ABSTRACT

Title of Document:	INVESTIGATING THE MODERATING ROLE OF REFLECTIVE CAPACITY IN THE LINK BETWEEN ATTACHMENT SECURITY AND PERSONAL RESILIENCE IN YOUNG ADULTS
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Previous research suggested that reflective capacity could help mothers who suffered from childhood deprivation better manage the challenging task of parenting and form secure bonding with their infants. The purpose of this present study was to examine whether reflective capacity might act as protective factor in assisting young adults, especially those with more insecure attachment styles (i.e., dismissing, preoccupied, and fearful), to better cope with challenges in life. The results of this study revealed moderate correlations between attachment security and personal resilience as well as between reflective capacity and personal resilience in the young adult population. Although the data in the current study disconfirmed the proposed model of reflective capacity as a moderator in the link between attachment security and personal resilience, they appeared to support the model of reflective capacity as a mediator in the relation between attachment security and personal resilience.

INVESTIGATING THE MODERATING ROLE OF REFLECTIVE CAPACITY IN
THE LINK BETWEEN ATTACHMENT SECURITY AND PERSONAL RESILIENCE
IN YOUNG ADULTS

By

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Dedication

To my father, 馬代世, and my sister, 馬月琴,
Two of the most important people in my life.

Acknowledgements

I would like to express my deepest gratitude to Dr. Gelso, who saw me through the challenging process of my first independent research endeavor; to Dr. Hoffman, who showed her unwavering support for this project even in times of sickness; to Dr. Zamostny, who went through extra hassles to stay on my thesis committee; and to Hung-bin Sheu, who provided valuable statistical advice for this study.

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Chapter 1 – Introduction

Prediction is one of the important goals of psychology besides description, explanation, and control. An abundance of prior research (e.g., Erickson, Sroufe, & Egeland, 1985; Grossmann & Grossmann, 1991; Grossmann et al., 1993; Werner & Smith, 1982) has established a strong link between secure attachment in early childhood and positive adaptations later in life, as well as a substantial correlation between insecure attachment and maladjustment. In other words, one's early attachment organization has been regarded as a strong predictor for one's later functioning in life. These previous research studies seem to imply that one's attachment patterns in early childhood essentially predetermine one's adjustments later in life. For those who have formed secure attachment relationships with their parents in childhood, this surely is good news. Yet, for those who have insecure attachment to their caregivers, this, sadly, sounds like nails in their coffins. But are the insecurely-attached people doomed to unhappiness? Based on a plethora of resilience research (Keyes & Haidt, 2003; Luthar, 1991; Masten & Coatsworth, 1998; Richardson & Waite, 2002; Werner & Smith, 1982), the answer is clearly "no." There are many individuals who have been exposed to great risks in their lives, yet still manage not merely to survive those challenges unscathed but also to thrive under many hazardous circumstances (Keyes & Haidt, 2003).

What helped those individuals with deprived childhoods to become resilient in spite of their negative life experiences? Fonagy and colleagues (1994, 1995/2000, 1996) asked a similar question. They studied what stopped mothers with deprived childhoods from repeating their troubled pasts with their children. Looking at mothers' level of reflective self function (RSF), they found out that 10 out of 10 of the mothers in the

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deprived group with high reflective self function (RSF) managed to raise infants securely attached to them, whereas only 1 out of 17 (about 6%) of these mothers with low RSF managed to do so. Their study provided preliminary evidence that the level of RSF of those mothers with deprived pasts might play a crucial role in stopping the intergenerational transmission of insecure attachment to their children.

Fonagy's idea of reflective self function originated from Main's concept of parental metacognitive capacity (Fonagy et al., 1991, 1994, 1995/2000, 1996). Main referred to this capacity as "metacognitive monitoring," the adult's ability to "step back and consider his or her own cognitive processes as objects of thought or reflection" (1991, p. 135). She regarded the quality of metacognition in parents as a key contributor to their infants' attachment security. Extending Main's notion of metacognitive monitoring and borrowing the phrase "reflective self" from William James (1890), Fonagy and colleagues (1991, 1994, 1995/2000, 1996) coined the term "reflective self function (RSF)." They distinguished the reflective self (the internal observer of mental life) from the pre-reflective self (the experiencer of life), and in their study operationalized the RSF as one's capacity to perceive and understand one's own and others' behavior in terms of mental states in attachment relationships (Fonagy et al., 1991, 1994, 1995/2000, 1996). So far, RSF has mainly been used to measure how maternal reflective functioning can help mothers with deprived childhood experiences to stop intergenerational transmission of attachment insecurity to their children (Fonagy et al., 1991, 1994,1995/2000, 1996), how maternal reflective functioning may mediate the relation between adult and child attachment (Slade, 2002), and how parents' attachment security may influence their children's reflective functioning (Fonagy et al., 1995/2000; Fonagy & Target, 1998).

In this present study, the author is interested in whether reflective functioning may also play a role in helping adults themselves maintain resilience in their daily lives. The construct of the observing ego will be employed to capture adult self reflective capacity. The observing ego, simply put, is one's capacity to reflect on how one feels, thinks, and acts, which is fundamentally similar to the internal observer of mental life in the concept of the reflective self. Clarke (1996) synthesized relevant prior literature on the observing ego in adult psychology and delineated its seven essential functions. They included the abilities to step back from immediate experience and reflect on it non-judgmentally (Hartmann, 1950; Scialli, 1982); to look at one's problems from different perspectives (Hatcher, 1973); to maintain proper distance from one's problems in order to increase self-understanding (Sterba, 1934; Hatcher, 1973); to manage self observation during regressive experiences, to reflect on oneself without losing the ability to experience feelings (Bellak & Meyers, 1984; Crandell, 1991); to monitor how one's behavior influence others (Miller, Isaacs, & Haggard, 1965); to reflect on inner thoughts, feelings, and impulses without blindly acting out on them (Sterba, 1934; Blos, 1962); and to examine one's inner world realistically (Polster, 1984; Sterba, 1934). The observing ego functions described above were considered important aspects of healthy adult functioning and different from pathological self observation (Clarke, 1996).

The author believes the study of adult reflective capacity from another angle may not only enrich adult attachment research, but inform clinical work as well. The notion of reflective capacity is close to the concept of insight in psychotherapy (Fonagy et al., 1991; Fonagy et al., 1994). Facilitating insight in clients is usually considered an integral part in the process of most psychotherapy (Hill, 2004). Practitioners may find it helpful in their

clinical work to pay special attention to facilitating clients' reflective capacity regarding their attachment organization. Furthermore, this vital piece of information can instill hope in clients with insecure attachment styles. Clients can be helped to understand that they can enjoy a fulfilling life despite their insecure attachment patterns and that there is a way to prevent their troubled pasts from becoming their destinies. On the other hand, this important piece of information can also provides practitioners with alternative perspectives in their work with clients who demonstrated insecure attachment organization. Instead of focusing solely on how to change clients' attachment styles from the insecure to the secure path, practitioners may want to consider how to help raise clients' awareness of their insecure relationship patterns (Fonagy et al., 1991; Fonagy et al., 1994), especially in short-term work. As Bowlby (1973, 1988) proposed, changing one's insecure attachment patterns is no easy task since these relational templates, once shaped, though not set in stone for life, may appear impervious to questioning, modification, or replacement. In brief therapy, raising clients' awareness of their attachment organization may be more efficient and effective than seeking to change clients' entrenched insecure attachment patterns.

In addition to the construct of reflective self function (RSF), the study by Fonagy and colleagues (1994, 1995/2000, 1996) also incorporated another intriguing concept—resilience. After more than three decades of research related to this complex construct, resilience still strikes many as a confusing and elusive term. What exactly is resilience? Most researchers seem to reach the consensus that any working definition of resilience needs to subsume these two essential components: positive adaptation and adversity (Kaplan, 1999; Luthar, 2003; Luthar, Cicchetti, & Becker, 2000; Masten, 2001). Also,

many researchers stress the importance of viewing resilience as a "dynamic process" instead of a static trait (Garmezy, 1985; Rutter, 1990; Kaplan, 1999; Luthar, et al., 2000; Masten, 2001). A great variety of models of resilience within two basic approaches, variable-based and person-based, have also been proposed to examine this construct (Luthar et al., 2000; Luthar & Cushing, 1999; Masten, 2001).

In response to Rutter's (1990) call for research attention to protective processes in studying resilience, Fonagy and others (1994, 1995/2000, 1996) adopted the protective model of resilience (Garmezy, Masten, & Tellegen, 1984) to investigate resilient parenting in their study. First, they defined resilience as a process of maintaining normal development under difficult circumstances. Then, they examined specifically how reflective self function served as a protective factor in such processes where mothers with deprived pasts managed to stop the intergenerational transmission of insecure attachment to their children. Their research findings provided promising preliminary empirical evidence of the moderating role of the reflective self function in the relation between mothers' childhood adversity and their infants' attachment security. Inspired by Fonagy et al.'s study (1991, 1994, 1995/2000, 1996), the author of the current study plans to continue a similar line of research on resilience, but from a different angle. The variable-based approach and interaction model will be adopted in examining resilience, as Fonagy and others did; yet, the moderating role of adults' reflective capacity in the link between their own attachment insecurity and their ability to cope with stress and challenges in daily life will be explored.

In summary, this present study aims to continue prior research inquiries regarding attachment, reflective capacity, and resilience from different vantage points in the

population of young adults. The author hopes to make some useful contributions to the advancement of knowledge in each area. Also, it is hoped that, in so doing, practitioners will be better informed in their work with adult clients who manifest relatively insecure attachment styles in their interpersonal relating processes.

Chapter 2 – Literature Review

Perhaps the most difficult, yet intriguing, part of research in social sciences is the attempt to make abstract constructs concrete through operationalization and measurement. Although, in each process of concretization of those abstract constructs, researchers seem to move farther away from the nebulous abstractness inherent in these constructs, it is also in each process of operationalization and measurement that researchers can come to understand a little more of the previously understood abstractness underlying these constructs and, little by little, approximate the truth, if there is any, in those constructs. In the present chapter, the author will first review relevant literature to demonstrate where we stand in the approximation process of the following three abstract constructs: (a) attachment, (b) reflective capacity, and (c) resilience, respectively, and then discuss where we may go next from here. Emphasis will be placed on the development of theoretical conceptualizations as well as measurement issues of each construct in relation to this present study.

Attachment

In this section, an overview of attachment will first be presented, beginning with Bowlby's theoretical formulation, followed by detailed discussions regarding infant attachment behavior, differences in attachment organization, and the concept and significance of internal working models of self/other (IWMs). Next, discussions will center on theoretical conceptualization and measurement issues surrounding adult attachment research. Finally, the rationale for choosing to investigate romantic relationships in adult attachment in this current study will be provided.

Overview of Attachment Theory

John Bowlby (1969/1982, 1973, 1980) drew on diverse existing theories such as ethology, control systems theory, evolutionary theory, information processing theory, Piaget's theory of cognitive development, and psychoanalytic theory, and put forth his attachment theory as an alternative model to explain both normative and pathological human personality development. According to Bowlby, attachment behavior starts as biologically-based behavior infants use to seek and keep proximity to their caregivers for protection and survival, especially in times of distress. He believed children's interactions with their primary caregivers in early years of life not only influence their overt attachment behavioral strategies, but also impact their covert internal representations of themselves (as loveable/unloveable) and of their attachment figures or the world in general (as trustworthy/untrustworthy). He further proposed these internal working models of self/other function as templates for how individuals navigate their interpersonal relationships with other people later in life. And once shaped, these relational templates, though not set in stone for life, tend to appear impervious to questioning, modification, or replacement.

Attachment behavior. Adopting Bowlby's theoretical framework, Ainsworth and her colleagues (1978) set out to observe infant attachment behavior at home and use the Strange Situation procedure to study parent-child interactions in the laboratory. Their study provided compelling empirical support for Bowlby's theory of infants' innate tendency to seek and maintain proximity to their attachment figures for protection particularly in times of stress. Also, their seminal work unexpectedly shed light on the different patterns of attachment behavioral strategies infants displayed with their primary caregivers. These researchers identified three major attachment behavioral patterns of

infants. Group A (later labeled "anxious-avoidant") infants tended not to show interest in the presence or absence of their mothers while at play. They displayed little distress at separation from mothers, inhibited play behavior in mothers' absence and might ignore or even avoid mothers upon reunion. These infants were said to employ "minimizing" behavioral strategies to keep proximity to their attachment figures. Group B (later termed "secure") babies tended to be very active in play in mothers' presence and often checked in with mothers while at play. They showed distress and reduced play behavior at separation from mothers, but were easily comforted by mothers upon reunion and quickly resumed play in mothers' presence. Group C (later called "anxious-ambivalent") infants' tendency to cling to mothers intensified after separation from mothers. They were inhibited at play, not easily comforted by mothers upon reunion, and became hypervigilant regarding mothers' whereabouts after reunion. In contrast to Group A, Group C babies were said to adopt "maximizing" behavioral strategies to achieve proximity to their attachment figures. After reviewing the unclassified babies in Ainsworth's study, Main and Solomon (1990) added a fourth type, the Group D ("disorganized/disoriented") babies. These infants often displayed unorganized and contradictory attachment behavioral strategies in maintaining proximity to their mothers upon reunion. They often exhibited both yearning and frightened behavior in seeking and keeping contact with their mothers.

Ainsworth and colleagues (1978) also identified the corresponding maternal caregiving behavioral patterning that led to the different infant attachment behavior patterns. Group B (secure) infants tended to have mothers who were sensitive and responsive to their communication signals. For these babies, their mothers serve as a

secure base from which they can freely and confidently explore the world and also as a safe haven to which they can return for care and comfort in times of distress. The insecurity of attachment behavior in infants usually resulted from the insensitive maternal responsiveness to their signals and communication. Mothers of Group A (anxious-avoidant) infants either rejected their babies' attachment needs or responded to them in an aversive way, which made these infants automatically turn off attachment-eliciting cues in times of stress. On the other hand, mothers of Group C (anxious-ambivalent) infants usually responded to their babies' needs in such an inconsistent way that these babies tended to react toward even the mildly stressful situations with hypervigilance and constantly demanded their mothers' attention and care. Main and Solomon (1990) found out that the Group D (disorganized/disoriented) infants tended to have mothers who were both frightened and frightening to their babies. This might explain the contradictory disorganized behavioral strategies such infants adopted in times of distress to deal with their mothers who were supposed to be the safe haven they ran to and yet, at the same time, who happened to be the source of alarm they had to run away from. These empirical data showed that differences in infant attachment behavior organization were closely tied to differences in maternal behavioral sensitivity.

   Internal working models of self/other (IWMs). Bowlby (1969/1982, 1973, 1980) proposed that one's IWMs are first shaped by the behavior, emotion, and cognition arising from one's interactions with attachment figures early in life. These initial relational templates, in turn, become consolidated or even cemented by the emotion, cognition, and behavior in one's interactions with significant others later in life. Bowlby stated that "no form of behavior is accompanied by stronger feelings than is attachment

behavior" (1969/1982, p. 209). An individual experiences a wide array of intense feelings regarding attachment relationships: feelings of security and joy when attachment figures are available, feelings of anxiety and anger when separated from attachment figures, and feelings of sorrow and depression at the loss of attachment figures. Also, he argued that one's IWMs affect what information one attends to, what memories one keeps, what attributions and interpretations one makes about life events. The IWMs can be compared to one's mental "schemata" of attachment, the filters through which one screens incoming information and the lenses with which one sees the world. Once formed, one's IWMs mostly operate on the unconscious level and have the tendency to self perpetuate through the repeated reinforcement of one's emotion, cognition, and behavior in one's interpersonal relating processes. When certain aspects of these IWMs become maladaptive at any given point in life, unless those aspects are brought into one's awareness and under careful examination, modifications of the IWMs may seem extremely difficult or even impossible.

Drawing upon Bowlby's views (1969/1982, 1973, 1980) of internal working models of self/other (IWMs), Main, Kaplan, and Cassidy (1985) conceptualized one's attachment organization as being under great influence of one's IWMs and operationalized the IWMs as a set of conscious and unconscious rules that affect one's emotion, cognition, and behavior. Main et al. conducted a study to assess such mental representations of attachment through discourse fluency and language coherence in older children and adults. They hypothesized that the attachment behavioral strategies found in infants and younger children could be regarded as an outward manifestation of their mental representations of attachment. This hypothesis was confirmed by one of their

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research results indicating that six-year-old children's verbal attachment organization was significantly correlated with their behavioral attachment orientation previously assessed in infancy. Moreover, these researchers also discovered the significant association between adult and child attachment in terms of their IWMs, which set the stage for later studies on intergenerational transmission of attachment organization. Their seminal work was deemed as a watershed in the history of attachment research because, prior to their study, most of attachment research was focused exclusively on the behavioral aspect of attachment. These researchers departed from the predominant form of studies during that time and blazed a trail for research on internal representations of attachment organization.

While Ainsworth and others (1978) believed that the behavioral aspect of maternal sensitivity played a crucial role in infant attachment orientation, Main (1991) proposed that the mental representational aspect of maternal sensitivity, especially metacognitive control in parents, might be an even stronger predictor of infant attachment security. Main's notion of maternal metacognition inspired other researchers (e.g., Fonagy et al., 1991, 1994, 1995/2000, 1996; Slade, 2002) who conducted a series of relevant studies on the moderating and mediating effects of parental reflective functioning in the relation between adult and child attachment. In short, this line of research inquiries initiated by Main et al.' 1985 influential work provided valuable empirical evidence for Bowlby's theoretical construct of the IWMs, advanced attachment research on intergenerational transmission of attachment organization, and also helped push attachment research beyond infancy and childhood into adolescence and adulthood.

Adult Attachment

Bowlby theorized attachment as a vital component of human experience "from the cradle to the grave" (Bowlby, 1969/1982, p. 208) and wrote extensively on the subject of attachment in adulthood (Bowlby, 1969/1982, 1979, 1980, 1988). Ainsworth (1985, 1989) also called for research attention to attachment beyond infancy and across the life span. Nonetheless, it was not until the mid-1980s that research on adult attachment began to flourish and gradually take the center stage in attachment-related research (Simpson & Rholes, 1998). Due to the complexity involved in the theoretical conceptualization and measurement issues of attachment in adults, research on adult attachment has always been laden with challenges and difficulties.

Theoretical conceptualization. One of the challenges facing adult attachment researchers involves the complexity of multiple attachment relationships in adulthood. Unlike child attachment which is composed mainly of parent-child relationships, adult attachment is the result of the dynamic interplay of diverse significant attachment relationships across the life span, including individuals' relationships with their parents in childhood, peer relationships in adolescence, romantic relationships in adulthood, and relationships with their own children in late adulthood (Ainsworth, 1985, 1989; Shaver & Mikulincer, 2002). While adult attachment studies that focus on any specific attachment relationships seem to miss the holistic picture of what adult attachment constitutes, studies that can capture the complexities involving all of these relationships in adulthood are yet to be designed. Therefore, before deciding on how to assess adult attachment in their studies, researchers need first to deliberate on which adult attachment relationships they plan to assess in their studies.

Another challenge comes from how to accurately assess individuals' internal

working models of self and other (IWMs). Attachment in adulthood, unlike that in

infancy or childhood, usually does not lend itself to direct behavioral observation.

Although, in one naturalistic study by Fraley and Shaver (1998), the researchers did

attempt direct observation of couples' separation behaviors at airports, in most studies on

adult attachment, given the covert and abstract nature of the internal representations,

researchers usually chose to measure adults' IWMs indirectly through participants'

narratives or perceptions regarding their attachment relationships using interview or self-

report measures.

Measurement issues. Perhaps the greatest challenge lies in the heated debates

around the measurement issues regarding adult attachment research (Jacobvitz, Curran, &

Moller, 2002). In selecting an appropriate instrument for their studies, attachment

researchers are first faced with an important question: Which types of measures can

better capture adult attachment, interviews or self-reports? While developmental

psychologists argue strongly for the orthodoxy of interviews, social psychologists

advocate vehemently for the validity of self-report measures. To do both justices, both

approaches have their merits and deficits. For example, the Adult Attachment Interview

(AAI; George, Kaplan, & Main, 1996) is purported to be capable of tapping into

interviewees' unconscious and also of measuring interviewees' attachment organization

with their attachment systems being fully activated (Simpson & Rholes, 1998). The AAI,

however, requires extensive training for administration, time-consuming work in scoring,

and the ratings are more prone to the variance of raters' subjective judgment or bias

(Simpson & Roles, 1998; Jacobvitz, Curran, & Moller, 2002). In comparison, the self

report measures, such as the Experiences in Close Relationships Scale (ECRS; Brennan, Clark, & Shaver, 1998), are much easier to administer and score, yet, more susceptible to self-report bias or deception (Simpson & Rholes, 1998; Jacobvitz, Curran, & Moller, 2002).

Although interviews and self-report measures both suffer from the tendency to yield oversimplified categorization of complex individuals (Crowell, Fraley, & Shaver, 1999; Hesse, 1999; Jacobvitz, Curran, & Moller, 2002), self-report measures have evolved through many processes of modification and refinement to deal with this problem (Crowell, Fraley, & Shaver, 1999; Simpson & Rholes, 1998). Take romantic attachment measures for example. Being the first to create a self-report measure for adult attachment and to conceptualize romantic love as an attachment process, Hazan and Shaver (1987) translated Ainsworth's three infant attachment patterns (i.e., avoidant, secure, and ambivalent) into the three-paragraph forced-choice categorical Attachment Style Questionnaire (ASQ). In the ASQ, participants are asked to choose one out of the following three paragraphs that best captures how they experience romantic relationships: (a) Avoidant: "I am somewhat uncomfortable being close to others. I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close and often others want me to be more intimate that I feel comfortable being." (b) Secure: "I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't worry about being abandoned or about someone getting too close to me." (c) Ambivalent: "I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and

this sometimes scares people away." Later, other researchers tried to modify the ASQ by

asking participants to respond to each paragraph using continuous rating scales (e.g.,

Levy & Davis,1988) and/or by breaking these multi-sentence paragraphs into separate

items (e.g., Simpson, Rholes, & Philips, 1996).

Expanding on Bowlby's concept of the internal working models of self and other,

Bartholomew and Horowitz (1991) proposed a new two-dimensional (i.e., positive and

negative model of self/dependency versus positive and negative model of other/avoidance)

four categorical model (i.e., secure, preoccupied, dismissing, and fearful) of adult

attachment styles. The "secure" type in this new model corresponds conceptually to the

secure group in Main et al.'s AAI categorization as well as Hazan and Shaver's ASQ, the

"preoccupied" to the ambivalent group, and the "dismissing" and "fearful" to the

avoidant group. Using these four categories, Bartholomew and Horowitz (1991) later

refined the ASQ and added a fourth paragraph in their categorical Relationship

Questionnaire (RQ). In 1994, Griffin and Bartholomew combined the content from the

ASQ as well as the RQ and developed a 30-item inventory, called the Relationship Styles

Questionnaire (RSQ). In the RSQ, individuals are not only assigned each of the four

attachment patterns but also scaled on two dimensions, model of self and model of other

(Crowell, Fraley, & Shaver, 1999). The most recent refinement of the self-report

romantic measures was attempted by Brennan and colleagues in 1998. Following the

two-dimensional four-category conceptual framework of the RSQ, Brennan et al. (1998)

screened and factor analyzed the items in all the existing self-report attachment measures

and created the Experiences in Close Relationships Scale (ECRS). The two dimensions in

the ECRS, anxiety and avoidance, were based on the two dimensions underlying Ainsworth's infant attachment typology.

In sum, from single-item to multi-item, from three to four categories, from discrete to continuous scale, from one category to four categories for each individual, from categories to dimensions, researchers keep refining existing self-report measures of romantic relationships to better capture the construct of adult romantic attachment (Crowell, Fraley, & Shaver, 1999). With each attempt researchers make to refine the operationalization and measurement of adult romantic attachment, we are getting one step closer in approximating this construct.

Rationale for studying adult romantic attachment. According to Bowlby's (1969/1982) concept of "monotropy," although children usually become attached to more than one person, these attachment relationships are not of equal importance to them. Children are biologically biased to form a hierarchy of attachment figures, so that, in times of possible danger, they can quickly run to one particular attachment figure on such hierarchy to secure immediate care and protection. Not only do individuals' attachment relationships expand and change across the life span, but their attachment hierarchies shift as well. While, in childhood, the primary caregivers are usually placed on top of such hierarchies, in adulthood, such particular attachment figures often tend to be the romantic partners (Ainsworth, 1985, 1989; Hazan & Shaver, 1987). Therefore, the focus of the present study will be placed on romantic relationships in adult attachment. The ECRS will be employed, since this is currently the most refined self-report instrument of romantic attachment, to measure adult attachment in the present study.

Reflective Capacity

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In this section, the theoretical and empirical development of the reflective functioning in the context of parent and child attachment relationships will be discussed. The author will then describe the theoretical conceptualization and measurement issues regarding a related construct in adults, the observing ego. Finally, a rationale will be provided for why the observing ego is considered suitable for use in this present study to assess the adult self reflective capacity.

Reflective Self Function (RSF)

Theoretical conceptualization. Borrowing the phrase "reflective self" from William James (1890), who used it to describe individuals' ability to "think of ourselves as thinkers" (p. 296), Fonagy and his colleagues (1991, 1994, 1995/2000, 1996) coined the term reflective self function (RSF) to denote the awareness of mental states in self and others. The concept of the reflective self is a major construct in psychoanalytic theory, discussed in Freud's (1900) *Interpretation of Dreams*, Rapaport's (1951) *The Organization and Pathology of Thought*, and Joseph's paper (1987) "The Consciousness of Being Conscious," etc. And the notion of the RSF has also been discussed under various labels, such as "psychological mindedness" (e.g., Loewald, 1980), "theory of mind" (e.g., Premack & Woodruff, 1978), "mentalization" (e.g., Fonagy, 1989, 1991), and "metacognitive monitoring capacity" (Main, 1991).

Fonagy's conceptualization of the reflective self function (RSF) originated mainly from Main's notion of maternal metacognitive capacity (Fonagy et al., 1991, 1994, 1995/2000, 1996). Main referred to this capacity as "metacognitive monitoring," the adult's ability to "step back and consider his or her own cognitive processes as objects of thought or reflection" (1991, p. 135). In their study, Fonagy and his colleagues (1991,

1994, 1995/2000, 1996) refined the operationalization of the RSF as one's capacity to perceive and understand one's own and others' behaviors in terms of mental states in attachment relationships, the capacity to link behaviors to underlying wishes, desires, thoughts, feelings, etc. Slade (2002) further elaborated on the emotional process involved in reflective capacity. She emphasized the importance of one's capacity for emotional engagement and availability, adding "emotional depth and richness" (p. 11) to Fonagy et al.'s concept of reflective functioning.

According to Fonagy and his colleagues (1991, 1994), the self is comprised of a "pre-reflective" self (the immediate experiencer of life) and a "reflective" self (the internal observer of mental life). The reflective self knows that one feels, thinks, and acts (Fonagy et al., 1991), has the ability to reflect on others' and then one's own mental states, and understands why people behave in certain ways (Fonagy et al., 1991, 1994, 1995/2000, 1996). But how does the self come to know and reflect on itself, or to be exact, how does the reflective self develop? Incorporating the idea of the interpersonal nature of the mind (Davidson, 1983; Wittgenstein, 1953, 1969), Fonagy and others (1991, 1994, 1995/2000, 1996) argued that "only someone who can be said to know, at least to some extent, the mind of another can be said to be able to think himself" (p. 203). They believed that self reflective capacity begins with the capacity to reflect on others' states of mind and that self understanding and the understanding of others are interdependent. They further proposed that the reflective self is not only inherently interpersonal but usually evolves in the context of attachment relationships.

Security of attachment and reflective self function (RSF) are purported to feed on each other through interpersonal interactions (Fonagy et al., 1995/2000, 1996). Fonagy

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and colleagues (1995/2000) proposed a model of intergenerational transmission of attachment based on RSF as such: First, a mother's experiences with her own parents influence her internal model of attachment relationships, which in turn affects the mother's RSF. The mother's RSF then impacts how she interacts with her child. These experiences with the child influences the child's internal model of attachment relationships, which in turn affects the child's RSF (see Figure 1). As is shown in this model, the mother's attachment security first affects her own RSF and then her RSF affects her child's attachment security through their interactions. Finally, the child's attachment organization further affects the child's own RSF.

Inspired by Fonagy's conceptualization of RSF and their proposed model, the author of the present study speculates that this model can be modified and applied to adults themselves as well. The modified model would start with adults' interpersonal experiences with significant others, given that adult attachment, unlike infant attachment, usually result from multiple attachment relationships with significant others across the life span. These interpersonal experiences in adults' lives influence their internal models of attachment relationships, which in turn affect the adults' own reflective capacity (RC). The adults' RC then impacts how they further interact with significant others. These interactions then influence their internal models of attachment orientation, which in turn affect their RC (see Figure 2). In short, the author believes adults' RC can not only influence their interactions with their children, as Fonagy and his colleagues proposed, but can affect adults' own interactions with significant others in their lives as well. Furthermore, in their study (Fonagy, 1991, 1994), they proposed that RSF could help mothers with deprived childhood experiences to form secure attachment relationships
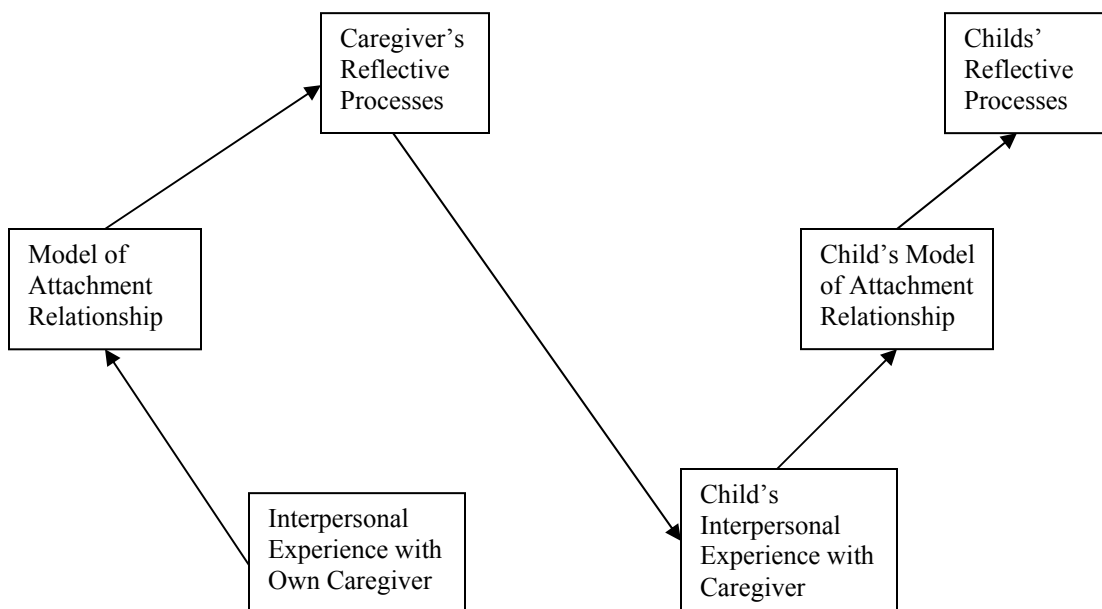
Figure 1. Model of Intergenerational Transmission of Attachment Based on Reflective
Self Function in Fonagy et al. (1995/2000).
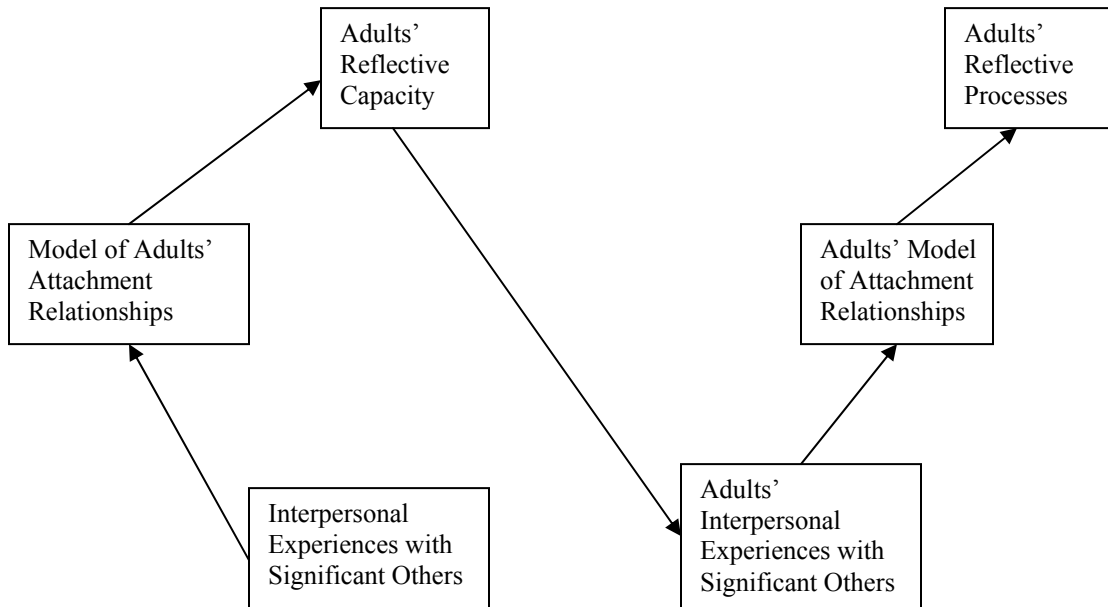
Figure 2. Modification of Fonagy's (1995/2000) Model for Adults.

with their infants. In other words, they believed the mothers' RSF could help them reflect on their own negative life experiences and thus avoid the detrimental impact of those experiences on their interactions with their children. The author of the current study speculates that adults' reflective capacity can also help adults themselves better cope with many challenging tasks in general, not just the task of parenting. The author believes that adults' ability to step back and self reflect can help them disentangle themselves from stressful situations and help prevent their previous harmful life experiences from negatively impacting their daily lives.

Significance of the RSF in attachment research and psychotherapy. The study of the RSF helps advance attachment research. As was initially proposed by Main (1991) and later refined by Fonagy et al. (1991, 1994, 1995/2000), caregivers' reflective functioning serves as a more powerful predictor of their children's attachment security than their observable caregiving behavior, especially for those caregivers who have experienced childhood deprivation. These researchers have not merely pinpointed the specific component in maternal sensitivity, i.e., reflective functioning, that may contribute most to infant attachment security but also pointed out an intriguing direction for future research in related to attachment theory.

The study of the RSF also helps benefit and inform psychotherapy. Researchers (e.g., Slade, 2002) are already investigating ways to apply the concept of the RSF to helping secure mothers to enhance transmission of attachment security and insecure mothers to stop intergenerational transmission of attachment insecurity to their children. Since RSF-raising can help adults break away from their troubled pasts and provide resilient parenting for their children, the author of the present study speculates that adult

reflective capacity may also help adults themselves become resilient and better able to cope with the challenges in their own lives as well.

Measurement issues. The series of research inquiries on RSF can be traced back to Fonagy and colleagues' study in 1991. This Anna Freud Center-University College London project was designed to examine whether mothers' and fathers' attachment classifications could predict their infants' attachments before the infants were born. The sample consisted of 100 first-time mothers and 100 first-time fathers, who were predominantly middle-class. The mothers' and fathers' attachment classifications were assessed using the Adult Attachment Interview (AAI; George et al., 1996) before the births of their infants. When the infants were 12 months old, their attachment organizations with their mothers were assessed using the Strange Situation Procedure (Ainsworth et al., 1978). Then at 18 months, the infants' attachment to their fathers was assessed in the Strange Situation. The findings of this project revealed that the parents' attachment security acted as a stronger predictor for their infants' attachment security than other variables, such personality, self esteem, marital satisfaction, etc. Moreover, in the process of coding the parents' AAI transcripts, they constructed the reflective self functioning scale to assess the quality of the parents' understanding of others' mental states. They discovered that parents' reflective functioning acted as the strongest predictor for their infants' attachment organizations.

In 1994, Fonagy and others adopted a moderational model of resilient parenting and reinterpreted the original data collected in their 1991 study. In response to Rutter's (1990) call for attention to protective processes in resilience studies, these researchers adopted the protective model of resilience (Garmezy, Masten, & Tellegen, 1984) to

investigate the concept of resilient parenting. First, they defined resilience as a process of maintaining normal development under difficult circumstances. Then, they examined specifically how reflective self function acted as a protective factor in such processes where mothers with deprived pasts managed to stop the intergenerational transmission of insecure attachment to their children.

These researchers adopted the interaction model of resilience to examine the moderating effect of maternal reflective self function (protective factor) in the link between mothers' childhood deprivation (risk factor) and transmission of attachment security (outcome) (see Figure 3). Using hierarchical log-linear analyses, they discovered significant interaction effects. The results indicated that for mothers with deprived childhoods, 10 out of 10 with high RSF managed to raise infants securely attached to them, whereas only 1 out of 17 (about 6%) of these mothers with low RSF managed to do so. In comparison, for the non-deprived mothers, the advantage of the RSF in association with infant attachment security was markedly smaller. Their research findings provided promising preliminary empirical evidence for the moderating role of the RSF in the relation between mothers' childhood adversity and their ability to prevent the intergenerational transmission of attachment insecurity. As mentioned in the previous subsection, later, Fonagy and others (1995/2000, 1996) proposed a RSF-based model of intergenerational transmission of attachment. Also, their studies inspired other researchers (e.g., Slade, 2002) who began investigating the RSF as a mediator in the relation between adult and child attachment and further refined the construct of reflective functioning.
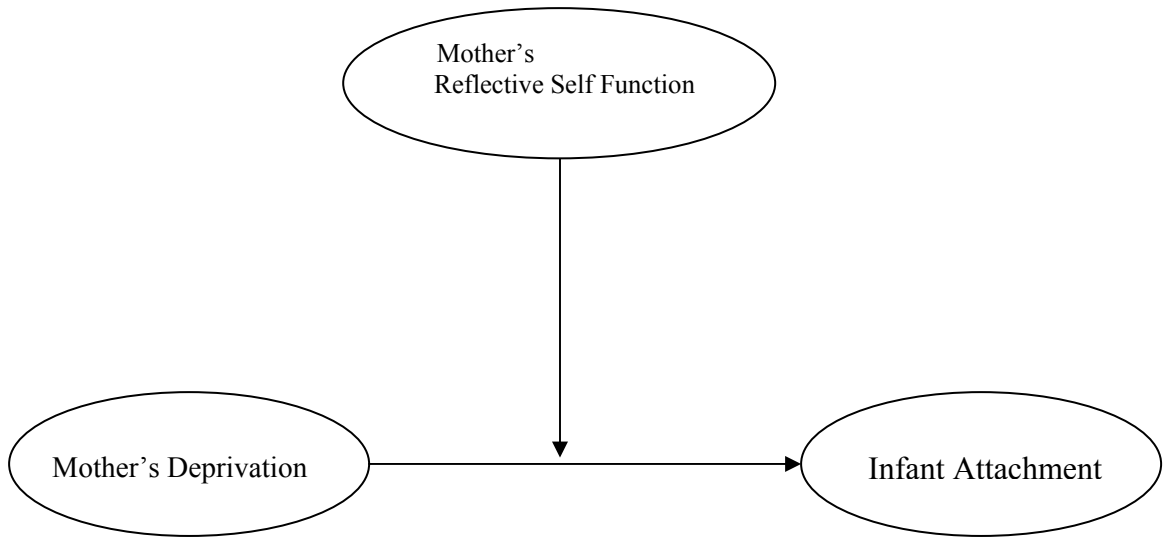
Figure 3. Moderational Model in Fonagy's Study (1994).

The rating scale developed by Fonagy and colleagues (1991) for assessment of the quality of the reflective self function (RSF) was derived from the Adult Attachment Interview (AAI; George et al., 1986). Using this rating scale, raters reviewed interviewees' AAI transcripts for evidence of reflective self function. According to this scale, individuals' reflective self function falls on a low-median-high continuum. At the low end are those who fail to see the intentionality in themselves or others and often give generalized accounts of interpersonal events. These individuals often attributed others' and their own behaviors to the external circumstances. In the middle are those who can describe interpersonal events with some psychological attributions, yet unable to provide rich specificity. At the high end are those who show the most capacity to comprehend the mental states in self and others in their descriptions of interpersonal events.

The reflective self function rating scale is based on a manual and reported to have good test-retest and inter-rater reliabilities (Fonagy et al., 1991, 1994). Currently, reflective functioning training courses are being provided at the Anna Freud Center in London (The Psychoanalysis Unit, 2004). Yet, for the present study, the author decided not to use this scale to assess adult reflective functioning for two main reasons. For one, as mentioned before, the reflective function rating scale derived from the AAI and raters need to review AAI transcripts to code interviewees' level of reflective self function. Since the author of the present study decided to use a self-report measure to assess adult attachment in the first place, as is explained in the section of adult attachment, there will be no transcripts available for the reflective functioning rating. For the other, although Fonagy and colleagues (1991, 1994, 1995/2000, 1996) defined the reflective functioning as one's awareness of mental states in self and others in attachment relationships, their

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reflective functioning scale placed more emphasis on the understanding of intentionality in "others" than self (Fonagy et al., 1991, 1994, 1995/2000, 1996). They used the scale to assess how well parents could appreciate their children's mental states (Fonagy, 1991, 1994, 1995/2000, 1996) and later how well children can understand other people's intentionality (Fonagy & Target, 1998). For the present study, the author is more interested in adults' capacity to reflect on their own mental states.

In Main's original metacognition scale, she placed emphasis on one's ability to reflect on one's own cognitive capacity (Fonagy et al., 1991). The author would like to refer back to her initial conceptualization and use a different instrument called the Observing Ego Functions Scale, based on the construct of the observing ego, which is essentially comparable to the construct of the reflective self, to examine adult reflective functioning in this current study.

The Observing Ego

Theoretical conceptualization. The concept of the observing ego can be traced back to Freud, who discussed the various functions of the ego. He described one of those functions involved how "the ego can take itself as an object, can treat itself like other objects, can observe itself, criticize itself" (Freud, 1932, p. 58) Although Freud did not use the term "the observing ego," he considered the capacity of one's ego to observe one's own thoughts and actions a vital aspect of normal human functioning. Since Freud, many psychoanalytic writers have discussed the concept of the observing ego. For instance, in ego psychology, one of the major schools of thought within psychoanalysis, the observing ego is regarded as a key element. This construct, however, is by no means confined to the psychodynamic camp. Theorists from other schools of thought, such as

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experiential psychotherapists (e.g., Crandell, 1991; Polster, 1974) and cognitive-behavioral psychologists (e.g., Beck, Rush, Shaw, & Emery, 1979), also stressed the importance of healthy self observation.

Clarke (1996) synthesized relevant prior literature on the observing ego in adult psychology and delineated its seven essential functions. They included the abilities to step back from immediate experience and reflect on it non-judgmentally (Hartmann, 1950; Scialli, 1982); to look at one's problems from different perspectives (Hatcher, 1973); to maintain proper distance from one's problems to increase self-understanding (Sterba, 1934; Hatcher, 1973); to manage self observation during regressive experiences, to reflect on oneself without losing the ability to experience feelings (Bellak & Meyers, 1984; Crandell, 1991); to monitor how one's behavior influence others' (Miller, Isaacs, & Haggard, 1965); to reflect on inner thoughts, feelings, and impulses without blindly acting out on them (Sterba, 1934; Blos, 1962); and to examine one's inner world realistically (Polster, 1984; Sterba, 1934). Clarke (1996) stressed that the observing ego functions described above were considered important aspects of healthy human functioning and different from pathological self observation.

Fonagy et al.'s (1991, 1994) distinction of the pre-reflective self and the reflective self is comparable to that of the experiencing and observing ego. Moreover, the observing ego, simply put, is one's capacity to reflect on how one feels, thinks, and acts, which is fundamentally similar to the internal observer of mental life in the concept of the reflective self. Both constructs involve one's ability to step back from one's immediate experience and reflect on one's behavior, to accurately perceive one's inner states and

how they influence one's behavior. Both constructs are trying to tap into one's ability to reflect on one's thoughts, feelings, and impulses without blindly acting out on them.

The major difference between these two constructs may be linked to the different contexts they are intended for use. Whereas the reflective self function has mainly been examined in parent-child attachment relationships, the observing ego is not bound in such specific relationship context. Since the focus of the current study is adults' self reflective capacity independent of child attachment, the author believes the observing ego is more suited for the purpose of this study and may be used as a proxy variable for the self reflective functioning in adults.

Significance of the observing ego in psychotherapy. According to Clarke (1996), the construct of the observing ego plays an important role part in psychotherapy for several reasons. First of all, many writers discussed the importance of this construct within the context of therapy. Some (e.g., Sterba, 1934; Selzer, 1983; Doroff, 1989) identified the observing ego as a critical component in the establishment and maintenance of a therapeutic alliance. For example, Frieswyk and colleagues (1984) proposed the working alliance "depends significantly upon the patient's ability to maintain an observing ego, that is, to stand back from experience temporarily and reflect upon it" (p. 462). These writers also believed the observing ego can help the client maintain more accurate perceptions and manage their transference toward the therapist. Second, some (Adler, 1974; Miller et al., 1965) believed strengthening and developing the observing ego to be one of the major goals in therapy. The importance of developing the observing ego has particularly been stressed in working with clients diagnosed with diverse disorders, such as depression (Beck et al., 1979), panic disorder (Wilson, 1986),

borderline personality disorder (Senderer & Thornbek, 1986), narcissistic personality disorder (Doroff, 1989), schizophrenic disorders (Selzer, 1983), etc. Third, Lansford (1986) reported that clients who could "split [their] observing ego from [their] experiencing ego and ally the observing ego with the analytic stance" (p. 364) tended to achieve positive outcomes in short-term therapy, as evaluated by clients themselves, by their therapists and by independent raters. She argued that these clients were able to use their observing ego to discuss their personal problems, deal with transference feelings and even bring up alliance ruptures in therapy.

Measurement issues. In light of the significance of the observing ego in psychotherapy and also the lack of an objective instrument measure to assess this construct, Clarke (1996) developed a self-report measure called the Observing Ego Functions Scale (OEFS). Based on the seven essential functions of the healthy observing ego described above, Clarke (1996) discovered four underlying factors of the OEFS. The first factor, Internal Awareness, refers to an individual's capacity to be internally focused. It includes the ability to differentiate one's persona from one's internal awareness, an awareness of childish impulses and defensive reactions, and the ability to detect and stop hypercritical behavior toward the self or others. The second factor, Reflection Before Action, involves the capacity to resist impulsive behavior and to think before taking action. This factor includes an ability to monitor body language in interaction with others and to monitor and examine the consequences of behavior. The third factor, Perspective on Behavior, refers to the capacity of impulse control and consequence evaluation. This factor is manifested in social awareness and the capacity to refrain from acting on overwhelming emotions, to consider others' perspectives, and to see the humor even in a

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stressful situation. The fourth factor, Regression in the Service of Ego, refers to the capacity to experience intense affect without losing the observing ego function. Clarke (1996) reported sound beginning psychometric properties for this new measure.

According to Fonagy et al. (1991, 1994, 1995/2000, 1996), the reflective self function evolves and therefore should be examined in the context of intense interpersonal relationships. The author plans to modify the instructions of the OEFS to tap into one's internal reflective functioning in the context of intimate personal relationships rather than in general contexts as described in the original instructions of the OEFS. The author plans to use the revised version of the Observing Ego Functions Scale (OEFS-R) to capture the adult reflective capacity in the specific context of close relationships, as in the concept of reflective self function.

<center>Resilience</center>

In the final section, theoretical conceptualizations and measurement issues regarding the construct of resilience will be examined. Then, how the concept of resilience was applied by Fonagy and others (1994, 1995/2000, 1996) in their study on "resilient parenting" will be presented. Finally, explanations will be offered regarding how the concept of resilience will be examined differently in this current study.

Theoretical Conceptualization

Resilience research, as attachment research, also started with the study of children: for example, Rutter's study (1985, 1987) of children whose parents were diagnosed as mentally ill; Garmezy and colleagues' classic work (Garmezy, Masten, & Tellegen, 1984) on children growing up in low socioeconomic and negative family environments; Garmezy and Masten's research (Garmezy, 1974; Masten, Best, & Garmezy, 1990) on

children with schizophrenic mothers; also, Werner and colleagues' pioneering research (Werner, 1993, 1995; Werner & Smith, 1977) on Kauai children born into poverty and living in troubled environments, to name just a few. All these child studies were trying to answer one question: How did these at-risk children manage to survive seemingly insurmountable challenges in life? In other words, how did these children facing such severe adversity develop or sustain their resilience?

In research focused specifically on resilience, problems abound mainly due to the lack of consensus on operationalization of the term "resilience" (Luthar et al., 2000). After more than thirty years of research on this complex construct, most researchers seem to reach a consensus on this broad definition of resilience as a dynamic process that involves positive adaptation in the context of adversity (Kaplan, 1999; Luthar, 2003; Luthar et al., 2000; Masten, 2001). Based on this broad definition, models of resilience basically involve three essential components: risk factors (related to "adversity"), protective factors and outcomes (related to "positive adaptation"). Nonetheless, each component involves a wide range of variability in operational definitions in different contexts with different researchers (Kaplan, 1999; Luthar et al., 2000; Yates & Masten, 2003). The sheer diversity of operational definitions of resilience in prior research endeavors (e.g., Cicchetti & Garmezy, 1993; Kaplan, 1999; Luthar & Cushing, 1999; Masten, 1994; Rutter, 1990) not only created bewilderment in readers about what exactly is resilience but also made some researchers question the usefulness and meaningfulness of this construct (Luthar et al., 2000).

Measurement Issues

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There are basically two major approaches to measuring resilience: (a) the variable-based approach and (b) the individual-based approach (Luthar & Cushing, 1999; Masten, 2001). The variable-focused method uses multivariate statistical analyses to determine the relationships among risk factors, protective factors, and outcome variables (Luthar & Cushing, 1999; Masten, 2001). There are basically three models within the variable-based approach: (a) the main effect model, in which risk factors and/or protective factors directly predict the outcome variables; (b) the indirect effect model, in which, effects of risk factors on the outcome variables are mediated by protective factors; and (c) the interaction model, in which effects of risk factors on the outcome variables are moderated by protective factors (Masten, 2001). In this approach, "resilience itself is rarely measured as a construct, but is indirectly inferred" (Luthar & Cushing, 1999, p. 146-147) through the statistical analyses. On the other hand, the individual-based approach focuses on the whole person. In studies using this approach, the resilient group is first distinguished from the non-resilient group and then successful adaptation patterns in the resilient group are identified.

Since the surge of interest in resilience just emerged during the last decade, resilience research is still at its infancy stage (Luthar et al., 2000; McCubbin, 2001; O'Neal, 1999). There is still huge room for theoretical and empirical improvement. In light of the complexity surrounding this construct, several key figures in the field of resilience research have provided several useful suggestions for future research (Luthar & Cicchetti, 2000; Luthar et al., 2000; Masten, 2001), two of which particularly pertinent to the current study are listed as follows. First, in future research endeavors, researchers should provide a clear operationalization of the construct of resilience relevant to their

specific study, take into account the most current conceptual framework for the construct, and inform their readers upfront of what is and is not included in their operationalization of resilience. Second, researchers need to specify what kind of measurement approach they are attempting and provide rationale for adopting certain approach(es) and measure(s) of their choice.

The Concept of "Resilient Parenting"

As mentioned in the previous section, Fonagy and colleagues (1991) discovered that the quality of maternal reflective functioning served as a stronger predictor of infant attachment organization than did maternal attachment security. Also, in their re-examination of the original data in their 1991 study, Fonagy and others (1994) applied the concept of resilience to study "resilient parenting." The findings provided preliminary empirical support for the moderating role of the mothers' reflective self function in the relation between the mothers' deprivation in childhood and their infants' attachment security.

Inspired by Fonagy et al.'s study (1994, 1995/2000, 1996) on resilient parenting, the author in the present study plans to use the interaction model of resilience to investigate the moderating role of adults' reflective capacity (protective factor) in the relation between their attachment insecurity (risk factor) and their ability to cope with stress and challenges in their lives (outcome) (see Figure 4). The author speculates the reflective capacity in adults can not only help prevent intergenerational transmission of attachment insecurity, but also help maintain healthy adult functioning in daily life.

After reviewing the issues in the theoretical as well as empirical development of the three constructs of attachment, reflective capacity, and resilience, the author plans,
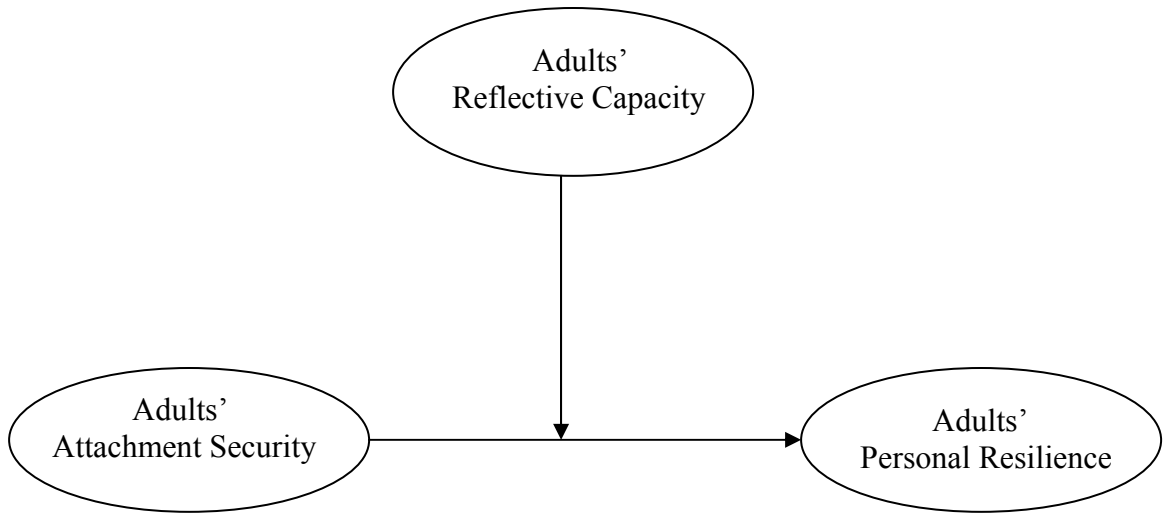
Figure 4. Moderational Model Proposed in the Current Study.

next, to continue and hopefully advance each line of research inquiry with special focus on young adulthood. In the current study, the dynamic interplay of these three constructs from different perspectives, investigating the moderating role of young adults' reflective capacity in the link between their attachment insecurity and their ability to adapt to change in daily lives will be examined. The following modifications will be made: (a) use of a self-report measure of adult romantic relationships in examining the concept of adult attachment; (b) use of a self report instrument to measure adult reflective capacity in the context of close relationships; (c) incorporation of a self report measure of one's ability to cope with stress and challenges in life as the outcome variable in examining the interaction model of resilience in the current study.

Chapter 3 – Statement of the Problem

As was discussed in the previous two sections, the present study was mainly inspired by the study of Fonagy and colleagues (1991, 1994, 1995/2000, 1996) on resilient parenting—how reflective self function serves as a protective factor in helping mothers with deprived childhoods to raise infants securely attached to them. The purpose of this current study was to examine whether reflective capacity may also help those adults who manifest insecure attachment organization to maintain resilience in their daily lives, namely, whether reflective capacity may also moderate the relation between attachment insecurity and personal resilience in adults themselves.

The current study diverged from Fonagy et al.'s work with regards to the following. First of all, components being examined in the interaction model of resilience were different. Fonagy and colleagues (1994, 1995/2000, 1996) examined the moderating effect of reflective self function in mothers (protective factor) on the relation between their deprived childhood experiences (risk factor) and their ability to raise children securely attached to them (outcome variable). In the present study, the author was interested in investigating reflective capacity in young adults (protective factor) as a moderator in the link between their attachment insecurity (risk factor) and personal resilience (outcome variable). Second, in the study by Fonagy et al., the researchers were interested in examining adults' current states of minds regarding parental relationships in adult attachment and used the Adult Attachment Interview (AAI; George et al., 1996) to assess adult attachment defined as such. In comparison, the self-report Experiences in Close Relationships Scale (ECRS; Brennan et al., 1998) was employed in this current study to tap into the adult romantic attachment. Third, Fonagy and others (1994,

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1995/2000, 1996) operationalized reflective capacity as adults' awareness of mental states in self and others in attachment relationships with special emphasis on awareness of "others." In their study, they developed a measure called "the reflective function rating scale" based on the AAI transcripts to measure such adult reflective functioning. In contrast, the author of the present study decided to use a similar construct, the observing ego, to capture adults' reflective capacity in close relationships with special focus on "self" reflection. A revised version of the self-report Observing Ego Functions Scale (OEFS; Clarke, 1996) was adopted to assess adults' self reflective capacity defined as such. Last but not least, considering all measures used in the current study were self-reports, the Marlowe-Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960) was utilized to reduce self report bias or self deception.

Hypotheses and Research Questions

As mentioned in the introduction section, prior research (e.g., Erickson, Sroufe, & Egeland, 1985; Grossmann & Grossmann, 1991; Grossmann et al., 1993; Werner & Smith, 1982) has established a strong link between secure attachment in early childhood and positive adaptations later in life, as well as substantial correlations between insecure attachment and maladjustment. In other words, one's early attachment organization has been regarded as a strong predictor for one's later functioning in life. Also, research in adult attachment evidenced the positive correlations between attachment security and current healthy functioning (e.g., Lopez, 1995). Thus, the author of the present study postulated that attachment security would act as a strong predictor for personal resilience in young adults.

Hypothesis I. Attachment security would predict personal resilience in young adults after partialing out social desirability.

But what is it about attachment security that helps an individual achieve and maintain positive adaptations in life? In the study of Fonagy et al. (1991), a similar question was asked. These researchers discovered that the level of reflective self function in mothers served as the single best predictor for intergenerational transmission of attachment security. Further, reflective functioning was found to help those mothers with deprived childhoods to stop the intergenerational transmission of attachment insecurity. Reflective functioning, the author believes, can not only help adults form secure bonding to their children, but also assist adults themselves in maintaining positive adaptations in their own lives. Thus, the author proposed that reflective capacity would also act as a stronger predictor of personal resilience in young adults than attachment security.

Hypothesis II. Reflective capacity would predict personal resilience in young adults after partialing out social desirability.

Hypothesis IIA. Reflective capacity would make significant contributions in predicting personal resilience in young adults over and beyond attachment security after partialing out social desirability.

As a follow-up on their 1991 study, Fonagy and others (1994, 1995/2000, 1996) adopted a resilience framework in the reinterpretation of the previous research results. Applying the protective model of resilience (Garmezy et al., 1984), Fonagy et al. discovered the moderating effect of reflective self function (protective factor) on the relation between mothers' deprived childhood experiences (risk factor) and their ability to stop intergenerational transmission of attachment insecurity (outcome variable). They

found out that the mothers' reflective functioning played a moderating role in preventing the negative effect of their own childhood deprivation on their infants' attachment security. The author of the current study believed that adults' reflective capacity would also moderate the relation between their own attachment insecurity and their ability to cope with many other challenging tasks in life. Therefore, the author postulated that adult reflective capacity (protective factor) would also function as a moderator in the link between attachment insecurity (risk factor) and healthy adult coping in daily life (outcome variable).

Hypothesis III. Reflective capacity moderates the relation between attachment security and personal resilience in young adults. For those who are low in reflective capacity, attachment security would be positively related to personal resilience, whereas, for those who are high in reflective capacity, no such association would be detected.

In addition to studying attachment on the secure-insecure continuum, the author was also interested in examining the categorical concepts of attachment and breaking it down into four categories: secure (i.e., low on both anxiety and avoidance), dismissing (i.e., low on anxiety and high on avoidance), preoccupied (i.e., high on anxiety and low on avoidance), and fearful (high on both anxiety and avoidance). The author was particularly interested in investigating whether young adults' coping abilities vary among the three insecure groups.

Research Question I. Is there any difference in terms of personal resilience among the three insecure attachment styles (i.e., dismissing, preoccupied, and fearful)?

Also, based on Bowlby's (1980) original theorization about the effect of attachment organization on attentional and appraisal processes, Lopez (1995) asserted

that the securely attached people would be more self-reflective than their insecurely attached counterparts. The author would like to examine whether the capacity for self reflection was manifested differently among the three insecure groups.

Research Question II. Is there any difference in terms of reflective capacity among the three insecure attachment groups?

Prior research was inconclusive in terms of findings on gender differences in adult attachment classification (Shaver & Hazan, 1993). While gender differences in the distribution of adult attachment styles were not found in research using the three-group scheme (i.e., secure, avoidant, and ambivalent), such differences were observed in some research using the four-group categorization (i.e., secure, dismissing, preoccupied, and fearful), but not in others (Lopez, 1995). For example, Brennan, Shaver and Tobey (1991) reported more females than males in the "fearful" avoidant group and also more males than females in the "dismissing" avoidant cluster in their study. On the other hand, Kunce and Shaver (1994) did not detect such gender differences among the three insecure groups. Therefore, the author of the current study was interested in examining whether attachment insecurity was related to different gender role orientations.

Research Question III. Is there any gender difference among the three insecure attachment styles?

Chapter 4 – Method

Participants

241 college students participated in the current study. Participants were recruited

from undergraduate psychology-related courses in a large mid-Atlantic university. Each

student volunteer received one extra course credit for their participation. The sample in

the current study consists of 183 females and 57 males, with one participant's gender

unidentified. The participants ranged in age from 17 to 26 years ($M = 19.38$, $SD = 1.419$,

$Mdn = 19.00$). In terms of race/ethnicity, 166 of the participants (69 %) identified as

European American, 24 (10%) as African American, 24 (10%) as Asian American, 10

(4%) as Biracial/Multiracial, 7 (3 %) as Hispanic American, 5 (2%) as Middle Eastern, 4

(2%) as other, and one participant did not identify race/ethnicity. In terms of relationship

status, 51 (21%) participants reported that they did not have any experiences in romantic

relationships. 65 (27%) reported having experiences in committed romantic relationships

for less than 1 year, 66 (27%) for at least 1 year and less than 2 years, 29 (12%) for at

least 2 years and less than 3 years, 17 (7%) for at least 3 years and less than 4 years, 12

(5%) for 4 years and more, and one participant did not specify relationship status.

Measures

The Experiences in Close Relationships Scale. The ECRS (ECRS; Brennan, Clark,

& Shaver, 1998; see Appendix A) was used to assess adult romantic attachment. This

ECRS is a 36-item self-report instrument, using a 7-point Likert scale (1 = disagree

strongly, 4 = neutral/mixed, 7 = agree strongly). This instrument assesses the two adult

romantic attachment dimensions of Avoidance (18 items) and Anxiety (18 items).

Respondents are instructed to report their experiences in close relationships in general,

not restricted to those experiences in a current relationship. The Avoidance subscale is used to measure an individual's degree of discomfort with emotional closeness, openness, and interdependence in romantic relationships. Respondents are asked such questions as "I prefer not to show a partner how I feel deep down," "Just when my partner starts to get close to me, I find myself pulling away," "I get uncomfortable when a romantic partner wants to be very close," etc. The Anxiety subscale, on the other hand, measures the degree to which a person fears being rejected, neglected, or abandoned by romantic partners. Respondents are asked such questions as "I worry about being abandoned," "I worry a lot about my relationships," "I worry that romantic partners won't care about me as much as I care about them," etc.

According to Brennan et al. (1998), the ECRS was created through a large-scale instrument development process in which 1,086 participants completed 14 existing self-report attachment measures with a total of 60 subscales. A principal components analysis yielded two attachment factors: anxiety and avoidance described above. Items that were most highly correlated with the two factors were selected for the ECRS. Both subscales showed high internal consistency estimates: .90 -.94 for Avoidance and .88-.91 for Anxiety (e.g., Brennan et al., 1998; Mohr, Gelso, & Hill, 2005; Woodhouse, 2003). The test-retest reliabilities over a 6-month interval are .68 for attachment anxiety and .71 for attachment avoidance. (Lopez & Gormley, 2002). The two attachment dimensions were found to be meaningfully related to interpersonal problems and core relationship conflicts (Mallinckrodt & Wei, 2005). In the current study, the overall reliability for the measure was .93 and the internal consistency estimates for the two dimensions were .92 for Anxiety and .95 for avoidance.

Even though the ECRS provided no instructions on how to respond to the items

for those participants who never had romantic relationship experiences, Mohr and other

researchers (2005) found that undergraduate students with no such prior experiences still

offered meaningful responses to the ECRS items based on their imaginary relationships.

Furthermore, his study offered empirical support for the validity of using the ECRS on

the sample of undergraduate students who had no prior romantic involvements. Therefore,

the author decided to use the instructions of the ECRS as they were in the current study.

Of the 51 participants who had no prior romantic relationship experiences in this present

study, only two inquired about how to respond to the measure items without prior

experiences of romantic involvements. These two participants were instructed to respond

to the ECRS items based on their imaginary romantic relationships. Also, reliability

checks revealed that the overall alpha coefficient for the ECRS was a little higher for the

sample that involves participants who had romantic relationship experience (.92) than for

the sample that involves those who had no prior romantic involvements (.90). However,

the difference of the two r's were calculated using Fisher's transformation of r's to z's,

and no significant difference was found between the two coefficients.

In order to examine the hypotheses regarding the secure-insecure attachment

continuum, the attachment secure-fearful continuum was created by the sum of the

standardized Avoidance and Anxiety scores of the present sample, using the approach

suggested by Fraley and Shaver (1997). Lower scores reflected more secure attachment

orientation (i.e., low avoidance and anxiety), whereas higher scores suggested more

insecure attachment organization (i.e., high avoidance and low anxiety, low avoidance

and high anxiety, high avoidance and anxiety). In order to examine the research questions

regarding the attachment categories, the four attachment groups (i.e., secure, dismissing, preoccupied, fearful) were created by using different combinations of standardized scores on the Avoidance and Anxiety dimensions of the current sample. The secure group (i.e., low avoidance and low anxiety) was represented by a combination of both Avoidance and Anxiety scores ½ standard deviation below the mean. The dismissing style (i.e., high avoidance and low anxiety) was generated by a combination of Avoidance scores ½ standard deviation above the mean and Anxiety scores ½ standard deviation below the mean. The preoccupied cluster (i.e., low avoidance, high anxiety) was represented by Anxiety scores ½ standard deviation above the mean with Avoidance scores ½ standard deviation below the mean. The fearful group (i.e., high avoidance, high anxiety) was created using both Avoidance and Anxiety scores ½ standard deviation above the mean.

The Observing Ego Functions Scale. The OEFS (OEFS; Clarke, 1996; see Appendix B)is a 26-item self-report instrument, using a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). This instrument was designed to measure an individual's ability of self-observation in general contexts. A principal components analysis produced four factors which accounted for 47.9% of the variance in the initial study. The first factor, internal awareness, refers to an individual's capacity to be internally focused. It includes the ability to differentiate one's persona from one's internal awareness, an awareness of childish impulses and defensive reactions, and the ability to detect and stop hypercritical behavior toward the self or others. The second factor, reflection before action, involves the capacity to resist impulsive behavior and to think before taking action. This factor includes an ability to monitor body language in interaction with others and to monitor and examine the consequences of behavior. The

third factor, perspective on behavior, refers to the capacity of impulse control and consequence evaluation. This factor is manifested in social aware and the capacity to refrain from acting on overwhelming emotions, to consider others' perspectives, and to see the humor even in a stressful situation. The fourth factor, regression in the service of ego, refers to the capacity to experience intense affect without losing the observing ego function.

In terms of internal consistency of the OEFS, the Cronbach's α ranged from .81 to .89 (Clarke, 1996; Kelley, 2002). Clarke (1996) reported the reliability coefficients for each subscale as follows: Internal Awareness (.63-.73), Reflection Before Action (.75-.79), Perspective on Behavior (.74-.75), and Regression in the Service of Ego (.71-.74). Also, Clarke (1996) reported a test-retest reliability of .86 over a two-week interval. In terms of convergent validity (Clarke, 1996), the OEFS was found to be correlated with measures of ego strength (.38), internal awareness (.25), regulation of affects (.43), private self-consciousness (.28), self monitoring (.38), and reality distortion (-.30). In Kelly's study (2002), a significant positive relation was found between the OEFS and clients' perceptions of the real relationship in psychotherapy (.33).

In order to capture adult reflective capacity in the specific context of close relationships, a revised version of the OEFS, the Observing Ego Functions Scale-Revised (OEFS-R), was created by adding minor modifications to the instructions in the original version. (See Appendix C.) In the OEFS-R, respondents are instructed to use their "close relationships as their frame of reference" in their responses and estimate how well each item reflects their behavior in "close relationships." A pilot study was conducted to find

out the correlation between the OEFS and the OEFS-R and also to obtain initial

psychometric information for the OEFS-R. (See Appendix J for detailed descriptions.)

In the pilot study, the Cronbach's α for the OEFS-R was found to be .91. The

internal consistency reliability estimates for the four subscales were .80 for internal

awareness, .84 for reflection before action, .80 for perspective on behavior, and .74 for

regression in the service of ego. Also, the Pearson correlation coefficient between the

OEFS and OEFS-R was .82 over a one-week interval, while in Clarke's study (1996), the

two-week test-retest reliability coefficient of the OEFS was .86. The difference of the two

r's were calculated using Fisher's transformation of *r*'s to *z*'s, and no significant

difference was found between the two coefficients. Given the sound initial psychometric

properties of the OEFS-R, the author of the present study used this instrument, instead of

the OEFS, to measure adult reflective capacity in the context of close relationships. In the

current study, the Cronbach's α for the OEFS-R was found to be .90. And the internal

consistency estimates for the four factors were .66 for internal awareness, .83 for

reflection before action, .79 for perspective on behavior, and .73 for regression in the

service of ego.

Personal Resiliency Beliefs Scale. The PRBS (Holmes, 2001; see Appendix D) is

a 30-item self-report measure, using a 4-point Likert scale (1 = Strongly Disagree to 4 =

Strongly Agree). This instrument was designed to assess an individual's level of

resiliency to stressful events. This scale consists of four factors: spiritual support,

meaningfulness/determination, negativity/helpless, and mattering. The spirituality

subscale measures the extent to which an individuals resort to spiritual support during

stressful events and includes items such as "My belief in a higher power helps me when

life is hard," "My faith/spirituality doesn't really impact my life that much," etc. The meaningfulness/determination and negativity/helpless subscales measure how strongly individuals feel a sense of positive empowerment and include such items as "I feel like I can influence my life situation," "I see difficulty as a challenge from which I can learn," "I can make the best of a bad situation," "When bad things happen, I want to just give up," etc. The mattering subscale assesses how much individuals perceive that they matter to others and include items such as "There is someone in my life who would be there no matter what," "I believe there are people who I could ask for help in difficult times," etc.

The overall reliability estimates for the scale ranged from .87 to .90 (Holmes, 2001; Holmes, 2004). The ranges of internal consistency estimates for the four factors were .94-.95 for spiritual support, .88-.90 for meaningfulness/determination, .67-.78 for negativity/helplessness, and .72-.76 for mattering. In terms of convergent validity, the PRBS was found to be correlated with such variables as distress as measured by Brief Symptom Inventory (-.45), optimism as measured by the Life Orientation Questionnaire (.65), social support as measured by the Social Provisions Scale (.62), and subjective well-being as measured by the Positive and Negative Affect Schedule and the Satisfaction with Life Scale (.52). In the current study, the overall reliability estimate was .92, and the alpha for the each factor was .97 for spirituality, .89 for meaningfulness, .79 negativity, and .81 for mattering.

Based on the speculation of the author in the current study that spirituality might be an important source of support for some people but not necessarily for others when it comes to personal resiliency, the author decided to use the PRBS without the spirituality factor (PRBS-R) for the analyses in this study. The reliability estimate for the PRBS-R

was found to be strong at .91. Furthermore, additional analyses revealed that the

meaningfulness, negativity, and mattering factors were all found to be significantly

correlated with the ECRS and OEFS at the .01 level, whereas no such associations were

found between the spirituality factor and the ECRS ($r = -.12$; $p > 05$) or the OEFS (r

$= .09$; $p > 05$). These results appeared to support the author's decision to exclude the

spirituality factor in the scale and use the PRBS-R for the current study.

The Marlowe-Crowne Social Desirability Scale. The MCSD (MCSD; Crowne &

Marlowe, 1960, 1964; see Appendix E) was used to control for social report bias in this

study. This measure consists of 33 true/false statements (e.g., "I like to gossip at times").

This scale was designed to assess individuals' tendency to describe themselves in

favorable terms. Item responses are summed to produce a total score, with higher scores

representing a greater tendency toward social desirable responding. The internal

consistency was reported to range from .73 to .88 (Crowne & Marlowe, 1964; Fisher,

1967; Paulhus, 1984; Tanaka-Matsumi & Kameoka, 1986) and .78 for the current study.

Crowne and Marlowe (1964) reported the test-retest reliability over one month to be .88,

while Fisher (1967) reported a value of .84 over one week.

Procedure

Participants for the current study were recruited from undergraduate students in

psychology-related courses. Each participant received one extra course credit for their

voluntary participation. The student volunteers attended scheduled sessions and received

survey packets to complete. Each packet contained the instructions (see Appendix G), the

demographic form (see Appendix F), and the four measures mentioned above. In the

beginning of the session, procedures were described to participants and written consent

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was obtained before the packet was given to the participants. To reduce possible order effect, the measures used in the present study were given to participants in four different orders. Also, each participant was instructed to fill out the measures in the given order. After completion of all the materials in the packet, each participant was debriefed about the purpose of the study. (See Appendix H for the debriefing statement.)

Chapter 5 – Results

Descriptive Data

Descriptive data for all the measures were calculated in the present study. Means, standard deviations, reliability estimates for each measure are presented in Table 1. The intercorrelation matrix among the primary variables is presented in Table 2.

Analyses of the Hypotheses

Hypothesis I. Attachment security would predict personal resilience in young adults after partialing out social desirability.

The results of the analysis of Hypothesis I are embedded in the hierarchical multiple regression model presented in Table 3. Since the hierarchical multiple regression procedure was conducted mainly to test the moderating effect for Hypothesis III, the author would discuss the detailed steps involved in the procedure later. For now, it would suffice to describe only Steps 1 and 2 in the hierarchical multiple regression. As is shown in Table 3, at Step 1, social desirability was entered in the equation first and found to be significantly related to personal resilience ($r = .40$; $p < .001$). Then, at Step 2, attachment security was also thrown in the equation. The significant R^2 change of 14% ($p < .001$) at this step supported Hypothesis I that attachment security predicts personal resilience after controlling for social desirability.

Hypothesis II. Reflective capacity would predict personal resilience in young adults after partialing out social desirability.

In order to test Hypothesis II, a partial correlation analysis was conducted between reflective capacity and personal resilience with social desirability partialed out to examine whether reflective capacity predicts personal resilience after controlling for

Table 1

Means, Standard Deviations, and Reliabilities for All the Measures

Measure	*M*	*SD*	*α*
1. Personal resilience-R	71.12	8.19	.91
2. Social desirability	14.61	5.29	.78
3. Attachment security	120.17	30.29	.93
4. Reflective capacity-R	132.67	17.54	.90

Note. Personal resilience-R = Personal Resilience Beliefs Scale without the spirituality factor; Social desirability = Marlowe-Crowne Social Desirability Scale; Attachment security = Experiences in Close Relationships Scale; Reflective capacity-R = Observing Ego Functions Scale-Revised.

Table 2

Intercorrelations among Primary Variables

Variable	1	2	3	4
1. Personal resilience-R	−			
2. Social desirability	.40***	−		
3. Attachment security	-.47***	-.28***	−	
4. Reflective capacity-R	.59***	.48***	-.38***	−

Note. Personal resilience-R = Personal Resilience Beliefs Scale without the spirituality factor; Social desirability = Marlowe-Crowne Social Desirability Scale; Attachment security = Experiences in Close Relationships Scale; Reflective capacity-R = Observing Ego Functions Scale-Revised.

*** $p < .001$.

Table 3

Hierarchical Multiple Regression Testing the Moderating Effect of Reflective Capacity

on the Relation Between Attachment Security and Personal Resilience

Step and variable	r	Total R^2	Adj. R^2	R^2 inc.	F inc.	df
Step 1						
SD	.40	.16	.16	.16	45.98***	1, 239
Step 2						
AS	.55	.30	.29	.14	46.97***	1, 238
Step 3						
RC	.65	.43	.42	.13	52.49***	1, 237
Step 4						
AS × RC	.65	.43	.42	.00	.63	1, 236

Note. r reflect values from the final regression equation. Adj. = adjusted shrinkage related to sample size; inc. = increment. SD = social desirability; AS = attachment security; RC = reflective capacity; AS × RC = interaction term between attachment security and reflective capacity.

*** $p < .001$.

social desirability. Results of this partial correlation analysis supported this hypothesis (r = .49; $p < .001$).

Hypothesis IIA. Reflective capacity would make significant contributions in predicting personal resilience in young adults over and beyond attachment security after partialing out social desirability.

The results of the analysis of Hypothesis IIA are also embedded in the hierarchical multiple regression model presented in Table 3. Again, the author would like to save the detailed explanations on the hierarchical multiple regression procedure for later in discussing Hypothesis III and only pointed out the parts of the analysis relevant to Hypothesis IIA here. As is shown in Table 3, at Step 3, the R^2 increment of 13% resulting from adding reflective capacity to the equation after social desirability and attachment security was found to be statistically significant ($p < .001$). This result confirmed Hypothesis IIA that reflective capacity predicts personal resilience in young adults over and beyond attachment security after controlling for social desirability.

Hypothesis III. Reflective capacity would predict the relation between attachment security and personal resilience in young adults. For those who are low in reflective capacity, attachment security would be positively related to personal resilience, whereas, for those who are high in reflective capacity, no such association would be detected.

To test the hypotheses regarding the moderating role of reflective capacity in the link between attachment security and personal resilience, the author followed Baron and Kenny's (1986) and Frazier, Tix, and Barron's (2004) recommendation to use hierarchical multiple regression procedures to test moderator effects. The author also followed Aiken and West's (1991) suggestion for using centered variables (i.e., mean

deviation scores) to reduce multicollinearity between the interaction term and the main effects when testing for moderator effects. The hierarchical multiple regression procedure was conducted with the sequence of entering predictors: (a) social desirability, (b) attachment security, (c) reflective capacity, and (d) the interaction between attachment security and reflective capacity in relation to personal resilience as the criterion. At Step 1, social desirability was entered in the regression equation. At Step 2, attachment security was entered in the equation with social desirability partialed out to see if attachment security predicts personal resilience after controlling for social desirability. Third, reflective capacity was entered with social desirability and attachment security partialed out to see whether reflective capacity adds to attachment security in predicting personal resilience. Finally, the significance of the interaction term between attachment security and reflective capacity was examined to see if reflective capacity has a moderating effect on the relation between attachment security and personal resilience.

Results of the hierarchical multiple regression are presented in Table 3. As is shown in the intercorrelation matrix in Table 2, social desirability is significantly correlated to attachment security ($r = -.28$), reflective capacity ($r = .49$), and personal resilience ($r = .40$) at the .001 level. Also, results of Step 1 in the final regression equation in Table 3 also indicated that social desirability has a significant relationship with personal resilience with an adjusted R^2 of 16% ($p < .001$). It appeared that the current sample showed some significant amount of self-deception and impression management in responding to the attachment, reflective capacity and personal resilience measures. This justified the author's decision to reduce the self report bias by controlling for the social desirability factor in the whole hierarchical multiple regression model. In

Table 3, the significant R^2 change of 14% ($p < .001$) at Step 2 supports Hypothesis I that attachment security predicts personal resilience after partialing out social desirability. The significant R^2 change of 13% ($p < .001$) at Step 3 confirmed Hypothesis IIA that reflective capacity makes significant contributions in predicting personal resilience over and beyond attachment security after controlling for social desirability. However, the zero R^2 increment at Step 4 failed to support Hypothesis III that reflective capacity plays a moderating role in the relation between attachment security and personal resilience. In short, the moderational model was not supported by the data gathered in this current study.

Analyses of the Research Questions

      Research Question I. Is there any difference in personal resilience among the three insecure attachment styles (i.e., dismissing, preoccupied, and fearful)?

      In order to test Research Questions I, a one-way analysis of variance (ANOVA) was performed to explore if there are any differences among the three insecure attachment styles (i.e., dismissing, preoccupied, and fearful) in terms of personal resilience. Results of this ANOVA are presented in Table 4. The ANOVA on personal resilience revealed that there are significant differences among the three insecure attachment styles ($F(2, 60) = 8.80$; $p < .001$), which supported this research question. Furthermore, post-hoc analyses of LSD were conducted to determine which of the insecure attachment style pairs were significantly different from each other in terms of personal resilience. The LSD on personal resilience indicated significant mean differences between the dismissing and the fearful groups ($p < .001$) as well as between

Table 4

Means on Personal Resilience and Reflective Capacity for the Dismissing, Preoccupied, and Fearful Attachment Styles

Variable	Dismissing	Preoccupied	Fearful	F
	($n = 19$)	($n = 20$)	($n = 24$)	
Personal resilience				
M	73.21	70.00	63.13	8.80***
SD	7.81	7.78	8.60	$df = 2, 60$
Reflective capacity				
M	135.68	124.00	120.08	4.41*
SD	16.23	21.69	14.30	$df = 2, 60$

* $p < .05$. *** $p < .001$.

the preoccupied and the fearful styles ($p < .01$). These results indicated that both the dismissing and the preoccupied appeared to be more resilient than the fearful.

Research Question II. Is there any difference in terms of reflective capacity among the three insecure attachment groups?

In order to test Research Questions II, another one-way analysis of variance (ANOVA) were performed to examine whether reflective capacity varied among the three insecure attachment groups (i.e., dismissing, preoccupied, fearful). Results of this ANOVA are also presented in Table 4. The ANOVA on reflective capacity also indicated significant mean differences ($F(2, 60) = 4.41$; $p < .05$) among the three groups. This result supported Research Question II. Moreover, post-hoc analyses of LSD were conducted to determine which two of the insecure attachment styles are significantly different from each other in terms of reflective capacity. The LSD on reflective capacity revealed significant mean differences between the dismissing and the preoccupied ($p < .05$) as well as between the dismissing and the fearful ($p < .01$). These findings showed that the dismissing seemed more self-reflective than the preoccupied or the fearful.

Research Question III. Is there any gender difference among the three insecure attachment styles?

In order to test this research question, a chi-square test was conducted to explore if gender differences exist among the three insecure attachment styles. Results of the chi-square test failed to show significant gender differences among the three insecure groups ($\chi^2(2, N = 63) = .76$; $p > .05$). Considering this nonsignificant finding may have resulted from the issue of small male sample size in the current study due to the predominantly female data set and further loss of male participant data in creating the four attachment

categories, the author also conducted point biserial correlations between gender and the secure-fearful continuum as well as the dismissing-preoccupied continuum. In this analysis, all the male participants were retained. As mentioned in the Method section, the secure-fearful continuum was created by adding the standardized scores of both the anxiety and the avoidance dimensions. The dismissing-preoccupied continuum, on the other hand, was generated by subtracting the standardized anxiety scores from the standardized avoidance scores. However, the results of the point biserial correlations still failed to show significant relationships between gender and the secure-fearful continuum ($r = .06$; $p > .05$) or between gender and the dismissing-preoccupied continuum ($r = .02$; $p > .05$).

Additional Analyses

As a follow-up on the first two research questions, the author also conducted additional analyses of variance (ANOVA) to investigate if differences exist between secure and insecure attachment styles as well as among the four attachment styles (i.e., secure, dismissing, preoccupied, and fearful) in terms of personal resilience and reflective capacity. As is shown in Table 5, results of the ANOVAs indicated significant secure-insecure between group differences both on personal resilience ($F(1, 97) = 18.16$; $p < .001$) and on reflective capacity ($F(1, 97) = 18.66$; $p < .001$). Also, as is shown in Table 6, results of the ANOVAs revealed that there are significant between-group differences among the four attachment styles in terms of personal resilience ($F(3, 95) = 13.85$; $p < .001$) and reflective capacity ($F(3, 95) = 9.90$; $p < .001$).

Again, post-hoc LSD analyses were further performed to distinguish which pairs among the four attachment styles significantly differ from each other in terms of personal

Table 5

Means on Personal Resilience and Reflective Capacity for the Secure and Insecure

Attachment Styles

Variable	Secure	Insecure	F
	(*n* = 36)	(*n* = 63)	
Personal resilience			
M	75.72	68.35	18.16***
SD	6.64	9.08	*df* = 1, 97
Reflective capacity			
M	141.78	126.03	18.66***
SD	15.52	18.44	*df* = 1, 97

*** *p* < .001.

Table 6

Means on Personal Resilience and Reflective Capacity for the Secure, Dismissing,

Preoccupied, and Fearful Attachment Styles

Variable	Secure	Dismissing	Preoccupied	Fearful	F
	($n = 36$)	($n = 19$)	($n = 20$)	($n = 24$)	
Personal resilience					
M	75.72	73.21	70.00	63.13	13.85***
SD	6.64	7.81	7.78	8.60	$df = 3, 95$
Reflective capacity					
M	141.78	135.68	124.00	120.08	9.90***
SD	15.52	16.23	21.69	14.30	$df = 3, 95$

*** $p < .001$.

resilience and reflective capacity. Results of these post-hoc analyses revealed that, in

terms of personal resilience, significant group differences were detected between the

secure and the preoccupied ($p < .01$), between the secure and the fearful ($p < .001$),

between the dismissing and fearful ($p < .001$), and between the preoccupied and the

fearful ($p < .01$). These results indicated that the secure individuals seemed more resilient

than the preoccupied, who appeared more resilient than the fearful. Also, the dismissing

individuals appeared more resilient than the fearful. It is interesting to note that no

differences were found between the secure and dismissing groups or between the

dismissing and the preoccupied clusters in terms of personal resilience. In terms of

reflective capacity, significant group differences were found between the secure and the

preoccupied groups ($p < .001$), between the secure and the fearful groups ($p < .001$),

between the dismissing and preoccupied clusters ($p < .05$), and between the dismissing

and the fearful clusters ($p < .01$). These results showed that the secure and the dismissing

groups appeared to be more self-reflective than the preoccupied and the fearful clusters.

Again, it is interesting to note that no differences were found between the secure and

dismissing groups or between the preoccupied and the fearful groups.

As mentioned in the literature review, Fonagy's proposed model of

intergenerational transmission of attachment based on reflective self function seemed to

imply the "mediator" role of reflective capacity in the relation between adult and child

attachment. Also, several studies (e.g., Slade, 2002) have already been conducted on the

mediating effect of adult reflective capacity on the relation between adult and infant

attachment. The author decided to test a mediational model with attachment security as

the predictor, reflective capacity as the mediator, and personal resilience as the outcome

with social desirability partialed out to control for self-report bias. (See Figure 5.)

The author followed Baron and Kenny's (1986) and Frazier, Tix, and Barron's

(2004) recommendations to use regression procedures to test mediator effects. At Step 1,

personal resilience (the outcome) was regressed on attachment security (the predictor)

with social desirability partialed out to see if attachment security is significantly related

to personal resilience. At Step 2, reflective capacity (the mediator) was regressed on

attachment security (the predictor) still controlling for social desirability to examine

whether attachment security is significantly related to reflective capacity. At Step 3,

personal resilience (the outcome) was regressed simultaneously on both reflective

capacity (the mediator) and attachment security (the predictor) with social desirability

partialed out to see whether reflective capacity was significantly related to personal

resilience. Finally, the significance of the difference in the coefficients associated with

the relation between attachment security and personal resilience and the relation between

attachment security and personal resilience controlling for reflective capacity was

examined to see if reflective capacity has a mediating effect on the relation between

attachment security and personal resilience.

Results of the multiple regressions are presented in Table 7. As is shown in Table

7, social desirability was found to be significantly related to the outcome variables at all

three steps: at Step 1 to personal resilience ($B = .46$; $p < .001$), at Step 2 to reflective

capacity ($B = 1.34$; $p < .001$), and again to personal resilience ($B = .19$; $p < .05$) at Step 3.

This justified the author's decision to reduce self report bias by controlling for the social

desirability factor in the multiple regression procedures. At Step 1, the unstandardized
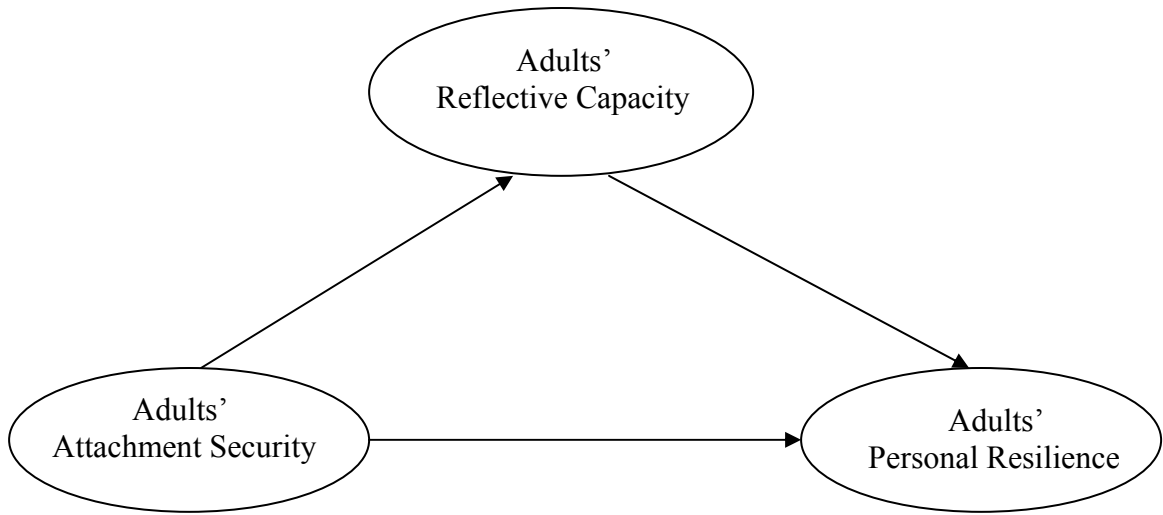
Figure 5. Mediational Model 1.

Table 7

Multiple Regressions Testing the Mediating Effect of Reflective Capacity on the Relation Between Attachment Security and Personal Resilience

Step and variable	*B*	*SE B*	*β*	*t*
Step 1				
Social desirability	.46	.09	.30	5.23***
Outcome: Personal resilience				
Predictor: Attachment security	-.11	.02	-.39	-6.85***
Step 2				
Social desirability	1.34	.19	.41	7.16***
Outcome: Reflective capacity				
Predictor: Attachment security	-.16	.03	-.27	-4.77***
Step 3				
Social desirability	.19	.09	.12	2.19*
Outcome: Personal resilience				
Mediator: Reflective capacity	.20	.03	.43	7.25***
Predictor: Attachment security	-.07	.01	-.27	-5.08***

* p < .05. *** p < .001.

regression coefficient (B = -.11) associated with the effect of attachment security on personal resilience was significant (p < .001). Thus, the requirement for mediation at Step 1 was met. Attachment security was significantly related to personal resilience after controlling for social desirability. At Step 2, the unstandardized regression coefficient (B = -.16) associated with the effect of attachment security on reflective capacity was found to be significant (p < .001). Thus, the requirement for mediation at Step 2 was also met. Attachment security was significantly related to reflective capacity after controlling for social desirability. At Step 3, the coefficient associated with the relation between reflective capacity and personal resilience, controlling for attachment security, also was significant (B = .20; p < .001). Thus, the condition for Step 3 was met. Reflective capacity was significantly related to personal resilience after controlling for social desirability and attachment security. This third regression equation also provided the significant coefficient associated with the relation between attachment security and personal resilience after controlling for reflective capacity (B = -.07; p < .001). Finally, significant difference (z = -4.14; p < .001) was found between the two unstandardized coefficients associated with the relation between attachment security (the predictor) and personal resilience (the outcome) and the relation between attachment security and personal resilience after controlling for reflective capacity (the mediator). In a word, the partial mediational model was supported. Reflective capacity mediated the relation between attachment security and personal resilience in adults after partialing out social desirability.

Frazier, Tix, and Barron (2004) asserted that "for any given model, there generally are alternative models with different patterns of relations among variables that

fit the data as well as the original model, especially when the data are correlational" (p. 129). Also, as mentioned in the literature review, the author of the current study speculated that adults' reflective capacity may influence their interactions with significant others in life, which in time may gradually influence their internal model of attachment relationships. The author decided to test an alternative mediational model: this time with reflective capacity as the predictor, attachment security as the mediator, and personal resilience as the outcome and with social desirability partialed out to control for self-report bias. (See Figure 6.) Again, the author followed Baron and Kenny's (1986) and Frazier, Tix, and Barron's (2004) recommendations to use regression procedures in testing mediator effects. But this time, at Step 1, personal resilience (the outcome) was regressed on reflective capacity (the predictor) with social desirability partialed out to see if reflective capacity is significantly related to personal resilience. Then, at Step 2, attachment security (the mediator) was regressed on reflective capacity (the predictor) still controlling for social desirability to examine whether reflective capacity is significantly related to attachment security. At Step 3, personal resilience (the outcome) was regressed simultaneously on both attachment security (the mediator) and reflective capacity (the predictor) with social desirability partialed out to see whether attachment security was significantly related to personal resilience. Finally, the significance of difference in the coefficients associated with the relation between reflective capacity and personal resilience and the relation between reflective capacity and personal resilience controlling for attachment security was examined to see if attachment security has a mediating effect on the relation between reflective capacity and personal resilience.
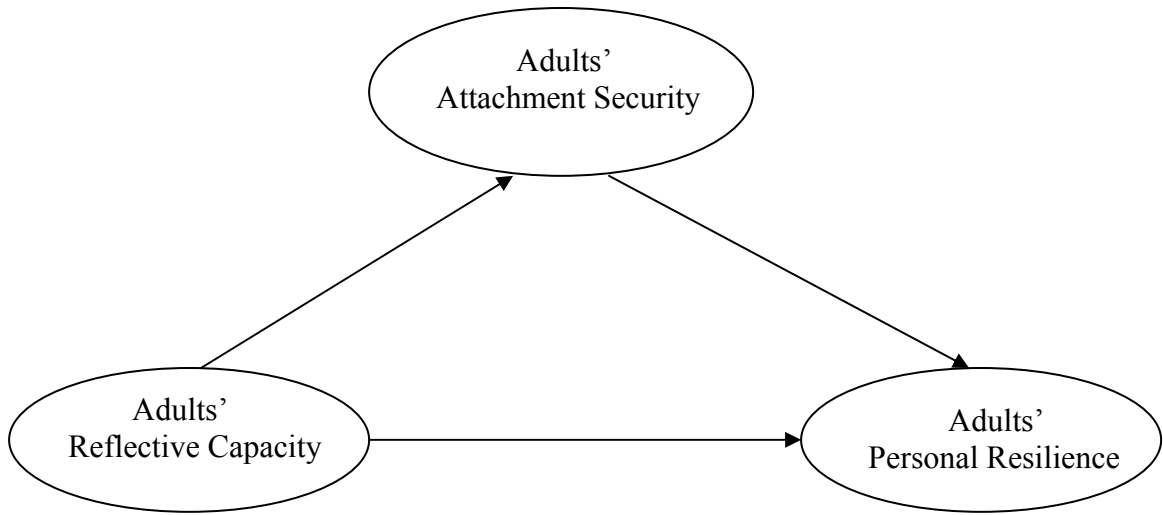
Figure 6. Mediational Model 2.

Results of the multiple regressions are presented in Table 8. As is shown in Table

8, social desirability was shown to be significantly related to the outcome variables at two

steps: to personal resilience at Step 1 ($B = .24$; $p < .01$) and again at Step3 ($B = .19$; p

$< .05$), but not to attachment security ($B = -.69.19$; $p > 05$) at Step 2. This result still

appeared to justify the author's decision to reduce self report bias by controlling for the

social desirability factor in the multiple regression procedure. At Step 1, the

unstandardized regression coefficient ($B = .24$) associated with the effect of reflective

capacity on personal resilience was found to be significant ($p < .001$). Thus, the

requirement for mediation at Step 1 was met. Reflective capacity was significantly

related to personal resilience after controlling for social desirability. At Step 2, the

unstandardized regression coefficient ($B = -.56$) associated with the effect of reflective

capacity on attachment security was found to be significant ($p < .001$). Thus, the

requirement for mediation at Step 2 was also met. Reflective capacity was significantly

related to attachment security after controlling for social desirability. At Step 3, the

coefficient associated with the relation between attachment security and personal

resilience, controlling for reflective capacity, also was significant ($B = -.07$; $p < .001$).

Thus, the condition for Step 3 was met. Attachment security was significantly related to

personal resilience after controlling for social desirability and reflective capacity. This

third regression equation also provided the significant coefficient associated with the

relation between reflective capacity and personal resilience after controlling for

attachment security ($B = .20$; $p < .001$). Finally, significant difference ($z = 3.86$; $p < .001$)

was found between the two unstandardized coefficients associated with the relation

between reflective capacity (the predictor) and personal resilience (the outcome) and the

Table 8

Multiple Regressions Testing the Mediating Effect of Attachment Security on the Relation Between Reflective Capacity and Personal Resilience

Step and variable	B	SE B	β	t
Step 1				
Social desirability	.24	.09	.16	2.65**
Outcome: Personal resilience				
Predictor: Reflective capacity	.24	.03	.51	8.71***
Step 2				
Social desirability	-.69	.39	-.12	-1.77
Outcome: Attachment security				
Predictor: Reflective capacity	-.56	.12	-.32	-4.77***
Step 3				
Social desirability	.19	.09	.12	2.19*
Outcome: Personal resilience				
Mediator: Attachment security	-.07	.01	-.27	-5.08***
Predictor: Reflective capacity	.20	.03	.43	7.25***

*$p < .05$. ** $p < .01$ *** $p < .001$.

relation between reflective capacity and personal resilience after controlling for attachment security (the mediator). Thus, attachment security was a significant mediator even though the relation between reflective capacity and personal resilience after controlling for attachment security was significant. In short, this mediational model was also supported. Attachment security mediated the relation between reflective capacity and personal resilience in adults after partialing out social desirability.

Chapter 6 – Discussion

The purpose of this study was mainly to investigate the relations among the three constructs—attachment security, reflective capacity, and personal resilience—in young adults. In this chapter, the findings relevant to the hypotheses and research questions will be discussed. Also, the implications for practice and limitations of the present study will be presented, followed by several suggestions for future research.

In general, most of the findings were consistent with the hypotheses and research questions in the current study. However, this study failed to support the proposed moderating effect of reflective capacity on the relation between attachment security and personal resilience. Specifically, attachment security was found to be positively correlated with personal resilience. Reflective capacity was also found to be positively related to personal resilience, even after controlling for attachment security. Moreover, significant differences were found to exist among the three insecure attachment styles in terms of personal resilience and reflective capacity. The discussion of the key findings in this study will be broken down into several subsections and presented below according to the variables involved in those findings.

Attachment Security and Personal Resilience

The present study established that attachment security is positively correlated with personal resilience in young adults. The greater the level of attachment security, the more people tend to believe that they can effectively cope with stress and challenges in life. Also, post hoc analyses further confirmed that significant differences existed between the secure and the insecure groups in terms of personal resilience. These findings are consistent with prior research that evidenced positive associations between attachment

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security and healthy human functioning, such as social competence (Lopez, 1995), resourcefulness in coping (Buelow, Lyddon, & Johnson, 2002), college adjustment (Kenny & Rice, 1995), just to name a few.

It is interesting to note that the secure group was found in post hoc analyses to be significantly different from the preoccupied and the fearful groups in terms of personal resilience, whereas there was no such difference found between the secure and the dismissing groups. This may be due to the fact that dismissing individuals with higher levels of attachment avoidance tend to utilize minimizing strategies in coping with stress and, thus, may either choose not to admit their psychological distress or may unconsciously deny their feelings of distress completely (Bowlby, 1980; Collins, 1996; Lopez, Mitchell, & Gormley, 2002; Vogel & Wei, 2005). In comparison, the preoccupied and the fearful individuals (both possessing higher levels of attachment anxiety) tend to employ maximizing strategies in dealing with stress. Such strategies are part and parcel of the tendency to acknowledge their psychological distress often to the point of exaggeration so as to elicit help from others. (e.g., Cassidy, 2000; Mikulincer et al., 2003; Shaver & Mikulincer, 2002; Vogel & Wei, 2005).

Attachment Security and Reflective Capacity

This current study demonstrated the significant relation between adult attachment security and reflective capacity as well as significant differences between the secure and the insecure groups in terms of reflective capacity. In other words, the greater the level of attachment security, the more people tend to believe that they can step back and self reflect. These findings appeared to confirm Bowlby's (1980) original theorization about the close association between attachment organization and individuals' attentional and

appraisal processes. The findings are also in keeping with Lopez's (1995) assertion that

attachment security permits thoughtful self reflection, while attachment insecurity

impairs such self-awareness. The present results provide initial empirical evidence for the

relation between attachment security and reflective capacity in young adults, and expand

Fonagy's original model about the close relation between these two constructs in children

to adults. In addition, these findings also echoed Slade's (2002) conceptualization that

reflective capacity is a critical aspect inherent in attachment security in adults.

Again, interestingly, while the secure group was shown to differ significantly

from the preoccupied and the fearful clusters in terms of reflective capacity, no such

significant difference was detected between the secure and the dismissing groups. This

finding is contrary to Lopez's (1995) theorization that the dismissing group may also

suffer from impairment in their reflective capacity due to attachment insecurity as do the

other two insecure groups. Another interesting finding is that the dismissing participants

were also found to differ significantly from the preoccupied and the fearful participants in

terms of reflective capacity. In other words, both the secure group and the dismissing

group that had lower levels of attachment anxiety differed significantly from the

preoccupied and the fearful clusters that had higher levels of attachment anxiety in terms

of reflective capacity. Maybe the higher levels of attachment anxiety manifested in the

latter two groups to a certain extent hindered their ability to self reflect in the context of

close relationships. Further research is still needed to confirm or disconfirm this

speculation.

Attachment Security and Gender

No significant gender difference was found among the three insecure attachment styles in the current study. This nonsignificant result may be due to the small number of male participants recruited for this study. Of the 241 people in the current sample, only 57 were male. 37 of them were lost in creating the four attachment categories. The final 20 male participants who met the criteria for the four categories were about evenly distributed among the four groups in the chi-square test, which means there were about five males in each group. In addition, the total number of participants in each category was also quite small. Furthermore, additional analyses of point-biserial correlations also failed to show any significant relation between gender and the secure-fearful continuum or between sex and the dismissing-preoccupied continuum. This nonsignificant finding in the current study seems consistent with prior research that demonstrated no gender differences among the insecure styles (e.g., Kunce & Shaver, 1994), yet contrary to some studies that did detect such differences (e.g., Brennan et al., 1991). In short, due to the small male sample recruited for the current study and the even smaller male sample for the three insecure groups, it was difficult to determine whether there truly was no gender difference among the three insecure groups or the sample size in the current study was too small to detect gender differences among the three insecure styles. Additional research is needed to shed more light on the inconclusiveness regarding gender differences among the three insecure groups.

Reflective Capacity and Personal Resilience

In the present study, adults' reflective capacity was found to be moderately related to their personal resilience. Furthermore, such association remained significant even after controlling for attachment security. These results are consistent with the

findings in Fonagy and colleagues' study (1991) that the parents' reflective self functioning acted as the strongest predictor for their ability to form secure bonding with their infants, in other words, to manage the challenging task of parenting. For the current study, this result appears to suggest that young adults' reflective capacity may influence their personal resilience. This means that adults' ability for self reflection may help them keep an adaptive distance from stressful situations and may enhance their ability to better cope with stress and challenges in life.

Attachment Security, Reflective Capacity, and Personal Resilience

In the present study, no significant result was detected for the moderating effect of reflective capacity on the relation between attachment security and personal resilience in young adults. One possible explanation for this nonsignificant finding of the interaction effect is that the current study may not have sufficient statistical power to capture the true interaction effect. The low power issues inherent in using nonexperimental studies and the hierarchical multiple regression to detect moderator effects have been addressed by several researchers (e.g., Aguinis, 1995; Cohen et al., 2003; McClelland & Judd, 1993).

Furthermore, Frazier, Tix, and Barron (2004) presented detailed discussions on other issues that may result in low statistical power for detection of moderation effects. Several issues mentioned in their article are pertinent to this current study. For one, the sample size used in this study was aimed to detect an interaction effect size within the moderate range, not one leaning toward the small range. Due to limited resources, the author only managed to get a sample of 241 for the current study. While this sample size exceeded the number (i.e., 84) needed to detect medium effect size, it fell far short of the number (i.e., 599) needed to detect small effect size. For another, the self-selecting,

predominantly white and female sample of college students might have restricted the range of responses. For example, the total scores of the Experiences in Close Relationships Scale (ECRS; Brennan et al., 1998) in the current study range from 42 to 197, while the full range of total scores for this scale is from 36 to 252. Finally, in their article, Frazier and colleagues strongly suggested choosing an outcome measure whose number of response options (e.g., for a measure using a 4-point Likert scale, the number of response options equals four) is at least equal to or preferably greater than the product of the numbers of the response options in the predictor and moderator measures to avoid the negative impact of scale coarseness on statistical power. However, the outcome measure used in this study has only four response options, which is much smaller than the product of the numbers of response options in the predictor and moderator measures (i.e., 49). All of the aforementioned factors combined might have contributed to low statistical power in this study to detect the true interaction effect that might lean more toward the small range. To sum up, the moderational model with attachment security as predictor, reflective capacity as moderator, and personal resilience as outcome was not supported by the data in the current study. Considering the above-mentioned limitations in the current study, it is possible that the statistical power of this study was not sufficient to detect true moderator effect. But the more plausible conclusion, given the close-to-zero R^2 increment for the interaction term found in the present study, may be that the variables were simply not related as hypothesized.

Another possible explanation for the nonsignificant interaction effect may be that this current study is different from Fonagy et al.'s study (1991, 1994) in two aspects. First, the samples used in the two studies were not comparable. The sample used in the present

study consisted of college students, whereas Fonagy and other researchers used first-time mothers and fathers. Second, in the moderational model in the current study, the author used the young adults' attachment security, rather than their childhood deprivation, as predictor. These differences may have also contributed to the possibly erroneous hypothesis of the moderational model.

Although the data in the present study failed to support the moderational model, interestingly, they supported two alternative mediational models. The first model used attachment security as predictor, reflective capacity as mediator, and personal resilience as outcome. The mediating effect of reflective capacity on the relation between attachment security and personal resilience in adults was found to be statistically significant, which provided preliminary empirical evidence that attachment security may influence personal resilience through partial mediation of reflective capacity in young adults. This result seems consistent with studies of reflective capacity as a mediator in the link between adult and infant attachment (Slade, 2002). Slade (2002) asserted that adults' attachment security influences their reflective capacity, which in turn influences their abilities to deal with the task of parenting. This result also provides initial empirical support for the author's speculation that young adults' attachment security can influence their ability to self reflect, which in turn can affect their ability to deal with stress and challenges in life.

The second mediational model supported by the data in the current study uses reflective capacity as predictor, attachment security as mediator, and personal resilience as outcome. Interestingly, the mediating effect of attachment security on the relation between reflective capacity and personal resilience in adults was also found to be

statistically significant. This finding also lent initial empirical support to the partial mediation effect of attachment security on the relation between reflective capacity and personal resilience in young adults. It is the author's speculation that changes in young adults' capacity for self reflection, especially in stressful situations, may gradually improve their interpersonal interactions with significant others in their lives. These new and positive experiences can further help individuals modify their internal models of attachment relationships from the more insecure to the more secure end of the continuum. As was originally theorized by Bowlby (1973), attachment security, after all, is not a fixed entity. Even though radical changes in attachment organization are highly unlikely, gradual modifications of the maladaptive internal models of previous attachment relationships that no longer fit the present situations are not impossible. This theoretical proposition also received empirical support from several studies on the positive changes of individuals' insecure attachments in the so-called "earned-secures" (Paley et al., 1999; Pearson et al., 1994; Phelps, Belsky, & Crnic, 1997). These studies demonstrated that it seemed possible for individuals with negative life events in childhood and/or insecure attachments to their caregivers to modify their internal models of attachment relationships through positive life experiences and significant relationships later in life. Psychotherapy, for instance, is a viable venue for such relational modifications (Bowlby, 1980, 1988). Although the supporting evidence of the two mediational models seems to imply interesting causal influences of attachment security and reflective capacity on personal resilience in young adults, given the correlational nature of the current study, clear causal inferences cannot be drawn based on these results. Further research,

preferably using experimental or quasi-experimental methodologies, are needed to clarify

such promising causal relationships among the variables explored in this current study.

Implications for Clinical Practice

The findings in this study have several clinical implications for counseling the

young adult population. For one thing, given the moderate correlations between

attachment security and personal resilience as well as between attachment security and

reflective capacity in young adults, if clinicians can help modify clients' internal models

of attachment relationships, they may in turn help clients become more self reflective as

well as more confident in their ability to cope with stressful events in life. The therapeutic

relationship is in many ways comparable to an attachment relationship (Farber, Lippert,

& Nevas, 1995). Therapists can exert some influence on the internal models of their

clients' attachment relationships by becoming a significant "attachment figure" for their

clients. The therapists may act as a secure base in sessions for their clients to freely

explore their joyful and painful life experiences. They can also provide a holding

environment (Winnicott, 1965), containment (Bion, 1962), and also corrective emotional

experiences (Alexander & French, 1946) for their clients in the context of the intimate

therapeutic relationship. One of the major tasks for therapists is to offer their clients

different and good-enough interpersonal relationships, which may, in time, help modify

the clients' outdated maladaptive internal working models of their previous attachment

relationships.

For another, considering the strong relation between reflective capacity and

personal resilience in young adults, practitioners may want to consider employing

interventions that can help enhance their clients' capacity for self reflection. As

mentioned in the chapter of literature review, the concept of self observation could be traced back to Freud. Afterwards, theorists from different schools of thought (e.g., psychodynamic, experiential, cognitive-behavioral) also stressed the importance of facilitating healthy self observation in clients in their clinical work. Therapists can start by helping their clients to step back and reflect on their thoughts, feelings, and behaviors during the interactions with the therapists in the here-and-now. Therapists can also teach clients useful coping strategies to help them disentangle themselves from stressful situations, to learn to keep an adaptive distance from those situations, and finally to appropriately respond rather than impulsively react to those situations.

Finally, one's attachment security may influence one's ability to deal with stress through one's reflective capacity. Also, one's reflective capacity may further affect one's ability to cope with life challenges through one's attachment organization. In other words, one's attachment security and reflective capacity appear to feed on each other (Fonagy et al., 1995/2000) to build or break one's confidence in dealing with challenges in life. It seems that no matter which component therapists target for interventions in therapy, it may naturally enhance the other and then further enhance the clients' ability to better cope with stress and challenges in their lives.

Limitations

Despite the interesting findings discovered in this current study regarding the relationships among attachment security, reflective capacity, and personal resilience in the population of young adults, several limitations should be noted. First of all, the nature of correlational studies like the present study using concurrent measures does not permit causal inferences about the models being tested. The data showed moderate correlations

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between attachment security and personal resilience as well as between reflective

capacity and personal resilience. Yet, correlations do not equal causation. It makes

equally logical sense to argue for personal resilience being a precursor that may predict

one's attachment security and reflective capacity, as opposed to what was hypothesized

in this study. Second, as mentioned above, the statistical power of this study was

probably too low to detect the true moderator effect because of the small sample size, the

range restriction due to self-selecting sample of college students, and the limited number

of response options in the outcome measure (Frazier et al., 2004). Third, the self-

selecting sample in this study consisted of predominantly European American and

predominantly female college students, which reduced the generalizability of the findings

to other populations. Fourth, each construct in this study was measured only by one self-

report instrument. Although social desirability was controlled in this present study, the

study still suffered from mono-operation and mono-method biases. Fifth, two of the

inventories (i.e., the OEFS and the PRBS) used were modified by the author of the

present study. Even though reliability estimates for the two revised measures were

examined and found to remain strong, more fine-grained analyses (e.g., factor analysis)

are needed to judge the stability of the factor structures in both revised versions. Finally,

as discussed in the chapter of literature review, the measure that was adopted to assess the

construct of adult reflective capacity was only a convenient proxy for the concept of

reflective functioning conceptualized by Fonagy and others (1991, 1994, 1995/2000).

Since the author in the current study was more interested in assessing adult reflective

capacity independent of child attachment, the author used the revised version of the

Observing Ego Functions Scale (OEFS; Clarke, 1996) that focuses mainly on adults'

capacity for self reflection in close relationships. This rich and complex construct still awaits more refined operationalization and measurement.

Suggestions for Future Research

The current study provided preliminary empirical support for several significant relations among attachment security, reflective capacity, and personal resilience in a sample of young adults. It also expanded previous research studies on similar relations among these constructs from children to young adults. The author would like to end here with a few suggestions for future research. First, to increase generalizability of future research findings to other populations, a more ethnicity- and gender-balanced sample is highly recommended for replications of this line of research inquiries in the future. Second, to increase the statistical power for detection of the moderator effect in nonexperimental studies, researchers may want to consider increasing their sample sizes, using samples from diverse sources (e.g., older adult sample, community samples, clinical samples) to avoid range restriction, choosing outcome measure(s) that have more response options, etc. Third, researchers may want to conduct longitudinal or experimental studies to investigate the moderational model or the two mediational models tested in this study in order to make clearer causal inferences about the relations among the three constructs. Last but definitely not least, more research is direly needed to refine the operationalization and measurement of the construct of reflective capacity. This intriguing construct has been discussed under many different labels, such as "the observing ego" (e.g., Sterba, 1934), "psychological mindedness" (e.g., Loewald, 1980), "theory of mind" (Premack & Woodruff, 1978), "mentalization" (e.g., Fonagy, 1989, 1991), "metacognitive monitoring capacity" (Main, 1991), the vague term of "awareness"

or "self-awareness," and even the concept of "mindfulness" from Buddhist psychology, etc. In future studies, researchers need to provide clear operationalizations of the kind of reflective capacity they are interested in and preferably adopt or even devise a specific instrument that can capture the reflective capacity that they intend to assess.

APPENDIX A
Experiences in Close Relationships Scale (ECRS)

Instructions: 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. Please <u>circle</u> the number that best shows how much you agree or disagree with each item according to the scale below.

1……………2……………3……………4……………5……………6……………7
Strongly   Neutral/mixed   Strongly
Disagree   Agree

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me, I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to romantic partners.
24. If I can't get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything.
26. I find that my partner(s) don't want to get as close as I would like.
27. I usually discuss my problems and concerns with my partner.
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
29. I feel comfortable depending on romantic partners.
30. I get frustrated when my partner is not around as much as I would like.
31. I don't mind asking romantic partners for comfort, advice, or help.
32. I get frustrated if romantic partners are not available when I need them.
33. It helps to turn to my romantic partner in times of need.
34. When romantic partners disapprove of me, I feel really bad about myself.
35. I turn to my partner for many things, including comfort and reassurance.
36. I resent it when my partner spends time away from me.

Observing Ego Functions Scale (OEFS)

Instructions: This list asks you to estimate how well each statement reflects your behavior. It is not a test so there are no right or wrong answers. Answer all items carefully by circling the number to the right of the statement that most accurately reflects your estimate of your behavior.

1……………2……………3……………4……………5……………6……………7
Strongly   Mostly   Mildly   Neutral   Mildly   Mostly   Strongly
Disagree   Disagree   Disagree   Agree   Agree   Agree

1. I am able to monitor my feelings and/or impulses without acting upon them.
2. When I choose to do so, I am able to control my display of emotions.
3. I find it difficult to separate myself from my problems.
4. When I get upset about something, I can take a step back and look at my situation.
5. I think things through before acting.
6. I consider the consequences of my behavior.
7. I monitor my expressions (words and body language) in order to get my point across effectively.
8. I catch myself when I am being overly critical of myself or another.
9. I find it useful to reflect upon my experiences.
10. I notice when I am experiencing childish feelings or needs.
11. When I get really angry, I try to take a step back to examine my anger.
12. I take the time to reflect upon my behavior before I act when it is important to do so.
13. I have the ability to talk to myself to calm myself down.
14. I listen to my inner thoughts and feelings.
15. When I am anxious, I am able to talk to myself to sort things out.
16. I am aware of what is going on within me.
17. I maintain a distance from my problems in order to evaluate them.
18. My emotions overwhelm.
19. I am able to recognize when I am avoiding feeling/experiencing something unpleasant.
20. I am able to differentiate my public from my private self.
21. When I experience intense feelings, I am able to maintain a sense of myself.
22. I find it useful to put myself in the shoes of others to gain their perspective.
23. I am able to see the humor in stressful situations.
24. I notice when I am behaving as if I am on automatic pilot.
25. My behavior is generally intentional and well thought out.
26. When I feel down or stressed out, I just can't keep a perspective on my problems.

APPENDIX C
Observing Ego Functions Scale-Revised (OEFS-R)

Instructions: Please use your **close relationships** as your frame of reference as you respond to the following items. This list asks you to estimate how well each statement reflects your behavior in **close relationships**. It is not a test so there are no right or wrong answers. Answer all items carefully by <u>circling</u> the number to the right of the statement that most accurately reflects your estimate of your behavior.

1……………2……………3……………4……………5……………6……………7
Strongly   Mostly   Mildly   Neutral   Mildly   Mostly   Strongly
Disagree   Disagree   Disagree   Agree   Agree   Agree

1. I am able to monitor my feelings and/or impulses without acting upon them.
2. When I choose to do so, I am able to control my display of emotions.
3. I find it difficult to separate myself from my problems.
4. When I get upset about something, I can take a step back and look at my situation.
5. I think things through before acting.
6. I consider the consequences of my behavior.
7. I monitor my expressions (words and body language) in order to get my point across
     effectively.
8. I catch myself when I am being overly critical of myself or another.
9. I find it useful to reflect upon my experiences.
10. I notice when I am experiencing childish feelings or needs.
11. When I get really angry, I try to take a step back to examine my anger.
12. I take the time to reflect upon my behavior before I act when it is important to do so.
13. I have the ability to talk to myself to calm myself down.
14. I listen to my inner thoughts and feelings.
15. When I am anxious, I am able to talk to myself to sort things out.
16. I am aware of what is going on within me.
17. I maintain a distance from my problems in order to evaluate them.
18. My emotions overwhelm.
19. I am able to recognize when I am avoiding feeling/experiencing something unpleasant.
20. I am able to differentiate my public from my private self.
21. When I experience intense feelings, I am able to maintain a sense of myself.
22. I find it useful to put myself in the shoes of others to gain their perspective.
23. I am able to see the humor in stressful situations.
24. I notice when I am behaving as if I am on automatic pilot.
25. My behavior is generally intentional and well thought out.
26. When I feel down or stressed out, I just can't keep a perspective on my problems.

Personal Resiliency Beliefs Scale (PRBS)

Instructions: For the next 30 items, please read each statement and circle the number to the right of the item that most closely reflects how you feel about each item.

1……..…….. 2…..……..……3…...…………4
Strongly   Disagree   Agree   Strongly
Disagree   Agree

1. I feel like I can influence my life situation.
2. My belief in a higher power helps me when life is hard.
3. If something goes wrong, I go to a higher power for help.
4. I am a survivor.
5. I see difficulty as a challenge from which I can learn.
6. My faith/spirituality gives me hope when life seems bleak.
7. My faith/spirituality doesn't really impact my life that much.
8. Things rarely seem to work out in my favor.
9. There is someone in my life whom would be there no matter what.
10. I believe that a higher power is there for me when life is challenging.
11. I expect that the worst will happen.
12. I believe there are people who I could ask for help in difficult times.
13. I generally feel bad about myself.
14. My faith/spirituality does not help me deal with life's difficulties.
15. It doesn't seem like there is anybody that I could look to for support if I were having a hard time.
16. I tend to see the negative things in life.
17. I find my faith/spirituality to be comforting in times of need.
18. I can make the best of a bad situation.
19. I believe that I can handle stressful events.
20. I am committed to finding the positive aspects of life.
21. When something bad happens, I feel like there is someone I can talk to.
22. I can deal with difficulty in life.
23. When bad things happen, I want to just give up.
24. This can happen in life that are too much for me to handle.
25. My feeling of self-worth gives me strength during stressful times.
26. I believe that I have what it takes to make it through life's struggles.
27. I have a strong will that helps me keep going through the toughest experiences.
28. My faith/spirituality gives me strength during times of hardship.
29. I believe I gain strength from working through difficult experiences.
30. Even when things go wrong in my life, I won't give up.

APPENDIX E
Marlowe-Crowne Social Desirability Scale (MCSD)

Instructions: Listed below are statements concerning personal attitudes and traits. Please read each item and decide whether the state is ***True*** or ***False*** as it pertains to *you* personally.

1. Before voting, I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion, I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority, even though I knew they were right.
13. No matter who I am talking to, I'm always a good listener.
14. I remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times, I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrongdoings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

Participant Demographic Form

Instructions: Please complete the following items, either by putting an **X** next to your choice, or by writing in responses where appropriate.

1. Gender: _____Female _____Male

2. Age: _____

3. Race/Ethnicity:

    ____African American

    ____Asian/Pacific Islander

    ____Biracial/multiracial (Please specify: _____)

    ____European American/Caucasian

    ____Hispanic/Latino American

    ____Middle Eastern American

    ____Native American

    ____Other (Please specify: _____)

4. Relationship Status:

    1) Are you currently and/or have you been in a romantic relationship in which you are not seeing others except your partner? ____Yes _____ No

    2) If you answered yes, how many months were you or have you been in the romantic relationship that lasted the longest? _____

APPENDIX G
Instructions to Participants

This study is about people's interpersonal relationships, self-awareness, and certain personal characteristics. Your task is to fill out the given materials in the packet as carefully and truthfully as you can. If at all possible, please respond to **<u>all</u>** the items in each questionnaire.

First, please read, sign, and date the two copies of participant informed consent forms. After that, you may proceed to fill out the rest of the packet **<u>in the given order</u>**. After completion of all the materials in the packet, please give the whole packet, including one copy of the informed consent form, to the primary investigator, Yueher (Emilie) Ma, on your way out. You will then be given a debriefing statement describing the purpose of this study and the questionnaires you have taken. We thank you in advance for your participation!

APPENDIX H
Debriefing Statement

Thank you for participating in this study. The purpose of the study is to investigate if and how people's self reflective capacity in attachment relationships affects their ability to adapt to change in daily lives. You have completed four questionnaires for this study. One measured your attachment styles, another assessed your self reflective capacity, still another measured your personal resilience, and the other assessed your tendency to respond in socially desirable ways.

Please be certain that your written responses to the questionnaires will be held in strict confidentiality. Under no circumstances will this be violated. Your responses will only be seen as anonymous, and reports based on the findings of this study will use only aggregate data, not individual responses.

Due to the fact that some people have not yet participated in this study, we must ask you not to discuss this study in detail with anyone. This is crucial to maintaining the study's validity. If you wish to speak to the study's primary investigator, please feel free to contact Yueher (Emilie) Ma at yma@psyc.umd.edu. Thank you again for your participation! We really appreciate your time and help!

Participant Informed Consent Form

Project title: Investigating the Moderating Role of Reflective Capacity in the Link Between Attachment Security and Personal Resilience in Adults

Investigator: Yueher (Emilie) Ma, U of Maryland, College Park, 301-891-0696, *yma@psyc.umd.edu*
Dr. Charles J. Gelso, U of Maryland, College Park, *gelso@psyc.umd.edu*

Purpose of study: This study is designed to investigate such concepts as interpersonal relationships, self-awareness and certain personal characteristics.

Procedures: I am aware that I will be asked to complete questionnaires regarding (a) self-awareness with such items as "I think things through before acting," "my emotions overwhelm," etc.; (b) interpersonal relationships with such items as "I worry about being abandoned," "I prefer not to be too close to my partners," etc.; (c) personal characteristics, such as "My life has no direction or purpose," "I have a lot of confidence in myself" "I have never intensely disliked anyone," etc. I am aware that my participation in this study will require two 60-minute time commitments with one week in between.

Confidentiality: I am aware that all information collected in the study is confidential, and that I will not be identified at any time. The research questionnaires will contain as the only identifier a randomly assigned four-digit code. All questionnaires will be kept in a secure facility.

Risk/benefit statement: I am aware that participation in this project involves risk that is no greater than that encountered in ordinary daily living. The research (completing questionnaires) is not designed to help me personally, but the investigator hopes to learn more about the concepts of self-awareness and interpersonal relationships to help enhance counseling. I am aware that I may decline to answer any of the questions or withdraw from the study at any time without penalty.

Statement of Willingness to Participate: I understand that my participation is completely voluntary and that I may withdraw participation and consent at any point within the study without consequence. I also understand that I may ask questions at any time without penalty. I certify that I am over 18 years of age, in good physical health, and am willing to participate in the research project under the direction of Ms. Ma and Dr. Gelso.

_____   _____
(Participant's Signature)   (Date of Participation)

_____
(Participant's Printed Name)

If you have any questions about your rights as a research participant or wish to report a research-related injury, you may contact:

Dr. Harold Sigall, Chair of Human Subjects Committee in the Department of Psychology at the University of Maryland; phone: 301-405-5920, or the Institutional Review Board Office at the University of Maryland, College Park, Maryland, 20742; email: irb@deans.umd.edu; phone: 301-405-4212.

Please keep a copy of the Consent Form for your records.

APPENDIX J
Pilot Study on the OEFS-R

The purpose of the study was (a) to find out the correlation between the original and revised versions of the Observing Ego Functions Scale (OEFS; Clarke, 1996) and (b) to obtain initial psychometric information of the OEFS-R.

100 participants were recruited from students in introductory psychology courses in the psychology department of a large mid-Atlantic University. The student volunteers earned two-hour credits for their participation. Each participant was given two packets of measures to fill out in scheduled sessions over a one-week interval. The original and revised versions of the Observing Ego Functions Scale were embedded in two other measures in each packet but always placed as the first measure to be filled out. In each scheduled session, participants were instructed to fill out the questionnaires in the packet in the given order.

Due to missed sessions and/or missing data, the final usable sample dropped to 89, with 67 (75%) females and 22 (25%) males. Their ages ranged from 18 to 38 (M = 19.25, SD = 2.3). 57% of the participants were Caucasian, 17% were African American, 10% were Asian American, 6% were Hispanic American, and 10% were in other categories.

In terms of internal consistency for the OEFS-R, the Cronbach's α was found to be .91. The internal consistency reliability estimates for each subscale were as follows: .80 for Internal Awareness, .84 for Reflection Before Action, .80 for Perspective on Behavior, and .74 for Regression in the Service of Ego. Also, in this pilot study, the Pearson correlation coefficient between the OEFS and OEFS-R was .82 over a 1-week interval, while in Clarke's study (1996), the 2-week test-retest reliability coefficient of the OEFS was .86. The difference of the two *r*'s were calculated using Fisher's transformation of *r*'s to *z*'s, and no significant difference were found between the two coefficients.

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