working models of attachment provide rules for how social information is interpreted and understood.

Interestingly, although attachment research and related research on child maltreatment have both provided much insight into connections between attachment and children's social information processing, cross-fertilization between these two different lines of research appears to hold the most promise for further expanding and elucidating these connections. Researchers interested in studying child maltreatment could, for example, examine whether maltreated children are disproportionately more likely than other children to have more global deficiencies in processing social information, such as deficiencies in accessing secure base scripts and reading the mental states of others. Attachment researchers could, on the other hand, use electrophysiological instruments to investigate whether children's ERPs differ as a function of their Strange Situation attachment classifications when attending to social information. This type of investigation could shed particularly important light on whether a certain type of attachment security (e.g., insecure-avoidant) is associated with greater or lesser processing of attachment-related information.

Attachment and the Processing of Social Information in Adolescence

To date, a small but steadily growing body of literature has examined whether attachment is linked to the ways in which adolescents process social information. In the following section, I review this literature and highlight the different ways in which adolescents' internal working models of attachment have been linked to both their memory for social information and their perceptions, expectations, and attributions of self and others. Although the majority of the studies that I review has used either the Adult Attachment Interview (AAI; George et al., 1984, 1985, 1996) or self-report attachment

style instruments (e.g., the Experiences in Close Relationships Questionnaire; ECR; Brennan et al., 1998) to assess adolescents' internal working models of attachment, I also review several studies that have assessed adolescents' internal working models of attachment using self-report questionnaires tapping adolescents' representations of their attachment figures. Moreover, although the developmental period of "adolescence" has been defined in many different ways historically, I define adolescence in this paper as the period between the ages of thirteen and seventeen years (i.e., the period between late childhood and emerging adulthood; see Arnett 2000). The large body of work that has been conducted on attachment-style differences in emerging adults' (i.e., college students) social information-processing will be reviewed in the subsequent section on adults.

Attachment and Adolescents' Memory for Social Information

One study has examined connections between attachment and adolescents' memory for social information (Feeney & Cassidy, 2003). In this study, Feeney and Cassidy examined whether adolescents' self-reported attachment representations were linked to their memory for adolescent-parent conflict. At Time 1, adolescents engaged in a 10-minute revealed differences task (Strodtbeck, 1951) with their mothers and, separately, with their fathers. Immediately following each of these discussions, adolescents rated their perceptions of each conflict on a number of dimensions including how positive and negative the discussions were, as well as the degree to which they felt they were treated with hostility by their parent. At Time 2 (six weeks after Time 1), adolescents were asked to recall these discussions and were instructed to rate again their perceptions of the discussion as positive and negative, as well as their perceptions of hostile treatment received. Results from both the initial study and a replication study

indicated that adolescents' revised their memory of the conflict discussions over time as a function of their attachment representations. For example, adolescents with more secure representations of their parents were more likely than other adolescents to remember the discussion as *more positive* and *less negative* than initially reported. Moreover, adolescents with secure representations of their parents remembered receiving *less negative treatment* from their parents than was initially reported. These recent findings are particularly important because they are the first to support attachment theorists' claims that internal working models of attachment provide rules for the direction of memory for attachment-related information in adolescence (Main et al., 1985). More specifically, they indicate that memory for specific attachment-related events will be organized in ways that corroborate individuals' well-established body of knowledge related to their personal attachment experiences. Over time, when memory for specific events fades, adolescents will tap into their working models of attachment. If these internal working models function to provide individuals with general memories of being treated well by attachment figures, then adolescents will be inclined to believe that they were treated well during these events.

Attachment and Adolescents' Perceptions, Expectations, and Attributions

A number of inquiries have addressed associations between attachment and adolescents' perceptions of self and others. With respect to perceptions of self, one study has linked AAI attachment security to greater ego-resiliency and a more positive self-concept (Zimmermann & Grossmann, 1997). Adolescents with secure attachment styles have also been found to have more positive self views than adolescents with insecure attachment styles (Cooper, Shaver, & Collins, 1998). Moreover, adolescents with secure attachment styles have also been found to have more balanced, complex, and coherent

self structures than their insecure counterparts (Mikulincer, 1995). Like children with secure attachment histories described earlier, secure adolescents typically described themselves in positive terms, yet were able to acknowledge negative self attributes. They also showed highly differentiated and integrated self-schemas, and demonstrated relatively low discrepancies between domains and standpoints of the self (i.e., discrepancies between the actual self, ideal self, and "ought" self). Recent evidence also indicates that attachment is associated with the ways in which adolescents might seek out information about the self. In a study conducted by Cassidy and her colleagues (2003), adolescents with positive perceptions of maternal acceptance were likely to seek out positive information about the self that would corroborate their high global self-worth, whereas other individuals sought out negative information about the self that would corroborate their low global self-worth. Similar results also emerged with regard to adolescents' romantic attachment styles.

With respect to adolescents' perceptions of others, increasing evidence indicates that secure adolescents generally have more positive perceptions of attachment figures and other persons in their lives than do insecure adolescents. AAI studies, for example, have shown that compared to insecure adolescents, secure adolescents have more positive perceptions of their parents (Allen, McElhaney, Land, Kuperminc, Moore, O'Beirne-Kelly, & Kilmer, 2003; Cassidy, Woodhouse, & Dykas, 2005; West, Rose, Spreng, Sheldon-Keller, & Adam, 1998). Cassidy et al. (2005), for example, reported that secure adolescents were more likely than insecure adolescents to perceive both their mothers and their fathers as secure bases and as understanding of their emotional needs and wishes. Secure adolescents were also less likely to perceive their parents as hostile and their mothers as psychologically controlling. In another recent study, Allen et al. (2003) found

that greater adolescent attachment insecurity was linked to more positive perceptions of

maternal supportiveness, and fewer *idealized* perceptions of the childhood relationship

with their mother. AAI studies have also shown that security is associated with more

positive perceptions of peers. Secure adolescents, for example, are more likely than

insecure adolescents to have more positive and flexible expectations of hypothetical peer

rejection situations (Zimmermann, 1999) and more positive attributions of peer

integration and friendships (Zimmermann, 2004; see also Mikulincer & Selinger, 2001,

for similar findings with respect to adolescents' attachment styles).

Attachment and Adolescents' Secure Base Scripts

Adolescents' secure base scripts have received considerable attention in recent

years (Dykas, Woodhouse, Cassidy, & H. Waters, 2005; Elliot, Tini, Fetten, & Saunders,

2003; Steiner, Arjomand, & H. Waters, 2003). To date, one study has examined whether

these scripts are linked to adolescent attachment (Dykas et al., 2005). In this study,

adolescents completed the Adolescent Script Assessment (H. Waters & Steiner, 2002),

which was based on the standard assessment used to examine secure base scripts in adults

(H. Waters & Rodrigues-Doolabh, 2001). Using this assessment, experimenters

presented adolescents with six sets of words and instructed them to generate six different

stories using these words. Two sets of words each centered around a mother or a father,

while the other set words centered around two nonspecific others. Adolescents who

exhibited greater coherence of mind in the AAI were more likely than other adolescents

to have knowledge and access to secure base scripts regarding mothers, fathers, and

adults. These adolescents could, for example, generate a script in which the story

protagonist seeks proximity to a parent, receives comfort and support from that parent,

and successfully reengages in exploration. Interestingly, although greater AAI coherence

was linked to greater access to and knowledge of a secure base script for mothers, fathers, and adults, knowledge and access to a mother script *uniquely* predicted AAI coherence, suggesting that adolescents' internal working models of attachment might exert a particularly important influence on adolescents' abilities to generate secure base scenarios with respect to mother. An additional set of analyses also indicated that adolescents' scripts were linked to their romantic attachment styles (as assessed using the ECR): Adolescents who scored lower on romantic-related avoidance had greater access to and knowledge of a secure base script for mothers, and adolescents who scored lower on romantic-related anxiety had greater access to and knowledge of a secure base script for nonspecific others.

Attachment and Adolescents' Social Information-Processing: Summary

Researchers are only beginning to understand the ways in which attachment is linked to adolescents' social information-processing. At this time, the existing data appear to parallel the data obtained in studies of children, generally indicating that insecurity of attachment is linked to greater defensive exclusion and more negative perceptual biases. Additional work, however, is needed before firm conclusions can be drawn. Attachment-related differences in adolescents' attention to social information, for example, have yet to be examined. Experimental studies that have been used with children could shed light on whether insecurity of attachment is linked to greater attention to negative attachment-relevant stimuli. More studies also need to be conducted on adolescents' memory for social information. For example, the quality of adolescents' memory for different types of information related to parents (e.g., parental traits, positive and negative interactions with parents), could be examined as a function of adolescent attachment security. It would also be interesting to see whether insecure adolescents'

process information related to parents differently according to the emotional content of such information (e.g., adolescents could defensively exclude information that could activate the attachment system, but not information that would not activate the attachment system). Although researchers have available to them many different measures to assess adolescents' internal working models of attachment, we suggest that researchers continue to use "gold-standard" measures such as the AAI and self-report attachment style questionnaires. By using these measures, researchers will be able to determine whether earlier findings mesh with new findings and whether these measures map onto similar or different aspects of social information-processing.

Attachment and the Processing of Social Information in Adulthood

The link between attachment and the processing of social information has been examined most frequently in adults. In this section, I review studies from both the developmental and social psychology research literatures that have examined this link, and I focus principally on studies that have used either the Adult Attachment Interview or self-report attachment style questionnaires. Moreover, I review several studies that have manipulated (experimentally) adults' attachment security using supraliminal and/or subliminal (i.e., conscious and/or unconscious) priming techniques. These priming techniques are conceived to activate adults' internal working models of attachment, thereby momentarily heightening their sense of attachment security (see Shaver & Mikulincer, 2002, for a more detailed account of these priming techniques and for extensive validity data).

Attachment and Adults' Attention to Social Information

Links between attachment and adults' attention to social information have been examined in several studies. Two AAI studies, for example, have provided significant

data indicating how adult attachment is associated with adults' attention to negative

and/or threatening social information. In one of these studies, Maier and his colleagues

(Maier, Bernier, Pekrun, Zimmermann, Strasser, & Grossmann, 2005) used a multi-trial

attention task that required adults to name the content of images that contained either

affective or relational information (i.e., images of either human facial expressions or

human interactions). Attention to this information was assessed as a function of the

number of trials needed to name each image's content, which ranged from 15ms in the

first trial to 150ms in the final trial. Analyses indicated that compared to secure adults,

insecure adults could more quickly attend to images when they contained negative

affective or relational information. More specifically, adults who scored high on

dismissiveness required fewer trials than other adults to attend to negative female faces

and negative human interactions. Moreover, adults who scored high on preoccupation

required fewer trials than other adults to attend to negative female faces. The authors

interpreted this data to mean that insecure adults are more vigilant to social information

that is negative in nature.

In the other study (van Emmichoven, van IJzendoorn, de Ruiter, & Brosschot,

2003), however, insecure adults demonstrated poorer attention to negative information

than did secure adults. Participants completed a Stroop task which required them to view

a randomly-assorted and randomly-colored series of positive, neutral, and threatening

words. These words were presented one by one and participants were instructed to

ignore the words' meaning and to name their colors as quickly as possible. In a Stroop

task, the greater amount of time needed to name the words' colors is of principal interest

because it demonstrates the degree to which the participant is attending to the word (and

its underlying positive, neutral, or threatening valence) rather than to the task at hand

(i.e., to naming the words' colors). Results indicated that insecure adults took the greatest amount of time to name the colors of the threatening (but not positive or neutral) words, demonstrating greater avoidance to these words. Moreover, when taking the contribution of clinical status into consideration, results indicated that general anxiety disorder (GAD) strengthened the link between attachment and attention to threatening stimuli. More specifically, compared to secure GAD patients, insecure GAD patients were significantly less attentive to the threatening stimuli.

Although the Maier et al. (2005) and van Emmichoven et al. (2003) findings appear contradictory, it is possible that these findings are attributable to the types of information participants were required to process. For example, in the Maier et al. study, participants attended to relatively benign negative social information (e.g., unhappy faces), whereas in the van Emmichoven et al. study, participants attended to threatening words such as "murder" and "fatal." It is possible that the stimuli in the van Emmichoven et al. study, but not the Maier et al. study, activated adults' attachment systems. If this is true, then insecure adults processed the benign negative social information in a negatively-biased schematic manner, and processed the threatening stimuli in a defensive/suppressive manner. Clearly, more work is needed before firm conclusions regarding the AAI and attention to threatening/negative information can be drawn.

Several studies have also linked adults' romantic attachment styles to their attention to social information. Results have shown that insecure adults are less likely than other adults to attend to information found in affectively-laden stories (Fraley, Garner, & Shaver, 2000) and to integrate new information into existing cognitive structures (Mikulincer, 1997; see also Green-Hennessey & Reis, 1998). Studies using lexical-decision tasks (Meyer & Schvaneveldt, 1971) have also reported attachment style

differences in adults' attention to social stimuli (Mikulincer, 1998b; Mikulincer,

Birnbaum, Woddis, & Nachmias, 2000). Mikulincer et al. (2000) found that adults

induced to experience mild stress attended differently to attachment-related stimuli as a

function of their attachment styles. Analyses indicated that in stressful conditions, secure

adults demonstrated greater attention to positive attachment-related words (e.g., love,

closeness) than in non-stressful conditions. In contrast, insecure-ambivalent adults

attended relatively quickly to both positive and negative attachment-related words (e.g.,

separation, rejection) under stressful *and* non-stressful conditions. These latter findings

were interpreted as indicating that insecure-ambivalent adults have a chronically active

attachment system which makes them highly attentive to attachment themes and worries,

even in neutral contexts. In a related study, Mikulincer (1998b) found attachment style

differences in adults' attention to words reflecting their romantic partners' abilities to

cope with anger. Between-group analyses indicated that compared to insecure adults,

secure adults attended to more positive words and less negative words. Moreover,

within-group analyses indicated that secure adults attended to disproportionately more

positive than negative words, whereas insecure adults attended to disproportionately

more negative than positive words. Such findings further indicate that adults process

information related to others, which is not likely to activate the attachment system, in a

attachment-related schematic manner.

Attachment and Adults' Memory for Social Information

Several inquiries have addressed links between attachment and adults' memory

for social information. Recent experimental evidence, for example, indicates that AAI

attachment security is linked to the ways in which adults recall emotionally-salient

stimuli (van Emmichoven et al., 2003). In this study, participants viewed a randomly-

assorted series of positive, neutral, and threatening words. Each word was displayed individually for one second and a new word was displayed every two seconds. Participants were instructed to attend to the words, but were not told explicitly to memorize them. After a 30-minute distractor task, participants engaged in a free recall task and a recognition task. Although adults' recognition of the words was not linked to attachment, their recall of these words was. Secure adults recalled more positive, neutral, and threatening words than did insecure adults. Moreover, in adults diagnosed with GAD, secure patients recalled significantly more threatening words than did insecure patients.

Other AAI studies, however, have failed to find connections between the AAI and adults' memory for life experiences. In a recent investigation (de Hass, Bakermans-Kranenburg, & van IJzendoorn, 2001), neither AAI attachment classifications nor AAI coherence was linked to adults' childhood memories of maternal warmth or rejection. Yet, the probable experiences scales used to code the AAI were linked to these memories (see also Furman & Simon, 2004, for findings indicating similar patterns of associations between the AAI and adults' memories for more recent attachment-related memories of mother and father.) These findings, to a researcher unfamiliar with attachment theory, may appear contradictory when in fact they underscore attachment theorists' claims that attachment security – in adulthood – reflects a person's organization of attachment experiences and not simply that person's recollection childhood attachment-related experiences. Indeed, persons deemed insecure in the AAI experience great difficulty discussing attachment related experiences and relationships in an open and coherent manner, and are thought to defensively exclude painful attachment-related memories from conscious awareness. This notion is further supported by recent physiological

evidence suggesting that insecure adults engage in strategies to repress their attachment-related feelings, memories, and emotions (Dozier & Kobak, 1992; Roisman, Tsai, & Chiang, 2004).

In contrast, studies examining adults' attachment styles have found significant links between attachment security and adults' memory for childhood memories, suggesting that the AAI and attachment style questionnaires may reflect different aspects of adults' internal working models of attachment. Mikulincer and Orbach (1995), for example, asked adults to recall four memories from childhood (in which they were happy, sad, angry, and anxious) and to rate how they had remembered feeling during these experiences. With respect to general recall, between-group analyses indicated that insecure-avoidant adults required the greatest amount of time to recall sad and anxious memories and were also the least likely to recall memories from early in their childhood, which suggested that these adults had the least access to early childhood memories. Within-group analyses also indicated that whereas insecure-avoidant adults recalled each of the four memories in roughly the same amount of time, insecure-ambivalent adults recalled sad, angry, and anxious memories more quickly than happy memories and secure adults recalled happy and anxious memories more quickly than angry or sad memories. With respect to the recalled emotional intensity of the remembered events, insecure-avoidant adults rated the events of the sad and anxious memories as less intense than all other participants. Moreover, within group analyses revealed that whereas insecure-avoidant adults remembered the emotional intensity of the events equally across all four memories, both secure and insecure-ambivalent adults reported the anxious event most intensely and the happy event the least intensely. Taken as a whole, these set of findings further indicated that insecure-avoidant adults had the least access to the emotional nature

of their childhood experiences. A final set of analyses, however, revealed that whereas secure and insecure-ambivalent adults showed equal amounts of intensity for the dominant emotions in the anxious, sad, angry events (i.e., both groups of adults recollected their degree of anxiety similarly for the anxious memory), insecure-ambivalent adults tended to rate the intensity of the non-dominant emotions (e.g., their degree of embarrassment) more highly. These findings suggest that insecure-ambivalent adults have more emotionally charged memories that may not be based on the specific nature of the event experienced.

Other studies examining adults' attachment style have reported similar attachment-related differences in adults' memory for social information. Attachment insecurity has been linked to less positive and less accurate memories for other adults (Mikulincer & Horesh, 1999; Rom & Mikulincer. 2003), including those involving romantic partners (e.g., Pietromonaco & Barrett, 1997; see also Mikulincer & Arad, 1999). Insecure adults have also shown less accessibility to memories involving trust in others (Mikulincer, 1998c), yet have shown greater accessibility to memories of personal distress experiences (Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001). Recent evidence also suggests that adults' attachment-related memory biases might serve an important functional purpose when adults' are experiencing a negative emotional state (Mikulincer, Gillath, & Shaver, 2002; Pereg & Mikulincer, 2004). Pereg and Mikulincer (2004), for example, reported that secure adults were likely to recall positive information when they were experiencing a negative affective state, whereas insecure-anxious adults were likely to recall less positive information. These data indicated that secure adults might attempt to repair their mood by encoding and recalling information of a positive nature, whereas insecure-anxious adults attempt to maintain their negative mood by

encoding recalling information of a negative nature. In another study, Mikulincer et al.
(2002) reported experimental evidence that when threatened, secure adults had relatively
moderate accessibility to information related to attachment figures. Insecure-avoidant
adults, in contrast had relatively little accessibility to this information, whereas insecure-
ambivalent adults had the greatest accessibility.

Finally, studies that have experimentally manipulated adults' attachment security
have found attachment-style differences in adults' memory for attachment-related
information. In one study, Miller and Noirot (1999; see also Miller, 1999) primed adults
to have either negative or positive attachment-related expectations, and then subsequently
asked these adults to (a) read an attachment-related story about close friendships and to
(b) complete a cued-recall task. Compared to all other participants, insecure-fearful
adults (i.e., adults who desire intimacy but distrust others) were the most likely to recall
negative events in the friendship story *regardless* of whether they were primed to have
either negative or positive attachment-related expectations.   Secure adults, in contrast,
were more likely to recall positive events only in cases where they were primed to have
negative attachment-related expectations. These data indicated that whereas both types
of priming enhanced insecure-fearful adults' memory for both negative and positive
attachment-related stimuli, only more intense (and negative) priming influenced secure
adults' memory for attachment-related stimuli. Miller (1999) also reported additional
data indicating that whereas insecure-fearful adults showed better memory for separation
between friends in these stories, secure adults showed better memory for friends
engaging in joint activities. Intriguing evidence has also emerged indicating that a
greater sense of security enhances memory for emotionally- salient stimuli and personal
experiences (Mikulincer et al., 2001; Rowe & Carnelley, 2003). Mikulincer et al. (2001),

for example, found that an enhanced sense of security enabled adults to have better memory for experiences in which they responded empathetically to another person's distress.

Attachment and Adults' Perceptions, Expectations, and Attributions

A number of studies have focused on links between attachment and adults' perceptions of self and others. With respect to perceptions of self, there is mixed evidence linking attachment to the ways in which adults perceive themselves. On the one hand, AAI attachment security has been examined rarely in relation to adults' self perceptions, although the available data do hint that secure adults are more likely to have more positive self perceptions than insecure adults (Benoit, Zeanah, & Barton, 1989; Kobak & Sceery, 1988; see also Maier, Bernier, Pekrun, Zimmermann, & Grossmann, 2004, for experimental data; see Zeanah, Benoit, Barton, Regan, Hirshberg, & Lipsett, 1993, for contradictory findings).

On the other hand, many studies have reported that adults' romantic attachment styles are linked to their self-perceptions, with more secure adults showing more positive self views (Bartholomew & Horowitz, 1991; Bylsma, Cozzarelli, & Sumer, 1997; Collins & Read, 1990; Feeney & Noller, 1990; Griffin & Bartholomew, 1994; Pietromonaco & Barrett, 1997). Related evidence also indicates that adults with secure and insecure attachment styles base their degree of self worth on different criteria (Park, Crocker, & Mickelson, 2004). Whereas secure adults base their self-worth on the quality of their family relationships, insecure adults base their self-worth on more superficial factors (e.g., their degree of physical attractiveness). Moreover, Mikulincer (1998a) found that when distressed, adults with insecure attachment styles will use different information-processing strategies to maintain their self views. Avoidant adults will maintain an

inflated positive sense of self by avoiding thoughts related to personal weaknesses and by promoting their own self-reliance. Ambivalent adults, on the other hand, maintain their negative sense of self by overemphasizing personal deficiencies and imperfections. They also show a greater desire to become less independent from others (e.g., by attempting to win over the affection, compassion, and support; see also Pietromonaco & Barrett, 1997).

With respect to adults' perceptions of others, many researchers have found that secure adults have more positive views of the persons in their lives than do insecure adults. Greater AAI attachment security, for example, has been linked to greater trust in others (Larose & Bernier, 2001), and to more positive perceptions of family (Kobak & Sceery, 1988), romantic relationships (Crowell, Treboux, & Waters, 2002; Eiden, Teti, Corns, 1995), and one's own children (e.g., Benoit, Zeanah, Parker, Nicholson, & Coolbear, 1997; Slade, Belsky, Aber, & Phelps, 1999). Adults' romantic attachment styles have also been linked repeatedly to the ways in which adults' view and form impressions of other individuals (Mikulincer & Horesh, 1999; see Shaver & Mikulincer, 2002, for a comprehensive review). Adults with secure attachment styles, for example, have more positive expectations of interpersonal closeness, dependency, and trust than do adult with insecure attachment styles (Rowe & Carnelley, 2003). Secure adults are more likely to view their attachment figures as emotionally and instrumentally supportive (Florian, Mikulincer, & Bucholtz, 1995), to possess hostile attributions of others (Mikulincer, 1998b; Pereg & Mikulincer, 2004), and to view their romantic relationships positively (Collins & Read, 1990). Collins and Feeney (2000), for example, reported that an increase in attachment-related anxiety and avoidance was associated with greater feelings that one was not an adequate caregiver, and that the partner receiving care had not been satisfied with the care that was provided. Insecure adults are also likely to have

less favorable responses to support provided by romantic figures (Collins & Feeney, 2004).

Romantic attachment styles differences have also emerged in the way in which adults modify their perceptions of others (Mikulincer & Arad, 1999; Mikulincer, Orbach, & Iavnieli, 1998; Zhang & Hazan, 2002). Mikulincer et al. (1998), for example, provided experimental evidence that secure and insecure adults modify their perceptions of other persons differently in response to personal distress. Compared to secure adults, insecure-avoidant adults will view other persons as less similar to the self when these adults are emotionally distressed in order to distance themselves cognitively and/or emotionally from other persons. Insecure-ambivalent adults, in contrast, view others as more similar to the self when these adults are under emotional distress in order to foster greater closeness to (and enmeshment with) other persons. These strategic changes in perceptions of others – in relation to the self – demonstrate that insecurity is associated with a defensive type of information-processing. When adults' attachment systems are heightened, insecure-avoidant adults want self-reliance (Shaver & Hazan, 1993) and engage in information-processing that minimizes emotional connections to others and promotes autonomy and independence. In contrast, insecure-ambivalent adults maximize their connectedness to other persons and engage in information-processing that entangles them emotionally and cognitively with other persons.

Adults' willingness to change their perceptions of attachment figures has also been observed to vary as a function of their attachment styles. Mikulincer and Arad (1999) asked adults to listen to several stories involving their romantic partner and to estimate how their romantic partner would behave in these stories (e.g., a romantic partner's response to the participant's work-related anger and frustration). Two weeks

later, adults read the stories again and were told that their romantic partners would behave in a way that was incongruent to how adults' believed they would have behaved two weeks earlier (e.g., adults who believed that their romantic partners would be supportive were told two weeks later that their romantic partners were unsupportive). Analyses indicated that compared to insecure adults, secure adults were more capable of changing their perceptions of their romantic partners based on the new information. That is, they were able to generate realistic appraisals of their romantic partners and to show flexible (as opposed to defensive) information-processing.

Finally, studies that have manipulated adults' attachment security have also yielded intriguing findings indicating that an enhanced sense of attachment security causes a person to have more positive perceptions of others. Endorsing security, for example, has been linked to greater understanding for others' welfare (Mikulincer, Gillath, Sapir-Lavid, Yaakobi, Arias, Tal-Aloni, & Bor, 2003), to greater empathic feelings (Mikulincer et al., 2001), and to more positive group-related perceptions (Rom & Mikulincer, 2003). Mikulincer and Shaver (2001) reported that adults who are primed to feel of sense of security (to feel loved and surrounded by supporting others) are likely to have less negative reactions to "out-group" targets as well as negative reactions to individuals who express negative or critical opinions about certain aspects of a person's worldview (e.g., national identity). Although this work is in its beginning stages, it demonstrates that an enhanced sense of attachment security enables an adult to become less defensive concerning others and to open oneself up to the needs of others.

Attachment and Adults' Secure Base Scripts

Three studies have examined whether AAI attachment security is linked to adults' knowledge of and access to secure base scripts. In the first study, H. Waters and

Rodrigues-Doolabh (2001) instructed adult woman to generate four stories on the basis of four different word outlines. Two of these stories were in reference to words describing a mother/child scenario, whereas the other two other stories were either in reference to an adult/adult scenario. As expected, women who demonstrated the greatest amount of coherence on the AAI were the most likely to have access to knowledge of both a mother/child and adult/adult secure base script. For example, these individuals possessed a script in which a child uses his or her mother a secure base successfully, and a script for how one adult uses another as a secure base successfully.

In the second study, Wais and Treboux (2003) reported that AAI attachment was linked longitudinally to married women's secure base scripts for romantic relationships. In this study, women completed the AAI approximately three months prior to marriage. Then, 8-10 years later, the authors assessed these women's knowledge of and access to scripts in which husbands and their wives provide care to each other. Results indicated that woman who showed greater coherence of mind in the AAI prior to marriage were more likely to have knowledge of and access to a secure base script in which a wife gives care to her husband 8-10 years later. This latter finding suggests that internal working models of attachment guide the development of information-processing related to romantic relationships.

In the third study, Guttmann-Steinmetz, Elliot, Steiner, and H. Waters (2003) reported that AAI coherence was linked to mothers' abilities to help their 4- to 5-year-old children create secure base scripts for affectively negative story lines. In this study, mothers and their children were instructed to co-create stories from a series of pictures that implied a simple story line. Mothers who demonstrated the greatest amount of coherence in the AAI were the most likely to cooperate with their children in creating

these stories. They would, for example, systematically help their children connect secure-base events within a coherent framework and would prompt their children to elaborate the story by filling in its details. They also prompted explanations from their children regarding how their stories related to the children's life experiences.

Attachment and Adults' Social Information-Processing: Summary

The extensive and multifaceted literature on linkages between attachment and adults' social information-processing indicates that adults who possess insecure internal working models of attachment are likely to process social information defensively and more negatively than adults who possess secure internal working models. These findings mesh with research on children and adolescents. Moreover, enhancing a person's sense of attachment security can alter the way in which that person interprets and evaluates social information, suggesting that these working models, while rigid, are indeed open to change. These data have important clinical implications and provide possible clues as to how a person's deficient social information-processing skills might be improved.

Interconnections between Attachment and the Processing of

Social Information in Parents and their Children

Increasing amounts of data indicate that many interconnections exist between attachment and the processing of social information in adults and their offspring. A variety of studies have shown that parents' attachment security is linked to the ways in which *their children* process social information, and, conversely, that children's attachment security is linked to the ways in which *their parents* process social information. These studies are reviewed in this section.

Parental Attachment and Children's Social Information-Processing

 Attachment and memory. Two studies have examined whether parental attachment is linked to children's memory for social information (Alexander, Goodman, Schaaf, Edelstein, Quas, & Shaver, 2002; Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1997). In one study, Goodman et al. (1997) investigated whether parents' attachment styles were linked to their children's memories for stressful medical treatments. Compared to children of secure parents, children of insecure parents would often have inaccurate memories for these treatments. They would, for example, agree with false statements regarding the treatments (e.g., they would agree that a doctor never visited them when, in fact, the doctor did indeed visit them) and disagree with true statements (e.g., they would show no memory for certain embarrassing medical procedures). In the other study, Alexander et al. (2002) reported similar evidence that children of insecure parents had poorer memory for stressful events. Children whose parents showed a high degree of attachment anxiety, for example, were more likely than other children to provide less accurate (and more inaccurate) memory for these events. Moreover, Alexander and her colleagues reported that among children of highly avoidant adults, children' memory for these events *declined* as the degree of stress they experienced in these events increased. In contrast, among children of parents low in avoidance, children's memory for these events *increased* as the degree of stress they experienced increased. These latter findings are particularly important because they demonstrate that children of avoidant parents have difficulties encoding and/or recalling emotionally and physically painful memories, whereas children of more secure parents remain open to painful experiences and can accurately recall these experiences from memory.

Attachment and emotional understanding. Another study has demonstrated that mothers' AAI attachment classifications *during pregnancy* predicted their eleven-year-old children's social and emotional understanding of negative social events (Steele et al., 2002). Children whose mothers had been classified as secure/autonomous with respect to attachment were more likely than other children to believe that certain negative life events (e.g., a child's separation from his or her parents) are distressing for children. These children were also more likely to elaborate on why such negative events are distressing and how a child's distress might be resolved (e.g., through finding a substitute caregiver or engaging in a positive reunion). Steele and her colleagues explained these results by suggesting that secure/autonomous mothers might be more capable than other mothers of responding to their child's negative emotions and discussing these emotions. Referring to the work of Cassidy (1994), they further suggested that these mothers (and consequently their children) do not get overwhelmed or overburdened by negative emotions and are thus able to engage in interactions where such emotions can be discussed fully, thoughtfully, and truthfully. Secure/autonomous mothers might also be more willing to validate their children's negative emotions and to comfort their children when they are upset which would, in turn, lead their children to have a greater capacity to understand the emotional states of others.

Children's Attachment and Parents' Social Information-Processing

Infant attachment and parents' secure base scripts. Three studies have reported significant associations between infant attachment and parents' secure base scripts (Coppola, Vaughn, & Korth, 2005; Rafferty, Corcoran, & H. Waters, 2005; Verissimo, Monteiro, & Santos, 2005). In one study, Rafferty et al. (2005) reported that infants' Strange Situation classifications were linked to their mothers' secure base scripts (see

also Tini, Corcoran, Rodrigues-Doolabh, & E. Waters, 2003). Mothers of securely attached infants were more likely than other mothers to have access to and knowledge of a secure base script regarding child/mother interactions. Moreover, mothers who had securely attached children were more likely to have access to and knowledge of a secure base script regarding adult/adult interactions. In the other two studies (i.e., Coppola et al., 2005; Verissimo et al., 2005), similar significant associations were found between infant attachment (as assessed using the Attachment Q-Sort; Waters & Deane, 1985) and fathers' and/or mothers' access to and knowledge of secure base scripts (see also Bost, McBride, Shin, & Brown, 2005, for similar findings related to both mothers' and fathers' narrative styles).

   Infant attachment and maternal mind-mindedness. Several inquiries have investigated whether an infant's quality of attachment is associated with his or her mother's capacity to understand her infant's mental states. Ainsworth et al. (1978) initially referred to this capacity in terms of a mother being able to see things from the infants' point of view. Meins (1997, 1999) later termed this capacity *maternal mind-mindedness*. The concept of mind-mindedness rests on the idea that mind-minded mothers use "information from their children's outward behavior in making accurate inferences about the mental states governing that behavior" (Meins, Fernyhough, Fradley, & Tuckey, 2001, p. 638). It is believed that these mothers possess a capacity to attend fully to their infants' dynamic and complex mental states and can easily able to shift and refocus their attention from one state to another as different states emerge. Moreover, these mothers demonstrate a capacity to "read" their infants' minds and understand how their infants' mental states reflect the infants' day-to-day experiences. This latter

capacity most likely reflects the ability to store the infants' experiences into memory and to recall these memories when necessary.

Three longitudinal studies have reported an association between child attachment and maternal mind-mindedness. In a two-year longitudinal study (Meins, Fernyhough, Russell, & Clark-Carter, 1998), infants' 12-month Strange Situation classifications predicted their mothers' mind-mindedness at age 3-years. Compared to mothers of children that had been classified as insecure, mothers of children who had been classified as secure were more likely to describe their children in terms of their mental characteristics rather than in terms of their physical appearance and/or behavioral tendencies. In a similar study, Meins (1998) also reported that these mothers were also more likely to attribute meaning to their children's early vocalizations (e.g., by attributing meaning to their children's babbling). Finally, in a longitudinal study, Meins and her colleagues (2001; see also Meins et al. 2002) reported that mothers were more likely to have secure children at age 12-months if they made appropriate mind-related comments about their children during play activities at age 6-months.   Mothers of secure children would have, for example, attended to their infants' genuine mental states and linked their comments about mental states to the infants' previous experiences.

A recent study has also linked children's Strange Situation classifications to their *foster* mothers' mind-mindedness (Bernier & Dozier, 2003). Although this study is noteworthy in that it is the first to report significant associations between maternal mind-mindedness and children's attachment security in foster home situations, it is also the first study show that maternal mind-mindedness mediates that link between mother's AAI attachment security (as assessed using the AAI coherence scale) and their children's Strange Situation classifications. In fact, mothers' abilities to describe their children in

terms of their mental states accounted for the total predictive power of the mothers' AAI

classifications, indicating that maternal mind-mindedness *fully* mediated the link between

mothers' and their children attachment security (see also Fonagy, 1996, for related data

linking parents' attention to mental states during the AAI to children's later attachment

security). These data are particularly important because they shed light on the

intergenerational transmission of attachment (see van IJzendoorn, 1995, for a review):

Mothers who are capable of processing their attachment-related childhood experiences

and relationships coherently are more likely than other mothers to make appropriate and

accurate references to their children's mental states, thereby increasing their children's

attachment security.

CHAPTER 3

METHOD

Participants

Data reported in this investigation were gathered from a larger study of family

and peer relationships in late adolescence. This study was funded by the National

Institute of Child Health and Human Development (NICHD R01 #36635, P.I., Jude

Cassidy) and conducted during the years 1998-2002. Participants who provided these

data were 189 eleventh-grade students (118 girls and 71 boys) who were recruited from 7

racially and socieconomically diverse public high schools in the Washington, D.C.

metropolitan area. Adolescents identified themselves as either White/Caucasian (73%),

Black/African American (14%), Asian (10%), or Hispanic (3%). All adolescents lived

with both parents and annual household incomes for most adolescents (95%) was greater

than $41,000. Adolescents and their families were paid $125 for participating in the

larger study. Permission to recruit human subjects for this study was obtained from the

University of Maryland's Institutional Review Board (Appendix A). Sample size will

vary slightly across analyses due to missing data.

Measures

For a complete list of the measures used in this study, and the constructs they

tapped, see Table 2 (p. 98).

Adult Attachment Interview (AAI; George et al., 1984, 1985, 1996; Appendix B).

This semistructured interview was used to assess adolescents' "current state of mind with

respect to attachment" through a series of questions focused principally on memories of

attachment-related experiences during childhood. Throughout the interview, adolescents

were required to give general descriptions ("semantic memories") of their childhood

relationships with their parents and to provide specific supporting memories ("episodic memories"). For example, they were asked to choose five adjectives that described their childhood relationship with each parent and then to provide specific memories that supported their choices. Some questions focused on adolescents' memories of being upset, ill, or threatened, their reactions to major separations and losses, and feelings of rejection. Other questions required adolescents to explain their parents' behavior and to describe their current relationships with them. Interviews lasted approximately one hour and were audiotaped for later verbatim transcription. Minor modifications to this interview were made to make some of the questions more appropriate for an adolescent population (e.g., the word "recently" replaced the phrase "in adulthood;" Allen, Moore, Kuperminc, & Bell, 1998; Ward & Carlson, 1995).

Using Main and Goldwyn's (1998) classification system (see Appendix C for a summary of this system), coders rated each transcript on a series of 9-point scales reflecting adolescents' probable attachment-related experiences (e.g., of being parented in a loving way) and "current state of mind with respect to attachment." The principal scale used to assess adolescents' "current state of mind with respect to attachment" was *coherence of mind*, which referred to the degree to which adolescents discussed and evaluated their attachment-related experiences in a "reasonably consistent, clear, relevant, and succinct [manner]" (Hesse, 1999, p. 404). More specifically, this scale reflected the extent to which adolescents adhered to Grice's (1975) four maxims regarding the nature of collaborative discourse (i.e., the "Cooperative Principal") when discussing attachment-related experiences: (a) quality (i.e., truthfulness), (b) quantity (i.e., succinct, yet complete), (c) relation (i.e., relevance), and (d) manner (i.e., clarity; Hesse, 1999). Adolescents who adhered to these maxims received higher coherence of mind scores.

Based on an integrated consideration of both the adolescent's probable experiences and state of mind, coders assigned one of three principal classifications to the transcript: secure/autonomous, insecure/ dismissing, and insecure/ preoccupied. Adolescents were classified as secure/autonomous if they coherently described various childhood experiences, valued attachment relationships, and considered attachment-related experiences as important to personal development. Adolescents were classified as insecure/dismissing or insecure/preoccupied if they demonstrated an inability to describe their childhood attachment-related experiences coherently (i.e., these adolescents lacked the ability to reflect on their past attachment-related experiences in ways that would corroborate the genuine meaning and impact of those experiences). Specifically, adolescents were classified as insecure/ dismissing if they described a history of rejection by principal attachment figures and denied and/or dismissed the impact this rejection had on personal development and its influence on both past and current attachment relationships. On the other hand, adolescents were classified as insecure/preoccupied if they demonstrated an excessive, confused/passive, and unobjective (e.g., angry) preoccupation with attachment relationships and/or experiences. In addition to classifying adolescents into one of the three principal classifications, coders reviewed transcripts for indications of lapses in the monitoring of reasoning or discourse when discussing loss or trauma. Such lapses are thought to reflect lack of resolution of the loss or trauma, and result in assignment of the unresolved classification along with one of the principal underlying classifications (i.e., unresolved/ dismissing, unresolved/preoccupied, or unresolved/secure). When transcripts could not be placed into any other category, they were labeled "insecure/cannot classify."

Four coders who were trained and certified as reliable by Mary Main and Erik Hesse rated AAI transcripts. All four coders were blind to any information regarding the adolescents or their families. Interrater reliability among these coders was assessed continuously throughout the coding period; a randomly selected 29% of cases ($n = 55$) were coded by at least two coders. For the AAI coherence of mind scale, good interrater reliability emerged for the 55 cases (ICC = .73). Good interrater reliability also emerged for the AAI classification data: agreement for the 55 cases was 78% ($\kappa = .61$) for the five-way classification and 84% ($\kappa = .66$) for the secure/insecure group placement. All disagreements on the AAI classification data were resolved by a fifth independent coder who coded no additional data.

The psychometric properties of the AAI have been well-established (Bakermans-Kranenburg & van IJzendoorn, 1993; Hesse, 1999; van IJzendoorn, 1995). A number of studies, for example, have reported substantial short-term and long term reliability for this interview in both adolescent and adult populations (e.g., Allen, McElhaney, Kuperminc, & Jodl, 2004; Benoit & Parker, 1994; Crowell, Waters, Treboux, O'Connor, Colon-Downs, Feider, Golby, & Posada, 1996). Several studies have also established the predictive validity of this measure with respect to a variety of social and emotional indices linked theoretically to attachment security, such as secure base use (e.g., Crowell, Treboux, Gao, Fyffe, Pan, & Waters, 2002), secure base provision (e.g., Allen, McElhaney, Land, Kuperminc, Moore, O'Beirne-Kelly, & Kilmer, 2003; Crowell et al., 2002), and psychosocial functioning (e.g., Allen et al., 1998; Kobak & Sceery, 1988). Moreover, the discriminant validity of this interview (with regard to measures of intelligence, memory, and discourse characteristics) has been well established (see Bakermans-Kranenburg & van IJzendoorn, 1993, for a review).

Parent as a Secure Base Scale - Revised (Cassidy & Woodhouse, 2003; Appendix D). This 13-item questionnaire was used to assess adolescents' representations of their parent's ability to provide a secure base. Using a 5-point Likert scale ranging from 1 (*not at all true*) to 5 (*definitely true*), adolescents rated the degree to which they viewed their parent as caring about them, and the extent to which their parent was available, sensitive, and responsive to them in times of need and/or distress (e.g., My mother/father is someone I can go to when I'm upset."). Adolescents completed separate versions of this questionnaire for their mother and father. Summary scores reflecting mother as a secure base and father as a secure were base were calculated separately for the mother and father versions of this questionnaire by summing the items within each questionnaire; possible scores for each version ranged from 13 to 65. Good psychometric properties have been reported for the original mother and father versions of this questionnaire. For example, Feeney and Cassidy (2003) reported that these measures had substantial construct validity and good internal consistency. Moreover, Cassidy et al. (2003) reported that these measures had good predictive validity with respect to other attachment-related representations of parents as understanding, non-hostile, and non-controlling.

Experiences in Close Relationships Inventory (Brennan et al., 1998; Appendix E). This 36-item questionnaire was used to tap adolescents' attachment-related anxiety and avoidance within the context of romantic relationships. The avoidance subscale (18 items) measured the extent to which adolescents were uncomfortable with closeness and intimacy, uncomfortable depending on others, and uncertain that others could be relied on when needed (e.g. "I prefer not to show a partner how I feel deep down."). The anxiety subscale (18 items) measured the extent to which adolescents were concerned about being rejected, abandoned, and unloved by others (e.g., "I worry about being

abandoned."). For each item, adolescents rated their degree of attachment-related

avoidance or anxiety using a 7-point Likert scale ranging from (1) *disagree strongly* to

(7) *agree strongly*. Summary scores reflecting adolescents' attachment-related avoidance

were generated by summing items along the avoidance dimension; possible scores ranged

from 18 to 126. Summary scores reflecting adolescents' attachment-related anxiety were

generated by summing items along the anxiety dimension; possible scores ranged from

18 to 126. This questionnaire has been widely used in adult attachment research and has

very good psychometric properties. For example, its internal consistency, short-term test-

retest reliability, and long-term test-retest reliability have been established in numerous

studies (Brennan et al., 1998; Crowell et al., 1999; Shaver & Mikulincer, 2002). The

dimensions of attachment-related anxiety and avoidance also have good construct validity

(Brennan et al., 1998), and substantial predictive validity with respect to a variety of

social and emotional indices linked theoretically to attachment security, such as empathy

(Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001), caregiving (Feeney &

Collins, 2001), and emotion regulation (Gross & John, 2003). See Crowell et al. (1999)

and Feeney (1999) for reviews of studies using this measure.

  Memory for Childhood Experiences Task (Mikulincer & Orbach, 1995; Appendix

F). This two-part task was used to assess adolescents' memory for different emotionally-

significant childhood experiences. In the first part of this task, the experimenter informed

adolescents that they would be viewing four different [4" x 8"] cards, one at a time, and

that each card would have an emotionally-salient word typed on it; adolescents were not

told what the specific words were. The experimenter instructed adolescents to view each

card when it was presented to them, to think of an experience from childhood (i.e., before

the ninth grade) when they felt that way, to press a large buzzer when they thought of an

experience, and to state their age during the experience along with a brief description of it. After providing these instructions, the experimenter presented the first card to the adolescents, which had the either the word *happy*, *sad*, *anxious*, or *angry* typed on it. Adolescents viewed this card and the experimenter recorded the amount of time that elapsed before adolescents pressed the buzzer, which reflected the amount needed for adolescents to recall an experience from childhood that related to the emotion on the card. The experimenter also recorded the adolescents' age at the time of the experience, along with their description of the experience. The experimenter then presented the second, third, and fourth cards to the adolescents (one at a time for each of the three remaining words) using the procedure described above. For each card, adolescents were given 5-minutes to recall an experience; if an experience was not recalled in this amount of time, the experimenter noted a lack of recall and presented the next card (adolescents failed to recall an experience from childhood in only 1% of the cases). The order with which the four cards were presented to adolescents was randomized across participants.

In the second part of this task – after adolescents had viewed and responded to all four cards – the experimenter informed adolescents that they would be completing four versions of a questionnaire, and that each version of this questionnaire related to one of the four childhood memories that the adolescents had recalled previously. For each version of this questionnaire, adolescents were instructed first to picture the particular childhood memory in their minds (the memory for either the happy, sad, anxious, or angry childhood experience) and to remember as vividly as possible how they felt during the experience. Then, using a 6-point Likert scale ranging from (1) *not at all* to (6) *very much*, adolescents were told to rate the extent to which they felt the following 10 emotions during the experience: angry, sad, embarrassed, fearful, anxious, disgusted,

ashamed, depressed, surprised, and happy. The order in which adolescents completed the

four versions of this questionnaire was randomized across the sample, and may have been

different from the order in which adolescents recalled the four emotional memories.

According to Mikulincer and Orbach (1995), this memory task yields the

following four sets of variables: (a) *retrieval times* (i.e., the amount of time needed for

adolescents to recall memories for happy, sad, anxious, and angry childhood

experiences), (b) *ages at the time of the childhood experiences* (i.e., the adolescents' ages

during the happy, sad, anxious, and angry childhood experiences), (c) *intensity of the*

dominant emotions during the childhood experiences (e.g., the intensity of happiness in

the happy experience), and (d) *intensity of the non-dominant emotions during the*

childhood experiences (e.g., during the happy experience, the intensity of the nine non-

dominant emotions). In a study of college students, Mikulincer and Orbach reported

good construct validity and predictive validity for this task (with respect to adult romantic

attachment styles). For example, insecure-avoidant adults required the greatest amount

of time to recall experiences of sadness and anxiety, and were also the least likely to

recall memories from early in their childhood. Insecure-avoidant adults also had the least

emotionally-intense memories of all of the participants.

Levels-of-Processing (LOP) Task (Rudolph et al., 1995; Appendix G). This

incidental recall task, which was based on the depth-of-processing paradigm developed

by cognitive scientists (e.g., Craik & Lockhart, 1972), was used to assess adolescents'

memory for specific parental attributes. Adolescents completed two versions of this task:

one in relation to mother and one in relation to father. In both versions of this task,

adolescents viewed a random assortment of 22 positive and 22 negative parent-relevant

trait adjectives (e.g., supporting, accepting; unaccepting, controlling), one at a time, in a

letter-sized 8.5 x 11 inch spiral-bound book. Half of the positive and half of the negative

adjectives were typed in lowercase; the other half of these adjectives was typed in

uppercase. Adolescents were instructed to encode the adjectives under one of two set of

instructions (by replying either "yes" or "no"), with each set of instructions being applied

to half of the 44 adjectives. Under one set of instructions, adolescents were required to

encode the parent-referent properties of the adjective (i.e., "Does this word describe your

mother/father?"). Under the other set of instructions, adolescents were required to

encode the structural-referent properties of the adjective (i.e., "Is this word in capital

letters?"). Thus, each adjective fell into one of 4 groups containing 11 words: positive

parent-referent, negative parent-referent, positive structural, and negative structural. To

protect against experimental carryover effects, word effects for mother and father, order

effects of the words, and instruction effects, the experimenters employed a number of

methodological safeguards when administering this task.[1] After viewing the final

adjective, adolescents were asked unexpectedly to recall as many adjectives as possible.

     Following Rudolph et al. (1995), one adjective from each of the four groups (i.e.,

words that corresponded to either the first or last two words viewed by the adolescents)

will be excluded from analyses to eliminate any potential primacy and/or recency

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[1] To protect against experimental carryover effects, the experimenters ensured that each
adolescent viewed a different set of words for mother and for father; thus, there were two
sets of words, referred to as Lists A and B in Appendix G. To protect against problems
arising from all adolescents viewing the same list of words for mother and the same list
of words for father, the experimenter showed half of the adolescents List A for
mother/father and the other half of the adolescents List B for mother/father. Moreover,
the experimenters also protected against order effects of the words by alternating List A
and List B across participants, so that half of the adolescents viewed List A first and List
B second. Finally, to protect against instruction effects, the experimenters ensured that
the instructions adolescents used to encode each adjective (as either parent-referent or
structural referent) were alternated across participants (i.e., there were two sets of
instructions, referred to as Version 1 and Version 2 Instructions in Appendix G).

memory effects.   In order to assess adolescents' performance on the mother and father

versions of this task, two summary scores will be generated from each version of this task

by subtracting the proportion of yes-rated positive parent-referent adjectives recalled (i.e.,

the number of yes-rated positive mother/father-referent words recalled divided by the

total number of yes-rated positive mother/father-referent words) from the proportion of

yes-rated negative parent-referent adjectives recalled (i.e., the number of yes-rated

negative mother/father-referent words recalled divided by the total number of yes-rated

negative mother/father-referent words). These two summary scores will reflect

adolescents' *memory for negative specific mother attributes* and *memory for negative

specific father attributes*, respectively. Rudolph et al. (1995) reported good predictive

validity for this task with respect to multiple measures of children's attachment-related

schemas of mother, peers, and other close individuals. For example, children who had

greater memory for negative specific mother attributes were more likely than other

children to view their mothers and/or others as unaccepting and non-supportive. These

children were also more likely to expect that their mothers and their peers would be

hostile, critical, and rejecting in hypothetical interactions in which the children needed

support from others. Similar validity data also come from a study examining the effects

of child maltreatment on memory for mother-related material (Lynch & Cicchetti, 1998).

     Parent-Child Story Task - Modified (Rudolph et al.,1995; Appendix H). This task,

which was completed once in relation to mother and once in relation to father, was used

to assess adolescents memory for hypothetical (i.e., non-specific) parental attributes.

Unlike the Levels-of-Processing (LOP) Task – which was aimed at assessing

adolescents' memory for information related specifically to adolescents' own parents –

the Parent-Child Story Task was aimed at assessing adolescents' memory for information

related to nonspecific parental figures. In this task, adolescents listened to a three-minute

audiotaped story (told by an adult female experimenter) about an adolescent's typical day

with his or her parent. The stories used in this investigation were modified from Rudolph

et al.'s (1995) original stories to make them more appropriate for an adolescent

population. Interspersed within the context of this story were nine positive parental

attributes (e.g., thoughtful, concerned) and nine negative parental attributes (e.g., mean,

angry). To protect against experimental carryover effects, the experimenters ensured that

each adolescent heard different stories for mother and for father; thus there were two

stories, referred to as Stories A and B in Appendix H. To protect against order effects of

the stories, and problems arising from all adolescents hearing the same story for mother

and the same story for father, the experimenters ensured the half of the adolescents heard

Story A for mother and that the other half of adolescents heard Story A for father. After

listening to the story, the participants were asked by the experimenter to recall

(unexpectedly) as many of the adjectives describing the hypothetical parent-figure as

possible. The experimenter wrote down these adjectives.

　　　　For both the mother and father versions of this task, adolescents received two

scores: one reflecting the number of positive adjectives recalled from the story, and one

reflecting the number of negative adjectives they recalled from the story (Rudolph et al.,

1995). For every adjective adolescents recalled, they had 1 point added to their adjective

score (e.g., adolescents who recalled four positive adjectives received 4 points for the

positive adjective score, and adolescents who recalled four negative adjectives received 4

points for the negative adjective score). Adolescents also received 1 point if they either

recalled (a) an alternative form of the adjective, (b) a phrase associated with the adjective

found in the story, or (c) a synonym of the adjective. (If adolescents recalled an adjective

and an accompanying phrase, they only received 1 point.) Moreover, adolescents received an additional point if they recalled either a positive or negative adjective that was not in the story (e.g., cheerful, good, grumpy, foul); these types of adjectives were considered to be projections. Following Rudolph et al. (1995), summary scores for the mother and father version of this task were created by dividing each adolescent's negative adjective score by his or her positive adjective score. This summary score reflected the degree to which adolescents' had either a *negatively-biased memory for hypothetical mother attributes* or a *negatively-biased memory for hypothetical father attributes*. Good predictive validity for this task (with respect to children's attachment-related schemas of mother) has been reported. For example, Rudolph et al. reported that children who had a negatively-biased memory for hypothetical mother attributes were more likely than other children to view their mothers and/or others as accepting and supportive. These children were also more likely to expect that their mothers and their peers would be hostile, critical, and rejecting in hypothetical interactions in which the children needed support from others.

    Emotional Response to Conflict Scale (ERCS; Cassidy, 1998; Appendix I). This 31-item scale was designed to assess individuals' emotional responses following a 10-minute laboratory conflict discussion task (Strodtbeck, 1951). The items contained in this questionnaire fell into eight subscales assessing the individuals' perceptions of (a) the overall positive nature of the discussion (Positive Discussion index; 3 items; i.e., flexible, cooperative, educational), (b) the overall negative nature of the discussion (Negative Discussion index; 2 items; i.e., disagreeable/unpleasant, argumentative), (c) their own positive emotions during the discussion (Own Positive Emotion index; 4 items; i.e., happy, satisfied, enthusiastic, excited), (d) their own negative emotions during the

discussion (Own Negative Emotion index; 4 items; i.e., disappointed, angry, nervous, sad), (e) their perception of their partner's positive emotions during the discussion (Other Positive Emotion index; 4 items; i.e., happy, satisfied, enthusiastic, excited), (f) their perception of their partner's negative emotions during the discussion (Other Negative Emotion index; 4 items; i.e., disappointed, angry, nervous, sad), (g) the way in which they were treated positively by their partner (Positive Treatment index; 5 item; i.e., cared about, accepted, listened to, respected, understood), and (h) the way in which they were treated hostilely by their partner (Negative Treatment index; 4 items; i.e., ignored, put down, disliked, attacked). All items were rated on a 5-point Likert-type scale ranging from either *not descriptive* (1) to *highly descriptive* (5), or *very little* (1) to *a great deal* (5). Following Feeney and Cassidy (2003), individuals' responses to the eight subscales will be reduced into three summary scores. First, a *Positive Interaction* score will be created by averaging the items in the Positive Discussion, Own Positive Emotions, Other Positive Emotions, and Positive Treatment indices; possible scores range from 16 to 80. Second, a *Negative Interaction* score will be created by averaging the items in the Negative Discussion, Own Negative Emotions, and Other Negative Emotions indices; possible scores range from 11 to 55. Finally, a *Hostile Treatment* score will be created by averaging the Hostile Treatment item ratings; possible scores range from 4 to 20. Feeney and Cassidy reported both theoretical and statistical (factor analysis) support for this data reduction strategy.

The ERCS was used in two different ways in this study. First, it was used as a measure of both immediate and follow-up perceptions within the context of both adolescent-parent and adolescent-peer conflict. With respect to adolescent-parent conflict, adolescents engaged, separately with their mothers and fathers, in a laboratory

conflict discussion task.[2] Immediately following each of these discussions, adolescents

and their parents completed (separately) the ERCS. (Adolescents completed separate

versions of this questionnaire for the discussion with mother and for the discussion with

father). Adolescents received summary Positive Interaction, Negative Interaction, and

Hostile Treatment *immediate* perception scores for both the discussion with mother and

for the discussion with father. Mothers and fathers also received (separately) summary

Positive Interaction, Negative Interaction, and Hostile Treatment *immediate* perception

scores. Then, approximately six weeks after the adolescent-parent conflict discussions,

adolescents, their mothers, and their fathers were each mailed a follow-up ERCS. All

individuals were instructed to recall their discussions with their different partners

independently and to rate their perceptions of these discussions, again using the ERCS.

(Adolescents completed separate versions of this follow-up ERCS for the discussion with

mother and for the discussion with father). On the basis of these ratings, adolescents

received summary Positive Interaction, Negative Interaction, and Hostile Treatment

follow-up perception scores for both the discussion with mother and for the

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[2] These adolescent-parent conflict discussions were generated in the following manner. First, adolescents, their mothers, and their fathers were provided separately with forms listing a variety of topics about which adolescents and their parents commonly disagree (e.g., housework, curfew). For each topic, adolescents rated independently the degree to which they and each parent disagreed, and parents rated independently the degree to which they and their adolescent disagreed. Then, after completing these ratings, an experimenter compared the ratings within the adolescent-mother and adolescent-father dyads and identified three separate topics of major disagreement for each dyad. Finally, adolescents engaged separately with their mothers and their fathers in discussions about the topics of major disagreement that were identified earlier by the experimenter. Each adolescent-parent dyad was instructed to "discuss this topic and to try to resolve it if possible." The order in which adolescents participated in the discussions first with each parent was highly balanced (i.e., 55% of adolescents engaged in discussion first with their mothers and second with their fathers). See Appendix J.

discussion with father. Mothers and fathers also received separate summary Positive

Interaction, Negative Interaction, and Hostile Treatment *follow-up* perception scores.

With respect to adolescent-peer conflict, adolescents engaged in a laboratory

conflict discussion task with an unfamiliar same-age/same-gender peer.[3] Immediately

following this discussion, adolescents completed the ERCS. Adolescents received

summary Positive Interaction, Negative Interaction, and Hostile Treatment *immediate*

perception scores for this discussion. Then, approximately two weeks after engaging in

the adolescent-peer conflict discussion, adolescents were mailed a follow-up ERCS and

were instructed to recall this discussion and to rate their perceptions of this discussion

again using the ERCS. On the basis of these ratings, adolescents received summary

Positive Interaction, Negative Interaction, and Hostile Treatment *follow-up* perception

scores for the adolescent-peer discussion.

In addition to being used as a measure both immediate and follow-up perceptions

within the context of adolescent-parent and adolescent-peer conflict, the ERCS was also

used to explore individuals' reconstructive memory for conflict by examining links

between these individuals' immediate and follow-up perceptions. Following Feeney and

Cassidy (2003), reconstructive memory within the context of both adolescent-parent and

adolescent-peer conflict is defined as *the proportion of variance in each follow-up*

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[3] These adolescent-peer conflict discussions were generated in the following manner.
First, adolescents and the unfamiliar peers were each provided with forms listing issues
about which people commonly disagree (e.g., illicit drugs, the death penalty). For each
issue, adolescents and the unfamiliar peers rated independently the extent to which they
agreed with statements regarding these issues. After completing these ratings, an
experimenter compared the adolescent's and unfamiliar peer's ratings and identified three
separate issues of major disagreement for each dyad. Finally, adolescents engaged with
the unfamiliar peers in conflict discussions about the issues of major disagreement that
were identified earlier by the experimenter. The experimenter asked the dyad to "present
your positions on the issue and then discuss your differences." See Appendix J.

perception summary score that cannot be accounted for by variance in the corresponding immediate perception summary score; this proportion of variance (or residual variance) represents the change in an individual's perception of a conflict discussion over the course of a 6-week span. More specifically, in the context of both adolescent-parent and adolescent-peer conflict, each individual's summary Positive Interaction, Negative Interaction, and Hostile Treatment follow-up perception score will be regressed separately on his or her Positive Interaction, Negative Interaction, or Hostile Treatment immediate perception score, respectively. These regressions will yield the following five sets of residual variances (hereafter refereed to as *Reconstructive Memory Coefficients*): (a) Adolescent Positive Interaction, Negative Interaction, and Hostile Treatment Reconstructive Memory Coefficients for adolescent-mother conflict, (b) Adolescent Positive Interaction, Negative Interaction, and Hostile Treatment Reconstructive Memory Coefficients for adolescent-father conflict, (c) Mother Positive Interaction, Negative Interaction, and Hostile Treatment Reconstructive Memory Coefficients, (d) Father Positive Interaction, Negative Interaction, and Hostile Treatment Reconstructive Memory Coefficients, and (e) Adolescent Positive Interaction, Negative Interaction, and Hostile Treatment Reconstructive Memory Coefficients for adolescent-peer conflict.

Good psychometric properties have been reported for the ERCS. For example, using the sample of adolescents that will be examined in this investigation, Feeney and Cassidy (2003) found that the ERCS subscales had good internal consistency and that the predictive validity of ERCS as a measure of perception was substantial (with respect to adolescents' attachment-related cognitive representations of mother and father). More specifically, Feeney and Cassidy reported that adolescents who held more positive representations of their mothers and their fathers (e.g., as understanding and as serving as

a secure base) were more likely than other adolescents to perceive their conflict discussions with their mothers and fathers as more positive and less negative both immediately following the discussions and six-weeks later. Feeney and Cassidy also reported that these immediate and follow-up perceptions of conflict derived from the ERCS can be used to assess reconstructive memory for conflict, and that this measure of reconstructive memory is linked to attachment-related representations in theoretically-predicted ways. For example, the authors found that adolescents who held more negative representations of their parents were more likely to have negative reconstructive memories of adolescent-parent conflict (i.e., these adolescents remembered these discussions six-weeks later as more negative than they originally reported).

Shipley Institute of Living Scale (SILS; Shipley, 1946; Appendix K). The 40-item vocabulary subtest of the SILS was used to assess adolescents' verbal knowledge. For each item, adolescents had to match a target word with one of four possible synonyms (e.g., "talk" matched with either "draw," "eat," "speak," or "sleep"). If adolescents correctly matched the target word with its synonym (e.g., "talk" with "speak"), they received one point. If they did not correctly match the target word with its synonym, they received zero points. A total vocabulary knowledge score was calculated by summing the number of points received across the 40 items; possible scores ranged from 0 to 40. The reliability and validity of the SILS as a measure of intellectual functioning in both adolescents and adults has been well established (Kirk & Rattan, 1992). For example, lower scores on the SILS have been linked to lower general intelligence and poorer performance on a variety cognitive functioning measures (e.g., WAIS; Zachary, 1991).

Procedure

Data that will be reported in this dissertation were gathered during three sessions spanning approximately five months. In the first session, conducted during a Spring classroom data collection session, adolescents completed the ECR and both the mother and father versions of the Parent as a Secure Base Scale – Revised. In the second session, conducted during the following Summer, adolescents visited a university laboratory with both of their parents. During this visit, adolescents completed (in the following order) the Memory for Childhood Experiences Task, the mother version of the Levels-of-Processing (LOP) Task, and the mother version of the Parent-Child Story Task. After completing these three tasks, adolescents engaged, separately with their mother and father, in the 10-minute conflict discussions (55% of adolescents engaged in these discussions first with their mothers and second with their fathers) and completed subsequently the ERCS. Adolescents also completed the SILS during this visit, and the fathers of the adolescents provided demographic information. In the third session, approximately one month later, adolescents visited the university laboratory again and completed (in the following order) the father versions of the Levels-of-Processing (LOP) Task and the Parent-Child Story Task. After completing these two tasks, adolescents engaged in a 10-minute conflict discussion with an unfamiliar peer from another high school and completed subsequently the ERCS. At the end of this visit, adolescents completed the Adult Attachment Interview. Six weeks after completing the adolescent-parent conflict task, a follow-up ERCS for the adolescent-parent conflict was mailed to adolescents and their parents. A follow-up ERCS for the adolescent-peer conflict was also mailed to adolescents. All data collection was supervised and/or performed by well-trained graduate students.

Table 2

Summary of Measures Used in this Investigation

Measure	Construct(s) Tapped
Attachment	
Adult Attachment Interview (AAI; George et al., 1984, 1985, 1996)	"State of mind with respect to attachment"
Parent as a Secure Base Scale – Revised Mother Version (Cassidy & Woodhouse, 2003)	Secure base-related representations of mother
Parent as a Secure Base Scale – Revised Father Version (Cassidy & Woodhouse, 2003)	Secure base-related representations of father
Experiences in Close Relationships Questionnaire (Brennan et al., 1998)	Romantic attachment-related anxiety and avoidance
Information-Processing	
Childhood Memory Task (Mikulincer & Orbach, 1995)	Memory for emotionally-significant childhood experiences a. Retrieval times b. Ages during the experiences c. Memory for dominant emotions d. Memory for non-dominant emotions
Levels-of-Processing (LOP) Task (Rudolph et al., 1995)	Memory for negative parental attributes
Child-Parent Story Task - Modified (Rudolph et al., 1995)	Memory for negative hypothetical parental attributes
Emotional Response to Conflict Scale (Cassidy, 1998)	Reconstructive memory for adolescent-parent conflict and adolescent-peer conflict
Verbal Knowledge	
Shipley Institute of Living Scale (Shipley, 1946)	Verbal Knowledge

CHAPTER 4

RESULTS

Overview

I have organized this investigation's results into two major sections. First, I present descriptive statistics for all the study variables. Second, I address the principal research hypotheses regarding links between adolescent attachment and (a) memory for emotionally-significant childhood experiences, (b) memory for parental attributes, and (c) reconstructive memory for conflict.

Descriptive Statistics

AAI classifications. The distribution of the 188 adolescent AAI classifications was: 126 secure/autonomous (67%), 44 insecure/dismissing (23%), 10 insecure/ preoccupied (5%), 6 unresolved (3%), and 2 insecure/cannot classify (1%). This distribution is similar to others observed in comparable samples of low-risk adolescents (e.g., Ammaniti, van IJzendoorn, Speranza, & Tambelli, 2000; Scharf, 2001). The amount of security in this sample is also identical to that reported in a meta- analysis of over 1500 infants (van IJzendoorn & Bakersman-Kraneburg, 1999). Because there were few adolescents in the insecure subgroups, I combined these subgroups into one insecure group and examined secure vs. insecure AAI group differences in this study. (See Appendix L for the rationale for combining the insecure subgroups into one group).

Attachment scores. The means, standard deviations, and ranges of adolescents' five attachment scores are presented in Table 3. As can be seen, these scores have sufficient variability and indicate that the adolescents in the sample are diverse with respect to their attachment security and attachment-related representations of mother and of father. The correlations among these attachment scores are presented in Table 4.

Table 3

Descriptive Statistics for Adolescents' Attachment Scores

	Descriptive Statistics			
	N	*M*	*SD*	*Range*
Attachment Scores				
AAI Coherence of Mind	187	5.51	1.92	1.00-9.00
Mother as a Secure Base	186	56.67	7.80	33.00-65.00
Father as a Secure Base	186	53.75	8.87	29.00-65.00
ECR Avoidance	177	3.04	1.09	1.00-5.94
ECR Anxiety	177	3.52	.98	1.28-6.22

Table 4

Correlations among Adolescents' Attachment Scores

Attachment Scores	1	2	3	4	5
1. AAI Coherence of Mind	-				
2. Mother as a Secure Base	.28*	-			
3. Father as a Secure Base	.29*	.59*	-		
4. ECR Avoidance	-.18	-.15	-.15	-	
5. ECR Anxiety	-.09	-.12	-.12	-.03	-

* $p < .005$

Note. Using a Bonferrroni correction, I set alpha at $p < .005$ to keep the family-wise error rate of this set of correlations at $p = .05$.

Adolescents' AAI Coherence of Mind scores were linked positively to their Mother and Father Secure Base Scores. As expected, adolescents' Mother and Father Secure Base Scores were also linked positively to each other. Adolescents' romantic attachment-related anxiety and avoidance scores were relatively orthogonal, a finding which is consistent with other findings found in the adult attachment literature (e.g., Brennan et al., 1998). With the exception of the correlation between adolescents' Mother and Father as a Secure Base scores (and the relatively modest correlations between adolescents' Coherence of Mind and Mother/Father as a Secure Base scores), the non-significant associations between adolescents' attachment scores and parent-related representations support the notion that the dimensions of attachment assessed in this investigation are relatively independent and map onto different constructs related to attachment.

Memory and verbal knowledge scores. The means, standard deviations, and ranges of adolescents' memory and verbal knowledge scores are presented in Table 5. Like adolescents' attachment scores, these scores have sufficient variability and indicate that the adolescents sampled are diverse with respect to their memory for attachment-relevant social information and verbal knowledge. The correlations among adolescents' memory and verbal knowledge scores are presented in Table 6. The great majority of correlations among adolescents' memory scores are non-significant indicating that the memory measures tapped different aspects of adolescents' memory for attachment-relevant social information. Some noteworthy exceptions are the high correlations found within the Childhood Memory Task (i.e., within retrieval times, ages, intensity of dominant emotions, and intensity of non-dominant emotions), and among some of the Reconstructive Memory Coefficients. Adolescents' verbal knowledge scores were not linked generally to their memory for attachment-relevant information.

Table 5

Descriptive Statistics for Memory and Verbal Knowledge Scores

	N	M	SD	Range
		Descriptive Statistics		
Memory Scores				
Childhood Memory Task				
Retrieval Times for Anxious Memories	170	7.66	8.91	.62-60.00
Retrieval Times for Happy Memories	173	6.88	7.69	.15-48.00
Retrieval Times for Angry Memories	172	10.94	14.48	.01-110.00
Retrieval Times for Sad Memories	173	6.82	8.58	.59-66.00
Age During the Anxious Experience	165	10.14	3.34	3.00-17.00
Age During the Happy Experience	168	9.04	3.81	2.00-17.00
Age During the Angry Experience	169	10.12	3.15	3.00-17.00
Age During the Sad Experience	169	9.72	3.28	3.00-17.00
Intensity of Anxiety in the Anxious Experience	171	5.44	.79	3.00-6.00
Intensity of Happiness in the Happy Experience	174	5.73	.77	1.00-6.00
Intensity of Anger in the Angry Experience	172	5.42	.92	1.00-6.00
Intensity of Sadness in the Sad Experience	173	5.57	.82	1.00-6.00
Int. of Non-Dom. Emotions in the Anxious Experience	171	2.34	.79	1.00-5.00
Int. of Non-Dom. Emotions in the Happy Experience	174	1.79	.59	1.00-4.44
Int. of Non-Dom. Emotions in the Angry Experience	172	2.79	.88	1.11-5.33
Int. of Non-Dom. Emotions in the Sad Experience	173	2.66	.84	1.00-4.89
Levels of Processing Task				
Memory for Negative Mother Attributes	188	.68	.61	.13-4.00
Memory for Negative Father Attributes	187	.67	.56	.14-4.00
Story Task				
Memory for Hypothetical Negative Mother Attributes	182	1.40	1.04	0-6.00
Memory for Hypothetical Negative Father Attributes	186	1.25	.97	0-10.00
Emotional Response to Conflict Scale Reconstructive				
Memory Coefficients				
Adolescent for Discussion with Mother				
Positive Interaction	160	-1.20	.54	-1.40-2.08
Negative Interaction	160	.81	.51	-1.06-1.64
Hostile Treatment	156	.24	.41	-.65-1.84
Adolescent for Discussion with Father				
Positive Interaction	155	1.76	.53	-1.92-1.52
Negative Interaction	155	-.32	.48	-1.06-1.74
Hostile Treatment	150	-.06	.37	-1.24-1.83
Adolescent for Discussion with Peer				
Positive Interaction	153	.91	.54	-1.62-1.72
Negative Interaction	153	-.43	.36	-.92-2.30
Hostile Treatment	150	.03	.33	-78-1.56
Mother				
Positive Interaction	160	.22	.54	-2.59-1.69
Negative Interaction	160	-.26	.53	-1.81-1.96
Hostile Treatment	159	-.02	.50	-1.74-2.30
Father				
Positive Interaction	156	.05	.57	-1.72-1.58
Negative Interaction	155	.46	.48	-1.32-.73
Hostile Treatment	152	.04	.47	-1.39-2.31
Verbal Knowledge				
Shipley Vocabulary Scores	189	29.17	4.69	12.00-39.00

Note. The means for adolescents' Reconstructive Memory Coefficients are reported as M X 10^{-15}.

Table 6

Correlations among Memory and Verbal Knowledge Scores

	1	2	3	4	5	6
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories	-					
2. Retrieval Times for Happy Memories	.33*	-				
3. Retrieval Times for Angry Memories	.08	.13	-			
4. Retrieval Times for Sad Memories	.02	.35*	.29*	-		
5. Age During the Anxious Experience	.07	.00	.09	.08	-	
6. Age During the Happy Experience	.09	.13	-.07	.03	.37*	-
7. Age During the Angry Experience	.03	.02	.02	-.00	.35*	.37*
8. Age During the Sad Experience	.15	.17	-.05	.21	.30*	.45*
9. Intensity of Anxiety in the Anxious Experience	-.15	.01	-.23	-.02	-.10	-.10
10. Intensity of Happiness in the Happy Experience	.04	-.04	.07	.00	-.07	-.13
11. Intensity of Anger in the Angry Experience	-.03	.19	.04	.09	-.01	-.08
12. Intensity of Sadness in the Sad Experience	-.03	.04	.03	-.10	-.11	-.11
13. Int. of Non-Dom. Emotions in the Anxious Experience	-.05	.05	-.02	.06	-.04	-.08
14. Int. of Non-Dom. Emotions in the Happy Experience	-.05	-.08	-.08	-.03	-.11	.17
15. Int. of Non-Dom. Emotions in the Angry Experience	-.10	.02	-.02	.12	.11	.06
16. Int. of Non-Dom. Emotions in the Sad Experience	.06	.10	-.07	.10	.11	.14
Levels of Processing Task						
17. Memory for Negative Mother Attributes	-.10	-.03	.11	-.03	.09	.03
18. Memory for Negative Father Attributes	-.00	.02	-.11	.03	.13	.13
Story Task						
19. Memory for Hypothetical Negative Mother Attributes	.08	.09	-.13	.02	-.09	.06
20. Memory for Hypothetical Negative Father Attributes	.10	-.02	.05	-.04	-.13	-.02
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction	-.07	-.05	-.04	-.03	-.09	-.03
22. Negative Interaction	.19	-.02	.02	.04	-.05	-.01
23. Hostile Treatment	.14	.05	.09	.07	.16	.14
Adolescent for Discussion with Father						
24. Positive Interaction	-.08	-.17	-.03	-.11	-.12	-.13
25. Negative Interaction	-.02	.24	-.04	.08	.05	.11
26. Hostile Treatment	.09	.06	.02	.13	.18	.06
Adolescent for Discussion with Peer						
27. Positive Interaction	-.25	-.08	.01	.01	-.13	-.17
28. Negative Interaction	.18	-.03	.01	-.03	-.10	.00
29. Hostile Treatment	.08	.11	.03	.07	-.07	.01
Mother						
30. Positive Interaction	-.07	-.08	-.04	.08	-.05	-.23
31. Negative Interaction	-.08	.08	.11	.06	.02	-.04
32. Hostile Treatment	-.08	.14	.30	.05	-.02	.03
Father						
33. Positive Interaction	-.10	-.12	-.14	.07	-.13	-.03
34. Negative Interaction	-.10	.10	-.03	-.05	-.03	.05
35. Hostile Treatment	.04	.17	.06	-.03	-.00	.09
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	-.09	.12	.13	.15	.04	-.23

* $p < .0001$; *Note.* Using a Bonferrroni correction, I set alpha at $p < .0001$ to keep the family-wise error rate of this set of correlations at $p = .05$.

Table 6 *(continued)*

Correlations among Memory and Verbal Knowledge Scores

	7	8	9	10	11	12
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories						
2. Retrieval Times for Happy Memories						
3. Retrieval Times for Angry Memories						
4. Retrieval Times for Sad Memories						
5. Age During the Anxious Experience						
6. Age During the Happy Experience						
7. Age During the Angry Experience	-					
8. Age During the Sad Experience	.32*	-				
9. Intensity of Anxiety in the Anxious Experience	-.04	.01	-			
10. Intensity of Happiness in the Happy Experience	.04	-.01	.23	-		
11. Intensity of Anger in the Angry Experience	.10	.10	.31*	.43*	-	
12. Intensity of Sadness in the Sad Experience	-.06	.02	.15	.33*	.31*	-
13. Int. of Non-Dom. Emotions in the Anxious Experience	.09	.02	.26	.09	.19	.15
14. Int. of Non-Dom. Emotions in the Happy Experience	-.01	.06	.01	-.17	-.18	.00
15. Int. of Non-Dom. Emotions in the Angry Experience	.10	.02	.19	.04	.24	.13
16. Int. of Non-Dom. Emotions in the Sad Experience	.12	.10	.12	.04	.11	.17
Levels of Processing Task						
17. Memory for Negative Mother Attributes	.06	-.12	.10	.02	.03	-.02
18. Memory for Negative Father Attributes	.06	.01	.06	-.11	.04	.01
Story Task						
19. Memory for Hypothetical Negative Mother Attributes	-.10	.14	.21	.11	.19	.06
20. Memory for Hypothetical Negative Father Attributes	-.09	-.02	.04	-.05	.03	-.04
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction	-.10	.02	-.07	.01	.00	.10
22. Negative Interaction	.01	.15	.03	.14	.08	-.05
23. Hostile Treatment	.17	.12	-.01	-.01	-.05	-.21
Adolescent for Discussion with Father						
24. Positive Interaction	-.06	-.05	-.14	-.05	-.07	.19
25. Negative Interaction	.08	.16	.18	.01	.10	-.06
26. Hostile Treatment	.10	.11	.21	.04	-.03	-.07
Adolescent for Discussion with Peer						
27. Positive Interaction	-.12	.01	.08	.21	.09	.21
28. Negative Interaction	-.02	.02	.06	.10	.02	.02
29. Hostile Treatment	-.03	-.03	-.06	-.02	-.08	-.02
Mother						
30. Positive Interaction	.01	-.04	-.03	.12	.04	-.00
31. Negative Interaction	.00	-.00	.00	.04	-.03	-.10
32. Hostile Treatment	-.03	-.01	-.08	.06	.11	-.06
Father						
33. Positive Interaction	.12	.03	.07	.03	.03	-.12
34. Negative Interaction	-.02	.05	.06	.14	.16	-.01
35. Hostile Treatment	.03	-.02	.10	.18	.13	.02
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	-.05	-.02	-.03	.03	.13	.03

Table 6 *(continued)*

Correlations among Memory and Verbal Knowledge Scores

	13	14	15	16	17	18
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories						
2. Retrieval Times for Happy Memories						
3. Retrieval Times for Angry Memories						
4. Retrieval Times for Sad Memories						
5. Age During the Anxious Experience						
6. Age During the Happy Experience						
7. Age During the Angry Experience						
8. Age During the Sad Experience						
9. Intensity of Anxiety in the Anxious Experience						
10. Intensity of Happiness in the Happy Experience						
11. Intensity of Anger in the Angry Experience						
12. Intensity of Sadness in the Sad Experience						
13. Int. of Non-Dom. Emotions in the Anxious Experience	-					
14. Int. of Non-Dom. Emotions in the Happy Experience	.26	-				
15. Int. of Non-Dom. Emotions in the Angry Experience	.45*	.25	-			
16. Int. of Non-Dom. Emotions in the Sad Experience	.42*	.30*	.49*	-		
Levels of Processing Task						
17. Memory for Negative Mother Attributes	-.00	-.01	.11	.03	-	
18. Memory for Negative Father Attributes	.08	.09	.10	.13	.01	-
Story Task						
19. Memory for Hypothetical Negative Mother Attributes	.13	.07	.09	.13	-.02	-.03
20. Memory for Hypothetical Negative Father Attributes	-.04	-.06	-.06	-.15	-.06	.03
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction	-.03	.02	.03	-.04	-.07	-.09
22. Negative Interaction	.11	.02	.16	.05	-.04	-.09
23. Hostile Treatment	-.03	-.02	-.06	.02	.11	-.01
Adolescent for Discussion with Father						
24. Positive Interaction	-.04	.09	-.14	-.13	-.04	-.18
25. Negative Interaction	.13	-.08	.24	-.00	-.01	.04
26. Hostile Treatment	.08	.08	.19	.03	-.09	.15
Adolescent for Discussion with Peer						
27. Positive Interaction	.21	.09	.12	.16	-.13	-.02
28. Negative Interaction	.09	.16	.03	.00	-.03	-.05
29. Hostile Treatment	.06	.23	.13	.24	.13	-.04
Mother						
30. Positive Interaction	.14	-.03	-.03	-.12	-.18	-.20
31. Negative Interaction	-.05	-.07	.04	-.10	-.03	-.06
32. Hostile Treatment	-.05	-.17	-.01	-.15	.04	-.10
Father						
33. Positive Interaction	.10	.13	-.07	-.10	-.04	-.07
34. Negative Interaction	-.00	.05	.17	.02	.11	.06
35. Hostile Treatment	.08	.04	.14	.06	-.00	.10
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	-.12	-.44*	-.16	-.20	.01	-.12

Table 6 *(continued)*

Correlations among Memory and Verbal Knowledge Scores

	19	20	21	22	23	24
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories						
2. Retrieval Times for Happy Memories						
3. Retrieval Times for Angry Memories						
4. Retrieval Times for Sad Memories						
5. Age During the Anxious Experience						
6. Age During the Happy Experience						
7. Age During the Angry Experience						
8. Age During the Sad Experience						
9. Intensity of Anxiety in the Anxious Experience						
10. Intensity of Happiness in the Happy Experience						
11. Intensity of Anger in the Angry Experience						
12. Intensity of Sadness in the Sad Experience						
13. Int. of Non-Dom. Emotions in the Anxious Experience						
14. Int. of Non-Dom. Emotions in the Happy Experience						
15. Int. of Non-Dom. Emotions in the Angry Experience						
16. Int. of Non-Dom. Emotions in the Sad Experience						
Levels of Processing Task						
17. Memory for Negative Mother Attributes						
18. Memory for Negative Father Attributes						
Story Task						
19. Memory for Hypothetical Negative Mother Attributes	-					
20. Memory for Hypothetical Negative Father Attributes	-.01	-				
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction	.08	-.16	-			
22. Negative Interaction	.05	.12	-.16	-		
23. Hostile Treatment	.01	.13	-.14	.42*	-	
Adolescent for Discussion with Father						
24. Positive Interaction	-.06	-.11	.50*	-.19	-.19	-
25. Negative Interaction	.09	.05	.07	.53*	.26	-.33*
26. Hostile Treatment	-.09	-.00	-.13	.31*	.40*	-.26
Adolescent for Discussion with Peer						
27. Positive Interaction	.04	-.10	.36*	.03	-.11	.24
28. Negative Interaction	.09	-.01	.13	.54*	.39*	-.04
29. Hostile Treatment	-.10	-.01	.08	.28	.20	-.12
Mother						
30. Positive Interaction	-.18	-.10	.08	-.10	-.21	.08
31. Negative Interaction	-.07	.15	-.24	.15	.21	-.16
32. Hostile Treatment	.01	.17	-.16	.11	.21	-.14
Father						
33. Positive Interaction	-.14	.01	.06	.02	-.03	.11
34. Negative Interaction	.19	.05	.02	.06	.09	-.12
35. Hostile Treatment	.27	-.02	.00	-.05	-.04	-.14
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	.05	.06	-.01	-.23	-.14	-.06

Table 6 *(continued)*

Correlations among Memory and Verbal Knowledge Scores

	25	26	27	28	29	30
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories						
2. Retrieval Times for Happy Memories						
3. Retrieval Times for Angry Memories						
4. Retrieval Times for Sad Memories						
5. Age During the Anxious Experience						
6. Age During the Happy Experience						
7. Age During the Angry Experience						
8. Age During the Sad Experience						
9. Intensity of Anxiety in the Anxious Experience						
10. Intensity of Happiness in the Happy Experience						
11. Intensity of Anger in the Angry Experience						
12. Intensity of Sadness in the Sad Experience						
13. Int. of Non-Dom. Emotions in the Anxious Experience						
14. Int. of Non-Dom. Emotions in the Happy Experience						
15. Int. of Non-Dom. Emotions in the Angry Experience						
16. Int. of Non-Dom. Emotions in the Sad Experience						
Levels of Processing Task						
17. Memory for Negative Mother Attributes						
18. Memory for Negative Father Attributes						
Story Task						
19. Memory for Hypothetical Negative Mother Attributes						
20. Memory for Hypothetical Negative Father Attributes						
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction						
22. Negative Interaction						
23. Hostile Treatment						
Adolescent for Discussion with Father						
24. Positive Interaction						
25. Negative Interaction	-					
26. Hostile Treatment	.52*	-				
Adolescent for Discussion with Peer						
27. Positive Interaction	.16	.09	-			
28. Negative Interaction	.35*	.27	.10	-		
29. Hostile Treatment	.26	.19	-.01	.51*	-	
Mother						
30. Positive Interaction	-.10	-.14	.09	-.05	-.11	-
31. Negative Interaction	.05	.16	-.03	.03	-.08	-.16
32. Hostile Treatment	.04	-.01	-.06	-.02	-.12	-.18
Father						
33. Positive Interaction	.01	.10	.08	.03	-.01	.26
34. Negative Interaction	.14	.11	.02	.06	.06	-.21
35. Hostile Treatment	.02	.07	.02	-.11	-.16	-.12
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	-.05	-.17	-.05	-.33*	-.28	.03

Table 6 *(continued)*

Correlations among Memory and Verbal Knowledge Scores

	31	32	33	34	35	36
Memory Scores						
Childhood Memory Task						
1. Retrieval Times for Anxious Memories						
2. Retrieval Times for Happy Memories						
3. Retrieval Times for Angry Memories						
4. Retrieval Times for Sad Memories						
5. Age During the Anxious Experience						
6. Age During the Happy Experience						
7. Age During the Angry Experience						
8. Age During the Sad Experience						
9. Intensity of Anxiety in the Anxious Experience						
10. Intensity of Happiness in the Happy Experience						
11. Intensity of Anger in the Angry Experience						
12. Intensity of Sadness in the Sad Experience						
13. Int. of Non-Dom. Emotions in the Anxious Experience						
14. Int. of Non-Dom. Emotions in the Happy Experience						
15. Int. of Non-Dom. Emotions in the Angry Experience						
16. Int. of Non-Dom. Emotions in the Sad Experience						
Levels of Processing Task						
17. Memory for Negative Mother Attributes						
18. Memory for Negative Father Attributes						
Story Task						
19. Memory for Hypothetical Negative Mother Attributes						
20. Memory for Hypothetical Negative Father Attributes						
ERCS Reconstructive Memory Coefficients						
Adolescent for Discussion with Mother						
21. Positive Interaction						
22. Negative Interaction						
23. Hostile Treatment						
Adolescent for Discussion with Father						
24. Positive Interaction						
25. Negative Interaction						
26. Hostile Treatment						
Adolescent for Discussion with Peer						
27. Positive Interaction						
28. Negative Interaction						
29. Hostile Treatment						
Mother						
30. Positive Interaction						
31. Negative Interaction	-					
32. Hostile Treatment	.58*	-				
Father						
33. Positive Interaction	-.07	-.24	-			
34. Negative Interaction	.24	.16	-.15	-		
35. Hostile Treatment	.10	.09	-.09	.43*		
Verbal Knowledge Scores						
36. Shipley Vocabulary Scores	.05	.06	-.15	-.02	.03	-

Data Analysis Plan

I used the following two procedures to examine attachment-related differences in adolescents' memory for attachment-relevant social information. First, I examined adolescents' memory for attachment-relevant social information as a function of their AAI group placement (i.e., as a function of adolescents' placement into either the secure or insecure AAI group). Individual differences in both adolescent and adult attachment are often reported categorically in terms of an individual having either a secure or an insecure "state of mind with respect to attachment." This categorical approach is noteworthy because it provides researchers with the opportunity to examine individuals' internal working models of attachment from the perspective of these models' overall organization and functional pattern (Cassidy & Kobak, 1988; Hesse, 1999).

Second, I examined adolescents' memory for attachment-relevant social information as a function of a "block" of five attachment scores: (a) "state of mind with respect to attachment," (b) Mother as a Secure Base score, (c) Father as a Secure Base score, (d) ECR Avoidance score, and (d) ECR Anxiety score. This approach is noteworthy because this block of variables reflects the proposed multidimensional representational structure of attachment in adolescence. As noted in the introduction, attachment theorists believe that the representational structure of attachment changes in adolescence, and is characterized by the (a) acquisition of a "state of mind with respect to attachment," (b) the retention (and perhaps clarification) of separate representations of attachment for mother and (c) for father, (d) the possible development of romantic attachment-related avoidance, and (e) the possible development of romantic attachment-related anxiety. Thus, in the following analyses, I examined these five variables simultaneously to determine whether and how each of these variables is linked to the

processing of attachment-relevant social information. However, although I analyzed

adolescents' "state of mind with respect to attachment" in terms of AAI group placement

in the first set of analyses, I analyzed adolescents' state of mind in this second set of

analyses using adolescents' AAI Coherence scores; AAI coherence scores provide greater

variability than AAI classifications and thus provide greater statistical power to find a

"state of mind effect" when this effect is being analyzed simultaneously with four other

continuous attachment variables. According to the Main and Goldwyn (1996) AAI

coding system, an individual's "state of mind with respect to attachment" can be gauged

most accurately by his or her AAI coherence score (i.e., higher scores raise the likelihood

that a person will be classified secure) and the AAI coherence score has been used

frequently in attachment research when researchers desired greater statistical power or

have needed to use a continuous variable of attachment in their analyses (e.g., Bosquet &

Egeland, 2001; Roisman, Madsen, Hennighausen, Sroufe, & Collins, 2001).

Test of Hypotheses Related to Adolescents' Memory for Emotionally-Significant

Childhood Experiences

Hypothesis 1a: Adolescent attachment insecurity and negative representations of

parents are linked to slower retrieval of emotionally-significant childhood memories. To

address this hypothesis, I conducted two sets of analyses. In the first set of analyses, I

entered adolescents' retrieval times for their memories for happy, sad, anxious, and angry

childhood experiences (obtained from the Childhood Memory Task) into a 2 (Adolescent

Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) multivariate analysis of

variance (MANOVA). As expected, a significant multivariate main effect for AAI Group

emerged, Wilk's $\lambda = .91$, $F(4, 161) = 4.14$, $p < .005$. No significant multivariate main

effect for Adolescent Gender emerged, Wilk's $\lambda = .99$, $F(4, 161) = .34$, $p > .05$, nor was

there a significant multivariate Adolescent Gender X AAI Group interaction, Wilk's $\lambda =$ .97, $F(4, 161) = 1.31$, $p > .05$. To further examine the significant AAI Group multivariate main effect, I entered the canonical variate obtained from the MANOVA (i.e., the variable computed from the optimally linear weighted combination of the MANOVA's canonical coefficients; Enders, 2003; Haase & Ellis, 1987) into a one-way (AAI Group: Secure vs. Insecure) analysis of variance (ANOVA): Insecure adolescents ($M = 1.62$, $SD = 1.41$) required significantly more time than secure adolescents ($M = .99$, $SD = .77$) to remember emotionally-significant childhood memories, $F(1, 166) = 13.59$, $p < .001$, $\eta^2 = .08$.

In the second set of analyses, I first regressed adolescents' retrieval times for their memories for happy, sad, anxious, and angry childhood experiences on adolescents' Gender, Attachment Scores, and Gender X Attachment Score interaction terms using a single omnibus multivariate multiple regression. I then regressed the canonical variate obtained from this multivariate multiple regression on adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3) using a hierarchical multiple regression. As can be seen in Table 7, a significant Gender X ECR Avoidance interaction term emerged in Step 3 of this regression. Follow-up regression analyses indicated that the link between ECR Avoidance and retrieval times was significant for girls ($b = .26$, $\beta = .30$, $sr^2 = .09$, $p < .005$), but not for boys ($b = -.17$, $\beta = -.15$, $sr^2 = .02$, $p > .05$). As can be seen in Figure 2, as girls' ECR Avoidance scores increased, so did the amount of time girls required to remember emotionally-significant childhood experience.

Hypothesis 1b: Adolescent attachment insecurity and negative representations of parents are linked to less accessibility to earlier memories for emotionally-significant

Table 7

Predicting Adolescents' Retrieval Times in the Childhood Memory Task from

Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Step 1					
Adolescent Gender	.09	.04	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.08	-.15	.04		
Mother as a Secure Base	-.02	.01	.02		
Father as a Secure Base	.01	.01	.00		
ECR Avoidance	.08	.08	.01		
ECR Anxiety	-.01	.08	.00		
				.07	.07
Step 3					
Gender X ECR Avoidance	-.50*	-1.38	.05		

* $p < .05$

Note: Only significant Gender X Attachment Score interactions are presented.

Figure 2

Adolescents' Retrieval Times for the Childhood Memory Task as a Function of

Adolescents' Gender and ECR Avoidance Scores
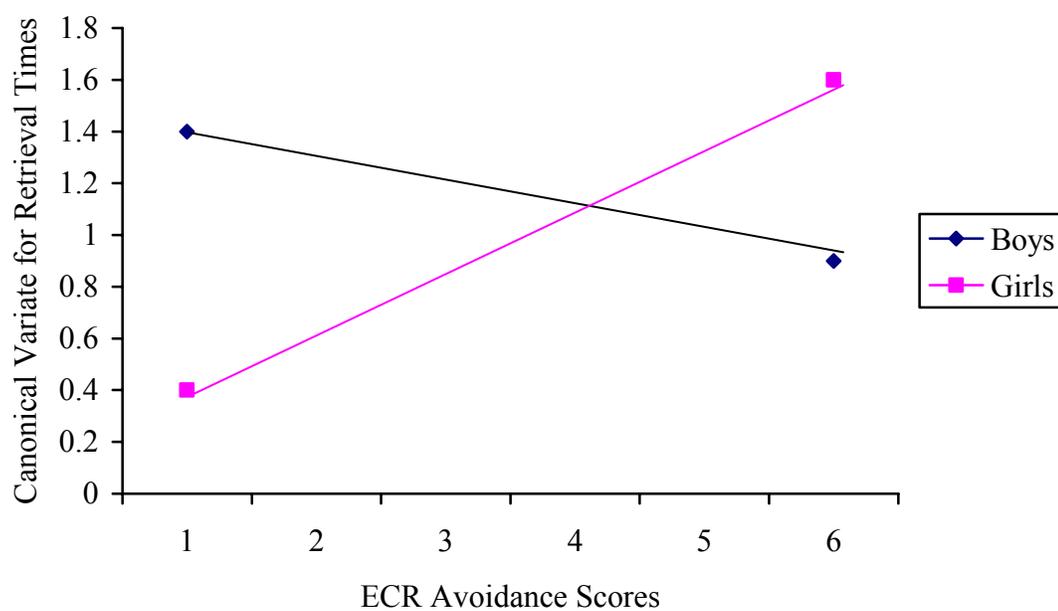
childhood experiences. To address this hypothesis, I conducted two sets of analyses. In the first sets of analyses, I entered adolescents' ages during the happy, sad, anxious, and angry childhood experiences (obtained from the Childhood Memory Task) into a 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) MANOVA. No significant multivariate main effects emerged for Gender, Wilk's λ = .99, F (4, 154) = .26, p > .05, AAI Group, Wilk's λ = .98, F (4, 154) = .84, p > .05, or the Gender X AAI Group interaction Wilk's λ = .99, F (4, 154) = .31, p > .05. In the second set of analyses, I regressed adolescents' ages during the happy, sad, anxious, and angry childhood experiences on adolescents' Gender, Attachment Scores, and Gender X Attachment Score interaction terms using a single omnibus multivariate multiple regression. I then regressed the canonical variate obtained from this multivariate multiple regression on adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3) using a hierarchical multiple regression. As can be seen in Table 8, none of the steps in this hierarchical multiple regression accounted for a significant amount of variance in adolescents' ages at the time of the remembered events, and none of the adolescents' attachment scores was significantly linked to this age variable.

Hypothesis 1c: Adolescent attachment insecurity and negative representations of parents are linked to less emotionally-intense memory for childhood experiences. To address this hypothesis, I conducted separate analyses for the intensities of adolescents' *dominant* and *non-dominant* emotions that were associated with the childhood experiences obtained from the Childhood Memory Task. With respect to the intensity of adolescents' *dominant emotions* (e.g., the intensity of happiness in the happy experience), I conducted two analyses. First, entered the intensity of the four dominant emotions into

Table 8

Predicting Adolescents' Ages for the Childhood Memory Task from Adolescents' Gender

and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Step 1					
Adolescent Gender	-.02	-.01	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	.00	.00	.00		
Mother as a Secure Base	.02	.15	.00		
Father as a Secure Base	-.02	-.18	.02		
ECR Avoidance	.10	.11	.01		
ECR Anxiety	.04	.04	.00		
				.04	.04

Note: No significant Gender X Attachment Score interactions emerged.

a 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) MANOVA.

A significant multivariate Gender X AAI Group interaction emerged, Wilk's $\lambda = .94$, F (4, 162) = 2.64, $p < .05$, although significant multivariate main effects did not emerge for Gender, Wilk's $\lambda = 1.00$, F (4, 162) = .12, $p > .05$, nor AAI Group, Wilk's $\lambda = .97$, F (4, 162) = 1.04, $p > .05$. I examined this interaction by entering the canonical variate obtained from the MANOVA into a 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) ANOVA and inspecting the Gender X AAI Group interaction (see Figure 3). Post-hoc analyses indicated that secure girls ($M = 7.55$, $SD = .88$) had significantly more intense dominate emotions than insecure girls ($M = 7.05$, $SD = 1.13$), t (105) = 2.48, $p < .05$. In contrast, secure boys ($M = 7.01$, $SD = 1.13$) had significantly less intense dominate emotions than insecure boys ($M = 7.66$, $SD = .85$), t (60) = 2.20, $p < .05$.

Second, I regressed the intensity of the four dominant emotions on adolescents' Gender, Attachment Scores, and Gender X Attachment Score interaction terms using an omnibus multivariate multiple regression. I then regressed the canonical variate obtained from this multivariate multiple regression on adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3) using a hierarchical multiple regression. As can be seen in Table 9, a significant Gender X ECR Avoidance interaction emerged. Contrary to the AAI-related findings reported above, follow-up regression analyses indicated that the link between ECR Avoidance and adolescents' dominant emotions was positive for girls ($b = 2.88$, $\beta = .22$, $sr^2 = .05$, $p < .05$) and negative for boys ($b = -6.21$, $\beta = -.31$, $sr^2 = .09$, $p < .05$). As seen in Figure 4, as girls' ECR avoidance increased, so did the intensity of their dominant emotions. Yet, as boys' ECR avoidance increased, the intensity of their dominant emotions decreased.

Figure 3

The Intensity of Adolescents' Dominate Emotions for the Childhood Memory Task as a

Function of Adolescents' Gender and AAI Group
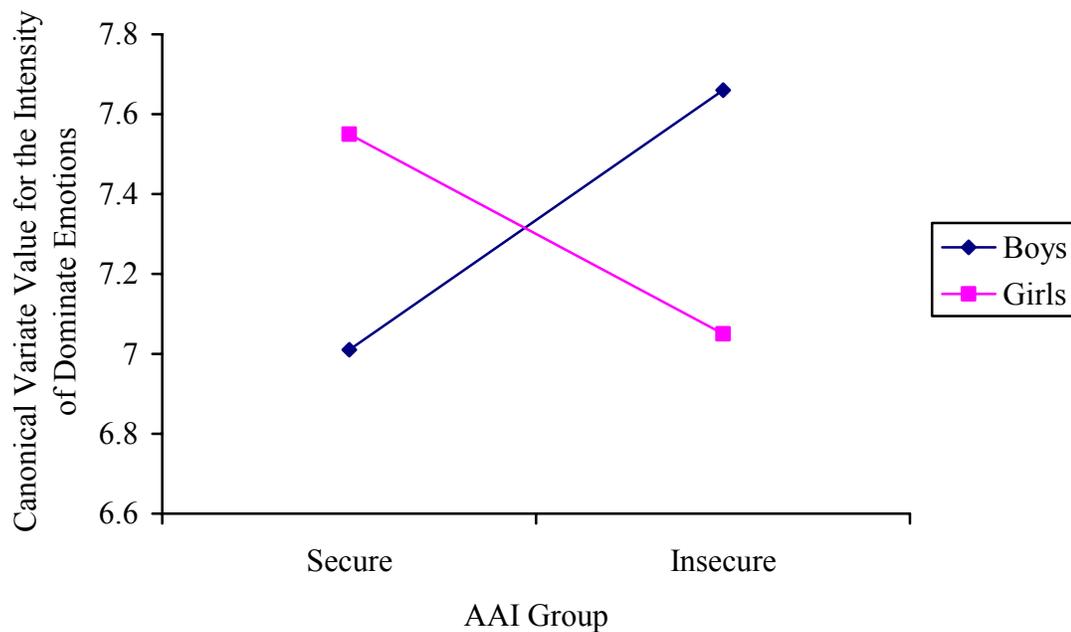
Table 9

Predicting Adolescents' Dominant Emotions for the Childhood Memory Task from

Adolescents' Gender and Attachment Scores

Predictors	b	β	Sr^2	ΔR^2	Total R^2
Step 1					
Adolescent Gender	2.51	.06	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-1.28	-.13	.02		
Mother as a Secure Base	-.26	-.12	.01		
Father as a Secure Base	.14	.07	.00		
ECR Avoidance	-.27	-.02	.00		
ECR Anxiety	.23	.01	.00		
				.03	.03
Step 3					
Gender X ECR Avoidance	-9.53*	-1.21	.07		

*$p < .005$

Note: Only significant Gender X Attachment Score interactions are presented.

Figure 4

The Intensity of Adolescents' Dominate Emotions for the Childhood Memory Task as a

Function of Adolescents' Gender and ECR Avoidance Scores
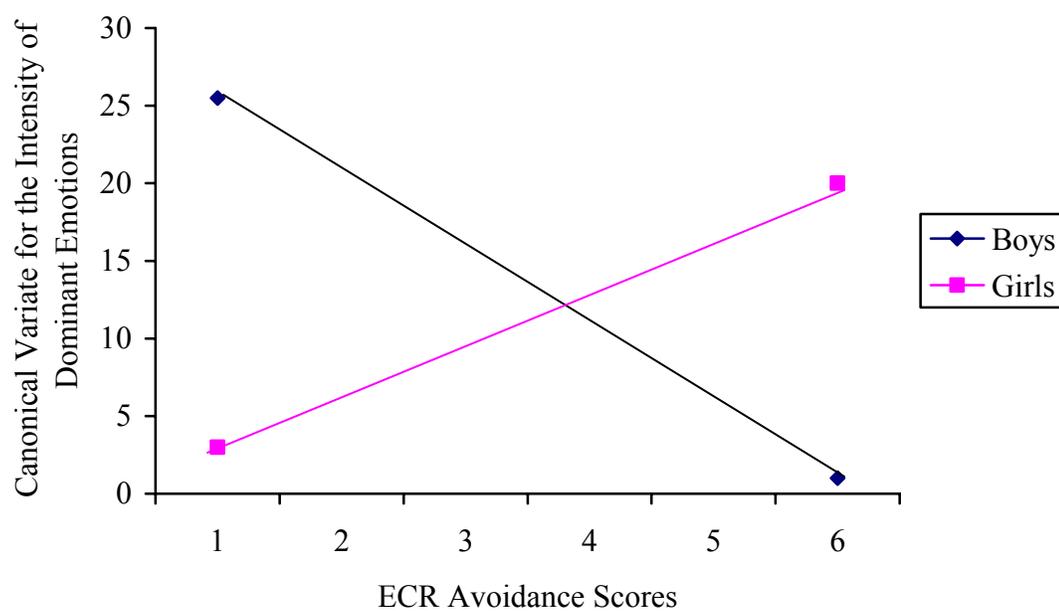
With respect to the intensity of adolescents' *non-dominant emotions* (e.g., the average intensity of all of the emotions in the happy experience other than happiness), I conducted two analyses. First, I entered the intensity of the non-dominant emotions into a 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) MANOVA. No significant multivariate effects emerged for adolescents' Gender [Wilk's $\lambda = .97$, $F (4, 162) = 1.08$, $p > .05$)], AAI Group [Wilk's $\lambda = .95$, $F (4, 162) = 2.11$, $p > .05$)], or the Adolescent Gender X AAI Group interaction [Wilk's $\lambda = .95$, $F (4, 162) = 1.96$, $p > .05$)]. Second, I regressed the intensity of the non-dominant emotions on adolescents' Gender, Attachment Scores, and Gender X Attachment Score interaction terms using an omnibus multivariate multiple regression. I then regressed the canonical variate obtained from this multivariate multiple regression on adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3) using a hierarchical multiple regression. As can be seen in Table 10, none of the steps in this regression accounted for a significant amount of variance in adolescents' non-dominant emotions, and none of the attachment scores were significantly linked to these emotions.

Summary. Taken as a whole, these analyses provide mixed evidence of links between attachment and adolescents' memory for emotionally-significant childhood experiences. As expected, with respect to retrieval times, adolescents classified as insecure on the AAI showed slower retrieval of emotionally-significant childhood memories than their secure counterparts; moreover, girls (but not boys) who reported greater romantic attachment-related avoidance showed slower retrieval of these memories than girls who reported lower avoidance. However, with the exception of girls' degree of romantic attachment-related avoidance, adolescents' continuous attachment scores were not linked significantly to their retrieval times.

Table 10

Predicting Adolescents' Non-Dominant Emotions for the Childhood Memory Task from

Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Step 1					
Adolescent Gender	-1.08	-.04	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.38	-.05	.00		
Mother as a Secure Base	.16	.10	.01		
Father as a Secure Base	.04	.03	.00		
ECR Avoidance	-.78	-.07	.01		
ECR Anxiety	1.04	.08	.01		
				.03	.03

Note: No significant Gender X Attachment Score interactions emerged.

Attachment was also linked to the emotional intensity of adolescents' childhood memories, but several contradictory and unexpected results emerged. For example, consistent with my hypothesis, girls classified as insecure on the AAI has significantly less intense dominate emotions than their secure counterparts. Yet, contradictory data emerged that as girls' ECR Avoidance scores increased, so did the intensity of their dominant emotions. Interestingly, a reverse pattern of AAI-related and ECR Avoidance-related results emerged for boys. Contrary to my hypothesis, boys classified as insecure on the AAI had significantly more intense dominant emotions than their secure counterparts. Yet, as hypothesized, as boys' ECR Avoidance scores increased, the intensity of their dominant emotions decreased. With the exception of adolescents' ECR Avoidance scores, none of the other continuous attachment scores was linked significantly to the intensity of adolescents' dominant emotions.

Despite these significant results, attachment was not linked to other aspects of adolescents' memory for emotionally-significant childhood experiences. More precisely, neither adolescents' AAI classifications nor their continuous attachment scores were linked their ages at the time of the remembered events or the intensity of the non-dominant emotions experienced during the events.

Test of Hypothesis Related to Adolescents' Memory for Parent-Related Attributes

Hypothesis 2: Adolescent attachment insecurity and negative representation of parents are linked to greater memory for negative parental attributes. To address this hypothesis, I conducted two pairs of analyses. In the first pair of analyses (which contained separate analyses for mother and father attributes), I entered adolescents' memory for negative parental attribute scores (derived from the Levels-of-Processing [LOP] Task) and adolescents' memory for negative hypothetical parental attribute scores

(derived from the Adolescent-Parent Story Task) into a single 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) multivariate analysis of covariance (MANCOVA). Adolescents' SILS Verbal Knowledge scores served as the covariate in this MANCOVA (and all further analyses in this section) due to due to the highly verbal nature of the Levels-of-Processing (LOP) and Adolescent-Parent Story Tasks. With respect to mother-related attributes, no significant multivariate effects emerged for adolescents' Gender, Wilk's λ = .99, F (2, 174) = 1.24, p > .05, AAI Group, Wilk's λ = 1.00, F (2, 174) = .11, p > .05, or the Adolescent Gender X AAI Group interaction, Wilk's λ = .98, F (2, 174) = 1.70, p > .05. With respect to father-related attributes, no significant multivariate effects emerged for adolescents' Gender, Wilk's λ = .99, F (2, 180) = 1.04, p > .05, AAI Group, Wilk's λ = 1.00, F (2, 180) = .37, p > .05, or the Adolescent Gender X AAI Group interaction, Wilk's λ = .99, F (2, 180) = .48, p > .05.

In the other pair of analyses, I regressed adolescents' memory for negative parental attribute scores and memory for negative hypothetical parental attribute scores on adolescents' SILS Verbal Knowledge scores, Gender, Attachment Scores, and Gender X Attachment Score interaction terms using a single omnibus multivariate multiple regression. I then regressed the canonical variate obtained from the multivariate multiple regression on adolescents' SILS verbal knowledge scores and Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3). With respect to mother-related attributes, Step 2 of this regression was significant, indicating that the block of adolescents' five attachment scores accounted for a significant amount of variance (23%) in adolescents' memory for negative mother-related attribute canonical variate scores (see Table 11). Moreover, although adolescents' Mother as a Secure Base scores were a unique predictor or adolescents' memory for

Table 11

Predicting Adolescents' Negatively-Biased Memory for Parent-Related Attributes from

Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Negatively-Biased Memory for Mother-Related Attributes					
Step 1					
SILS Verbal Knowledge	-.01	-.05	.00		
Adolescent Gender	-.31	-.13	.02		
				.02	.02
Step 2					
AAI Coherence of Mind	-.05	-.08	.04		
Mother as a Secure Base	-.07***	-.50	.16		
Father as a Secure Base	.02	.13	.01		
ECR Avoidance	.04	.04	.01		
ECR Anxiety	.11	.10	.01		
				.23***	.25
Step 3					
Gender X Mother as a Secure Base	.10**	2.67	.03		
Negatively-Biased Memory for Father-Related Attributes					
Step 1					
SILS Verbal Knowledge	-.00	-.01	.00		
Adolescent Gender	-.12	-.05	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.04	-.08	.02		
Mother as a Secure Base	.04**	.28	.00		
Father as a Secure Base	-.05***	-.46	.13		
ECR Avoidance	-.02	-.02	.00		
ECR Anxiety	.11	.10	.02		
				.16***	.16

* p < .05 ** p < .005 *** p < .0001

Note: Only significant Gender X Attachment Score interactions are presented.

mother-related attributes in Step 2, a significant Gender X Mother as a Secure Base

interaction emerged in Step 3, indicating that the link between adolescents' Mother as a

association between Mother as a Secure Base scores and memory for mother-related

attributes for girls (b = -.07, β = -.48, sr^2 = .23, p < .0001), but not for boys (b = -.01, β =

-.08, sr^2 = .01, p > .05). As can be seen in Figure 5, as girls' (but not boys') positive

representations of their mothers increased, their memory for negative mother-related

attributes decreased.

With respect to father-related attributes, Step 2 of this regression was significant

indicating that the block of adolescents' five attachment scores accounted for a

significant amount of variance (16%) in adolescents' memory for negative father-related

attribute canonical variate scores (see also Table 11). Moreover, adolescents' Father as a

Secure Base scores and Mother as a Secure Base scores were unique predictors of

adolescents' negatively-biased memory for father-related attributes. More precisely,

adolescents who possessed more negative representations of their fathers as serving as

secure base were more likely to have a negatively-biased memory for negative father-

related attributes. However, adolescents who possessed *more positive representations* of

their mothers as serving as secure base were more likely to have a negatively-biased

memory for father-related attributes.

Summary. As expected, a link emerged between attachment and adolescents'

memory for parent-related attributes. The block of adolescents' five attachment scores

accounted for a significant amount of variance in adolescents' memory for both mother-

related and father-related attributes, and adolescents' secure base scores accounted for the

great majority of this variance. More precisely, as girls' (but not boys') representations

of their mothers as serving as a secure base decreased, their memory for negative mother-

Figure 5

Adolescents' Negatively-Biased Memory for Mother-Related Attributes as a Function of

Adolescents' Gender and Mother as a Secure Base Scores
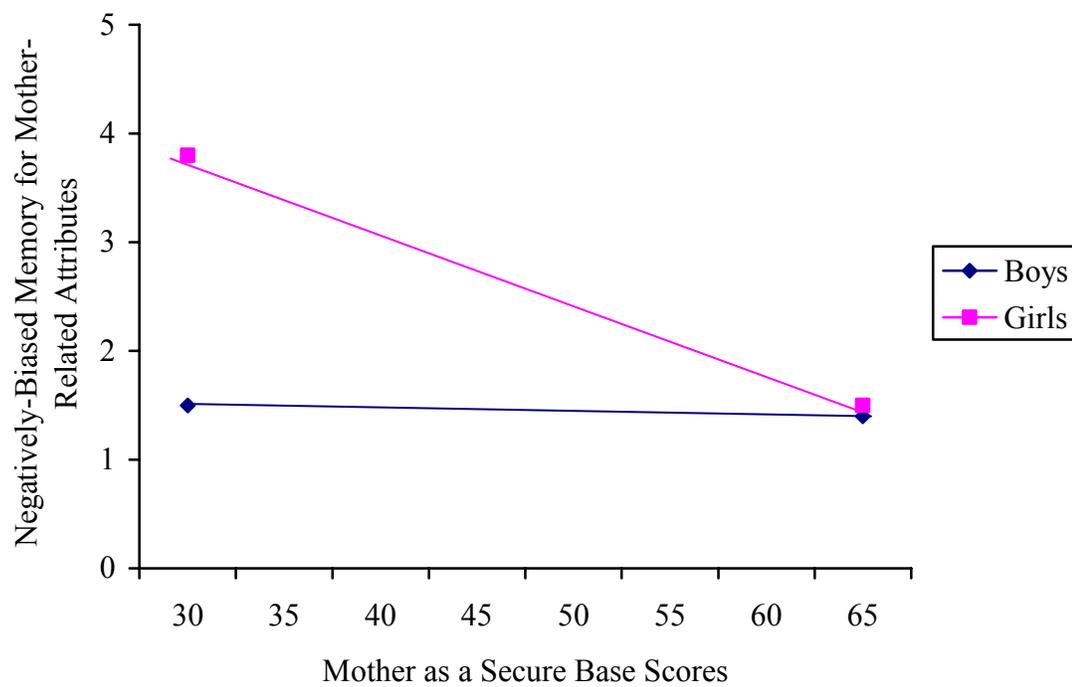
related attributes increased. Similarly, as adolescents' representations of their fathers as serving as a secure base decreased, their memory for negative father-related attributes increased. However, contrary to expectations, as adolescents' representations of their mothers as serving as a secure base decreased, their memory for negative father-related attributes decreased. Surprisingly, AAI group differences in adolescents' memory for parent-related attributes did not emerge.

Test of Hypotheses Related to Reconstructive Memory for Conflict

Hypothesis 3a: Adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-parent conflict. To address this hypothesis, I conducted two sets of analyses which were based largely on the analyses conducted by Feeney and Cassidy (2003). In the first set of analyses (which contained separate analyses for the adolescent-mother and adolescent father conflict), I entered adolescents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive memory coefficients into three separate 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) ANOVAs (see Table 12). With respect to *adolescent-mother conflict,* a significant main effect for AAI Group emerged for adolescents' Negative Interaction (but not Positive Interaction or Hostile Treatment) reconstructive memory coefficients: Compared to secure adolescents, insecure adolescents remembered the conflict discussions with mother as being more negative than they reported initially six weeks earlier. A significant main effect for Adolescent Gender also emerged for adolescents' Hostile Treatment (but not Positive or Negative Interaction) reconstructive memory coefficients: Compared to girls, boys remembered being treated with greater hostility by their mothers than they reported initially six weeks earlier. No significant adolescent Gender X AAI Group emerged in

Table 12

Adolescents' Reconstructive Memory Coefficients (RMC's) for the Conflict Discussions with Mother and Father as Function of

Adolescent Gender and AAI Group

| | Adolescent Gender | | | | | | AAI Group | | | | | |
| | Boys | | Girls | | | | Secure | | Insecure | | | |
RMC	M	(SD)	M	(SD)	F	η²	M	(SD)	M	(SD)	F	η²
Mother Conflict Discussion												
Positive Interaction	-.02	(.51)	.01	(.55)	.33		.04	(.51)	-.07	(.59)	1.84	
Negative Interaction	-.02	(.53)	.01	(.49)	.00		-.06	(.46)	.11	(.56)	5.73*	.04
Hostile Treatment	.10	(.45)	-.06	(.38)	5.86*	.04	-.03	(.32)	.07	(.55)	2.65	
Father Conflict Discussion												
Positive Interaction	-.05	(.53)	.03	(.54)	.77		.07	(.50)	-.13	(.57)	5.22*	.04
Negative Interaction	-.03	(.49)	.02	(.48)	.19		-.02	(.45)	.04	(.55)	.73	
Hostile Treatment	.03	(.42)	-.02	(.33)	.85		-.01	(.30)	.01	(.48)	.66	

* p < .05

Note. Effect sizes are only reported for significant results. The degrees of freedom for the Positive and Negative Interaction coefficients for the Mother Conflict coefficients for the Mother Conflict were (1, 156). The degrees of freedom for the Hostile Treatment coefficients for the Mother Conflict were (1, 152). The degrees of freedom for the Positive and Negative Interaction coefficients for the Father Conflict were (1, 151). The degrees of freedom for the Hostile Treatment coefficients for the Father Conflict were (1, 146). No significant Gender X AAI Group interactions emerged.

these mother-related ANOVAs. With respect to *adolescent-father conflict*, a significant main effect for AAI Group emerged for adolescents' Positive Interaction (but not Negative Interaction or Hostile Treatment) reconstructive memory coefficients: compared to insecure adolescents, secure adolescents remembered the conflict discussions with their fathers as being more positive than they reported initially six week earlier. No significant Gender main effects or Gender X AAI Group interactions emerged.

In the second set of analyses (which contained separate analyses for adolescent-mother and adolescent-father conflict), I regressed adolescents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive memory coefficients separately on adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Score interaction terms (Step 3) using three hierarchical multiple regressions. With respect to adolescent-mother conflict, the block of adolescents' five attachment scores predicted adolescents' Positive Interaction, Negative Interaction, and Hostile Treatment coefficients (accounting for 8%, 11%, and 14% of the variance in these coefficients, respectively; see Table 13): Generally speaking, adolescents who had more positive attachment scores remembered their interactions with their mothers as both significantly more positive and significantly less negative than these adolescents had reported originally six weeks earlier. Moreover, adolescents who had more positive attachment scores remembered being treated with less hostility by their mother than these adolescents had reported six weeks earlier. In addition to these "block" effects, adolescents' Mother as a Secure Base scores uniquely predicted adolescents' Hostile Treatment reconstructive memory coefficients: as adolescents' Mother as Secure Base score increased, their tendency to remember being treated with hostility by their mothers decreased over the six week span. Surprisingly, the Gender X Father as a Secure Base

Table 13

Predicting Adolescents' Reconstructive Memory Coefficients (RMC's) for the Conflict

Discussion with Mother from Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Positive Interaction with Mother RMC					
Step 1					
Adolescent Gender	-.01	-.01	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	.01	.02	.01		
Mother as a Secure Base	.01	.15	.05		
Father as a Secure Base	.01	.12	.01		
ECR Avoidance	-.04	-.08	.01		
ECR Anxiety	.01	.02	.00		
				.08*	.08
Step 3					
Gender X Father as a Secure Base	-.03*	-1.67	.03		
Negative Interaction with Mother RMC					
Step 1					
Adolescent Gender	-.07	-.07	.00	.00	.00
Step 2					
AAI Coherence of Mind	-.02	-.09	.03		
Mother as a Secure Base	.07	-.18	.06		
Father as a Secure Base	.23	-.12	.01		
ECR Avoidance	.04	.04	.00		
ECR Anxiety	.00	.01	.00		
				.11**	.11
Hostile Treatment by Mother RMC					
Step 1					
Adolescent Gender	.10	.12	.02	.02	.02
Step 2					
AAI Coherence of Mind	-.02	-.09	.03		
Mother as a Secure Base	-.01**	-.26	.08		
Father as a Secure Base	-.00	-.08	.00		
ECR Avoidance	.00	.00	.00		
ECR Anxiety	.05	.13	.02		
				.14***	.16

* p < .05 ** p < .01 *** p < .0005
Note: Only significant Gender X Attachment Score interactions are presented.

interaction term also uniquely predicted adolescents' Positive Interaction with mother coefficients. As can be seen in Figure 6, as girls' Father as a Secure Base scores increased, their tendency to remember having had a positive interaction with their mother increased over the six week span ($b = .02$, $\beta = .27$, $sr^2 = .07$, $p < .01$). A link between boys' Father as a Secure Base scores and Positive Interactions coefficients did not emerge ($b = .01$, $\beta = .15$, $sr^2 = .02$, $p > .05$).

With respect to adolescent-father conflict, the block of adolescents' five attachment scores predicted both adolescents' Positive Interaction and Negative Interaction coefficients (accounting for 13% and 9% of the variance in these coefficients, respectively; see Table 14): Generally speaking, adolescents who possessed more positive attachment scores remembered their interactions with their fathers as both more positive and less negative than these adolescents had reported six weeks earlier. Moreover, within both of these blocks of attachment scores, adolescents' Father as a Secure Base scores uniquely predicted adolescents' Positive Interaction and Negative Interaction coefficients. More precisely, adolescents who possessed more positive representations of their fathers as serving as a secure base remembered their conflict discussions with father as being more positive and less negative than reported originally six week earlier. In addition to these Attachment Score main effects, a significant Gender X AAI Coherence of Mind interaction also emerged in predicting adolescents' Positive Interaction coefficients. As can be seen in Figure 7, boys who possessed greater AAI Coherence of Mind were also more likely to remember the conflict discussions with their fathers as more positive than reported originally six weeks earlier ($b = .09$, $\beta = .36$, $sr^2 = .13$, $p < .01$). However, girls' AAI Coherence of Mind scores were not linked to their Positive Interactions coefficients ($b = .00$, $\beta = .00$, $sr^2 = .00$, $p > .05$). Contrary to

Figure 6

Adolescents' Positive Interaction Reconstructive Memory Coefficients for the Conflict

Discussion with Mother as a Function of Adolescents' Gender and Father as a Secure

Base Scores
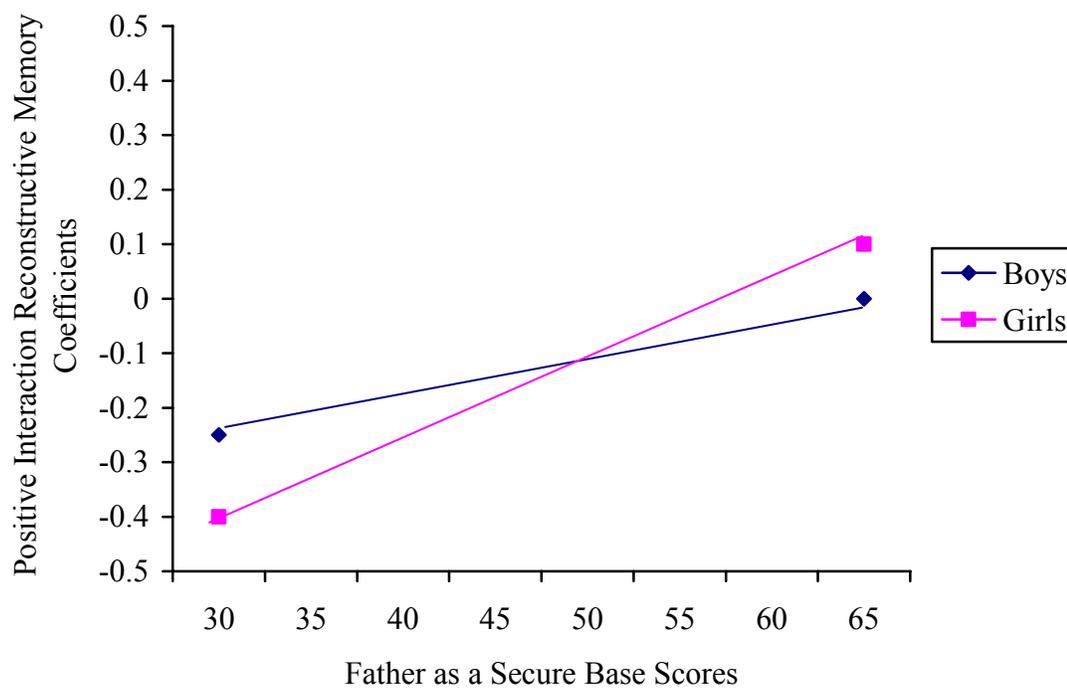
Table 14

Predicting Adolescents' Reconstructive Memory Coefficients (RMC's) for the Conflict

Discussion with Father from Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Positive Interaction with Father RMC					
Step 1					
Adolescent Gender	-.07	-.07	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.00	-.01	.01		
Mother as a Secure Base	.01	.09	.05		
Father as a Secure Base	.02*	.27	.04		
ECR Avoidance	-.04	-.07	.01		
ECR Anxiety	-.04	-.06	.01		
				.13**	.13
Step 3					
Gender X AAI Coherence of Mind	.13*	.96	.04		
Negative Interaction with Father RMC					
Step 1					
Adolescent Gender	-.07	-.07	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	.03	.11	.00		
Mother as a Secure Base	.01	.09	.01		
Father as a Secure Base	-.02**	-.31	.06		
ECR Avoidance	.06	12	.02		
ECR Anxiety	.02	.04	.00		
				.09*	.09
Hostile Treatment by Father RMC					
Step 1					
Adolescent Gender	.02	.03	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	.01	.07	.00		
Mother as a Secure Base	-.00	-.06	.02		
Father as a Secure Base	-.01	-.18	.02		
ECR Avoidance	.04	.11	.02		
ECR Anxiety	-.01	-.04	.00		
				.06	.06

* $p < .05$ ** $p < .005$

Note: Only significant Gender X Attachment Score interactions are presented.

Figure 7

Adolescents' Positive Interaction Reconstructive Memory Coefficients for the Conflict

Discussion with Father as a Function of Adolescents' Gender and AAI Coherence of

Mind Scores
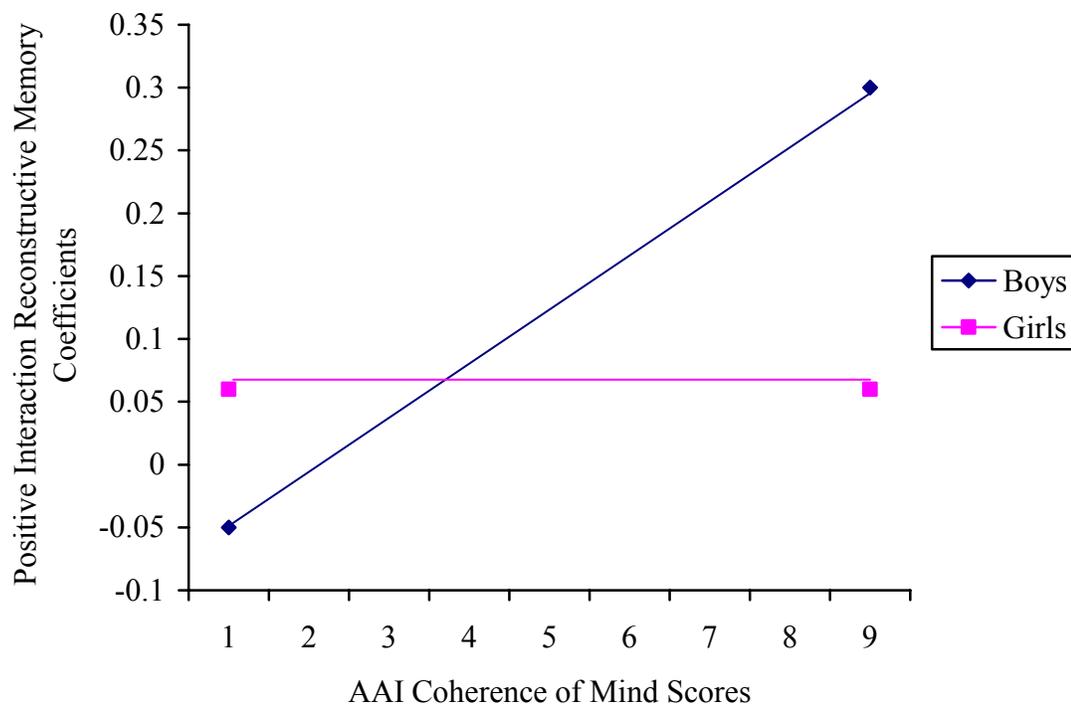
expectations, none of the five attachment scores was linked to adolescents' Hostile

Treatment coefficients.

Hypothesis 3b: Adolescent attachment insecurity and negative representations of parents are linked to more negative adolescent reconstructive memory for adolescent-peer conflict. To address this hypothesis, I conducted two sets of analyses. In the first set of analyses, I entered adolescents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive memory coefficients from the adolescent-peer conflict task into three separate 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI Group: Secure vs. Insecure) ANOVA's (see Table 15). A significant main effect for AAI Group emerged for adolescents' Positive Interaction coefficients: Compared to insecure adolescents, secure adolescents remembered the conflict discussions with their peers as being more positive than they reported initially two weeks earlier. A significant Gender X AAI Group Interaction also emerged for adolescents' Hostile Treatment coefficients: As can be seen in Figure 8, compared to secure boys (M = -.07, SD = .21), insecure boys (M = .19, SD = .54) remembered being treated with greater hostility by their peers than they reported initially two weeks earlier, t (53) = 2.56, p < .05. Insecure girls (M = .01, SD = .33) and secure girls (M = -.02, SD = .29) did not differ regarding their memories of hostile treatment, t (93) = .32, p > .05. No Gender or AAI Group main effects or Gender X AAI Group interactions emerged for adolescents' Negative Interaction coefficients.

In the second sets of analyses, I regressed adolescents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive memory coefficients separately on their Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Scores interaction terms (Step 3) using three hierarchical multiple regressions (see Table 16). Although the block of adolescents' five attachment scores was not linked

Table 15

Adolescents' Reconstructive Memory Coefficients (RMC's) for the Conflict Discussions with a Peer as Function of Adolescent

Gender and AAI Group

| | Adolescent Gender | | | | | AAI Group | | | |
| | Boys | Girls | | | | Secure | Insecure | | |
RMC	M (SD)	M (SD)	F	η^2		M (SD)	M (SD)	F	η^2
Peer Conflict Discussion									
Positive Interaction	-.07 (.52)	.04 (.55)	.90			.07 (.48)	-.14 (.63)	3.98*	.04
Negative Interaction	-.01 (.41)	.01 (.33)	.00			-.03 (.29)	.06 (.47)	3.32	
Hostile Treatment	.02 (.38)	-.01 (.30)	1.51			-.04 (.27)	.07 (.43)	5.76*	.04

* p < .05

Note. Effect sizes are only reported for significant results. The degrees of freedom for the Positive and Negative Interaction coefficients were (1, 149). The degrees of freedom for the Hostile Treatment coefficient was (1, 149). For Hostile Treatment, a significant Adolescent Gender X AAI Group interaction emerged, $F(1, 146) = 4.19, p < .05, \eta^2 = .03$. No other significant Adolescent Gender X AAI Group interactions emerged.

Figure 8

Adolescents' Hostile Treatment Reconstructive Memory Coefficients for the Peer Conflict

Discussion as a Function of Adolescents' Gender and AAI Group
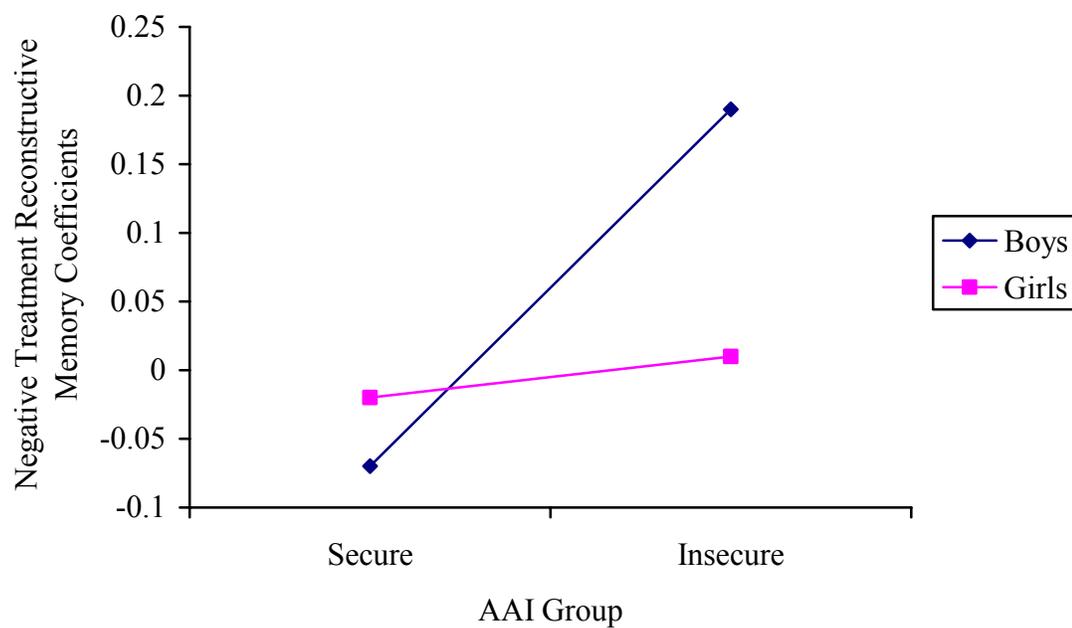
Table 16

Predicting Adolescents' Reconstructive Memory Coefficients (RMC's) for the Peer

Conflict Discussion from Adolescents' Gender and Attachment Scores

Predictors	*b*	β	sr^2	ΔR^2	Total R^2
Positive Interaction RMC					
Step 1					
Adolescent Gender	-.10	-.09	.01		
				.01	.01
Step 2					
AAI Coherence of Mind	.02	.08	.02		
Mother as a Secure Base	.01	.01	.01		
Father as a Secure Base	.01	.15	.01		
ECR Avoidance	-.02	-.04	.01		
ECR Anxiety	.03	.05	.01		
				.04	.05
Negative Interaction RMC					
Step 1					
Adolescent Gender	-.05	-.08	.01		
				.01	.01
Step 2					
AAI Coherence of Mind	-.01	-.03	.01		
Mother as a Secure Base	-.01	-.04	.01		
Father as a Secure Base	-.01	-.08	.01		
ECR Avoidance	-.02	-.08	.01		
ECR Anxiety	.03	.09	.01		
				.03	.04
Hostile Treatment RMC					
Step 1					
Adolescent Gender	.01	.01	.01		
				.01	.01
Step 2					
AAI Coherence of Mind	-.01	-.07	.01		
Mother as a Secure Base	-.01	-.04	.01		
Father as a Secure Base	-.01	-.05	.01		
ECR Avoidance	.01	.04	.01		
ECR Anxiety	.06*	.18	.04		
				.06	.06
Step 3					
Gender X Coherence of Mind	-.06*	-.79	.01		
Gender X Mother as a Secure Base	.03*	2.60	.05		

* p < .05

Note: Only significant Gender X Attachment Score interactions are presented.

to adolescents' Positive Interaction, Negative Interaction, or Hostile Treatment

coefficients, adolescents' ECR anxiety scores did uniquely predict adolescents' Hostile

Treatment coefficients: As adolescents' romantic attachment-related anxiety increased,

their memory for being treated with hostility by their peers increased over the two week

span. Moreover, adolescents' Gender X Coherence of Mind and Gender X Mother as a

Secure Base scores each uniquely predicted adolescents' Hostile Treatment coefficients.

As can be seen in Figure 9, as boys' AAI Coherence of Mind scores increased, their

memory for being treated with hostility by their peers decreased over the two week span

($b = -.06$, $\beta = -.31$, $sr^2 = .10$, $p < .05$); no such link emerged for girls ($b = -.01$, $\beta = -.03$,

$sr^2 = .00$, $p > .05$). Contrastingly, as girls' Mother as a Secure Base scores increased,

their memory for being treated with hostility by their peers decreased over the two-week

span ($b = -.01$, $\beta = -.23$, $sr^2 = .05$, $p < .05$); no such link emerged for boys ($b = .00$, $\beta =$

$.06$, $sr^2 = .00$, $p > .05$).

Hypothesis 3c: Adolescent attachment insecurity and negative representations of

parents are linked to more negative parental reconstructive memory for adolescent-

parent conflict. To address this hypothesis, I conducted two sets of analyses. In the first

set of analyses (which contained separate analyses for mothers and fathers), I entered

parents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive

memory coefficients into three separate 2 (Adolescent Gender: Boy vs. Girl) X 2 (AAI

Group: Secure vs. Insecure) ANOVA's (see Table 17). With respect to *mothers*, a

significant main effect for AAI Group emerged for mothers' Negative Interaction

coefficients: compared to mothers of secure adolescents, mothers of insecure adolescents

remembered the conflict discussions with their adolescents as being more negative than

they reported initially six week earlier. Interestingly, this finding mirrors the finding

Figure 9

Adolescents' Hostile Treatment Reconstructive Memory Coefficients for the Peer Conflict

Discussion as a Function of Adolescents' Gender and Attachment Scores
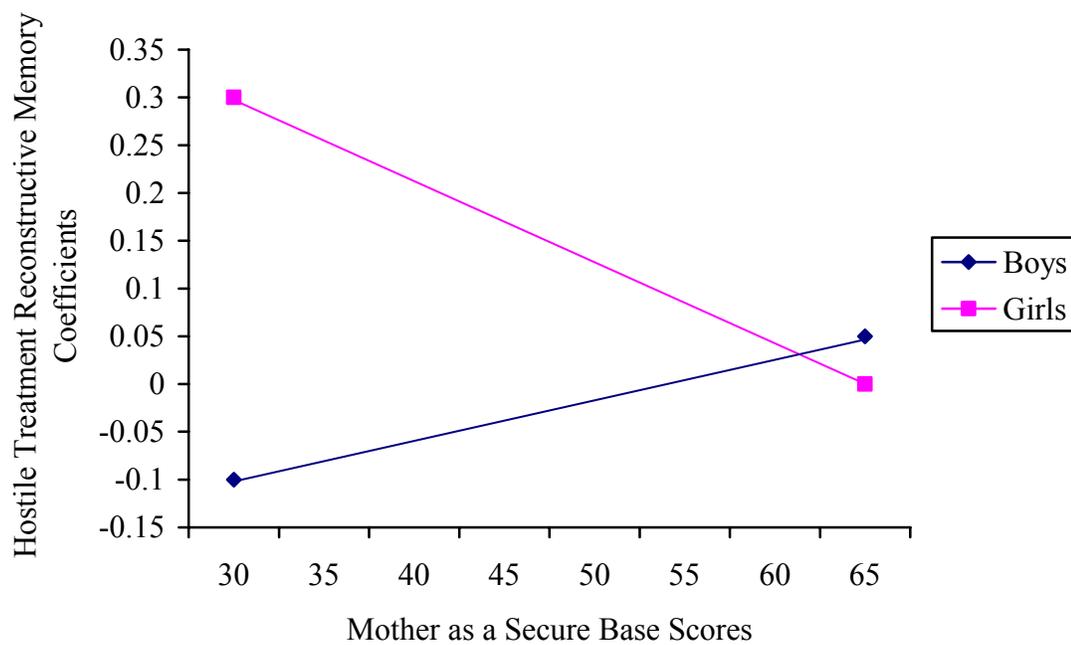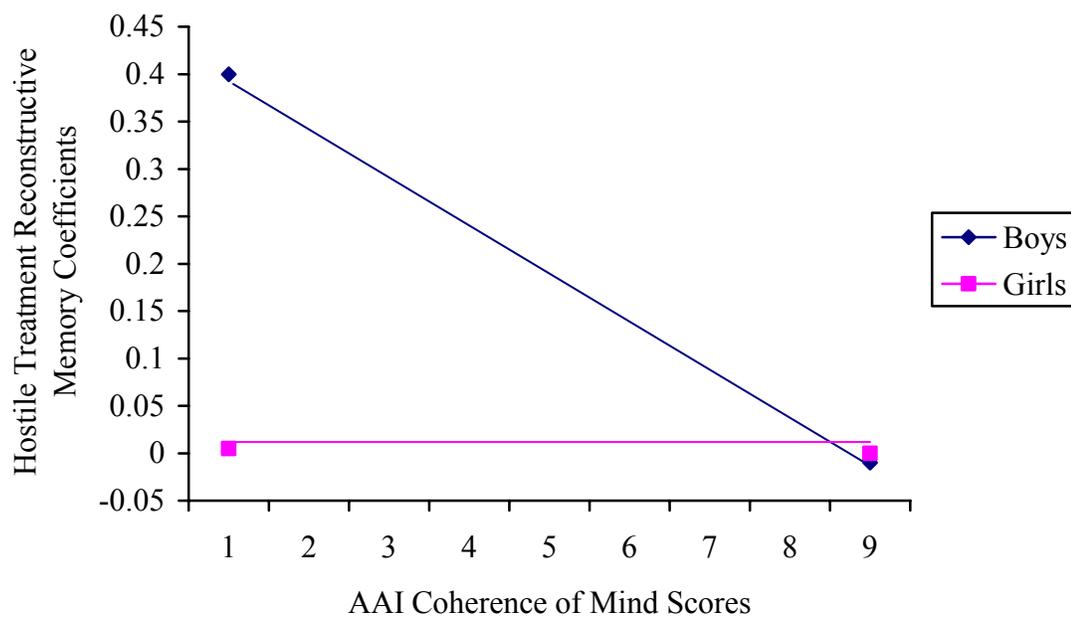
Table 17

*Parents' Reconstructive Memory Coefficients (RMC's) for the Conflict Discussions as Functions of Their Adolescents' Gender and AAI Group.*

| | Adolescent Gender | | | | | | AAI Group | | | | | |
| | Boys | | Girls | | | | Secure | | Insecure | | | |
RMC	M	(SD)	M	(SD)	F	η²	M	(SD)	M	(SD)	F	η²
Mother												
Positive Interaction	-.07	(.49)	.04	(.57)	4.20*	.03	.02	(.53)	-.04	(.57)	1.70	
Negative Interaction	.04	(.47)	-.03	(.57)	.98		-.06	(.48)	.11	(.62)	4.02*	.03
Hostile Treatment	.04	(.49)	-.02	(.51)	.05		-.04	(.44)	.08	(.59)	1.13	
Father												
Positive Interaction	-.03	(.58)	.02	(.56)	.47		.02	(.56)	-.03	(.59)	.37	
Negative Interaction	.03	(.42)	-.02	(.52)	.17		-.03	(.46)	.06	(.53)	.92	
Hostile Treatment	.02	(.44)	-.01	(.49)	.03		-.06	(.43)	.12	(.52)	4.17*	.03

* p < .05

Note. Effect sizes are only reported for significant results. The degrees of freedom for mothers' Positive and Negative Interaction coefficients were (1, 156). The degrees of freedom for mothers' Hostile Treatment coefficients were (1, 155). The degrees of freedom for fathers' Negative Interaction and Hostile Treatment coefficients were (1, 151). The degrees of freedom for fathers' Positive Interaction coefficients were (1, 152). For mothers' Positive Interaction coefficients, a significant Adolescent Gender X AAI Group interaction emerged, $F(1, 156) = 8.36, p < .005, \eta^2 = .05$. No other significant Adolescent Gender X AAI Group interactions emerged.

reported above that compared to secure adolescents, insecure adolescents remembered the conflict discussions with mother as being more negative than they reported initially six week earlier. Furthermore, a significant Adolescent Gender X AAI Group interaction emerged for mothers' Positive Interaction coefficients. As can be seen in Figure 10, compared to mothers of insecure boys ($M = -.31$, $SD = .50$), mothers of secure boys ($M = .07$, $SD = .44$) remembered their interactions with their adolescents as significantly more positive than they initially reported six weeks earlier, $t(58) = 3.04$, $p < .005$. However, mothers of secure girls ($M = -.01$, $SD = .57$) and insecure girls ($M = .13$, $SD = .55$) did not differ in their memory for the positivity of their interactions with their adolescents, $t(98) = 1.18$, $p > .05$. No Adolescent Gender or AAI Group main effects or Adolescent Gender X AAI Group interactions emerged for mothers' Hostile Treatment coefficients.

For *fathers*, a significant main effect for AAI Group emerged for their Hostile Treatment coefficients: Compared to fathers of secure adolescents, fathers of insecure adolescents remembered being treated with greater hostility during the interactions with their adolescents than they reported originally six week earlier (see also Table 17). No significant Adolescent Gender or AAI Group main effects, or Adolescent Gender X AAI Group interactions emerged for fathers' Positive or Negative Interaction coefficients.

In the second pair of analyses (which contained separate sets of analyses for mothers and fathers), I regressed parents' Positive Interaction, Negative Interaction, and Hostile Treatment reconstructive memory coefficients separately on their adolescents' Gender (Step 1), Attachment Scores (Step 2), and Gender X Attachment Scores interaction terms (Step 3) using three hierarchical multiple regressions. As can be seen in Table 18, with respect to *mothers*, the block of adolescents' five attachment scores accounted for a significant amount of variance (18%) in mothers' Positive Interaction

Figure 10

Mothers' Positive Interaction Reconstructive Memory Coefficients as a Function of Their

Adolescents' Gender and AAI Group
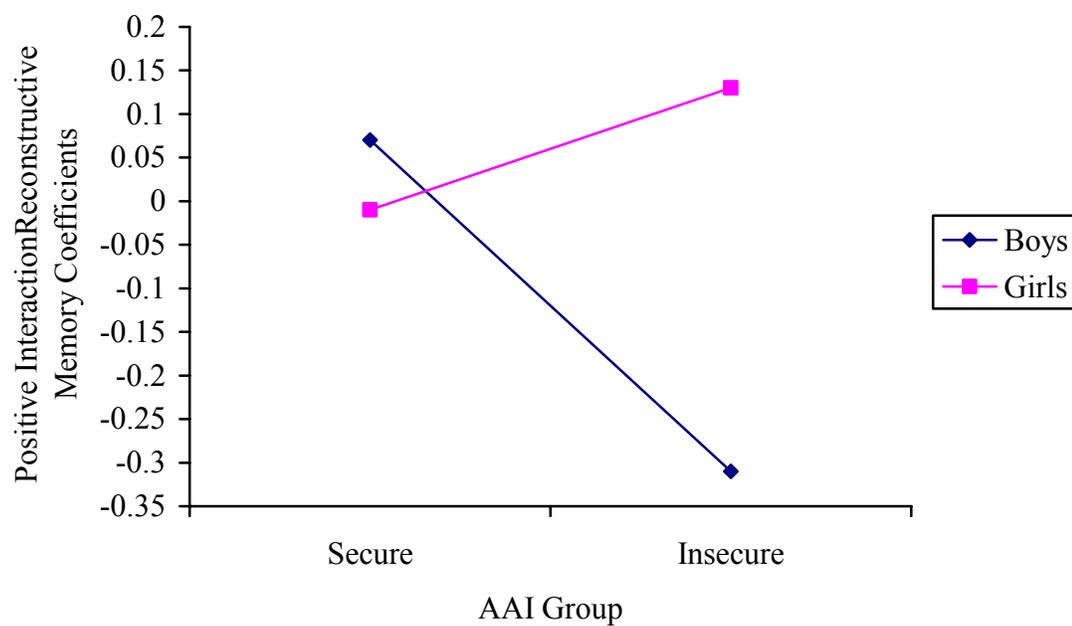
Table 18

Predicting Mothers' Reconstructive Memory Coefficients (RMC's) for the Conflict

Discussion from Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Positive Interaction with Adolescent					
Step 1					
Adolescent Gender	-.06	-.06	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	.02	.08	.01		
Mother as a Secure Base	-.00	-.03	.01		
Father as a Secure Base	.02**	.26	.04		
ECR Avoidance	.14***	.28	.06		
ECR Anxiety	-.10*	-.18	.05		
				.18***	.18
Step 3					
Gender X AAI Coherence of Mind	.12*	.88	.04		
Negative Interaction with Adolescent					
Step 1					
Adolescent Gender	.03	.02	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.05*	-.18	.04		
Mother as a Secure Base	-.01	-.12	.02		
Father as a Secure Base	-.00	-.01	.00		
ECR Avoidance	-.04	-.07	.00		
ECR Anxiety	.04	.08	.01		
				.07	.07
Hostile Treatment by Adolescent					
Step 1					
Adolescent Gender	.05	.05	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.01	-.04	.01		
Mother as a Secure Base	-.01	-.12	.03		
Father as a Secure Base	-.01	-.11	.01		
ECR Avoidance	-.07	-.14	.01		
ECR Anxiety	.02	.03	.00		
				.06	.06

* *p* < .05 ** *p* < .01 *** *p* < .0005
Note: Only significant Gender X Attachment Score interactions are presented.

coefficients. Moreover, within the block of attachment scores, adolescents' Father as a Secure Base, ECR Avoidance, and ECR anxiety scores uniquely predicted mothers' Positive Interaction coefficients: As expected, mothers whose adolescents possessed more positive representations of their *fathers* as serving as a secure base remembered their conflict discussions with their adolescents as being more positive than reported originally six week earlier; moreover, mothers whose adolescents' reported less ECR anxiety remembered their conflict discussions with their adolescents as being more positive than reported originally six weeks earlier. However, contrary to expectations, mothers' whose adolescents reported *greater* ECR avoidance remembered their conflict discussions with their adolescents as being *more* positive than reported originally six week earlier. In addition to these main effects, a significant Gender X AAI Coherence of Mind interaction also emerged in predicting mothers' Positive Interaction coefficients (see Figure 11): As mothers' sons' AAI Coherence of Mind increased, so did mothers' memory for having a positive interaction with their sons ($b = .11$, $\beta = .45$, $sr^2 = .20$, $p < .0005$); girls' AAI Coherence of Mind scores were not linked to their mothers' Positive Interactions coefficients ($b = -.02$, $\beta = -.08$, $sr^2 = .01$, $p > .05$). Contrary to expectations, the block of adolescents' attachment scores did not account for a significant amount of variance in mothers' Negative Interaction and Hostile Treatment coefficients. However, adolescents' AAI Coherence of Mind scores uniquely predicted mothers' Negative Interaction coefficients: as adolescents' AAI Coherence of Mind scores decreased, their mothers' memory for having a negative interaction with their adolescents increased over the six week span.

With respect to *fathers*, as can be seen in Table 19, the block of adolescents' five attachment scores accounted for a significant amount of variance (9%) in fathers' Hostile

Figure 11

Mothers' Positive Interaction Reconstructive Memory Coefficients as a Function of

Adolescents' Gender and AAI Coherence of Mind Scores
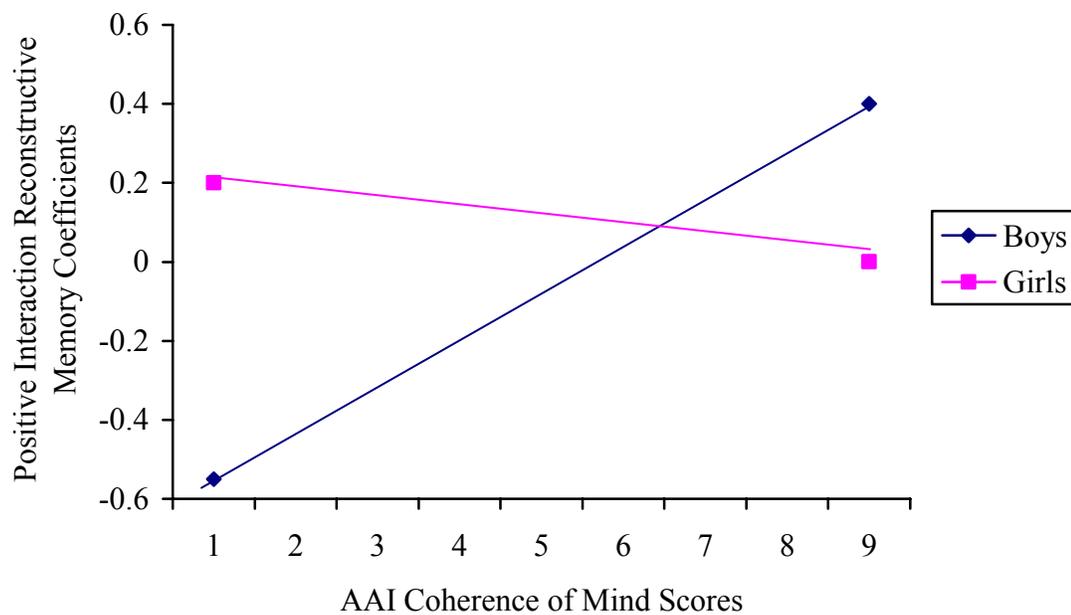
Table 19

Predicting Fathers' Reconstructive Memory Coefficients (RMC's) for the Conflict

Discussion from Adolescents' Gender and Attachment Scores

Predictors	b	β	sr^2	ΔR^2	Total R^2
Positive Interaction with Adolescent					
Step 1					
Adolescent Gender	-.10	-.09	.01		
				.01	.01
Step 2					
AAI Coherence of Mind	02	.05	.00		
Mother as a Secure Base	-.00	-.01	.00		
Father as a Secure Base	.00	.07	.00		
ECR Avoidance	.10	.18	.03		
ECR Anxiety	-.08	-.14	.02		
				.06	.07
Negative Interaction with Adolescent					
Step 1					
Adolescent Gender	-.08	-.08	.01		
				.01	.01
Step 2					
AAI Coherence of Mind	.01	.06	.00		
Mother as a Secure Base	-.01	-.13	.03		
Father as a Secure Base	-.01	-.10	.01		
ECR Avoidance	-.04	-.08	.00		
ECR Anxiety	.03	.05	.01		
				.04	.05
Hostile Treatment by Adolescent					
Step 1					
Adolescent Gender	.06	.06	.00		
				.00	.00
Step 2					
AAI Coherence of Mind	-.04	-.15	.04		
Mother as a Secure Base	.01	.09	.00		
Father as a Secure Base	-.01	-.16	.02		
ECR Avoidance	.00	.01	.00		
ECR Anxiety	.08	.16	.03		
				.09*	.09
Step 3					
Gender X Father as a Secure Base	-.03*	-1.7	.03		

$* p < .05$

Note: Only significant Gender X Attachment Score interactions are presented.

Treatment coefficients: in general, fathers whose adolescents showed more negative attachment scores remembered being treated with greater hostility by their adolescents than reported originally six weeks earlier. The Gender X Father as a Secure Base score interaction also uniquely predicted fathers' Hostile Treatment coefficients. As can be seen in Figure 12, as fathers' sons' Father as a Secure Base scores decreased, fathers' memory for being treated with hostility by their sons increased over the six week span (b = -.02, β = -.41, sr^2 = .17, $p < .005$); however, girls' Father as a Secure Base scores were not linked to their fathers' Hostile Treatment coefficients (b = -.01, β = -.10, sr^2 = .01. $p > .05$). Contrary to expectations, adolescents' attachment scores did not account for a significant amount of variance in fathers' Positive Interaction or Negative Interaction coefficients.

Summary. Considered as a whole, these analyses indicate that attachment is linked to adolescents' reconstructive memory for adolescent-parent conflict. Compared to their secure counterparts, adolescents classified as insecure on the AAI remembered (a) the conflict interactions with their mothers as more negative, and (b) the conflict interactions with their fathers as less positive than these adolescents had reported originally six weeks earlier. Moreover, in addition to these AAI group differences, the block of adolescents' five attachment scores accounted for a significant amount of variance in adolescents' reconstructive memory coefficients. Generally speaking, as the quality of adolescents' attachment security and representations of their parents decreased, they remembered the conflict discussions with both their *mother* and their *father* as being both less positive and more negative than reported originally six weeks earlier; this decrease was also associated with adolescents' remembering being treated with greater hostility by their mothers (but not their fathers) than reported originally six weeks earlier.

Figure 12

Fathers' Hostile Treatment Reconstructive Memory Coefficients as a Function of Their

Adolescents' Gender and Father as a Secure Base Scores
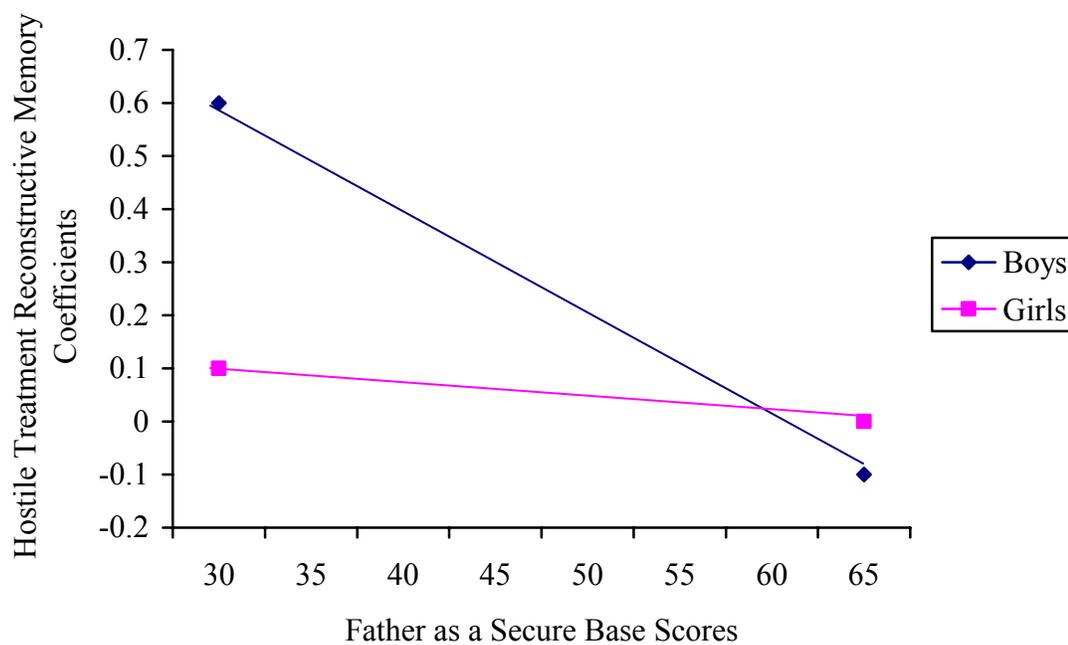
Moreover, adolescents' Mother and Father as Secure Base scores, as well as their AAI

Coherence of Mind scores uniquely predicted their reconstructive memory coefficients.

More precisely, (a) as adolescents' Mother as a Secure Base scores decreased, they

remembered being treated with greater hostility by their mothers than reported originally

six weeks earlier, (b) as adolescents' Father as a Secure Base scores decreased, they

remembered their discussion with their fathers as both more negative and less positive

than they reported originally six weeks earlier, (c) as girls' (but not boys') Father as a

Secure Base scores decreased, they remembered the discussion with their *mothers* as

being less positive than they reported originally six weeks earlier, and (d) boys (but not

girls) Coherence of Mind scores decreased, they remembered the discussion with their

fathers as being less positive than they reported originally six weeks earlier.

Attachment was also associated with adolescents' reconstructive memory for

adolescent-peer conflict. Compared to their secure counterparts, adolescents classified as

insecure on the AAI remembered the conflict interactions with their peers as less positive

than these adolescents had reported originally six weeks earlier. Insecure boys

(compared to secure boys) also remembered being treated with greater hostility by their

peers than they reported originally six weeks earlier. Contrary to expectations, the block

of adolescents' attachment scores was not linked to adolescents' reconstructive memory

coefficients for adolescent-peer conflict. However, four of the adolescents' attachment

scores did uniquely predict adolescents' Hostile Treatment coefficients. More precisely,

as adolescents' romantic attachment-related anxiety and avoidance increased, their

memory for being treated with hostility by the unfamiliar peer also increased over the six

week span. Moreover, as boys' (but not girls') AAI Coherence of Mind scores increased

and as girls' (but not boys') Mother as a Secure Base scores increased, their memory for being treated with hostility increased over the six week span.

Adolescent attachment was also linked to *parents'* reconstructive memory for adolescent-parent conflict. Compared to mothers of adolescents classified as secure on the AAI, mothers of insecure adolescents remembered the conflict discussion with their adolescent as being more negative than they reported initially six weeks earlier; mothers of insecure boys (compared to mothers of secure boys) also remembered this discussion as being less positive. Moreover, compared to fathers of secure adolescents, fathers of insecure adolescents remembered being treated with greater hostility during the conflict discussion than they had reported originally. In addition to these AAI group differences, the block of adolescents' five attachment scores accounted for a significant amount of variance in parents' reconstructive memory coefficients. As expected, as the quality of adolescents' attachment security and representations of their parents decreased, their *fathers* remembered being treated with greater hostility than they had reported originally six weeks earlier. Moreover, adolescents' Father as a Secure Base scores uniquely predicted fathers' reconstructive memory coefficients: As boys' (but not girls') Father as a Secure Base scores decreased, their fathers remembered being treated with greater hostility than they reported originally six weeks earlier. Surprisingly, although adolescents' Father as a Secure Base, ECR Anxiety, and/or (boys') Coherence of Mind scores were linked to mothers' Positive and Negative Interaction reconstruction memory coefficients in theoretically predicted ways, as adolescents' ECR Avoidance scores *increased*, their mothers remembered the conflict discussion as being *more positive* than they reported originally six weeks earlier.

CHAPTER 5

DISCUSSION

The purpose of this investigation was to examine whether attachment was linked

to attachment-relevant social information-processing in adolescence. Using attachment

theory and research (Bowlby, 1980; Cassidy & Shaver, 1999) as a basis, I proposed that

adolescents who possessed negative internal working models of attachment (i.e., insecure

adolescents and adolescents who possessed negative representations of their parents)

would process attachment-relevant social information differently from adolescents who

possessed positive internal working models of attachment (i.e., secure adolescents and

adolescents who possessed positive representations of their parents). I also proposed that

such differences would be associated with two distinct patterns of attachment-relevant

social information-processing. More precisely, as outlined in the introduction, I expected

that compared to secure adolescents and adolescents who possessed positive

representations of their parents, insecure adolescents and adolescents who possessed

negative representations of their parents would be more likely to *suppress* attachment-

relevant social information (from entering conscious awareness) in some circumstances,

and to process attachment-relevant social information in a *negatively-biased schematic*

manner in others.

Many (but not all) of the data reported in this investigation can be viewed as

supporting the notion that insecure adolescents and adolescents who possessed negative

representations of their parents either suppressed attachment-relevant social information

or processed such information in a negatively-biased schematic manner. For example, in

the experimental task that tapped suppression (i.e., the Memory for Childhood

Experiences Task), insecure adolescents showed poorer memory for emotionally-

significant childhood experiences. Moreover, in all three of the experimental tasks

tapping schematically-driven social information-processing (i.e., the Levels-of-

Processing [LOP] Task, the Parent-Child Story Task, and the task employing the

immediate and follow-up versions of the Emotional Response to Conflict Scale), insecure

adolescents and adolescents who possessed negative representations of their parents

showed either greater memory for negative parent-related attributes or more negative

reconstructive memory for conflict. In this chapter, I discuss the data that emerged in

each of these tasks within the context of attachment research and developmental research

more broadly. I conclude by discussing this investigation's limitations and by suggesting

several possible areas of future research.

Attachment and Memory for Emotionally-Significant Childhood Experiences

I proposed that insecure adolescents and adolescents who possessed negative

representations of their parents would be more likely than secure adolescents and

adolescents who possessed positive representations of their parents to suppress

emotionally-significant childhood memories because such memories could potentially

activate their attachment systems and consequently cause emotional distress. On the

basis of this proposition, I hypothesized that adolescent attachment insecurity and

negative representations of parents would be linked to (a) slower retrieval of emotionally-

significant childhood memories, (b) less accessibility to emotionally-significant

childhood memories from earlier (versus later) childhood, and (c) less emotionally-

intense childhood memories. In this investigation, mixed evidence emerged in support of

this hypothesis.

As expected, adolescent attachment insecurity was linked to slower retrieval of

emotionally-significant childhood memories. More precisely, compared to adolescents

classified as secure on the AAI, insecure adolescents required significantly more time to recall these childhood memories, a finding which is similar to previous work with adults (e.g., Mikulincer & Orbach, 1995). This finding is important because it lends support to attachment theorists' claim that insecure individuals' negative experienced-based internal working models of attachment function to limit these individuals' memory for information that could potentially activate their attachment systems (Bowlby, 1980; Fraley, Davis, & Shaver, 1998). According to Bowlby (1973, 1980), suppression and other strategies that limit insecure individuals' access to attachment-relevant social information are adaptive because if such information were to enter conscious awareness fully, it would activate their attachment systems, and would thus generate significant emotional distress. As noted in the introduction, the attachment system's activation is thought to be linked to emotional distress in insecure individuals because these individuals are thought to have experienced actual distress when their attachment systems were activated during previous "real-life" childhood attachment-related experiences (see Bowlby, 1973). It is believed that in contrast to insecure adolescents, secure adolescents will not suppress emotionally-significant childhood memories from entering conscious awareness because if these memories do activate their attachment systems, these memories do not cause significant emotional distress (because the activation of the attachment system has not been linked repeatedly to actual distress; Bowlby, 1973).

Several additional significant links emerged with respect to adolescents' memory for emotionally-significant childhood memories, yet all of these links were moderated by adolescent gender. (I cannot compare these moderational findings to the findings reported by Mikulincer and Orbach, 1995, because those investigators did not test for the presence of moderation.) In one instance, attachment was linked to memory for

emotionally-significant childhood memories in girls but not boys: In girls (but not boys), higher ECR Avoidance scores were linked as expected to slower retrieval of these childhood memories, a finding which supports the notion that girls (but not boys) were suppressing attachment-relevant social information as a function of their attachment-related avoidance. Interestingly, in two other cases, attachment was linked to both girls' and boys' memory for emotionally-significant childhood memories, *but in opposite ways*. In one case, as expected, girls classified as insecure on the AAI reported less intense dominate emotions than secure girls, a finding which supports the notion that insecure girls were suppressing the dominant emotional content of their childhood memories from entering conscious awareness; contrary to expectations, however, boys classified as insecure on the AAI reported *more* intense dominate emotions than secure boys, which contradicts the notion than insecure boys were suppressing the dominant emotional content of these memories. In the second case, as expected, as boys' ECR avoidance scores increased, their access to dominate emotions decreased; contrary to expectations, however, as girls' ECR Avoidance scores increased, so did the intensity of the dominate emotions associated with their childhood memories.

It is interesting that for girls, greater attachment-related *avoidanc*e was associated with both slower retrieval of emotionally-significant childhood memories and greater intensity of the dominant emotional content of these memories. It is also interesting that for boys, a similar pattern of suppression and intensity emerged, but in relation to their AAI attachment insecurity: for boys, greater AAI attachment insecurity was associated with both slower retrieval of emotionally-significant childhood memories and greater intensity of the dominant emotional content of these memories. On the basis of these findings, it appears that these aspects of attachment insecurity are only associated with

the temporary suppression of attachment-relevant social information, and that these aspects of attachment insecurity will be associated subsequently with the intensity of the dominant emotional content of these memories once they are retrieved. Clearly, additional work in needed to understand these gender-related differences more fully.

Contrary both to expectations and to findings reported by Mikulincer and Orbach (1995), attachment-related differences did not emerge in the intensity of the non-dominant emotional content associated with adolescents' emotionally-significant childhood memories. In this investigation, such findings might not have emerged because insecure adolescents' underlying negative internal working models of attachment function to suppress only the dominant emotional aspects of these memories once they are recalled. That is, these internal working models of attachment may not function to shield insecure individuals from non-dominant emotions because these emotions would not cause emotional distress within the individual. Moreover, it might even be adaptive for these internal working models to permit adolescents access to non-dominant emotions because such access would enable individuals to have "a memory" of an event without being subjected to its true emotional content. In other words, these internal working models might function to provide individuals with details surrounding the event (so that they do not have a complete lack of memory for it), without exposing these individuals to its genuine emotional meaning.

As was the case in Mikulincer and Orbach's (1995) study, attachment was not associated with adolescents' age at the time of the recalled childhood memories. The lack of significant age-related findings can be interpreted as suggesting that internal working models of attachment do not function to suppress selectively earlier childhood memories from more recent childhood memories. Indeed, it is possible that adolescents

(and other individuals) who possess negative internal working models of attachment do not suppress earlier memories because their underlying internal working models of attachment are functioning to suppress *all* emotionally-significant memories. Indeed, if these models were responsible for suppressing *and* differentiating between earlier and latter memories, it is conceivable that adolescents' mental resources would be overrun. Another possibility is that although earlier and latter memories were formed at different points in adolescents' lives, these memories are "timeless" in the sense that they coexist with one another in mental space. Because these memories might be equally painful (or joyful), it seems reasonable that internal working models of attachment would not function to differentiate between them.

Lastly, it is interesting that ECR anxiety was not linked to adolescents' memory for emotionally-significant childhood experiences (especially considering that Mikulincer & Orbach, 1995, found that adults classified as insecure-ambivalent had greater memory for emotionally-significant childhood memories than adults classified as either secure or insecure-avoidant). It is conceivable that ECR anxiety would not be linked to suppression of these memories because this measure of attachment insecurity taps adolescents' feelings related to fear of losing others or being abandoned by them, feelings which are inherently emotional (see Feeney, 1999). Thus, it makes sense that individuals who are capable of acknowledging their anxious emotions should also be capable of recalling emotionally-salient events from memory. Indeed, a wealth of data suggests that insecure-anxious individuals do not suppress information that could potentially activate their attachment system, but instead have greater access to this information than insecure-avoidant individuals (e.g., Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001; Mikulincer, Gillath, & Shaver, 2002; Mikulincer & Orbach, 2005). According to

attachment theory, insecure-anxious individuals have access to this information because they are unable to distance themselves psychologically from the inner distress that results from problematic attachment-related experiences (Feeney, 1999).

It is also interesting that adolescents' representations of their parents were not linked to the suppression of emotionally-significant childhood memories. This may be due to the fact that these childhood memories did not necessarily involve their parents. Therefore, when adolescents were required to recall and think about these experiences, it might have been adaptive for them to draw on the aspects of their internal working models of attachment related to attachment security, rather than on the aspects related to specific parent-related representations.

Attachment and Memory for Parental Attributes

I proposed that insecure adolescents and adolescents who possessed negative representations of their parents would be more likely than secure adolescents and adolescents who possessed positive representations of their parents to process parent-related attributes in a negatively-biased schematic manner. I hypothesized, therefore, that attachment insecurity and negative representations of parents would be linked to better memory for both negative *specific* and negative *hypothetical* parental attributes. In this investigation, mixed evidence emerged in support of this hypothesis: Although the AAI was not linked to adolescents' memory for negative parental attributes, the block of adolescents' five attachment scores accounted for a significant amount of variance in adolescent's memory for both mother-related and father-related attributes. Moreover, adolescents' secure base scores appeared to account for the great majority of this variance.

Interestingly, with respect to *mother-related attributes*, a moderation effect of gender emerged which indicated that only adolescent girls' Mother as a Secure Base scores were linked to these attributes. More precisely, as girls' (but not boys') positive representations of their mother as serving as a secure base decreased, their memory for negative mother-related attributes increased, a finding which lends support to the notion that girls who possess more negative internal working models (related to their mothers) process mother-related information in a negatively-biased schematic manner. According to attachment theory, such a finding is to be expected. As noted in the introduction, experienced-based internal working models of attachment function to store information related to previous attachment-related events and permit the individual to use that information subsequently to guide the processing of new attachment-relevant social information in the most efficient and rapid ways possible (Bowlby, 1973; Bretherton & Munholland, 1999). As seen in this investigation, when presented with new information about their mothers, girls who are presumed to possess negative internal working models of attachment will, in theory, draw on their negative knowledge related to their mothers' inabilities to serve as a secure base, and such knowledge will facilitate their memory search, storage, and/or retrieval for the negative, non-positive aspects of this new information. This finding is consistent with findings involving children: Rudolph et al. (1995) reported that children with greater expectations that their mothers would be unavailable and insensitive in times of need and/or distress also had the greatest memory for negative maternal attributes.

It is unclear why a link between attachment and memory for negative mother-related attributes did not emerge for boys. One explanation could be that girls' relationships with their mothers are different from boys' relationships with their mothers

in ways that contribute to different gender-related patterns of attachment-relevant social information processing (e.g., from an attachment perspective, mothers and their adolescent daughters typically help and care for each other more than mothers and their adolescent sons; Boyd, 1989).

In addition to these mother-related findings, a parallel link emerged between adolescents' Father as a Secure Base scores and adolescents' memory for *father-related attributes*: As adolescents' positive representations of their father as a secure base decreased, their memory for negative father-related attributes increased. As described above, this type of finding lends support to the notion that adolescents who possess more negative internal working models (related to their fathers) process father-related information in a negatively-biased schematic manner. More specifically, when presented with new information about their fathers, these adolescents draw on negative knowledge related to their fathers as a secure base, and such knowledge facilitates memory search, storage, and/or retrieval for the negative, non-positive aspects of this new information. Interestingly, unlike the mother-related attributes, gender did not moderate the link between adolescents' Father as a Secure Base scores and memory for negative father-relate attributes. It is interesting to speculate whether the lack of a moderational effect could reflect similarities in adolescent girl/father dyads and adolescent boy/father dyads. One contradictory finding also emerged in this set of analyses suggesting that as adolescents' positive representations of their *mother* as a secure base *increased*, their memory for negative father-related attributes also increased. Due to the surprising nature of this contradictory finding, replication studies are needed before any conclusions regarding this finding are drawn.

It is interesting that although adolescents' representations of their parents were linked to their memory for parental attributes, adolescents' attachment security (as assessed using both the AAI and ECR) was not. Why were adolescents' representations of their parents, but not attachment security, linked to their memory for parental attributes? One answer might be that attachment security in adolescence is not person specific, but instead reflects a generalized internal working model of attachment relationships and experiences (Allen & Land, 1999; Bretherton & Munholland, 1999; Furman & Simon, 2004). Therefore, when adolescents are required to process highly-specific information regarding a parent, they do not draw on their "state of mind with respect to attachment" or stylistic attachment-related expectations (related to avoidance and anxiety) because these aspects of internal working models of attachment are not specific to one attachment figure or another. Instead, adolescents rely on their specific representations of their parents to guide their processing of parent-related information. Indeed, future work would be helpful in elucidating the circumstances under which adolescents rely on either specific or generalized aspects of their internal working models of attachment to process different types of attachment-relevant social information.

Attachment and Reconstructive Memory for Conflict

To further examine whether insecure adolescents and adolescents who possess negative representations of their parents process attachment-relevant social information in a negatively-biased schematic manner, I examined adolescents' reconstructive memory for conflict. As noted in the introduction, reconstructive memory refers to the manner in which individuals "reconstruct" their memory for past events as individuals' memory for these events degrades over time (Feeney & Cassidy, 2003). I hypothesized that compared to secure adolescents and adolescents who possessed positive representations

of their parents, insecure adolescents and adolescents who possess negative representations of their parents would reconstruct their memory for adolescent-parent conflict in a negatively-biased manner. That is, these adolescents would remember these interactions with a degree of negativity equal to or greater than their original perceptions.

In the present investigation, partial support for this hypothesis emerged. In support of this hypothesis, insecure adolescents, compared to adolescents classified as secure on the AAI, remembered the conflict discussions with their mothers as being more negative than they reported originally six weeks earlier, and the conflict discussions with their fathers as being less positive than reported originally six weeks earlier. Both of these findings mesh with those reported by Feeney and Cassidy (2003), and indicate that internal working models of attachment predict change in adolescents' memory for parent-related events (in a schematic manner) as memory for these events fade over time. On a related note, it is interesting that when adolescents reconstructed their memory for adolescent-parent conflict, these reconstructions related to the negative features of the adolescent-mother conflict and the positive features of the adolescent-father conflict. These findings may be attributable to the fact that negativity is more commonplace in adolescent-mother dyads, whereas positivity is more commonplace in adolescent-father dyads. Research has shown, for example, that although adolescent-mother relationships are more supportive and intimate than adolescent-father relationships (Mayseless, Wiseman, & Hai, 1998; Youniss & Smollar, 1985), these relationships are also more conflictual (Montemayor & Hanson, 1985; Smith & Forehand, 1986).

Evidence also emerged that adolescents' attachment scores (as a block) accounted for a significant amount of variance in adolescents' reconstructive memory coefficients for adolescent-mother and adolescent-father conflict. This evidence suggests that as

adolescents' attachment security and positive representations of their parents decreased, adolescents remembered their conflicts with both their mothers and their fathers as being less positive and more negative than they had reported originally six weeks earlier; adolescents also remember being treated with greater hostility by their mother. These findings underscore the notion that adolescents' internal working models of attachment are multidimensional in nature and that adolescents' memory for interactional parent-related information is likely affected by both attachment security and representations of parents. It should be noted, however, that a handful of unique predictors accounted for a significant amount of variance in adolescents' reconstructive memory. For example, boys' AAI Coherence of Mind scores predicted their Positive Interaction coefficients for adolescent-father conflict, adolescents' Mother as a Secure Base scores predicted their Hostile Treatment coefficients for adolescent-mother conflict, and adolescents' Father as a Secure Base scores predicted both their Positive and Negative Interaction coefficients for adolescent-father conflict. These latter two findings are noteworthy because they suggest that adolescents draw on specific mother- or father-related knowledge when they are reconstructing their memory for conflict related to the same parent (i.e., adolescents will draw on mother-related knowledge when they reconstruct their memory for adolescent-mother conflict, and adolescents will draw on father-related knowledge when they reconstruct their memory for adolescent-father conflict). Interestingly, girls (but not boys) also draw on father-related knowledge when reconstructing the positivity of their interactions with their *mothers*, a finding which highlights the possible importance of fathers in shaping girls' memory for attachment-relevant social information more broadly.

These findings related to adolescents' reconstructive memory for adolescent-parent conflict are important because they lend support to the notion that adolescents' underlying internal working models of attachment function to process parent-related information in a schematic manner. When adolescents are required to "fill in the blanks" regarding their previous interactions with parents, their internal working models of attachment will function to use attachment-related knowledge to reconstruct adolescents' memory for how these interactions unfolded (Feeney & Cassidy, 2003). As can be seen, insecure adolescents and adolescents who possessed negative representations of their parents reported that their interactions were less favorable over time because, in theory, they were drawing on negative attachment-related knowledge (e.g., knowledge related to the insensitivity, unavailability, and/or unresponsiveness of attachment figures) to piece together how these interactions were likely to have unfolded, because their memory for these specific interactions had faded. From an attachment perspective, attachment-related differences in reconstructive memory likely stem from internal working models' proclivity to process new attachment-related information rapidly and efficiently. These differences also likely stem from internal working models proclivity to resist change and to maintain stability in the face of new information, especially information that would be inconsistent with previously obtained attachment-related knowledge (Bowlby, 1973).

In addition to examining adolescents' reconstructive memory for adolescent-parent conflict, I also examined adolescents' reconstructive memory for adolescent-peer conflict to explore the possibility that adolescents' internal working models of attachment generalize to process information that is unrelated to attachment. Partial support for generalization emerged: Compared to adolescents classified as secure on the AAI, insecure adolescents remembered the peer conflict discussion as being less positive than

they had reported originally two weeks earlier; and compared to secure boys, insecure boys remembered being treated with greater hostility than they reported originally two-weeks earlier. Moreover, adolescents' ECR anxiety scores, boys' AAI Coherence of Mind Scores, and girls' Mother as a Secure Base scores uniquely predicted adolescents' Hostile Treatment reconstructive memory coefficients in theoretically consistent ways.

Interestingly, although adolescents' ECR Anxiety scores were not linked to their memory for attachment-relevant social information in any of the previous analyses, adolescents' ECR anxiety scores were linked to their Hostile Treatment reconstructive memory coefficients for adolescent-peer conflict. More specifically, as adolescents' degree of ECR Anxiety increased, their memory for being treated with hostility by their peers also increased over a two week span. This finding is intriguing because individuals who score high on attachment-related anxiety often report dissatisfaction with the extent to which other persons value and respect them (see Feeney, 1999). Therefore, anxious adolescents may have come to believe that their peers treated them with greater hostility because they were drawing on internal working model of others as being opposed to and/or disrespectful of their beliefs and attitudes.

Taken as a whole, these peer-related findings are noteworthy because they lend support to attachment theorists' claims that experiences within attachment relationships generalize to influence interactions that do not necessarily contain an attachment-related component (Bowlby, 1973). Although a wealth of previous studies have linked attachment to the quality of children's and adolescents' peer relations (see Allen & Land, 1999, Berlin & Cassidy, 1999, and Schneider, Atkinson, & Tardif, 2001, for reviews), these new findings contribute to the relatively small body of research that has examined connections between attachment and peer-related cognition (e.g., Cassidy et al., 1996;

Suess et al., 1992; Zimmermann 1999, 2004). These findings also provide evidence, for

the first time, that adolescents draw on their internal working models of attachment to

reconstruct their memory for how their interactions with peers unfolded two weeks

earlier. Indeed, the implications of such findings are important because they might

suggest that adolescents' enter into peer interactions with preconceived notions, and after

these interactions end, adolescents will remember these interactions in a biased manner

(as a function of the quality of their internal working models of attachment). Although

such a link between attachment and peer-related reconstructive memory is adaptive

cognitively (because adolescents can rely on previous information to understand new

information, which essentially frees up mental resources), adolescents who possess

negative internal working models of attachment are likely contributing to their own poor

peer relations. Indeed, much research has shown that compared to secure individuals,

insecure individuals are less likely to be accepted by their peers (e.g., Elicker, Englund,

& Sroufe, 1992; LaFreniere & Sroufe, 1985), to behave aggressively and/or disruptively

with peers (e.g., Erickson, Sroufe, & Englund, 1985; LaFreniere & Sroufe, 1985), and to

be victims of peer aggression (e.g., Troy & Sroufe, 1987).

It is important to note that although I have interpreted these peer-related findings

as lending support to the notion of generalization, these results are also consistent with

other potential models. Therefore, it might be the case that internal working models of

attachment do not directly guide the processing of peer-related information and that no

generalization is taking place. For example, secure and insecure adolescents may have

different types of peer relations and from these relations, secure and insecure adolescents

may develop different types of peer-related cognitions that guide their peer-related

information-processing. Therefore, it would be these peer-related cognitions, and not

internal working models of attachment, that guide their reconstructive memory for peer-related conflict. The present investigation cannot distinguish between these alternative models. Links between attachment and peer-related social information-processing have been found across multiple studies, but further research will be necessary to establish how to best model the relations that have been found.

A third component of reconstructive memory that I examined was parents' reconstructive memory for adolescent-parent conflict to explore the possibility that adolescent attachment was linked to *parents'* processing of attachment-relevant social information. I expected that such a link would emerge because attachment theorists claim that parents' attachment-related social cognition guides parents' caregiving behaviors towards their children, and these behaviors, in turn, contribute to their children's quality of attachment to them (van IJzendoorn, 1995; Belsky, 1999). Partial evidence emerged that attachment was linked to parents' reconstructive memory for adolescent-parent conflict. For example, compared to mothers of adolescents classified as secure on the AAI, mothers of insecure adolescents remembered the conflict discussions as being more negative than they had reported originally six weeks earlier; in addition, compared to mothers of secure boys (but not girls), mothers of insecure boys remembered these discussions as being less positive than they had reported originally. Moreover, compared to fathers of secure adolescents, fathers of insecure adolescents remembered being treated with greater hostility by their adolescents than they had reported originally six weeks earlier.

These AAI-related findings mesh largely with findings related to adolescents' attachment security scores and parental representation scores. For example, as was the case with adolescents' AAI group classifications, adolescents' block of attachment scores

accounted for a significant amount of variance in fathers' Hostile Treatment

reconstructive memory coefficients in theoretically consistent ways (boys' – but not

girls'- Father as a Secure Base scores were also linked to these coefficients). Moreover,

adolescents' AAI Coherence of Mind scores were linked to their mothers' Negative

Interaction coefficients, and boys' AAI Coherence of Mind scores were linked to their

mothers' Positive Interaction coefficients, each in theoretically consistent ways.

Interestingly, one surprising finding also emerged: As adolescents' ECR

avoidance scores increased, their mothers were more likely to remember the conflict

discussions as being *more positive* than they reported originally six weeks earlier. Why

was this aspect of adolescent attachment insecurity linked to more favorable attachment-

relevant social information-processing in mothers? One possibility is that mothers who

are inclined to remember conflict interactions as being more positive that they actually

were run the risk of neglecting their adolescents' attachment-related emotional needs

(e.g., their adolescents' need for a mutually-beneficial resolution of the conflict, their

adolescents' need for their mothers to validate their emotions; see Allen et al., 2003, and

Kobak, Ferenz-Gilles, Everhart, & Seabrook, 1994, for evidence that attachment

insecurity is linked to poorer emotional communication between insecure adolescents and

their mothers). Accordingly, if adolescents' attachment-related emotional needs are not

met, they may develop defense strategies to deal with any resulting distress, and one

strategy might be to avoid going to close others for comfort and support when needed.

These parent-related findings are noteworthy because they support attachment

theorists' claims that parent-related cognition contributes to children's internal working

models of attachment (likely through cognitively-driven parenting behaviors, which were

not assessed in this investigation; see van IJzendoorn, 1995, and Belsky, 1999, however,

for models supporting this claim). Moreover, to my knowledge, these finding are the first to show that adolescents' internal working models of attachment were tied to how their parents processed their attachment-related interactions with their adolescents. Compared to other parents, parents of insecure adolescents and adolescents who possessed more negative representations of their parents remembered these interactions less favorably, and it is likely that such negatively-biased social information-processing patterns would lead these parents to behave more negatively towards their adolescents. Consequently, these adolescents are at greater risk for developing insecure internal working models of attachment and negative representations of parents (Allen & Land, 1999). It would be interesting to know in future research whether parents' own internal working models of attachment were linked to their processing of attachment-related social information concerning their adolescents. If such a link did emerge, it would provide greater insight into the pathways by which security of attachment can be transmitted within families across generations (see van IJzendoorn, 1995).

Adolescent Gender as a Moderator

At the outset of this investigation, I did not formulate specific hypotheses regarding whether gender would moderate linkages between attachment and attachment-relevant social information-processing. The existing adolescent attachment literature did not provide hints about whether gender would moderate these linkages and, generally speaking, attachment research has been marked by relatively few gender differences (Simpson, 1999). Therefore, I remained open to the possibility that adolescent gender would moderate links between attachment and attachment-relevant social information-processing, but I did not feel that there was a theoretical or empirical basis for making specific gender-related predictions.

Surprisingly, in this investigation, a sizable number of the significant links between adolescent attachment and memory for attachment-relevant social information were moderated by adolescent gender. In the majority of these cases, the moderated link was significant for one gender but not for the other (in only two cases was this link positive for one gender and negative for the other). Moreover, at least one interesting gender-related pattern emerged: AAI Coherence of Mind appeared to be tied disproportionately to boys' reconstructive memory (i.e., boys,' but not girls,' AAI Coherence of Mind scores were linked to their Positive Interaction coefficients for adolescent-father conflict, Hostile Treatment coefficients for adolescent-peer conflict, and mothers' Positive Interaction coefficients for adolescent-mother conflict).

It is interesting to consider why such findings emerged, and in this discussion I have attempted to explain these findings by drawing on different theoretical perspectives. However, although my explanations have been based in theory, more work is needed before gender-related differences can be understood fully (especially considering the relatively high family-wise error rate in this investigation, which I discuss in the upcoming section on the potential limitations of this investigation). Replication studies are particularly important before making more substantive claims regarding the role that adolescent gender plays in attachment-relevant social information-processing. Moreover, replicated findings would raise researchers' awareness of how gender is linked to this important area of adolescent attachment. I urge future researchers to pay greater attention to gender in subsequent investigations of links between attachment and memory, as well as in other studies of attachment more broadly (e.g., studies of secure base behavior). Indeed, had I not explored the moderating role of gender in this investigation, a number of significant links would have gone undiscovered.

Findings Related to Mothers and Fathers

A major strength of this investigation is that I examined adolescent attachment processes in relation to both mothers and fathers. This is important because despite clear evidence that fathers play a significant role in their children's development, research on fathers and their children is underrepresented in both the attachment literature and the developmental literature more broadly (Costigan & Cox, 2001; Cowan, 1997; Phares, 1999; Phares et al., 2005). As expected, many of the data reported in this study support the notion that like mothers, fathers are influential in the lives of their adolescent children. Just as adolescents draw on their representations of their mothers as a secure base to process mother-related information, adolescents also draw on their representations of their fathers as a secure base to process father-related information. Moreover, the ways in which both mothers and fathers reconstruct their own memory for parent-adolescent conflict is associated with the quality of their adolescents' internal working models of attachment. Indeed, these data are striking and indicate that adolescent-mother relationships share several important similarities with adolescent-father relationships.

It is important to note, however, that despite these similarities, several interesting adolescent/parent cross-gender patterns also emerged in the present investigation (e.g., with respect to reconstructive memory, evidence emerged that only insecure adolescents and their mothers both remembered their conflict discussions as being more negative than they had reported six weeks earlier, a finding which suggests something uniquely dyadic is occurring within adolescent-mother relationships that is not occurring within adolescent-father relationships). Clearly, replication studies are needed before making substantive claims regarding these patterns.

As seen in this investigation, an examination of fathers provided much insight into adolescent attachment processes. I urge future researchers to pay greater attention to fathers in subsequent studies because these studies will add to the understanding of how adolescents' development is linked to their relationships with their fathers. These studies will also add to the understanding of the unique roles that mothers and fathers play in the lives of their adolescents.

Limitations and Future Directions

Evidence from this investigation contributes to the emerging body of literature indicating links between attachment and the processing of attachment-relevant social information in late adolescence. The conclusions to be drawn from this investigation, however, must be considered within the context of potential limitations that could be addressed in future work. First, because I conducted a large number of analyses (and because I employed the conventional .05 critical p-value when interpreting these analyses), this investigation's family-wise error rate was relatively high and one or more of the significant findings in this investigation could have emerged by chance. Thus, although many of the significant findings reported in the investigation converge with previous findings and support attachment theorists' claims that attachment is linked to attachment-relevant social information-processing, replication studies are needed .

Another potential limitation of this investigation is that all participants were from two-parent families. Therefore, evidence from this investigation should be generalized cautiously to individuals from single/divorced parent households because such individuals might not have well-defined representations of both parents (e.g., mother but not father) or, conversely, might have well-defined representations of more than two parental figures (e.g., representations for both biological parents and stepparents); these

different constellations of representations of parental figures might be associated with different patterns of links between attachment and the processing of attachment-relevant social information. Future research could address this possibility.

A third potential limitation is that in relation to the Adult Attachment Interview, I examined secure versus insecure group differences only; there were not enough participants in the insecure/ preoccupied, insecure/disorganized, and insecure/cannot classify AAI groups to allow separate examination of participants in these insecure subgroups. Future research (with samples containing larger numbers of insecure adolescents) could enable the examination of how adolescents from different AAI insecure subgroups process attachment-relevant social information. From a theoretical perspective, this research would be interesting because it could shed light on whether adolescents from these different subgroups suppress social information in the same manner. Moreover, this future research could shed light on whether adolescents in all of these insecure subgroups process attachment-relevant social information in a negatively-biased schematic fashion.

A fourth potential limitation is that although my findings delineate the existing relations between attachment and memory for attachment-relevant social information, they do not provide specific information about what *aspects* of memory are at play. Clearly, the evidence gathered in this investigation indicates that attachment is linked to the ways in which adolescents retrieve attachment-relevant social information. But is attachment also associated with how adolescents encode and store such information? Moreover, is retrieval solely dependent upon these earlier steps, suggesting that retrieval might be linked to attachment, but only in an indirect way? In the present investigation, there is no certain way of answering these questions. It is interesting to speculate

whether attachment is linked directly to encoding, storage, and retrieval. With respect to encoding and storage, attachment theorists have hypothesized that when individuals are motivated to avoid attachment-related emotions, they will be less likely to encode and store events that may activate their attachment systems (Fraley et al., 1998). Mikulincer and Orbach (1995) have also pointed out that some insecure individuals may ruminate over negative attachment-relevant social information, and such rumination would facilitate memory retrieval. Indeed, future researchers could address these possibilities. Similarly, future researchers could also examine other aspects of social information-processing like attention, perception, and decision making.

In a similar vein, future researchers may also address the biological underpinnings of attachment-related differences in attachment-relevant social information-processing. Social information-processing is – at its core – governed by a variety of different physiologically- and neurologically-based cognitive and affective mechanisms (Insel & Fernald, 2004), and it is conceivable that attachment plays some role in establishing, maintaining, and altering these mechanisms. Evidence has emerged, for example, that children who have been abused and/or neglected by their attachment figures are likely to have impaired electrophysiological functioning when processing attachment-relevant social information (Pollack et al., 1997). There is also evidence that compared to secure adults, insecure adults show increased electrodermal activity when they are required to think about attachment-related experiences (which is considered to be an indicator of the effortful suppression of negative emotion; Roisman et al., 2004). It is intriguing to speculate that the findings reported in this investigation have a biological basis that could be explored in future work. For example, in addition to obtaining adolescents' ratings of the emotional intensity of their recalled childhood memories, future researchers might

also employ measures to assess adolescents' emotional arousal and brain activity when they are making such ratings. These data would allow these researchers to gain insight into physiological and/or neurological dynamics associated with attachment-related differences in memory for attachment-relevant social information.

A fifth potential limitation is that the data collected in this investigation are correlational and do not indicate whether the significant links between attachment and attachment-relevant social information-processing are causal in nature. Although many of the findings reported in this investigation can be interpreted through a causal "lens" (because they mesh with attachment theory and research), I cannot rule out the possibility that some important causal variables were left unmeasured. For example, recent interactions between adolescents and their parents may have caused adolescents to respond to the test stimuli in a certain way (perhaps by altering their mood or by influencing their short-term memory for parent-related information); such interactions (and their consequences) might supersede the ways in which internal working models of attachment guide the processing of attachment-relevant social information. It is also possible that adolescents' (and their parents') capacities to regulate emotion may have played some role in how they responded to the test stimuli. Poor regulators might have been more likely than other individuals to get angry during the conflict discussions, which might have influenced their ratings of these discussions disproportionately.

One way to explore causal links would be to manipulate adolescent attachment security to examine how such manipulation might alter attachment-relevant social information-processing. In recent years, attachment researchers (mostly from the social psychology tradition) have devised an experimental methodology to either increase or decrease (at least temporarily) feelings of attachment security in adult populations (e.g.,

through the use of supraliminal or subliminal prime words, images, etc; Mikulincer et al., 2001; Mikulincer et al., 2003; Miller & Noirot, 1999; Rom & Mikulincer, 2003). It would be interesting to see whether secure adolescents who are experimentally manipulated to "feel" less secure would begin to suppress attachment-relevant social information, or process such information in a negatively-biased schematic fashion. Conversely, it would be interesting to see whether insecure adolescents who are experimentally manipulated to "feel" more secure would begin to show openness to emotionally-difficult attachment-relevant social information, or to process such information a positively-biased schematic fashion. (In addition to manipulating attachment security, future researchers could also manipulate, at least temporarily, adolescents' representations of their mothers and fathers. See Collins & Feeney, 2004, for related methodology examining adult romantic couples.) Studies that manipulate adolescents' attachment security could potentially unravel how internal working models of attachment guide the processing of attachment-relevant social information.

. Another way to examine causal links would be to conduct short-term and long-term longitudinal studies. Such studies could provide much needed insight into how links between attachment and attachment-relevant social information-processing emerge and persist. For example, although Bowlby (1973) noted that internal working models of attachment tend to remain stable and are resistant to change, these models can change in the face of new environmental inputs (e.g., an individuals' attachment security and representations of attachment figures may change if one's attachment relationships either improve or worsen over time; see also Bretherton & Munholland, 1999). One promising area of longitudinal research would be the tracking of adolescents' internal working models of attachment to determine whether stability and change in these models are

associated with stability and change in attachment-relevant social information-processing. Another promising area of longitudinal research would be the examination of how gender comes to moderate connections between attachment and attachment-relevant social information-processing. Still another promising area of longitudinal research would be to examine how *parents'* attachment-relevant social information-processing changes over time and as a function of their adolescents' attachment. For example, it would be interesting to explore how associations between attachment and parental social information-processing emerge, and whether and how such information-processing serves as a foundation for whether children develop secure versus insecure attachments.

Longitudinal research could also address whether attachment-related differences in social information-processing are linked to social and emotional outcomes. For example, insecure attachment and deficiencies in social information-processing have both been linked independently to a variety of social and emotional problems in children, adolescents, and adults (see Crick & Dodge, 1994, Dodge & Pettit, 2003, Dozier, Stovall, & Albus, 1999, and Greenberg, 1999, for reviews). Yet very few studies have examined the interplay between attachment and social information-processing in predicting social and emotional outcomes. Future researchers could examine whether social information-processing *mediates* distal links between attachment and social and emotional outcomes (e.g., Cassidy et al., 1996). Researchers could also examine whether social information-processing *moderates* links between attachment and social and emotional outcomes. For example, there are intriguing data that children who have been abused by their attachment figures are only likely to exhibit externalizing behaviors if they possess maladaptive social information-processing strategies (Toth et al., 2002). Indeed, studies that focus on attachment-related differences in attachment-relevant social information-processing have

the potential to identify how attachment is linked to socioemotional functioning in adolescence and across the lifespan.

Finally, research on links between attachment and social information-processing in adolescence have promising implications for clinical work. By understanding these links (and the social and emotional outcomes associated with these links), clinicians could begin to develop interventions that target defensive, inflexible, and/or negative types of social information-processing. To date, interventions like these have already been established to help promote attachment security in moderately-high to high-risk mother-child dyads (Bakermans-Kranenburg, Juffer, & van IJzendoorn, 1998; Marvin, Cooper, Hoffman, & Powell, 2002). In the future, similar interventions could be created to help individuals deal with certain maladaptive information-processing tendencies, particularly in relation to parents, family, and peers.

Conclusions

The findings reported in this investigation add to the understanding of how attachment is linked to the processing of attachment-relevant social information in late adolescence. Compared to secure adolescents and adolescents who possessed positive representations of their parents, insecure adolescents and adolescents who possessed negative representations of their parents were more likely to suppress attachment-relevant social information (from entering conscious awareness) in some circumstances, and to process attachment-relevant social information in a negatively-biased schematic manner in others. Moreover, the findings reported in this investigation add to the understanding of how adolescent attachment is linked to the processing of peer-related information, as well as to how adolescent attachment is linked to the information-processing of both mothers and fathers.

APPENDIX A

Institutional Review Board Letter of Approval for the Present Study

UNIVERSITY OF
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INSTITUTIONAL REVIEW BOARD

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To:
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From:
Roslyn Edson, M.S., CIP
IRB Manager
University of Maryland, College Park

Re:
IRB Application # 00532
Title: Attachment and Relationships in Adolescence

Approval Date: May 5, 2005

Expiration Date: May 5, 2006

Type of Application: Renewal

Type of Research: Nonexempt

Type of Review: Expedited

The University of Maryland, College Park Institutional Review Board (IRB) approved your IRB application. The research was approved in accordance with the University's IRB policies and procedures and 45 CFR 46, the Federal Policy for the Protection of Human Subjects. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

Recruitment/Consent: For research requiring written informed consent, the IRB-approved and stamped informed consent document is enclosed. The IRB approval expiration date has been stamped on the informed consent document. Please keep copies of the consent forms used for this research for three years after the completion of the research.

Continuing Review: If you want to continue to collect data from human subjects or analyze data from human subjects after the expiration date for this approval, you must submit a renewal application to the IRB Office at least 30 days before the approval expiration date.

Modifications: Any changes to the approved protocol must be approved by the IRB before the change is implemented except when a change is necessary to eliminate apparent immediate hazards to the subjects. If you want to modify the approved protocol, please submit an IRB addendum application to the IRB Office.

Unanticipated Problems Involving Risks: You must promptly report any unanticipated problems involving risks to subjects or others to the IRB Manager at 301-405-0678 or redson@umresearch.umd.edu.

Student Researchers: Unless otherwise requested, this IRB approval document was sent to the Principal Investigator (PI). The PI should pass on the approval document or a copy to the student researchers. This IRB approval document may be a requirement for student researchers applying for graduation. The IRB may not be able to provide copies of the approval documents if several years have passed since the date of the original approval.

Additional Information: Please contact the IRB Office at 301-405-4212 if you have any IRB-related questions or concerns.

APPENDIX B

Adult Attachment Interview

(George, Kaplan, & Main, 1984; Adolescent Version)

I'm going to be interviewing you about your childhood experiences, and how those experiences may have affected your current personality. So, I'd like to ask you about your early relationship with your family, and what you think about the way it might have affected you. We'll focus mainly on your childhood, but later we'll get on to your adolescence and what's going on right now. This interview often takes about an hour, but it could be anywhere between 45 minutes and an hour and a half.

1.   First I need to ask you some basic information about your early family situation. If you could tell me where you were born, where you lived, whether you moved around much, and what your family did at various times for a living? I just need to get a feel for your family background before I ask you more about your childhood experiences.
    a.   Did you see much of your grandparents when you were little? {if needed All 4 of them?}
        1.   {if some grandparents were never met} Did these grandparents die before you were born?
        2.   {If yes} Your [mother's father] died before you were born? How old was [she] at the time, do you know?
    b.   Did you have brothers and sisters living in the house, or anybody besides your parents?
        1.   {Optional, use only if need more warm up questions. Usually omit… Are they living nearby now or do they live elsewhere?}
    c.   (Optional. Only if not talking) Are your parents still together?

2.   I'd like you to try to describe your relationship with your parents as a young child – if you could start from as far back as you can remember?

3.   Now I'd like to ask you to choose five adjectives or words that reflect your childhood relationship with your mother starting from as far back as you can remember in early childhood – as early as you can go, but say, age 5 to 12 is fine. I know this may take a bit of time, so go ahead and think for a minute – then I'd like to ask you why you chose them. I'll write each one down as you give them to me.

    Okay, now let me go through some more questions about your description of your childhood relationship with your mother. You say your relationship with her was (you used the phrase) _____. Can you tell me a memory or an incident from early childhood that comes to mind from age 5-12 with respect to (word) _____?

    OR

You described your childhood relationship with your mother as (or "your second adjective was," or "the second word you used was") _____. Can you think of a memory or an incident from early childhood that would illustrate why you chose _____ to describe the relationship?

(For the first adjective that the subject cannot give a specific memory ask 2 probes: can you give me a specific time? For every time after that OR if subject can give a specific memory after the first probe, then only ask one probe: can you give me a specific time?)

4. {Repeat for Father} Now I'd like to ask you to choose five adjectives or words that reflect your childhood relationship with your father starting from as far back as you can remember in early childhood – as early as you can go, but say, age 5 to 12 is fine. I know this may take a bit of time, so go ahead and think for a minute – then I'd like to ask you why you chose them. I'll write each one down as you give them to me.

Okay, now let me go through some more questions about your description of your childhood relationship with your father. You say your relationship with him was (you used the phrase) _____. Can you tell me a memory or an incident from early childhood that comes to mind with respect to (word) _____?

OR

You described your childhood relationship with your father as (or "your second adjective was," or "the second word you used was") _____. Can you think of a memory or an incident from early childhood that would illustrate why you chose _____ to describe the relationship?

5. Now I wonder if you could tell me, to which parent did you feel the closest, and why?
    a. Why wasn't there this feeling with the other parent?

6. When you were upset as a child, what would you do?
    a. When you were upset emotionally when you were little, what would you do?
        1. Can you think of a specific time that happened?
    b. Can you remember what would happen when you were hurt, physically?
        1. Again, do any specific incidents (or, do any other incidents) come to mind?
    c. Were you ever ill when you were little?
            1a. Do you remember what would happen?
            1b. Do you remember a specific time?
    d. {if needed} I was wondering do you remember being held by either of your parents on any of those times – I mean, when you were upset, or hurt, or ill?
    e. {if only one parent mentioned} I was just wondering if your Dad/Mom was involved when you were upset, hurt, or ill?

7. What is the first time you remember being separated from your parents? {Whatever you think of as your first separation. Whatever comes to mind.}
    a. How did you respond?
    b. Do you remember how your parents responded?
    c. Are there any other separations that stand out in your mind?

8. Did you ever feel rejected (by your parents) as a young child? Of course, looking back on it now, you may realize it wasn't really rejection, but what I'm trying to ask about here is whether you remember ever having <u>felt</u> rejected in childhood.
    a. How old were you when you first felt this way, and what did you do?
    b. Why do you think your parent did those things – do you think he/she realized he/she was rejecting you? (if ignored – leave off last part)
    c. {if needed} Did you ever feel pushed away or ignored?

8a. Were you ever frightened or worried as a child?
    1. Can you think of a specific time? (Get age)
    2. How did your parents respond?

9. Were your parents ever threatening with you in any way – maybe for discipline, or even jokingly?
    a. Some people have told us for example that their parents would threaten to leave them or send them away from home.
    b. Some people have memories of threats or some kind of behavior that was abusive. Did anything like this ever happen to you, or in your family?
       1. How old were you at the time?
       2. Did it happen frequently?
       3. Do you feel this experience affects you now?
    c. Did you have any such experiences involving threats or abuse involving people outside your family?

10. In general, how do you think your overall experiences with your parents have affected your current personality?
    a. Are there any aspects to your early experiences that you feel were a set-back in your development?

       {If yes} Are there any other aspects of your early experiences that you think may have held your development back, or had a negative effect on the way you turned out?

       {If no} Is there <u>anything</u> about your early experiences that you think might have held your development back , or had a negative effect on the way you turned out?

11. Why do you think your parents behaved as they did during your childhood?

12. Were there any other adults with whom you were close, <u>like parents</u>, as a child?
    a. Or any other adults who were especially important to you, even though not parental?

13.　Did you experience the loss of a (parent or) other close loved one while you were a young child – for example, a sibling, or close family member? (Find out all people first for 13, 13a, & 13b. Ask regarding closeness and interviewee's age at time of other's deaths. For each death select deaths you will probe after getting full list. Ask all questions in order even if already mentioned answer).
　　a.　Could you tell me about the circumstances, (and how old were you at the time)?
　　b.　How did you respond at the time?
　　c.　Was this death sudden or was it expected?
　　d.　Can you recall your feelings at that time?
　　e.　Have your feelings regarding this death changed much over time?
　　f.　Did you attend the funeral?
　　g.　{If attended funeral} What was this like for you?
　　h.　{If loss of parent or sibling or child} What would you say was the effect on your (other parent) and on your household, and how did this change over the years? (only if loss in childhood)
　　i.　Would you say this loss has had an effect on your current personality?

13a.　Did you lose any other important persons during your childhood? (to death)
　　　　{If yes, repeat probes}

13b.　Have you lost any other close persons more recently? (to death) {If yes, repeat probes}

14.　Now I'd like to ask you a few more questions about your relationship with your parents. Were there many changes in your relationship with your parents (or remaining parent) after childhood? We'll get to the present in a moment, but right now I mean changes occurring roughly between your childhood and now?

15.　Now I'd like to ask you, what is your relationship with your parents (or remaining parent) like for you now? Here I am asking about your current relationship.
　　a.　Do you have much contact with your parents at present?
　　b.　{If needed} What would you say the relationship with your parents is like currently?
　　c.　Could you tell me about any (or any other) sources of dissatisfaction in your current relationship with your parents?
　　d.　Could you tell me about any (or any other) sources of special satisfaction?

16.　Is there any particular thing which you feel you learned above all from your own childhood experiences?

APPENDIX C

Descriptions of the Adult Attachment Interview Rating Scales and Classifications

I. AAI Rating Scales

A. Probable Attachment Experiences with a Principal Attachment Figure
   i.   Experience of being cared for in a loving way.
   ii. Experience of being rejected.
   iii. Experience of a role-reversing relationship.
   iv. Experience of being neglected.
   v.   Experience of being pressured to achieve.

B. "Current State of Mind with Regard to Attachment"
   i.   Involved anger expressed toward the principal attachment figure(s).
   ii.   Idealization of the principal attachment figure(s).
   iii. Passivity of vagueness in discourse.
   iv.   Insistence on lack of memory for childhood.
   v.   Active/derogating dismissal of attachment-related experiences/
         relationships.
   vi.   Unresolved loss/trauma.
   vii. Metacognitive monitoring.
   viii. Coherence of transcript.

II. AAI Classifications

A. Secure/autonomous. Coherent, collaborative discourse. Valuing of attachment, but seems objective regarding any particular event/relationship. Description and evaluation of attachment-related experiences is consistent, whether experiences are favorable or unfavorable.

B. Insecure/Dismissing. Not coherent. Dismissing of attachment-related experience and relationships. Normalizing ("excellent, very normal mother"), with generalized representations of history unsupported or actively contradicted by episodes recounted… Transcripts also tend to be excessively brief…

C. Insecure/Preoccupied. Not coherent. Preoccupied with or by past attachment relationships/experiences, speaker appears angry, passive or fearful. Sentences often long, grammatically entangled, or filled with vague usages ("dadadada," "and that")… Transcripts often excessively long…

D. Unresolved. During discussions of loss or abuse, individual shows striking lapse in the monitoring of reasoning or discourse. For example, individual may briefly indicate a belief that a dead person is still alive in the physical sense, or that the person was killed by a childhood thought. Individual may lapse into prolonged silence or eulogistic speech. The speaker will ordinarily otherwise fit secure/autonomous, insecure/dismissing, or insecure/preoccupied categories.

Note: These descriptions are taken from Hesse (1999).

APPENDIX D

Parent as a Secure Base Scale – Revised

(Mother Version)

Please circle the number that indicates how true you feel the following statements are about your mother.

	not at all true		moderately true or not sure		definitely true
1. My mother listens to me.	1	2	3	4	5
2. My mother understands the way I feel about things.	1	2	3	4	5
3. My mother cares how I feel.	1	2	3	4	5
4. My mother isn't really there for me when I'm in trouble.	1	2	3	4	5
5. My mother doesn't understand me very well.	1	2	3	4	5
6. My mother is someone I can go to when I'm upset.	1	2	3	4	5
7. My mother is someone I can count on when I need help.	1	2	3	4	5
8. My mother accepts me.	1	2	3	4	5
9. My mother truly loves me.	1	2	3	4	5
10. My mother gets annoyed if I turn to her for help.	1	2	3	4	5
11. My mother rejects me.	1	2	3	4	5
12. My mother is there for me in times of trouble.	1	2	3	4	5
13. My mother is happy that she is my mother and wants to stay close to me.	1	2	3	4	5

(Father Version)

Please circle the number that indicates how true you feel the following statements are about your father.

	not at all true		moderately true or not sure		definitely True
1. My father listens to me.	1	2	3	4	5
2. My father understands the way I feel about things.	1	2	3	4	5
3. My father cares how I feel.	1	2	3	4	5
4. My father isn't really there for me when I'm in trouble.	1	2	3	4	5
5. My father doesn't understand me very well	1	2	3	4	5
6. My father is someone I can go to when I'm upset.	1	2	3	4	5
7. My father is someone I can count on when I need help.	1	2	3	4	5
8. My father accepts me.	1	2	3	4	5
9. My father truly loves me.	1	2	3	4	5
10. My father gets annoyed if I turn to her for help.	1	2	3	4	5
11. My father rejects me.	1	2	3	4	5
12. My father is there for me in times of trouble.	1	2	3	4	5
13. My father is happy that she is my mother and wants to stay close to me.	1	2	3	4	5

APPENDIX E

Experiences in Close Relationships Inventory

(Brennan et al., 1998)

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it by circling **ONE** number.

	Disagree Strongly		Neutral/ Mixed			Agree Strongly	
1. I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
2. I worry about being abandoned.	1	2	3	4	5	6	7
3. I am very uncomfortable being close to romantic partners.	1	2	3	4	5	6	7
4. I worry a lot about my relationships.	1	2	3	4	5	6	7
5. Just when my partner starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
6. I worry that romantic partners won't care about me as much as I care about them.	1	2	3	4	5	6	7
7. I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
8. I worry a fair amount about losing my partner.	1	2	3	4	5	6	7
9. I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.	1	2	3	4	5	6	7
11. I want to get close to my partner, but I keep pulling back.	1	2	3	4	5	6	7
12. I often want to merge completely with romantic partners, and this sometimes scares them away.	1	2	3	4	5	6	7
13. I am nervous when partners get too close to me.	1	2	3	4	5	6	7
14. I worry about being alone.	1	2	3	4	5	6	7
15. I feel comfortable sharing my private thoughts and feelings with my partner.	1	2	3	4	5	6	7
16. My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7

17. I try to avoid getting too close to my partner. 1 2 3 4 5 6 7

18. I need a lot of reassurance that I am loved by my partner. 1 2 3 4 5 6 7

19. I find it relatively easy to get close to my partner. 1 2 3 4 5 6 7

20. Sometimes I feel that I force my partners to show more feeling, more commitment. 1 2 3 4 5 6 7

21. I find it difficult to allow myself to depend on romantic partners. 1 2 3 4 5 6 7

22. I do not often worry about being abandoned. 1 2 3 4 5 6 7

23. I prefer not to be too close to romantic partners. 1 2 3 4 5 6 7

24. If I can't get my partner to show interest in me, I get upset or angry. 1 2 3 4 5 6 7

25. I tell my partner just about everything. 1 2 3 4 5 6 7

26. I find that my partner(s) don't want to get as close as I would like. 1 2 3 4 5 6 7

27. I usually discuss my problems and concerns with my partner. 1 2 3 4 5 6 7

28. When I'm not involved in a relationship, I feel somewhat anxious and insecure. 1 2 3 4 5 6 7

29. I feel comfortable depending on romantic partners. 1 2 3 4 5 6 7

30. I get frustrated when my partner is not around as much as I would like. 1 2 3 4 5 6 7

31. I don't mind asking romantic partners for comfort, advice, or help. 1 2 3 4 5 6 7

32. I get frustrated if romantic partners are not available when I need them. 1 2 3 4 5 6 7

33. It helps to turn to my romantic partner in times of need. 1 2 3 4 5 6 7

34. When romantic partners disapprove of me, I feel really bad about myself. 1 2 3 4 5 6 7

35. I turn to my partner for many things, including comfort and reassurance. 1 2 3 4 5 6 7

36. I resent it when my partner spends time away from me. 1 2 3 4 5 6 7

APPENDIX F

<u>Memory for Childhood Experiences Task Materials</u>

<u>Memory for Childhood Experiences Task Script</u>

<u>What you will need</u>:
1. This script
2. Envelope with four emotion question cards
3. Memory Task Response Sheet
4. The four Memory Task Questionnaires
5. Buzzer

<u>Before Participant Arrives</u>:
1. Randomly draw out the four Emotion Question Cards in a random order. Use this order to place the four Memory Task Questionnaires in a random order.
2. Replace the cards in the envelopes.
3. Once again draw out the four emotion cards in a random order, and place them in a stack face down. In this way the cards will be presented to the participant in a random order. Keep the cards face down until you present each one.

<u>Script</u>:

What I want you to do now is to think about your childhood up through 9th grade. Okay, got that?

I want you to think of experiences in which you felt a particular emotion.

I'll show you a card with an emotion on it, and I'd like you to think of a time when you felt that way. As soon as you've thought of it, I'd like you to press this buzzer.

As soon as you've thought of something and pressed the buzzer, I'll ask you to describe the event briefly.

For example, you might say, "Okay, I remember a time when…."

And I'll also ask you how old you were.

Okay, do you have any questions before we start?

Great, let's start.

<u>Important note regarding time</u>: Investigator, remember that it is your job to set the tone for the task. You want to say, "Are you ready?" before each card presentation, because you want to make sure the response time you get is an accurate reflection of the amount of time it took the participant to focus on the card and then remember an incident. You want to make sure that the participant is properly focused before presenting the card, and

then again before beginning the timing. If the participant begins asking questions after the card is presented (e.g., "You want me to tell you as soon as I think of one?", "Now up to what age did you want?", etc.) DO NOT BEGIN TIMING UNTIL THE TEEN'S QUESTIONS ARE ANSWERED AND THE TEEN IS FOCUSED ON REMEMBERING THE INCIDENT. Also please be sure to be very deliberate in the way you place the card in front of the teen. This will help the teen to focus on the card, and reduce error in recording an accurate response time.

<u>Important note for anxious</u>: If the teen asks about what "anxious" means in any way, please respond: "By 'anxious' I mean nervous, concerned, worried, or frightened."

1. *Are you ready?*
Present the first Emotion Question Card, and read aloud to participant.

START TIMER (after the word on the card is read, or teen's question is answered)
<u>When teen recalls event:</u>
a. Stop timer and record time on response sheet
b. Write down emotion that was presented on card
c. If teen indicated that he/she remembers an experience, but does not spontaneously give the following information, ask one of both questions if needed:
>   *Could you please briefly describe the experience that you are remembering?*
>   *How old were you when this experience happened?* (Record age)
d. Write down two words that summarize the experience described.
e. If teen says he/she cannot remember an incident, or if teen is unable to think of an incident before 5 minutes have passed, then circle "None" on the response sheet.

2. *Are you ready?*
Present the second Emotion Question Card, and read aloud to participant.

START TIMER (after word on the card is read, or teen's question is answered)
<u>When teen recalls event:</u>
a. Stop timer and record time on response sheet
b. Write down emotion that was presented on card
c. If teen indicated that he/she remembers an experience, but does not spontaneously give the following information, ask one of both questions if needed:
>   *Could you please briefly describe the experience that you are remembering?*
>   *How old were you when this experience happened?* (Record age)
d. Write down two words that summarize the experience described.
e. If teen says he/she cannot remember an incident, or if teen is unable to think of an incident before 5 minutes have passed, then circle "None" on the response sheet.

3. *Are you ready?*
Present the third Emotion Question Card, and read aloud to participant.

START TIMER (after last word on the card is read, or teen's question is answered)

When teen recalls event:
a. Stop timer and record time on response sheet
b. Write down emotion that was presented on card
c. If teen indicated that he/she remembers an experience, but does not spontaneously give the following information, ask one of both questions if needed:

> *Could you please briefly describe the experience that you are remembering?*
> *How old were you when this experience happened?* (Record age)

d. Write down two words that summarize the experience described.
e. If teen says he/she cannot remember an incident, or if teen is unable to think of an incident before 5 minutes have passed, then circle "None" on the response sheet.

4. *Are you ready?*
Present the fourth Emotion Question Card, and read aloud to participant.

START TIMER (after word on the card is read, or teen's question is answered)
When teen recalls event:
a. Stop timer and record time on response sheet
b. Write down emotion that was presented on card
c. If teen indicated that he/she remembers an experience, but does not spontaneously give the following information, ask one of both questions if needed:

> *Could you please briefly describe the experience that you are remembering?*
> *How old were you when this experience happened?* (Record age)

d. Write down two words that summarize the experience described.
e. If teen says he/she cannot remember an incident, or if teen is unable to think of an incident before 5 minutes have passed, then circle "None" on the response sheet.

Introducing the Memory Task Questionnaires

Okay, now that you have recalled these four memories, I'm going to ask you to fill out a questionnaire about each one of those memories. At the top of each questionnaire it will tell you which memory that questionnaire will be asking you about.

For each one, please picture the situation you recalled for that emotion. Try to remember as vividly as you can what it felt like to feel that emotion in the particular situation.

Okay, do you have any questions?

Great. Here are the questionnaires for you to fill out.

Give the participant the questionnaires in the order that you placed them prior to the session. When the teen is done, the response sheet and questionnaires are collected and placed in the teen's data file.

Thanks. That's the end of this task.

I.D. # _____

Response Sheet for Memory Task

Instructions:
1. Record emotion presented.
2. Record time. Begin timing after last word of card, or after the teen's questions are answered.
3. Record two words that summarize event recalled.
4. Record age at time of event recalled.
5. If teen says he/she can't remember an event or does not recall event within 5min., circle "None."

Emotion 1:_____

      Time:_____minutes_____seconds

      Event:_____ or None

      Age:_____

Emotion 2:_____

      Time:_____minutes_____seconds

      Event:_____ or None

      Age:_____

Emotion 3:_____

      Time:_____minutes_____seconds

      Event:_____ or None

      Age:_____

Emotion 4:_____

      Time:_____minutes_____seconds

      Event:_____ or None

      Age:_____

Memory Task Questionnaire – Memory of Happiness

You just recalled an experience in which you felt happy. Please picture this situation in your mind and recall as vividly as you can what it felt like to be happy in that situation.

In your recalled experience associated with <u>happiness</u>, to what extent did you feel each of the following emotions?

		not at all					very much
1.	angry	1	2	3	4	5	6
2.	sad	1	2	3	4	5	6
3.	embarrassed	1	2	3	4	5	6
4.	fearful	1	2	3	4	5	6
5.	anxious	1	2	3	4	5	6
6.	disgusted	1	2	3	4	5	6
7.	ashamed	1	2	3	4	5	6
8.	depressed	1	2	3	4	5	6
9.	surprised	1	2	3	4	5	6
10.	happy	1	2	3	4	5	6

I.D. # _____

Memory Task Questionnaire – Memory of Anxiety

You just recalled an experience in which you felt anxious. Please picture this situation in your mind and recall as vividly as you can what it felt like to be anxious in that situation.

In your recalled experience associated with <u>anxiety</u>, to what extent did you feel each of the following emotions?

		not at all					very much
1.	angry	1	2	3	4	5	6
2.	sad	1	2	3	4	5	6
3.	embarrassed	1	2	3	4	5	6
4.	fearful	1	2	3	4	5	6
5.	anxious	1	2	3	4	5	6
6.	disgusted	1	2	3	4	5	6
7.	ashamed	1	2	3	4	5	6
8.	depressed	1	2	3	4	5	6
9.	surprised	1	2	3	4	5	6
10.	happy	1	2	3	4	5	6

I.D. # _____

Memory Task Questionnaire – Memory of Sadness

You just recalled an experience in which you felt sad. Please picture this situation in your mind and recall as vividly as you can what it felt like to be sad in that situation.

In your recalled experience associated with <u>sadness,</u> to what extent did you feel each of the following emotions?

		not at all					very much
1.	angry	1	2	3	4	5	6
2.	sad	1	2	3	4	5	6
3.	embarrassed	1	2	3	4	5	6
4.	fearful	1	2	3	4	5	6
5.	anxious	1	2	3	4	5	6
6.	disgusted	1	2	3	4	5	6
7.	ashamed	1	2	3	4	5	6
8.	depressed	1	2	3	4	5	6
9.	surprised	1	2	3	4	5	6
10.	happy	1	2	3	4	5	6

I.D. # _____

Memory Task Questionnaire – Memory of Anger

You just recalled an experience in which you felt angry. Please picture this situation in your mind and recall as vividly as you can what it felt like to be angry in that situation.

In your recalled experience associated with <u>anger</u>, to what extent did you feel each of the following emotions?

		not at all					very much
1.	angry	1	2	3	4	5	6
2.	sad	1	2	3	4	5	6
3.	embarrassed	1	2	3	4	5	6
4.	fearful	1	2	3	4	5	6
5.	anxious	1	2	3	4	5	6
6.	disgusted	1	2	3	4	5	6
7.	ashamed	1	2	3	4	5	6
8.	depressed	1	2	3	4	5	6
9.	surprised	1	2	3	4	5	6
10.	happy	1	2	3	4	5	6

APPENDIX G

Levels of Processing (LOP) Task Materials

Levels of Processing (LOP) Task Script

What you will need:
1. This script
2. Levels of Processing (LOP) Spiral Bound Book
3. Levels of Processing (LOP) Response Sheet

For our next task, we will be rating some words. *(For Father Lab only: This might seem very familiar to you. I want to read the instructions again, though because it's really important that we do this the same way every time.)* I'm going to read a list of words from this book. I'll show you the word as I read it to you. *(Open book.)* Some of the words are in big letters like this one *(show them sample card and point to 'Tall')*, and some are in small letters like this one *(point to sample word 'tall')*. *(For Father Lab only: Do you remember this?)* Okay?

For each word, I'm going to ask you a question. There are two questions I might ask. I might ask if the word is in big letters, or if the word describes what your mom/dad is like. You can circle either yes or no on this answer sheet. Do you understand?

Let's do some sample questions

S.1. TALL. Is this word in big letters? You can circle your answer on the answer sheet.
S.2. tall. Is this word like your mom/dad? *(Make sure the participant understands how the task works.)*

Version A1: Okay, the first word is unaccepting. Is this word like your mom/dad? You can circle your answer on the answer sheet.

Version A2: Okay, the first word is unaccepting. Is this word in big letters? You can circle your answer on the answer sheet.

Version B1: Okay, the first word is controlling. Is this word like your mom/dad? You can circle your answer on the answer sheet.

Version B2: Okay, the first word is controlling. Is this word in big letters? You can circle your answer on the answer sheet.

After reading each word, flip to the blank page that is inserted between each word. Allow 2 seconds for each exposure to a word by silently counting "1-1000, 2-1000" to yourself after finishing each question. Continue to read each word and then ask the appropriate questions from the correct Word Task list. The two questions should be phrased as follows:

Is this word in big letters?

Is this word like your mom/dad?

After all the words are presented, take the response sheet from the participant and say:

Now I want you to tell me all of the words that you remember from the list. I'm going to write them down. (Write down all words on back of teen's response sheet, including those that were not on the list. Do not allow the participants to write the words down by themselves. When pauses between the words are 8-10 seconds long say:)

What other words do you remember?

Allow no more than 3-4 minutes to respond.

Word Presentation

	Word List		Instruction Version	
	A	B	1	2
1.	Unaccepting	Controlling	Like Mom/Dad?	Big Letters?
2.	Supporting	Accepting	Big Letters?	Like Mom/Dad?
3.	Concerned	Appreciative	Like Mom/Dad?	Big Letters?
4.	Selfish	Insensitive	Big Letters?	Like Mom/Dad?
5.	Sad	Curt	Big Letters?	Like Mom/Dad?
6.	Impatient	Cranky	Big Letters?	Like Mom/Dad?
7.	Happy	Considerate	Like Mom/Dad?	Big Letters?
8.	Worried	Ignoring	Like Mom/Dad?	Big Letters?
9.	Generous	Close	Big Letters?	Like Mom/Dad?
10.	Kind	Smiling	Like Mom/Dad?	Big Letters?
11.	Strange	Distant	Like Mom/Dad?	Big Letters?
12.	Nice	Giving	Big Letters?	Like Mom/Dad?
13.	Dependable	Sincere	Like Mom/Dad?	Big Letters?
14.	Patient	Sympathetic	Big Letters?	Like Mom/Dad?
15.	Respectful	Likable	Big Letters?	Like Mom/Dad?
16.	Soothing	Sweet	Like Mom/Dad?	Big Letters?
17.	Nagging	Argumentative	Like Mom/Dad?	Big Letters?
18.	Cold	Hostile	Like Mom/Dad?	Big Letters?
19.	Gloomy	Defensive	Like Mom/Dad?	Big Letters?
20.	Strict	Negligent	Like Mom/Dad?	Big Letters?
21.	Irritated	Awful	Big Letters?	Like Mom/Dad?
22.	Annoying	Aggravated	Big Letters?	Like Mom/Dad?
23.	Loving	Thoughtful	Like Mom/Dad?	Big Letters?
24.	Tired	Moody	Like Mom/Dad?	Big Letters?
25.	Tense	Scolding	Big Letters?	Like Mom/Dad?
26.	Helpful	Reliable	Big Letters?	Like Mom/Dad?
27.	Fair	Caring	Big Letters?	Like Mom/Dad?
28.	Unhappy	Difficult	Big Letters?	Like Mom/Dad?
29.	Laughing	Trustworthy	Like Mom/Dad?	Big Letters?
30.	Demanding	Rigid	Big Letters?	Like Mom/Dad?
31.	Available	Encouraging	Like Mom/Dad?	Big Letters?
32.	Unfair	Inconsiderate	Like Mom/Dad?	Big Letters?
33.	Tender	Understanding	Like Mom/Dad?	Big Letters?
34.	Angry	Offensive	Big Letters?	Like Mom/Dad?
35.	Warm	Flexible	Big Letters?	Like Mom/Dad?
36.	Gentle	Cooperative	Big Letters?	Like Mom/Dad?
37.	Mean	Rude	Like Mom/Dad?	Big Letters?
38.	Affectionate	Approving	Big Letters?	Like Mom/Dad?
39.	Bad	Intrusive	Like Mom/Dad?	Big Letters?
40.	Fun	Comforting	Like Mom/Dad?	Big Letters?
41.	Rejecting	Interfering	Big Letters?	Like Mom/Dad?
42.	Good	Friendly	Big Letters?	Like Mom/Dad?
43.	Upset	Uncaring	Big Letters?	Like Mom/Dad?
44.	Consistent	Cheery	Like Mom/Dad?	Big Letters?

I.D._____

Levels of Processing (LOP) Task – Response Sheet (Version 1)

List (Circle):   A / B
Parent (Circle):   Mother / Father

S.1. Big Letters?   Yes   No
S.2. Like Mom/Dad? Yes   No

1.	Like Mom/Dad?	yes	no		23.	Like Mom/Dad?	yes	No
2.	Big Letters?	yes	no		24.	Like Mom/Dad?	yes	No
3.	Like Mom/Dad?	yes	no		25.	Big Letters?	yes	No
4.	Big Letters?	yes	no		26.	Big Letters?	yes	No
5.	Big Letters?	yes	no		27.	Big Letters?	yes	No
6.	Big Letters?	yes	no		28.	Big Letters?	yes	No
7.	Like Mom/Dad?	yes	no		29.	Like Mom/Dad?	yes	No
8.	Like Mom/Dad?	yes	no		30.	Big Letters?	yes	No
9.	Big Letters?	yes	no		31.	Like Mom/Dad?	yes	No
10.	Like Mom/Dad?	yes	no		32.	Like Mom/Dad?	yes	No
11.	Like Mom/Dad?	yes	no		33.	Like Mom/Dad?	yes	No
12.	Big Letters?	yes	no		34.	Big Letters?	yes	No
13.	Like Mom/Dad?	yes	no		35.	Big Letters?	yes	No
14.	Big Letters?	yes	no		36.	Big Letters?	yes	No
15.	Big Letters?	yes	no		37.	Like Mom/Dad?	yes	No
16.	Like Mom/Dad?	yes	no		38.	Big Letters?	yes	No
17.	Like Mom/Dad?	yes	no		39.	Like Mom/Dad?	yes	No
18.	Like Mom/Dad?	yes	no		40.	Like Mom/Dad?	yes	No
19.	Like Mom/Dad?	yes	no		41.	Big Letters?	yes	No
20.	Like Mom/Dad?	yes	no		42.	Big Letters?	yes	No
21.	Big Letters?	yes	no		43.	Big Letters?	yes	No
22.	Big Letters?	yes	no		44.	Like Mom/Dad?	yes	No

I.D._____

Levels of Processing (LOP) Task – Response Sheet (Version 2)

List (Circle):   A / B
Parent (Circle):   Mother / Father

S.1. Big Letters?   Yes   No
S.2. Like Mom/Dad? Yes   No

#	Question	yes	no	#	Question	yes	no
1.	Big Letters?	yes	no	23.	Big Letters?	yes	no
2.	Like Mom/Dad?	yes	no	24.	Big Letters?	yes	no
3.	Big Letters?	yes	no	25.	Like Mom/Dad?	yes	no
4.	Like Mom/Dad?	yes	no	26.	Like Mom/Dad?	yes	no
5.	Like Mom/Dad?	yes	no	27.	Like Mom/Dad?	yes	no
6.	Like Mom/Dad?	yes	no	28.	Like Mom/Dad?	yes	no
7.	Big Letters?	yes	no	29.	Big Letters?	yes	no
8.	Big Letters?	yes	no	30.	Like Mom/Dad?	yes	no
9.	Like Mom/Dad?	yes	no	31.	Big Letters?	yes	no
10.	Big Letters?	yes	no	32.	Big Letters?	yes	no
11.	Big Letters?	yes	no	33.	Big Letters?	yes	no
12.	Like Mom/Dad?	yes	no	34.	Like Mom/Dad?	yes	no
13.	Big Letters?	yes	no	35.	Like Mom/Dad?	yes	no
14.	Like Mom/Dad?	yes	no	36.	Like Mom/Dad?	yes	no
15.	Like Mom/Dad?	yes	no	37.	Big Letters?	yes	no
16.	Big Letters?	yes	no	38.	Like Mom/Dad?	yes	no
17.	Big Letters?	yes	no	39.	Big Letters?	yes	no
18.	Big Letters?	yes	no	40.	Big Letters?	yes	no
19.	Big Letters?	yes	no	41.	Like Mom/Dad?	yes	no
20.	Big Letters?	yes	no	42.	Like Mom/Dad?	Yes	no
21.	Like Mom/Dad?	yes	no	43.	Like Mom/Dad?	Yes	no
22.	Like Mom/Dad?	yes	no	44.	Big Letters?	Yes	no

I.D._____

Levels of Processing (LOP) Task – Score Sheet: List A, Version 1

Parent (Circle):   Mother / Father

Positive Structural (PS)			Negative Structural (NS)		
2. Supporting			4. Selfish	Yes	No
9. Generous	Yes	No	5. Sad	Yes	No
12. Nice	Yes	No	6. Impatient	Yes	No
14. Patient	Yes	No	21. Irritated	Yes	No
15. Respectful	Yes	No	22. Annoying	Yes	No
26. Helpful	Yes	No	25. Tense	Yes	No
27. Fair	Yes	No	28. Unhappy	Yes	No
35. Warm	Yes	No	30. Demanding	Yes	No
36. Gentle	Yes	No	34. Angry	Yes	No
38. Affectionate	Yes	No	41. Rejecting	Yes	No
42. Good	Yes	No	43. Upset		

 # recalled   ____ ____   ____ ____

 # endorsed   ____ ____   ____ ____

Positive Parent-Referent (PPR)			Negative Parent-Referent (NPR)		
3. Concerned	Yes	No	1. Unaccepting		
7. Happy	Yes	No	8. Worried	Yes	No
10. Kind	Yes	No	11. Strange	Yes	No
13. Dependable	Yes	No	17. Nagging	Yes	No
16. Soothing	Yes	No	18. Cold	Yes	No
23. Loving	Yes	No	19. Gloomy	Yes	No
29. Laughing	Yes	No	20. Strict	Yes	No
31. Available	Yes	No	24. Tired	Yes	No
33. Tender	Yes	No	32. Unfair	Yes	No
40. Fun	Yes	No	37. Mean	Yes	No
44. Consistent			39. Bad	Yes	No

 # recalled   ____ ____   ____ ____

 # endorsed   ____ ____   ____ ____

I.D._____

Levels of Processing (LOP) Task – Score Sheet: List A, Version 2

Parent (Circle):   Mother   /   Father

Positive Parent-Referent (PPR)				Negative Parent-Referent (NPR)		
2.	Supporting			4.	Selfish	Yes	No
9.	Generous	Yes	No	5.	Sad	Yes	No
12.	Nice	Yes	No	6.	Impatient	Yes	No
14.	Patient	Yes	No	21.	Irritated	Yes	No
15.	Respectful	Yes	No	22.	Annoying	Yes	No
26.	Helpful	Yes	No	25.	Tense	Yes	No
27.	Fair	Yes	No	28.	Unhappy	Yes	No
35.	Warm	Yes	No	30.	Demanding	Yes	No
36.	Gentle	Yes	No	34.	Angry	Yes	No
38.	Affectionate	Yes	No	41.	Rejecting	Yes	No
42.	Good	Yes	No	43.	Upset		

 # recalled   ____   ____   ____   ____

 # endorsed   ____   ____   ____   ____

Positive Structural (PS)				Negative Structural (NS)		
3.	Concerned	Yes	No	1.	Unaccepting		
7.	Happy	Yes	No	8.	Worried	Yes	No
10.	Kind	Yes	No	11.	Strange	Yes	No
13.	Dependable	Yes	No	17.	Nagging	Yes	No
16.	Soothing	Yes	No	18.	Cold	Yes	No
23.	Loving	Yes	No	19.	Gloomy	Yes	No
29.	Laughing	Yes	No	20.	Strict	Yes	No
31.	Available	Yes	No	24.	Tired	Yes	No
33.	Tender	Yes	No	32.	Unfair	Yes	No
40.	Fun	Yes	No	37.	Mean	Yes	No
44.	Consistent			39.	Bad	Yes	No

 # recalled   ____   ____   ____   ____

 # endorsed   ____   ____   ____   ____

I.D._____

Levels of Processing (LOP) Task – Score Sheet: List B, Version 1

Parent (Circle):   Mother / Father

Positive Structural (PS)			Negative Structural (NS)		
2. Accepting			4. Insensitive	Yes	No
9. Close	Yes	No	5. Curt	Yes	No
12. Giving	Yes	No	6. Cranky	Yes	No
14. Sympathetic	Yes	No	21. Awful	Yes	No
15. Likable	Yes	No	22. Aggravated	Yes	No
26. Reliable	Yes	No	25. Scolding	Yes	No
27. Caring	Yes	No	28. Difficult	Yes	No
35. Flexible	Yes	No	30. Rigid	Yes	No
36. Cooperative	Yes	No	34. Offensive	Yes	No
38. Approving	Yes	No	41. Interfering	Yes	No
42. Friendly	Yes	No	43. Uncaring		

 # recalled   ____   ____   ____   ____

 # endorsed   ____   ____   ____   ____

Positive Parent-Referent (PPR)			Negative Parent-Referent (NPR)		
3. Appreciative	Yes	No	1. Controlling		
7. Considerate	Yes	No	8. Ignoring	Yes	No
10. Smiling	Yes	No	11. Distant	Yes	No
13. Sincere	Yes	No	17. Argumentative	Yes	No
16. Sweet	Yes	No	18. Hostile	Yes	No
23. Thoughtful	Yes	No	19. Defensive	Yes	No
29. Trustworthy	Yes	No	20. Negligent	Yes	No
31. Encouraging	Yes	No	24. Moody	Yes	No
33. Understanding	Yes	No	32. Inconsiderate	Yes	No
40. Comforting	Yes	No	37. Rude	Yes	No
44. Cheery			39. Intrusive	Yes	No

 # recalled   ____   ____   ____   ____

 # endorsed   ____   ____   ____   ____

I.D._____

Levels of Processing (LOP) Task – Score Sheet: List B, Version 2

Parent (Circle):   Mother / Father

Positive Parent-Referent (PPR)

2.	Accepting		
9.	Close	Yes	No
12.	Giving	Yes	No
14.	Sympathetic	Yes	No
15.	Likable	Yes	No
26.	Reliable	Yes	No
27.	Caring	Yes	No
35.	Flexible	Yes	No
36.	Cooperative	Yes	No
38.	Approving	Yes	No
42.	Friendly	Yes	No

 # recalled   ____   ____

 # endorsed   ____   ____

Negative Parent-Referent (NPR)

4.	Insensitive	Yes	No
5.	Curt	Yes	No
6.	Cranky	Yes	No
21.	Awful	Yes	No
22.	Aggravated	Yes	No
25.	Scolding	Yes	No
28.	Difficult	Yes	No
30.	Rigid	Yes	No
34.	Offensive	Yes	No
41.	Interfering	Yes	No
43.	Uncaring		

 # recalled   ____   ____

 # endorsed   ____   ____

Positive Structural (PS)

3.	Appreciative	Yes	No
7.	Considerate	Yes	No
10.	Smiling	Yes	No
13.	Sincere	Yes	No
16.	Sweet	Yes	No
23.	Thoughtful	Yes	No
29.	Trustworthy	Yes	No
31.	Encouraging	Yes	No
33.	Understanding	Yes	No
40.	Comforting	Yes	No
44.	Cheery		

 # recalled   ____   ____

 # endorsed   ____   ____

Negative Structural (NS)

1.	Controlling		
8.	Ignoring	Yes	No
11.	Distant	Yes	No
17.	Argumentative	Yes	No
18.	Hostile	Yes	No
19.	Defensive	Yes	No
20.	Negligent	Yes	No
24.	Moody	Yes	No
32.	Inconsiderate	Yes	No
37.	Rude	Yes	No
39.	Intrusive	Yes	No

 # recalled   ____   ____

 # endorsed   ____   ____

APPENDIX H

Parent-Child Story Task – Modified Materials

Story Task Script

What you will need:
1. This script
2. Tape recorder with appropriate tape (e.g., Mother Story A)
3. Story Task response sheet

For our next task, I will be playing you a tape about a teenager and his/her mom. Are you ready?

Play Tape

Okay, can you tell me what you remember from the tape about how the teenager described their mother?

Write Responses on a Story Task Response Sheet
When Delay Between Words are about 8-10 second long, say:

Can you think of anything else the teenager said about their mother?

Write Additional Responses

*Allow no more than a total of 2 minutes to respond to both questions.

<u>Story Task – Story A, Mother</u>

I'm going to read you a story about how a teenager your age describes a typical day with mom.

This morning my mom woke me up for school. As I was getting dressed, my mom made fun of what I had chosen to wear. Sometimes she can be really mean. When I went into the kitchen for breakfast, my mom asked me if I had made my bed. When I said no, she yelled at me to do it before coming to eat. She gets angry sometimes. But she made me my favorite breakfast, ham and eggs, which was very thoughtful. At breakfast, I told my mom that I was really worried about the history test that I had to take tomorrow. She said that everything would be ok and seemed very concerned. She offered to help me that night if I needed it. Mom really knows how to be helpful. As I was getting ready for school, my mom asked if I wanted to go shopping for some new clothes – she can be so generous. When I told her that I planned to go shopping that weekend with a friend of mine, she told me that I should have asked her first. That seemed really controlling to me. On our way out the door, I remembered that I had forgotten to ask my mom to find my permission slip for a school trip. She told me that I'm always so careless and was annoyed. For our entire car ride to school, my mom was still mad about the permission slip – she can be so grouchy sometimes. Finally, we arrived at my school and she dropped me off for the day. She gave me a kiss goodbye and told me to have a good day. My mom is often very kind. After school, I waited for my mom to pick me up, but she was very late. At times my mom is undependable. I was pretty upset by the time she finally drove up, but she gave me a hug and apologized for being late. My mom really knows how to be comforting. While we were running some errands, I stopped in the store to look at a new video that I wanted. But my mom told me to hurry up. It seems she is so impatient. When we got home, we sat down at the kitchen, had a snack, and talked. When it comes to what is happening in my life, my mom can be caring. After dinner, I wanted to watch my favorite TV show, but my mom said that I had watched too much TV that week and couldn't watch anymore. I think she can be unfair. While I was doing some homework, my mom asked if I was doing ok. Sometimes she can be very attentive. When I told her that I was doing well in school, but was having problems with my best friend, my mom said that she had other things to do than to help me with my personal life. She seemed pretty insensitive. Finally, I was tired and ready for bed. My mom stopped by and kissed me goodnight. She's usually very loving.

<u>Story Task – Story B, Mother</u>

I'm going to read you a story about how a teenager your age describes a typical day with mom.

Last night before dinner, my mom asked me to set the table. When I finished, she told me that I had out the plates in the wrong place and that I couldn't do anything right. Sometimes my mom is scolding. While we were eating, I reminded mom that she promised to take me camping over the weekend. She said that she changed her mind and didn't want to go. I think she can be unreliable, but she apologized and said that maybe we could go some other time. She seemed sincere. During dinner, I didn't eat much and my mom yelled at me that I shouldn't waste food. It seems mom can get pretty irritated. After dinner, my mom thanked me for helping with the dishes. Often she can be considerate. Later in the evening, I asked if I could use the VCR to watch a movie I borrowed from a friend. My mom said no because she wanted to watch something on TV first. Sometimes my mom can be so selfish. When she was finished watching her program, my mom said I could use the VCR as long as I was finished with my homework. I thought she was being fair. When I tried to use the VCR, it didn't work properly. Mom yelled at me and blamed me for the problem. At times she gets aggravated. Mom easily fixed the problem, however, and left the room so that I could enjoy my movie without any distractions. My mom can be very respectful. Later that night, my mom showed me a computer game she got for me. Mom can be really giving. When I tried the game out, I had some problems figuring out how to play. My mom wouldn't help me and said that I was old enough to figure it out on my own. Sometimes she can be unkind. When she realized how frustrated I was getting, however, my mom finally helped me out. She was sympathetic. As I got out of the shower that night, I stubbed my toe really badly. My mom knocked on the door and asked what was wrong. When I told her, she told me that I should grow up and stop making such a big deal over a little thing. Mom can often be uncaring. When I opened the door, my mom yelled about all of the water that had splashed on the floor. She was really mad. As I was getting ready for bed, mom came to visit and asked if everything was ok with school. She can be so nice. I asked my mom to remind me about a joke that we had heard earlier, but she said that she didn't have time. Sometimes she can be very cold. Later though, she came back in to apologize and to say that she had a lot on her mind. At times she can be very tender. She said that tomorrow she would be more available if I wanted to talk or joke around. She hugged me goodnight and seemed really affectionate.

<u>Story Task – Story A, Father</u>

I'm going to read you a story about how a teenager your age describes a typical day with dad.

This morning my dad woke me up for school. As I was getting dressed, my dad made fun of what I had chosen to wear. Sometimes he can be really mean. When I went into the kitchen for breakfast, my dad asked me if I had made my bed. When I said no, he yelled at me to do it before coming to eat. He gets angry sometimes. But he made me my favorite breakfast, ham and eggs, which was very thoughtful. At breakfast, I told my dad that I was really worried about the history test that I had to take tomorrow. He said that everything would be ok and seemed very concerned. He offered to help me that night if I needed it. Dad really knows how to be helpful. As I was getting ready for school, my dad asked if I wanted to go shopping for some new clothes – he can be so generous. When I told him that I planned to go shopping that weekend with a friend of mine, he told me that I should have asked him first. That seemed really controlling to me. On our way out the door, I remembered that I had forgotten to ask my dad to find my permission slip for a school trip. He told me that I'm always so careless and was annoyed. For our entire car ride to school, my dad was still mad about the permission slip – he can be so grouchy sometimes. Finally, we arrived at my school and he dropped me off for the day. He gave me a kiss goodbye and told me to have a good day. My dad is often very kind. After school, I waited for my dad to pick me up, but he was very late. At times my dad is undependable. I was pretty upset by the time he finally drove up, but he gave me a hug and apologized for being late. My dad really knows how to be comforting. While we were running some errands, I stopped in the store to look at a new video that I wanted. But my dad told me to hurry up. It seems he is so impatient. When we got home, we sat down at the kitchen, had a snack, and talked. When it comes to what is happening in my life, my dad can be caring. After dinner, I wanted to watch my favorite TV show, but my dad said that I had watched too much TV that week and couldn't watch anymore. I think he can be unfair. While I was doing some homework, my dad asked if I was doing ok. Sometimes he can be very attentive. When I told him that I was doing well in school, but was having problems with my best friend, my dad said that he had other things to do than to help me with my personal life. He seemed pretty insensitive. Finally, I was tired and ready for bed. My dad stopped by and kissed me goodnight. He's usually very loving.

<u>Story Task – Story B, Father</u>

I'm going to read you a story about how a teenager your age describes a typical day with dad.

Last night before dinner, my dad asked me to set the table. When I finished, he told me that I had out the plates in the wrong place and that I couldn't do anything right. Sometimes my dad is scolding. While we were eating, I reminded dad that he promised to take me camping over the weekend. He said that he changed his mind and didn't want to go. I think he can be unreliable, but he apologized and said that maybe we could go some other time. He seemed sincere. During dinner, I didn't eat much and my dad yelled at me that I shouldn't waste food. It seems dad can get pretty irritated. After dinner, my dad thanked me for helping with the dishes. Often he can be considerate. Later in the evening, I asked if I could use the VCR to watch a movie I borrowed from a friend. My dad said no because he wanted to watch something on TV first. Sometimes my dad can be so selfish. When he was finished watching his program, my dad said I could use the VCR as long as I was finished with my homework. I thought he was being fair. When I tried to use the VCR, it didn't work properly. Dad yelled at me and blamed me for the problem. At times he gets aggravated. Dad easily fixed the problem, however, and left the room so that I could enjoy my movie without any distractions. My dad can be very respectful. Later that night, my dad showed me a computer game he got for me. Dad can be really giving. When I tried the game out, I had some problems figuring out how to play. My dad wouldn't help me and said that I was old enough to figure it out on my own. Sometimes he can be unkind. When he realized how frustrated I was getting, however, my dad finally helped me out. He was sympathetic. As I got out of the shower that night, I stubbed my toe really badly. My dad knocked on the door and asked what was wrong. When I told him, he told me that I should grow up and stop making such a big deal over a little thing. Dad can often be uncaring. When I opened the door, my dad yelled about all of the water that had splashed on the floor. He was really mad. As I was getting ready for bed, dad came to visit and asked if everything was ok with school. He can be so nice. I asked my dad to remind me about a joke that we had heard earlier, but he said that he didn't have time. Sometimes he can be very cold. Later though, he came back in to apologize and to say that he had a lot on his mind. At times he can be very tender. He said that tomorrow he would be more available if I wanted to talk or joke around. He hugged me goodnight and seemed really affectionate.

Story Task – Response Sheet

Circle one: Mother (Session 1) / Father (Session II)
Circle one: Story A / Story B

Write down a list of all words and exact phrases the participant says:

Story Task – Scoring Instructions

Story A

Exact Word Said in Story	Acceptable Alternative Forms of Word	Synonyms	Acceptable Phrases Associated with Word
Positive Words			
Thoughtful		Considerate	Made me breakfast
Concerned	Concern		Asked about school
Helpful	Helps, Helping		Offered help with test
Generous	Generosity	Giving	Wanted to take me shopping
Kind		Nice	Kissed me bye, told me have a nice day
Comforting	Comfort(s)	Soothing	Hugged me, apologized
Caring	Cares		Talked with me
Attentive	Attention		Asked how work was
Loving	Loves	Affectionate	Kissed me good night
Negative Words			
Mean		Unkind	Made fun of me
Angry	Anger	Mad	Yelled at me
Controlling	Control(s)		Didn't want me going out with friends
Annoyed	Annoy	Irritated	Told me I'm careless
Grouchy	Grouch	Grumpy, Cranky	Mad at me
Undependable		Unreliable	Late to pick me up
Impatient	Inpatient		Told me to hurry
Unfair			Didn't let me watch TV
Insensitive		Unfeeling	Didn't help with personal problems

Story B

Exact Word Said in Story	Acceptable Alternative Forms of Word	Synonyms	Acceptable Phrases Associated with Word
Positive Words			
Sincere			Apologized
Considerate		Thoughtful	Thanked me
Fair		Just, Impartial	Let me use VCR
Respectful	Respect		Let me enjoy movie
Giving	Give(s)	Generous	Bought me a computer game
Sympathetic			Showed me how to play
Nice		Kind	Asked about school
Tender		Gentle	Apologized
Affectionate	Affection	Loving	Hugged me
Negative Words			
Scolding	Scolds	Lecturing, Blaming	Yelled at me about plates
Unreliable		Undependable	Changed his mind about camping
Irritated	Irritable	Annoyed	Yelled at me about eating food
Selfish		Greedy	Wanted to watch TV first
Aggravated			Blamed me about VCR
Unkind			Wouldn't help me with game
Uncaring			Told me to grow up
Mad		Angry	Yelled about water
Cold		Unemotional	No time for me

APPENDIX I

Emotional Response to Conflict Scale

I.D._____

MEQ-TM
Teen/Mother Form

You just had a discussion with your mother about an issue you disagree about. Please rate the degree to which <u>these words describe your discussion</u> with your mother by circling a number.

	Not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your mom about an issue you disagree about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your mom by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Mother's Emotions

Think about the discussion you had with your mom about an issue you disagree about. Please rate the degree to which you think your mom felt the following emotions during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about how your mom treated you during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

MEQ-TF
Teen/Father Form

You just had a discussion with your father about an issue you disagree about. Please rate the degree to which <u>these words describe your discussion</u> with your father by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your dad about an issue you disagree about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your dad by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Father's Emotions

Think about the discussion you had with your dad about an issue you disagree about. Please rate the degree to which you think <u>your dad felt the following emotions</u> during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about <u>how your dad treated you</u> during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

MEQ-M
Mother Form

You just had a discussion with your teen about an issue you disagree about. Please rate the degree to which <u>these words describe your discussion</u> with your teen by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your teen about an issue you disagree about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your teen by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Teen's Emotions

Think about the discussion you had with your teen about an issue you disagree about. Please rate the degree to which you think your teen felt the following emotions during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about how your teen treated you during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

I.D._____

MEQ-M
Father Form

You just had a discussion with your teen about an issue you disagree about. Please rate the degree to which <u>these words describe your discussion</u> with your teen by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your teen about an issue you disagree about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your teen by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Teen's Emotions

Think about the discussion you had with your teen about an issue you disagree about. Please rate the degree to which you think your teen felt the following emotions during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about how your teen treated you during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

Follow-Up Discussion Questionnaire
Teen/Mother Form

When you came to the University of Maryland lab, you had a discussion with your mother about an issue you disagreed about. Please take a moment and try to remember it.

Please rate the degree to which these words describe your discussion with your mother by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your mom at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you felt the following emotions during the discussion with your mom by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Mother's Emotions

Think about the discussion you had with your mom at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you think <u>your mom felt the following emotions</u> during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Think about the discussion you had with your mom at the University of Maryland lab about an issue you disagreed about. Please think about <u>how your mom treated you</u> during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

Follow-Up Discussion Questionnaire
Teen/Father Form

When you came to the University of Maryland lab, you had a discussion with your father about an issue you disagreed about. Please take a moment and try to remember it.

Please rate the degree to which these words describe your discussion with your father by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your dad at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you felt the following emotions during the discussion with your dad by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Father's Emotions

Think about the discussion you had with your dad at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you think <u>your dad felt the following emotions</u> during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Think about the discussion you had with your dad at the University of Maryland lab about an issue you disagreed about. Please think about <u>how your dad treated you</u> during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

I.D._____

Follow-Up Discussion Questionnaire
Mother Form

When you came to the University of Maryland lab, you had a discussion with your teen about an issue you disagreed about. Please take a moment and try to remember it.

Please rate the degree to which these words describe your discussion with your teen by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you felt the following emotions during the discussion with your teen by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

I.D._____

Your Teen's Emotions

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you think <u>your teen felt the following emotions</u> during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please think about <u>how your teen treated you</u> during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

Follow-Up Discussion Questionnaire
Father Form

When you came to the University of Maryland lab, you had a discussion with your teen about an issue you disagreed about. Please take a moment and try to remember it.

Please rate the degree to which these words describe your discussion with your teen by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your teen by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Teen's Emotions

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please rate the degree to which you think <u>your teen felt the following emotions</u> during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Think about the discussion you had with your teen at the University of Maryland lab about an issue you disagreed about. Please think about <u>how your teen treated you</u> during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

MEQ-TP
Teen/Peer Form

You just had a discussion with another student about an issue you disagree about. Please rate the degree to which <u>these words describe your discussion</u> with this peer by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

Think about the discussion you had with your peer about an issue you disagree about. Please rate the degree to which <u>you felt the following emotions</u> during the discussion with your peer by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Peer's Emotions

Think about the discussion you had with your peer about an issue you disagree about. Please rate the degree to which you think your peer felt the following emotions during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about how your peer treated you during the discussion.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

Follow-Up Discussion Questionnaire
Teen/Peer Form

Several weeks ago, when you visited our laboratory in College Park, you had a discussion with another student about an issue you disagreed about. Please rate the degree to which these words describe your discussion with this student by circling a number.

	not descriptive		moderately descriptive		highly descriptive
1. Argumentative	1	2	3	4	5
2. Disagreeable/Unpleasant	1	2	3	4	5
3. Flexible	1	2	3	4	5
4. Cooperative	1	2	3	4	5
5. Conflictual	1	2	3	4	5
6. Educational/Productive (one or both of us came to understand something)	1	2	3	4	5

Your Emotions

When you visited our laboratory in College Park, you participated in some discussions with another high school student. Think about the discussion you had with your peer about an issue you disagreed about. Please rate the degree to which you felt the following emotions during that discussion by circling a number.

	very little		somewhat		a great deal
7. Disappointed	1	2	3	4	5
8. Angry	1	2	3	4	5
9. Happy	1	2	3	4	5
10. Nervous	1	2	3	4	5
11. Satisfied	1	2	3	4	5
12. Enthusiastic	1	2	3	4	5
13. Sad	1	2	3	4	5
14. Excited	1	2	3	4	5

Your Peer's Emotions

Think about the discussion you had with your peer in our College Park laboratory about an issue you disagreed about. Please rate the degree to which you think your peer felt the following emotions during the discussion with you by circling a number.

	very little		somewhat		a great deal
15. Disappointed	1	2	3	4	5
16. Angry	1	2	3	4	5
17. Happy	1	2	3	4	5
18. Nervous	1	2	3	4	5
19. Satisfied	1	2	3	4	5
20. Enthusiastic	1	2	3	4	5
21. Sad	1	2	3	4	5
22. Excited	1	2	3	4	5

Treatment

Please think about how your peer treated you during the discussion you had in our College Park laboratory related to the topic you disagreed about.

During the discussion I was…

	very little		somewhat		a great deal
23. cared about.	1	2	3	4	5
24. accepted.	1	2	3	4	5
25. ignored.	1	2	3	4	5
26. listened to.	1	2	3	4	5
27. put down.	1	2	3	4	5
28. respected.	1	2	3	4	5
29. disliked.	1	2	3	4	5
30. attacked.	1	2	3	4	5
31. understood.	1	2	3	4	5

APPENDIX J

Adolescent-Parent and Adolescent-Peer Conflict Task Materials

What you will need:
1. This script
2. Adolescent-Mother, Adolescent-Father, Mother, and Father copies of the Issues Checklist.
3. Three envelopes labeled 1, 2, and 3
4. Adolescent-Mother, Adolescent-Father, Mother, and Father ECR

Okay, let's get started. This questionnaire (Issues Checklist) lists a number of issues that teens and parents often disagree about. We're going to be using these questionnaires to come up with topics for you and (teen's/parent) to discuss later on. Although everything else that we are doing is strictly confidential, one this ONE questionnaire (teen's name/parent) will know a little bit about how you filled it out because of the topics chosen for discussion. If you don't want to talk about any particular topic, just mark it with an X on the side.

We'd like you to think about how much you disagree with (teen's name/parent) on each topic and rate how much you disagree by circling a number. After that, think about whether the two of you have discussed that issue in the past 4 weeks, and if you have, circle "yes" on the right hand side. Do you have any questions? Great. Go ahead and fill those out.

Introduce Conflict Task: Give teen and parent the written instructions for this task. Read through with them.

 "Your answers to a questionnaire you completed earlier indicated that the topic written below is one about which you two have disagreed. Please discuss this topic and try to resolve it if possible. I will stop you after 10 minutes. If you are able to resolve this topic before the 10 minutes are up, then please open the envelope marked "Number 1" for further instructions. The topic for you to discuss and try to resolve is: "

Start timer. Do Conflict Task. After 10 minutes interrupt the discussion. Collect all Discussion 2 sheets and envelopes.

Introduce Discussion Questionnaire to both. Be sure to give correct form to each.

Now I'm going to ask each of you to fill out a questionnaire (the ECR) about the discussion you just had. You'll each be in separate rooms, and these questionnaires will be kept confidential. They won't have your name on them, and no one in your family will see them or know how you answered.

ID_____

Issues Checklist
Teen/Mother Form

Below is a list of things that sometimes get talked about at home. Please rate how much you and your Mom disagree on this topic. We are also interested in knowing whether or not you and your Mom have talked about these topics in the past 4 weeks. Please circle yes for topics that you and your Mom have talked about at all during the past four weeks.

Topic	Do Not Disagree		Disagree Moderately		Disagree Much	
1. Telephone calls	1	2	3	4	5	Yes
2. Times for going to bed or waking up	1	2	3	4	5	Yes
3. Doing homework	1	2	3	4	5	Yes
4. Helping out around the house (putting things away, chores, etc.)	1	2	3	4	5	Yes
5. Using the television or computer	1	2	3	4	5	Yes
6. Appearance (clothing hair etc.)	1	2	3	4	5	Yes
7. Fighting with brothers/sisters	1	2	3	4	5	Yes
8. Money (allowance, jobs, spending, etc.)	1	2	3	4	5	Yes
9. Going places without parents (shopping, movies, concerts, etc.)	1	2	3	4	5	Yes
10. Alcohol or drug use	1	2	3	4	5	Yes
11. Dating	1	2	3	4	5	Yes
12. Friends	1	2	3	4	5	Yes
13. Being on time	1	2	3	4	5	Yes
14. Problems at school (grades, etc.)	1	2	3	4	5	Yes
15. Respecting privacy	1	2	3	4	5	Yes
16. Lying	1	2	3	4	5	Yes
17. Talking back to parents	1	2	3	4	5	Yes
18. Time spent with family	1	2	3	4	5	Yes
19. Smoking	1	2	3	4	5	Yes

ID_____

Issues Checklist
Teen/Father Form

Below is a list of things that sometimes get talked about at home. Please rate how much you and your Father disagree on this topic. We are also interested in knowing whether or not you and your Father have talked about these topics in the past 4 weeks. Please circle yes for topics that you and your Father have talked about at all during the past four weeks.

Topic	Do Not Disagree		Disagree Moderately		Disagree Much	
1. Telephone calls	1	2	3	4	5	Yes
2. Times for going to bed or waking up	1	2	3	4	5	Yes
3. Doing homework	1	2	3	4	5	Yes
4. Helping out around the house (putting things away, chores, etc.)	1	2	3	4	5	Yes
5. Using the television or computer	1	2	3	4	5	Yes
6. Appearance (clothing hair etc.)	1	2	3	4	5	Yes
7. Fighting with brothers/sisters	1	2	3	4	5	Yes
8. Money (allowance, jobs, spending, etc.)	1	2	3	4	5	Yes
9. Going places without parents (shopping, movies, concerts, etc.)	1	2	3	4	5	Yes
10. Alcohol or drug use	1	2	3	4	5	Yes
11. Dating	1	2	3	4	5	Yes
12. Friends	1	2	3	4	5	Yes
13. Being on time	1	2	3	4	5	Yes
14. Problems at school (grades, etc.)	1	2	3	4	5	Yes
15. Respecting privacy	1	2	3	4	5	Yes
16. Lying	1	2	3	4	5	Yes
17. Talking back to parents	1	2	3	4	5	Yes
18. Time spent with family	1	2	3	4	5	Yes
19. Smoking	1	2	3	4	5	Yes

ID_____

Issues Checklist
Mother Form

Below is a list of things that sometimes get talked about at home. Please rate how much you and your child disagree on this topic. We are also interested in knowing whether or not you and your child have talked about these topics in the past 4 weeks. Please circle yes for topics that you and your child have talked about at all during the past four weeks.

Topic	Do Not Disagree		Disagree Moderately		Disagree Much	
1. Telephone calls	1	2	3	4	5	Yes
2. Times for going to bed or waking up	1	2	3	4	5	Yes
3. Doing homework	1	2	3	4	5	Yes
4. Helping out around the house (putting things away, chores, etc.)	1	2	3	4	5	Yes
5. Using the television or computer	1	2	3	4	5	Yes
6. Appearance (clothing hair etc.)	1	2	3	4	5	Yes
7. Fighting with brothers/sisters	1	2	3	4	5	Yes
8. Money (allowance, jobs, spending, etc.)	1	2	3	4	5	Yes
9. Going places without parents (shopping, movies, concerts, etc.)	1	2	3	4	5	Yes
10. Alcohol or drug use	1	2	3	4	5	Yes
11. Dating	1	2	3	4	5	Yes
12. Friends	1	2	3	4	5	Yes
13. Being on time	1	2	3	4	5	Yes
14. Problems at school (grades, etc.)	1	2	3	4	5	Yes
15. Respecting privacy	1	2	3	4	5	Yes
16. Lying	1	2	3	4	5	Yes
17. Talking back to parents	1	2	3	4	5	Yes
18. Time spent with family	1	2	3	4	5	Yes
19. Smoking	1	2	3	4	5	Yes

ID_____

Issues Checklist
Father Form

Below is a list of things that sometimes get talked about at home. Please rate how much you and your child disagree on this topic. We are also interested in knowing whether or not you and your child have talked about these topics in the past 4 weeks. Please circle yes for topics that you and your child have talked about at all during the past four weeks.

Topic	Do Not Disagree		Disagree Moderately		Disagree Much	
1. Telephone calls	1	2	3	4	5	Yes
2. Times for going to bed or waking up	1	2	3	4	5	Yes
3. Doing homework	1	2	3	4	5	Yes
4. Helping out around the house (putting things away, chores, etc.)	1	2	3	4	5	Yes
5. Using the television or computer	1	2	3	4	5	Yes
6. Appearance (clothing hair etc.)	1	2	3	4	5	Yes
7. Fighting with brothers/sisters	1	2	3	4	5	Yes
8. Money (allowance, jobs, spending, etc.)	1	2	3	4	5	Yes
9. Going places without parents (shopping, movies, concerts, etc.)	1	2	3	4	5	Yes
10. Alcohol or drug use	1	2	3	4	5	Yes
11. Dating	1	2	3	4	5	Yes
12. Friends	1	2	3	4	5	Yes
13. Being on time	1	2	3	4	5	Yes
14. Problems at school (grades, etc.)	1	2	3	4	5	Yes
15. Respecting privacy	1	2	3	4	5	Yes
16. Lying	1	2	3	4	5	Yes
17. Talking back to parents	1	2	3	4	5	Yes
18. Time spent with family	1	2	3	4	5	Yes
19. Smoking	1	2	3	4	5	Yes

Adolescent-Peer Conflict Task Materials

Adolescent-Peer Conflict Task Script

What you will need:
1. This script
2. Two copies of the RDT attached to clipboards.
3. Three envelopes labeled 1, 2, and 3
4. Adolescent-Peer Conflict Discussion Questionnaire

OK, the first thing I'd like you to do is to quietly fill out these questionnaires. Please do not discuss or comment on them while you are filling them out. (Hand them the clipboards and show them the questionnaires.) This questionnaire has a series of statements. The statements on the left and the right are nearly opposite to each other. I'd like you to circle a number which is closest to the statement you agree with more. So if you agree more with this statement on the left, you would circle 1, 2, or 3. If you agree more with the statement on the right, you would circle 5, 6, or 7. If you have no opinion about the statement, you would circle 4. Are there any questions? OK, again please do not discuss these while you are filling them out. I'll be right over her in this chair if you have any questions. (Give them the questionnaires on a clipboard with a pencil. Sit quietly on a chair to the side. If the peers start to talk about the questionnaires, very politely remind them that it is very important that they do not discuss them right now – they will have a chance to do so later.)

Compare their RDTs to see where they disagree. On a piece of paper, write the topics that they most differed on, listing the discrepancy. Choose the three topics, the first being the one they disagreed most on, the third being the on they disagree the third most on. Write the topics with black marker on the paper and cut them out. Put each topic in the correct envelope, corresponding to the amount of conflict. The one with the most amount of conflict is presented as Topic 1 and then the second most is in envelope 2 and the third in envelope 3. If there are ties, pick the topic that is the most controversial.

Return with the discussion topics list and the discussion sheet for the conflict.

OK, now I'd like you to discuss a new topic. I've used your questionnaires to generate some topics that you disagree about. I'd like you to start with the first topic. If you run out of things to say before I return, then you can move on to the second topic, which is in this envelope., and if necessary, the third topic in this envelope. What I'd like you to do is to both present your positions on the issue and then discuss your differences. Your topic for discussion is _____. Are there any questions?

(Leave room, leaving the participants the discussion topics and the discussion sheet. Reenter after 10 minutes.)

RDT

Please read the items listed below and indicate your position by circling the number that corresponds to how you feel. Circle 1 if you strongly agree with the statement on the left, or 2 or 3 if you feel less strongly. Circle 7 if you strongly agree with the statement on the right, or 5 or 6 if you feel less strongly. Circle 4 if you aren't sure how you feel, or have no opinion.

				no opinion/ aren't sure				
1. Underage drinking is illegal and should not be done.	1	2	3	4	5	6	7	People should drink whenever they want, regardless of the law.
2. The death penalty is cruel and should never be used.	1	2	3	4	5	6	7	The death penalty is appropriate in certain cases.
3. Prayer in school violates separation between church and state.	1	2	3	4	5	6	7	Prayer in school is a good way to return to good values.
4. Poor people are poor as a result of their own actions.	1	2	3	4	5	6	7	Poor people are usually poor because of factors over which they have no control.
5. Any regulation of firearms violates rights.	1	2	3	4	5	6	7	Guns need to be regulated for safety.
6. People should date whoever they want regardless of race.	1	2	3	4	5	6	7	Inter-racial dating is a recipe for disaster.
7. Marijuana is a drug and so should be illegal.	1	2	3	4	5	6	7	Marijuana should be legalized.
8. Assisted suicide is merciful and should be allowed.	1	2	3	4	5	6	7	Assisted suicide is murder.
9. Dating behind your parents' back is sometimes necessary.	1	2	3	4	5	6	7	You should never lie and date behind your parents' back.
10. Skipping meals and purging are OK ways to help make you thin.	1	2	3	4	5	6	7	People should eat three healthy meals a day when losing weight.
11. People should do whatever they can to be thin.	1	2	3	4	5	6	7	People should aim to be healthy, not just thin.
12. Lying to get ahead is OK	1	2	3	4	5	6	7	Lying is always wrong.

.

13. The government should play a strong role in making sure all people have enough money by taking some money from the rich and giving it to the poor.	1	2	3	4	5	6	7	The government should stay out of peoples' lives. People should live on the money they are able to earn.
14. You know that your friend's boy/girlfriend has been unfaithful so now you have to tell your friend.	1	2	3	4	5	6	7	Even though you know that your friend's partner has been unfaithful, you should say nothing.
15. It's OK to cheat on a test if the material being covered isn't important.	1	2	3	4	5	6	7	You should never cheat on a test.
16. I would never date someone ugly and uncool.	1	2	3	4	5	6	7	I choose to date someone based on the person they are.
17. Smoking cigarettes is a personal choice.	1	2	3	4	5	6	7	Smoking is hazardous to your health and should be prohibited.
18. Not having a curfew gives teens more time to get in trouble.	1	2	3	4	5	6	7	Teens are adults and don't need a curfew.
19. You should work as hard as you can to get good grades.	1	2	3	4	5	6	7	You shouldn't kill yourself over grades.
20. You should do your own thing.	1	2	3	4	5	6	7	If the group does something, it's OK.
21. Wealthy people have worked hard to be rich, and so deserve to keep all their money.	1	2	3	4	5	6	7	Wealthy people probably got a lot of good breaks.
22. Bad things happen to us for a reason.	1	2	3	4	5	6	7	Sometimes people just have a bad day.
23. Each of us controls our own destiny.	1	2	3	4	5	6	7	Our lives are in the hands of fate.
24. Good things happen to good people.	1	2	3	4	5	6	7	Good things occur randomly.
25. Some cultural or racial groups are born with certain aptitudes.	1	2	3	4	5	6	7	Everybody has their own strengths and weaknesses regardless of race or ethnicity.
26. Knowing the right people is how you get ahead in life.	1	2	3	4	5	6	7	You get ahead by hard work and perseverance.

APPENDIX K

Shipley Institute of Living Scale

(Shipley, 1946)

I.D._____

Instructions: In the task below, the first word in each line is printed in capital letters. Opposite it are four other words. Circle the one word which means the same thing, or most nearly the same thing, as the first word. If you don't know, guess. Be sure to circle the one word in each line that means the same thing as the first word.

Example:	LARGE	red	big	silent	wet
1	TALK	draw	eat	speak	sleep
2	PERMIT	allow	sew	cut	drive
3	PARDON	forgive	pound	divide	tell
4	COUCH	pin	eraser	sofa	glass
5	REMEMBER	swim	recall	number	defy
6	TUMBLE	drink	dress	fall	think
7	HIDEOUS	silvery	tilted	young	dreadful
8	CORDIAL	swift	muddy	leafy	hearty
9	EVIDENT	green	obvious	skeptical	afraid
10	IMPOSTOR	conductor	officer	book	pretender
11	MERIT	deserve	distrust	fight	separate
12	FASCINATE	welcome	fix	stir	enchant
13	INDICATE	defy	excite	signify	bicker
14	IGNORANT	red	sharp	uninformed	precise
15	FORTIFY	submerge	strengthen	vent	deaden
16	RENOWN	length	head	fame	loyalty
17	NARRATE	yield	buy	associate	tell
18	MASSIVE	bright	large	speedy	low
19	HILARITY	laughter	speed	grace	malice
20	SMIRCHED	stolen	pointed	remade	soiled
21	SQUANDER	tease	belittle	cut	waste
22	CAPTION	drum	ballast	heading	ape
23	FACILITATE	help	turn	strip	bewilder
24	JOCOSE	humorous	paltry	fervid	plain
25	APPRISE	reduce	strew	inform	delight
26	RUE	eat	lament	dominate	cure
27	DENIZEN	senator	inhabitant	fish	atom
28	DIVEST	dispossess	intrude	rally	pledge
29	AMULET	charm	orphan	dingo	pond
30	INEXONERABLE	untidy	involatile	rigid	sparse
31	SERRATED	dried	notched	armed	blunt
32	LISSOM	moldy	loose	supple	convex
33	MOLLIFY	mitigate	direct	pertain	abuse
34	PLAGIARIZE	appropriate	intend	revoke	maintain
35	ORIFICE	brush	hole	building	lute
36	QUERULOUS	maniacal	curious	devout	complaining
37	PARIAH	outcast	priest	lentil	locker
38	ABET	waken	ensue	incite	placate
39	TEMERITY	rashness	timidity	desire	kindness
40	PRISTINE	vain	sound	first	level

APPENDIX L

Rational For Combining Insecure Subgroups

In this investigation, I combined the adolescents whose classifications fell into one of the four insecure AAI subgroups (i.e., adolescents in the insecure/dismissing, insecure/preoccupied, insecure/unresolved, and insecure/cannot classify subgroups) into one insecure group. Although this strategy was used to increase the power with which to detect AAI group differences in attachment-relevant social information-processing (a strategy that is quite common in attachment research), this approach was also used because it is based on the notion that under many circumstances, *any* adolescent who possesses an insecure "state of mind with respect to attachment" will either suppress attachment-relevant social information in some cases, or process such information in a negatively-biased schematic manner in others. As described in the introduction, all AAI interviewees classified as having an insecure state of mind with respect to attachment are believed to have had negative attachment-related childhood experiences (and thus are believed to have negative attachment-related knowledge stored in their internal working models of attachment), and appear to defensively exclude and/or suppress this negative attachment-relevant knowledge when answering questions about their own attachment-related experiences (see pp. 14-15). For example, insecure/dismissing individuals either have difficulties describing the nature of their attachment-related experiences in sufficient detail, provide contradictory information regarding these experiences, or insist that negative attachment-related experiences had no negative effect on their personal development. Insecure/preoccupied individuals, on the other hand, may appear to have access to knowledge related to their negative attachment-related experiences, but close inspection of their AAI transcripts reveals that although these individuals show a willingness to discuss these experiences, they show a limited capacity to objectively critique the general quality of their negative attachment-related experiences and to express how these experiences have influenced their development (e.g., these individuals will talk in length about the "nonessential" details of their negative attachment-related experiences, but will not discuss any genuine feelings of emotional pain or distress associated with these experiences). Thus, on the basis of attachment theory and research, I expected that adolescents classified as insecure on the AAI process attachment-relevant social information similarly, regardless of their AAI subgroup assignment.

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