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Attachment, Personality & Lifespan Development:
Empirical & Theoretical Applications of Attachment Theory to
Pathological & Optimal Adult Development

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M.A., Emory University, 2007

B.A., University of Arkansas, 2006

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An abstract of

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Abstract

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This dissertation is comprised of three distinct, core chapters that consider empirical and theoretical applications of attachment theory to lifespan development and personality. The first two chapters are empirical and use data gathered as part of the Grady Trauma Project, an NIMH-funded grant studying the genetic, environmental, and individual-level correlates of trauma exposure and posttraumatic reactions in a low-SES, primarily African American sample of individuals seeking care at a public urban hospital. The first core chapter tests associations between adult attachment and personality pathology by using multiple measures of each with diverse constructs and methods. Results generally found small-to-moderate correlations in expected directions with some findings dependent on assessment strategy. In addition, hierarchical regressions confirmed that both personality and attachment in close relationships predict unique variance in global adaptive functioning above the other. The second core chapter tests relationships among attachment in close relationships, object relations, and Posttraumatic Stress Disorder (PTSD). Mediational analyses confirmed *a priori* hypotheses that object relations (i.e., views of self and others) partially mediated the relationship between attachment and PTSD symptoms. The third core chapter is theoretical and interdisciplinary and explores Carl Jung's process of individuation and its connections with other developmental theories of the self, including attachment and object relations theories. This chapter seeks to integrate adult and childhood-oriented theories of self development while considering the role of relationships in developing the self across the lifespan. Portions of this chapter also consider interdisciplinary applications to critical theory in film, literature, and psychology. These chapters are framed by a general introduction and a general discussion connecting concepts among the three core chapters.

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Dedication

I would like to dedicate this dissertation to two people who have had profound personal and professional impacts on me and who have taught me about genuine connection and loss. First, to my late grandmother (Granny), Carol Ortigo, who always fostered my intellectual curiosity and passion. As I've grown older, I've come to realize how much of who I am is a reflection of the love and encouragement she offered me from an early age. Also, to Janice Hocker Rushing, my late professor in Communication/Film Studies at the University of Arkansas. Not only did Janice introduce me to Jung in what I thought would be just a cool undergraduate seminar, she also helped me verbalize thoughts and feelings I had felt at an inchoate level my whole life. She was my first spiritual mentor, and to her I will always be grateful. You both are sorely missed, but your continual influence in my life is a testament to your ongoing presence.

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Any major task in life is rarely tackled alone, and this dissertation, being a culmination of my personal and intellectual journey thus far, is no different. First, I would like to thank my graduate adviser, Dr. Drew Westen, for having faith in a young, wide-eyed student fresh out of undergraduate. Drew has fostered my intellectual independence throughout graduate school and has provided tremendous support in undertaking this dissertation. I would also like to thank my co-adviser, Dr. Bekh Bradley, for allowing me to become a part of the Grady Trauma Project in my first year at Emory and later the Chronic PTSD Team of the Atlanta VA. My experiences at Grady and the VA have been formative clinically and professionally, and without Bekh and his mentorship, I likely would have missed those opportunities.

My other committee members have also helped shape this project and my graduate school experience. I am indebted to Dr. Nancy Bliwise for her continual support of my interests in attachment theory, psychodynamics, and lifespan development and aid in statistical analyses. Not only has she helped me with theory and research, her supervision in attachment-informed psychotherapy has proven instrumental in connecting my clinical and research interests. In addition, Dr. Philippe Rochat’s research in early, normative development has helped me balance out my interests in adulthood and psychopathology. His passion and breadth of knowledge is inspiring.

Last but not least, I offer sincerest thanks to Dr. Elizabeth Wilson. Dr. Wilson has gone beyond her duties as a professor in Women’s Studies both by agreeing to be on my committee in Psychology and by working closely with me throughout the entire process. Her encouragement and mentorship has helped me situate my interdisciplinary interests

in a greater theoretical and professional context, and it has been a distinct pleasure to work with her over the past year and a half.

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Chapter I:

Introduction to Dissertation:

Theorizing about Attachment, Personality, & Lifespan Development

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A fundamental principle at least implicit in clinical psychology has been that change is possible in adulthood. In other words, development can continue past childhood. Though theories differ on how and why change can occur, at the root of clinical practice has been the belief that how one behaves, thinks, and/or feels is potentially malleable through therapeutic work. Still, the effects of one's prior experiences, along with genetic make-up, necessarily influence these same factors. Researchers have created an extensive literature on early development for good reasons. For one, there are no other times in a person's life such drastic physical and neurobiological changes occur so quickly. The sheer magnitude of these changes alone may account for a focus on young children. Because of extended neoteny in humans, the role of parenting in these years is necessarily formative. Research, at least in the West, on this developmental period has promised to identify potentially beneficial or harmful parenting practices. Furthermore, a certain mystique about infancy and childhood has existed in our culture. This appeal may be due in part to the widespread phenomenon of infant amnesia (i.e., the inability to remember infancy), to the human tendency to reminisce and idealize the past, and even to a cultural value placed on knowing and understanding our origins.

Nevertheless, just as there are reasons for focusing on early development, there are reasons for studying adult development. First, anecdotes of adults being transformed by their life experiences are quite common and permeate myths around the world (see J. Campbell, 1949/2004). Modern research has confirmed some of this anecdotal evidence by showing there is both continuity and discontinuity across developmental time periods (McAdams & Olson, 2010; Roberts, Wood, & Caspi, 2008). Focusing on adult

development also seems linked, whether accurately or not, to existential controversies over determinism and free will. If early childhood experiences predict the lion's share of later outcomes, then how can people change, how can criminals reform, and how can we escape fate? Arguing for adult development is, for better or for worse, tied to arguing for the possibility of change. Similarly, focusing on the complexity of adult development may act as a counter to the historical view of aging as a unidimensional decline in functioning (Park, 2010). This perspective holds out hope that there could be more positive aspects to aging than slow decay. In a more practical vein, adult development makes sense with the changing developmental tasks across the lifespan (e.g., parenthood, career). After all, adaptation to changing developmental demands is a hallmark of wellbeing.

Theories that explicitly connect child to adult development through specific mechanisms of influence have become increasingly rare or have limited empirical support. One exception has been John Bowlby's attachment theory. Attachment theory has offered both the promise and threat of being a modern grand theory in psychology. The goal of this dissertation is to consider adult development, primarily through the lens of attachment theory, by exploring empirical and theoretical connections between attachment and other constructs, including personality pathology, reactions to trauma, and personality growth. Each of these constructs, though having their own separate histories in the literature, incorporate consideration of vulnerability and resilience in their theories of etiology. If attachment is useful as an overarching theory of adult development, then it should demonstrate utility in understanding these other constructs. This introduction seeks to discuss each of these areas by providing a more detailed

background to the dissertation as a whole. After an introduction to attachment theory, I discuss how the three sections of my dissertation help answer questions about adult development and the potential role of attachment throughout the lifespan.

Attachment Theory: An Overview

Historical Context

Emerging alongside neo-Freudian developmental theories, including those of Melanie Klein, Erik Erikson, and Anna Freud, the attachment theory of John Bowlby (1907-1990) situated its developmental focus on infancy. Although Bowlby (1969) argued that attachment theory applied across the lifespan, he and his colleagues concentrated early theoretical and empirical efforts on exploring infant attachment to caregivers (Ainsworth, Blehar, Waters, & Wall, 1978). This strategy was appropriate given that Bowlby was seeking to make psychoanalytic theory (and its emphasis on early childhood) more grounded empirically.

For the broader psychoanalytic community, the most radical aspect of Bowlby's attachment theory was its return to the idea that real life experiences were as, if not more, important than internal fantasies. This fantasy versus reality debate had its roots in Sigmund Freud's (1856-1939) early work, especially his seduction hypothesis. Initially, Freud (1896/1962) believed that his patients' accounts of sexual abuse in early childhood were valid memories recovered from the depths of repression and argued they were indicative of the etiology of their adult neuroses, including hysterical and obsessional presentations. Shortly after proposing his theory, Freud (1897/1985) wrote to Wilhelm Fliess about his growing doubts about the reality of the sexual abuse, including his disbelief that so many fathers could really sexually abuse their children (Izenberg, 1991).

Freud then abandoned the theory all together and proposed that instead of arising from real experiences of sexual abuse, neuroses originated from intrapsychic fantasies during early infant and child psychosexual development.

The switch to emphasizing fantasy is evident in Freud's *Interpretation of Dreams* (1900/1953) and *Three Essays on the Theory of Sexuality* (1905/1953). For Freud (1900/1953), dreams function as efforts at wish fulfillment for unconscious desires and fantasies. Often the content of dreams, even if obscured by unconscious dream work, has ties to real childhood experiences and/or fantasies related to these experiences. Thus, interpreting dreams to uncover their hidden meanings became a core task of psychoanalysis. Freud's (1905/1953) theory of psychosexual development also incorporated a role for fantasy. The classic example of childhood fantasy is the Oedipal drama (Freud, 1910/1959) and the real or fantasized confrontation of the *primal scene*—that is, observing one's parents engaging in sexual intercourse (Freud, 1909/1955, 1910/1959, 1918/1955).

For example, in his famous 'Wolf Man' case study, Freud (1918/1955) worked with a Russian man (Wolf Man) who presented with various neurotic problems, including depression and obsessions. He also acknowledged childhood behavioral problems and animal phobias. During treatment, the patient reported a vivid nightmare, from early childhood, in which he witnessed his bedroom window suddenly opening to reveal several white wolves sitting in a walnut tree. He awoke from the dream in fear of being eaten by the wolves and required several minutes to calm down. Freud argued that underneath the dream work, the nightmare was about the patient having witnessed in early childhood either his parents having intercourse (in the reverse, or "doggy-style,"

position) or two dogs having intercourse, which he then unconsciously associated with his parents. His neurosis, Freud claimed, was then a consequence of this disturbing experience that he had unconsciously fantasized about even as an adult.

Thus, for decades after abandoning the seduction hypothesis, psychoanalytic theory emphasized infant and childhood fantasies over real experiences. The ideas of Melanie Klein (1882-1960) perhaps best exemplify a fantasy-oriented theory stemming from this historic controversy (for her collected works, see Klein 1932/1984, 1961/1984, 1975a; 1975b). Klein postulated that the interactions of unconscious *phantasies* with ingrained needs and biological drives were the primary means by which infant minds emerged, interacted with, and made sense of the world (see Hinshelwood, 1991; Isaacs, 1948; Klein, 1929/1975). These phantasies imbued external events, people, and things (i.e., *objects*) with strong emotional significance and often revolved around experiences of the mother's ability to satisfy needs (Klein, 1935/1975). For example, an infant's phantasy of an object that could satisfy hunger would be projected onto the mother's breast. When the breast provided milk, the infant would react by feeling pleasure, but when the breast denied milk, the infant's reaction would be one of hatred and aggression. A significant developmental task was the infant's ability to recognize and cope with the reality that both the "good" satiating breast and the "bad" denying breast belonged to the same object, the mother. The process of weaning was particularly important in this task (Klein, 1936/1975). For Klein, the specific behavior of the mother was generally irrelevant to the infant's intrapsychic developmental task. Klein's perspective is one example of the object relations school of psychoanalytic thought that emphasized the

influence of internalized, cognitive affective models (or schema) in a person's interaction with the world throughout life (see also, Fairbairn, 1954; Winnicott, 1953).

Being trained as a psychoanalyst in Britain in 1930's, Bowlby was taught that early childhood fantasies were key to understanding psychopathology, but he became dissatisfied with psychoanalytic theories emphasizing fantasy over real life experiences, particularly those with caregivers. This dissatisfaction likely grew from both personal and professional experiences. His personal life hints at particularly early roots for his theory (R. Bowlby, 2004). Bowlby was raised in England in an upper-middle class family of six children, and as customary for many English families at the time, he was raised primarily by a nanny, not his biological mother. He saw his mother only about an hour a day and his father only on Sundays, perhaps because the dominant upper middle-class English attitude towards parenting was that too much parental attention and care led to spoiling a child. At the age of seven, his parents sent him away to boarding school, an experience he did not recall fondly. Professionally, this dissatisfaction grew in part from Bowlby's supervision by Melanie Klein and their disagreements about the role of a mother's mental breakdown and hospitalization in her 3-year-old son's hyperactivity (Holmes, 1993). His adamant stance that external, real experiences played a huge role in the development of normal and pathological behavior led to lifelong tensions with the broader psychoanalytic community, even making it difficult for him to join the ranks of the British Psychoanalytic Society after his training.

Early Attachment

Out of this historical context, Bowlby (1969, 1973, 1980) developed a theory that tied early real life experiences to later development. According to his theory, the

attachment system is a behavioral system that primarily functions in infancy to aid in maintaining an infant's safety from environmental dangers. This system sustains a homeostasis by motivating the infant to attend to external and internal cues about the primary caregiver's physical proximity, and in turn, to use those cues as needed to adjust behavior to maintain closer proximity to the caregiver. Thus, common signs of infant distress, like crying, fleeing to or searching for the caregiver, and holding tightly to the caregiver when in contact, serve as *proximity seeking* behaviors (J. Bowlby, 1969; Maccoby & Jacklin, 1973). These behaviors are adaptive for infant survival because they ensure the caregiver can act as a *safe haven* if the infant is threatened. Later, the infant (and young child) also use the caregiver as a *secure base* from which s/he may venture out and explore the environment, usually while intermittently making eye contact to assure him/herself of the caregiver's comforting presence.

As the attachment system begins to solidify roughly around 6 months of age, Bowlby (1969) argues the infant begins to internalize signal-response expectations of the caregiver's consistency and appropriateness of response to proximity seeking behaviors. These expectations become organized into affective and behavioral schema called *internal working models*, and it is through these models that attachment theory argues that infant attachment experiences act as blueprints for relationships throughout the lifespan (Pietromonaco & Barrett, 2000). These internal working models contain models of self (e.g., Am I loveable?), often tied to attachment anxiety, and of others (e.g., Can I trust other people to respond to my needs?) associated with attachment avoidance (e.g., Bartholomew & Horowitz, 1991; Fraley, Waller, & Brennan, 2000). As an extension of previous fantasy-based accounts of object relations, attachment theory's internal working

models incorporate the role of real experiences in development but also allow the role of fantasy (or distortions) in interpreting others' behaviors in close relationships later in life.

An essential component of attachment theory is the infant's ability to adapt flexibly to the caregiver's behavior. Ainsworth and colleagues (Ainsworth & Bell, 1970; Ainsworth, et al., 1978; Ainsworth & Wittig, 1969; S. M. Bell & Ainsworth, 1972) brought attachment theory into the research realm when they developed the Strange Situation laboratory paradigm, which assessed infant reactions to a series of separations and reunions with the primary caregiver. In the original studies (e.g., Ainsworth, et al., 1978; Ainsworth & Wittig, 1969), individual differences in infant reactions resulted in three attachment classifications. *Secure* infants explored the environment with the caregiver present, became distressed when the caregiver left the room, and approached and were comforted by the caregiver at reunion. *Anxious/ambivalent* infants became greatly distressed when the caregiver left and approached the caregiver hesitantly, often remaining uncomforted by the caregiver's presence. *Anxious/avoidant* infants, however, explored the environment with the caregiver there, acted as if nothing had changed when the caregiver left, and typically ignored the caregiver at reunion. Later, Main and Solomon (Main, Kaplan, & Cassidy, 1985; Main & Solomon, 1986) identified a fourth insecure classification, labeled *disorganized*, characterized by bizarre behaviors suggestive of attachment system dysregulation. These infants appeared to lack an organized strategy for seeking proximity and comfort from or for avoiding the caregiver. Prototypical disorganized behaviors included walking backward toward the attachment figure, appearing unresponsive or disoriented, and even becoming frightened by the caregiver (Main & Hesse, 1990; Main, et al., 1985; Martins & Gaffan, 2000). This

attachment style has been closely connected to child abuse and severe psychopathology or frightening behavior in the caregiver (Baer & Martinez, 2006; Madigan et al., 2006; Main & Hesse, 1990).

Broadly speaking, meta-analyses have confirmed the association between attachment insecurity and unresponsive care (De Wolff & van IJzendoorn, 1997; Goldsmith & Alansky, 1987; van IJzendoorn & De Wolff, 1997), caregiver mental health problems (e.g., depression, stress; Atkinson et al., 2000; Martins & Gaffan, 2000) and the caregiver's own attachment insecurity (van IJzendoorn, 1995). Early attachment's importance is most evident, though, in its developmental sequelae. Recent research has demonstrated potential effects of early attachment on development of the self system (i.e., one's self-concept and esteem, capacity for self-regulation, etc.) (Beeghly & Cicchetti, 2008; Fonagy & Target, 1997; P. J. Miller & Mangelsdorf, 2005) and affect regulation (Thompson, Flood, & Lundquist, 1995). Attachment security is also connected to later developmental problems and psychopathology (e.g., externalizing behaviors, ego resilience, problem solving ability; Elicker, Englund, & Sroufe, 1992; Ranson & Urichuk, 2008; Sroufe, Carlson, Levy, & Egeland, 1999; Zeanah, 1996). Unsurprisingly, disorganized attachment, being least secure, is associated with particularly poor outcomes later in life (e.g., maladaptive stress management, externalizing problems, dissociative behavior; Boris, Fuevo, & Zeanah, 1997; Carlson, 1998; Hesse & Van IJzendoorn, 1998).

Adult Attachment

From the beginning, Bowlby (1969) considered attachment theory a developmental theory that applied across the lifespan, not relegated to the confines of early childhood. Nevertheless, early empirical efforts appropriately focused on testing the

theory's predictions in infancy and childhood. Adult attachment drew more prominence as a theoretical and empirical construct when Mary Main developed the Adult Attachment Interview (AAI) to assess caregivers' attachment styles (Main & Goldwyn, 1985; Main & Hesse, 1990; Main, et al., 1985). Because Main and colleagues believed the development of formal operational thought and the ability to reflect on experiences were critical in understanding attachment dynamics in adulthood, they theorized these dynamics should be assessed in clinical interviews by attending not only to the content of one's early childhood experiences with caregivers but also to the linguistic aspects of one's narrative. For instance, an adult may describe his/her parents very positively but fail to give supporting details when prompted. In this example, the positive surface content would be less informative than the narrative characteristic of describing attachment figures globally and impersonally. The AAI classifications were made to parallel Strange Situation infant categories—*secure/autonomous* (similar to infant secure), *dismissing* (anxious/avoidant), *preoccupied* (anxious/ambivalent), and later *unresolved* with respect to trauma or loss (similar to infant disorganized).

Though Main's original impetus was to explore intergenerational transmission of attachment insecurity (e.g., Madigan, et al., 2006), many researchers began to appreciate the attachment system's role in adulthood in its own right. Hazan and Shaver's (1987) extrapolation to adult romantic relationships best exemplified this work (see also, Shaver & Hazan, 1988; Shaver, Hazan, & Bradshaw, 1988). As Shaver and others have argued (see Fraley & Shaver, 2000), a shared underlying system is evident in the similar behaviors that occur in both infant attachment and adult romantic relationships. For example, individuals typically (1) experience comfort when their loved ones are near, (2)

share their experiences, insights, or discoveries with their loved ones, (3) practice mutual gaze, and (4) at least in Western societies, vocalize with loved ones in a manner analogous to infant-caregiver cooing or baby talk. In addition, individual differences observed in infants and adult romantic relationships often parallel each other.

Perhaps the most important difference between infant and adult attachment, however, is its function. Whereas infant attachment primarily functions to regulate safety concerns, adult romantic love and attachment may function for other reasons. Its interplay with other biological systems, notably that of sexuality and caregiving, suggests adaptive roles in reproduction and offspring survival. Alternatively, attachment, sexuality and caregiving systems may have evolutionary benefits in their own right, irrespective of reproductive outcomes. In comparative and phylogenetic analyses, Fraley, Brumbaugh, and Marks (2005) traced the evolutionary emergence of adult attachment (operationalized as pair bonding) in mammals to determine whether adult attachment represents an evolutionarily co-optation for adaptive functions. They concluded that whereas the connection between extended neoteny and adult attachment likely resulted from convergent evolution, paternal involvement in offspring care might be the primary adaptive function of adult attachment. All the same, maintenance of emotional safety and security, instead of physical safety, may be a proximate function of adult attachment just as fundamental as the more ultimate survival function. In line with such goals, adults likely have a broader repertoire of behavioral and communicative strategies for maintaining desired proximity to their attachment figures than infants have.

Thus, although adult attachment differs from infant attachment in important ways, the underlying attachment system continues to deal with connections with others and the

thoughts, feelings, and behaviors that characteristically arise within close relationships. The exploration of ways in which adult attachment is associated with interpersonal relationship quality (e.g., Noftle & Shaver, 2006; Tucker & Anders, 1999), psychological growth (e.g., Lewis, 2000), psychopathology (e.g., Ward, Lee, & Polan, 2006), and therapeutic outcomes (e.g., Goldman & Anderson, 2007; McBride, Atkinson, Quilty, & Bagby, 2006) has been fruitful in recent years. As Fraley and Shaver (2000) have argued, attachment theory's fundamental strengths are that (1) it provides a functional framework for understanding diverse phenomena and (2) it draws attention to both normative processes and individual differences in how people behave in and experience relationships.

Controversies & Unanswered Questions

The empirical research in attachment has expanded exponentially over the past few decades; even so, attachment theory is still in the process of addressing warranted criticisms and controversies (Cowan & Cowan, 2007; Fraley & Shaver, 2000; Thompson & Raikes, 2003). One overarching question is its application across cultures (F. Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000). Because the majority of research has been conducted in Western cultures by Western researchers and because the concept of culture has been criticized as being ill-defined and difficult to operationalize (Chao, 2001), the focus here is on other concerns relevant to these projects. Although heavily intertwined, these other concerns can be organized into broad areas of (1) construct, measurement, and methodology, and (2) mechanisms and other systems.

Construct, measurement, and methodology. A developing area is the study of attachment stability and continuity versus discontinuity from infancy to adulthood. As

Fraley (2002) summarized, attachment stability can stem from the continuing influence of early internal working models (the prototype perspective; e.g., Owens et al., 1995), and instability may result from consistently updated internal working models that respond flexibly to new experiences (the revisionist perspective; e.g., Kagan, 1996). After meta-analyzing longitudinal data from infancy to age 19, Fraley concluded that because attachment stability coefficients reached a nonzero plateau at $r = .30$, internal working models act as prototypes with continuing influence. In adulthood, stability is moderate-to-high up to a four-year time period (Kirkpatrick & Hazan, 1994; Scharfe & Bartholomew, 1994). Many individuals, nevertheless, shift from secure to insecure and vice versa, especially earlier in development before adulthood. This discontinuity may be due to the effects of multiple attachment relationships, changing developmentally specific tasks and needs, or even evolving internal fantasies (Sroufe, et al., 1999; Thompson & Raikes, 2003). For example, identity development and exploration in adolescence are important processes with likely connections to attachment security but may make quite different demands on the attachment figure than at earlier ages. These shifting demands would occur whether or not the attachment figure can adapt to these changes. Regardless, early attachment experiences are probabilistic, not deterministic, and future research needs to explore the effects of transactional processes and cumulative experiences on attachment security's stability/instability across the lifespan (Sroufe, et al., 1999).

Unfortunately, past 1.5 – 2 years of age, when the Strange Situation and its four-category classification system lose validity, no gold standard for assessment of attachment exists. The various candidate measures vary greatly in type of relationships being assessed, categories and/or dimensions that result, and assessment strategy. In the

adolescent and adult literature, a basic yet important question is what relationships constitute attachment ones. As Fraley and Shaver (2000) admit, an early assumption of Hazan and Shaver (1987) was that all romantic relationships are attachment relationships, but this generalization is unlikely to hold true for everyone. Instead, Fraley and Shaver recommend defining an attachment relationship as one that involves proximity maintenance and use as a safe haven and a secure base. In this view, many close relationships (e.g., friendships, mentorships, familial relationships) may have these characteristics (see Antonucci, Akiyama, & Takahashi, 2004; Hazan & Shaver, 1994). Particularly important is whether parental attachment or attachment in close relationships is targeted because it may lead to very different findings, and framing findings in terms of overall "attachment" may obscure meaningful distinctions. Individual variability in who acts as an attachment figure later in life certainly complicates measurement. For one, researchers must avoid assumptions in word choice and decide whether the internal working model assessed is expected to be a unitary, generalized prototype or a specific representation. Furthermore, if multiple models for different relationships exist, might these models be organized hierarchically by salience and type (for evidence, see Overall, Fletcher, & Friesen, 2003; Sibley & Overall, 2008)? Regardless, researchers may need to be more careful in generalizing findings to all relationships, depending on the measure used.

The controversy over whether attachment constructs are categorical or dimensional parallels similar controversies in other areas, most notably personality disorders (Huprich & Bornstein, 2007). Within categorical models, early debate revolved around how many styles existed and the most accurate ways to describe them

(Bartholomew & Horowitz, 1991; Brennan, Shaver, & Tobey, 1991). Chief among the models was Bartholomew and Horowitz's (1991) empirically supported four-style typology arranged by two dimensions (models of self and others). Others used prototype descriptions to allow either categorization or dimensional ratings based on the degree of match to each prototype (e.g., Westen, Nakash, Thomas, & Bradley, 2006).

For the most part, however, Fraley and Waller's (1998) use of taxometric procedures on self-report data resolved much of the categorical-dimensional debate when they found latent dimensions best captured the variation in adult attachment (for similar conclusions based on infant Strange Situation data, see Fraley et al., 2003). Brennan, Clark, and Shaver's (1998) follow-up factor analysis of a nearly exhaustive list of self-report measures suggested interpreting the dimensions as attachment anxiety and avoidance. *Anxiety* signifies the degree of vigilance to attachment-related cues and inclination to experience greater distress when confronted with attachment threats. *Avoidance* refers to the behavioral strategy an individual employs to meet (or deny) attachment-related needs—that is, whether to seek proximity and comfort from an attachment figure or to insist on handling threats independently. These dimensions also map onto the valence of internal working models of self and other (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). Namely, high anxiety corresponds with negative views of self, and high avoidance corresponds with negative views of others (Fraley, Waller, et al., 2000). Still, the anxiety and avoidance interpretation remains the most popular because it most closely matches each dimension's item content (Fraley & Shaver, 2000), but these items may best capture some of the conscious, behavioral aspects of the attachment system and not the unconscious, implicit internal working

models.

Unfortunately, debates over the dimensionality of attachment have been heavily confounded by method of assessment. Most arguments for dimensionality come from self-report data whereas interview-based assessments, particularly the AAI, emphasize classification into styles. The controversy over assessment strategy transcends issues of feasibility because proponents of interview-based measures also argue genuine attachment beliefs and behaviors are shrouded from conscious awareness (for empirical evidence, see Maier, Bernier, Pekrun, Zimmermann, & Grossmann, 2004). This argument gathers more weight when populations under study are known for limited insight and rigid defenses, as is the case with personality disorders (Millon, Grossman, Millon, Meagher, & Ramnath, 2004; J. E. Young, 1994). Interview-based assessments also more closely parallel behavioral observation strategies validated in the infant attachment literature (e.g., Ainsworth, et al., 1978). The incorporation of expert clinical judgment and narrative markers of attachment are further strengths, according to many researchers (Westen & Weinberger, 2004). The confound between dimensionality and method, though, may not alter the conclusions of Fraley and Waller (1998) and Brennan et al. (1998) because infant attachment classification, based on behavioral observation, also corresponds to two dimensions (Fraley, et al., 2003) and two-dimensional approaches to the AAI have also been used with success (Dozier & Kobak, 1992). This finding suggests likely independence of method choice and dimensionality.

In sum, diversity of measurement and related debates over the nature of the attachment construct in adulthood characterizes much of the empirical literature. Efforts at building an integrative model that spans assessment methods and preferences for

categories versus dimensions have proven fruitful. For one, correspondence between the two dimensions and the four most prominent attachment styles allows approximate cross-translation (Mikulincer & Shaver, 2007a) (see Figure 1). The most debated aspect of this model is the placement of the unresolved or disorganized classification. Some argue that disorganized/unresolved status best matches the fearful attachment style in self-reports (Mikulincer & Shaver, 2007a; Simpson & Rholes, 2002). Alternatively, intraindividual instability of the two attachment dimensions might be most suggestive of a disorganized attachment system (Sperry, 2003). To test this hypothesis, one would need multiple assessments at different times as well as statistical tests that focus on within-person variability instead of simple mean level differences.

For now, the most appropriate assessment strategy is arguably to use multiple assessment measures and methods that tap the spectrum of attachment constructs (Bartholomew & Moretti, 2002). Although overlap between self-report and interview-based measures exists (Shaver, Belsky, & Brennan, 2000), the unique variance and differential predictive ability of each may prove just as important (Fortuna & Roisman, 2008). The addition of recent methodological advances in implicit procedures that activate or assess attachment schema or internal working models may also prove particularly promising (e.g., Bartz & Lydon, 2004; Bornstein, 1999; Mikulincer, Gillath, & Shaver, 2002; Mikulincer & Sheffi, 2000).

Mechanisms and other systems. Attachment theory posits the importance of early caregiver experiences in lifespan development; hence, mechanisms connecting early experiences to later development require careful examination. A common criticism is that attachment research inadequately tests alternative hypotheses, such as whether pre-

existing temperamental differences account for behaviors in the Strange Situation and beyond. Temperament refers to biologically-based individual differences with strong genetic influences observable in infancy (and sometimes prenatally) (Sanson, Hemphill, & Smart, 2004). Particularly relevant dimensions of inhibition and proneness to distress (negative emotionality) likely affect infant behavior within attachment relationships. A meta-analysis of predictors of attachment classification, however, showed that neither caregiver behavior nor infant temperamental proneness to distress are perfect predictors; both had roughly equal, moderate effect sizes (Goldsmith & Alansky, 1987). In a recent study of longitudinal predictors of Strange Situation reunion behaviors from 9-months to 14-months, Kochanska and Coy (2002) found that infant-caregiver relationship variables, including maternal sensitivity and emotional expression within the relationship, were independent predictors, even when controlling for infant distress. Traditional arguments have pitted temperament against attachment theory, but research evidence and current theory suggest that along with their relative independence they interact to predict later outcomes (Goldsmith & Harman, 2008). Indeed, this more complex understanding has recently fostered research into attachment's genetic underpinnings, which admits pre-existing differences (Bakermans-Kranenburg & van IJzendoorn, 2007; Gillath, Shaver, Baek, & Chun, 2008).

Even as alternative theories of attachment behavior are being integrated into developmental theories, further questions remain as to how early attachment exerts continual influence throughout the lifespan. Although many attachment theorists posit direct causal connections, relationships are likely bidirectional due to transactional processes that maintain and reinforce early internal working models (Sameroff &

MacKenzie, 2003; Sroufe, et al., 1999). Empirical elucidation of these complex processes over time is one major challenge of the theory. Firstly, the transition from internal representations of the caregiver to a broader representation of other attachment figures or close relationships remains somewhat mysterious and ties into controversies regarding the general-vs.-specific nature of attachment expectations and their organization. Furthermore, this transition may include a mix of direct and indirect pathways and fantasy-based processes.

More straightforward pathways include the effect of attachment experiences and internal working models on cognition and behavior. As far as implicit and explicit cognition, internal working models, like all schema, affect information processing at multiple levels by influencing (1) what information is sought out, attended to and perceived, (2) what new information fits expectations, and (3) what is remembered and how it is encoded (Baldwin, 1992; Crittenden, 1990; Mikulincer, 1997). For example, people’s attachment-related beliefs about whether they are loveable and worthwhile to others influence whether they accept a compliment from a loved one. Similarly, attachment-related views of others’ trustworthiness influence how people interpret the motivation of someone else doing them a favor. These interpretations also affect how they experience and thus feel during these interactions.

Such information processing differences may lead to behaviors that reflect different relational attitudes and evoke congruent responses from others. Alternatively, behavioral strategies of whether and how to approach or avoid may be largely unmediated by explicit cognitions and instead become automatic ways of interacting, potentially mediated through affective experience. Either way, early attachment

experiences and their representations likely set off a chain of self-fulfilling prophecies and so-called cyclical psychodynamics that reinforce and maintain the legitimacy of one's expectations (Downey, Freitas, Michaelis, & Khouri, 1998; Wachtel, 1997). On the positive side, attachment security encourages one to "broaden and build" their psychological and social resources, thus facilitating personal growth and adaptation through exploration and flexibility (Mikulincer & Shaver, 2007a). Attachment security enhances active problem solving (Rholes, Simpson, & Stevens, 1998; Simpson, Rholes, & Nelligan, 1992), emotional openness (Mikulincer & Nachshon, 1991), and social support seeking and caregiving (Collins & Feeney, 2000). Insecurely attached individuals may not be able to rely on their attachment figure as a secure base, which limits their exploration and in turn, their ability to learn from new experiences (Perris, 2000). Subsequently, as insecurely attached individuals repeatedly experience failed or inefficient efforts to cope with distress, learned patterns become more entrenched and inflexible.

Other mechanisms and processes may include more indirect pathways and interactions with other behavioral and affective systems. Besides meeting physical safety goals, attachment relationships provide an early developmental context for learning about affect and its regulation. Infants and young children look to their caregivers as models for learning affect interpretation, empathy and mirroring, distress tolerance, and emotional coping (for reviews, see Diamond & Fagundes, 2008; Mikulincer & Shaver, 2005). Emotional dysregulation is a feature of many forms of psychopathology and personality disorders (S. J. Bradley, 2003; Linehan, 1987; Westen et al., 1992), so effects on this system may be a primary vehicle for attachment's role in the development of

psychopathology. Another system that develops alongside attachment and affect regulation is that of the self (Beeghly & Cicchetti, 2008; Cloninger, Svrakic, & Svrakic, 1997; P. J. Miller & Mangelsdorf, 2005). Although what many theorists refer to as the self system contains attachment-related elements (i.e., self in relation to others and in relationships), it is conceptually broader and includes other aspects such as personal values, conscience, identity, and self-efficacy (Westen, 1992). As with affect regulation, researchers must be careful in identifying and testing boundary conditions of when attachment is and is not important in these systems.

In adulthood, connections with other systems become even more complex. Bowlby (1969) distinguished the attachment behavioral system from the sexual and caregiving behavioral systems that he argued activated and matured later in life. The boundaries of these systems with adult attachment are unclear because their functions often co-occur within the same relationship (Brassard, Shaver, & Lussier, 2007; Kirkpatrick, 1998; Shaver, et al., 1988; J. Solomon & George, 1996). Adult attachment relationships may incorporate elements of all three behavioral systems, as has been the dominant perspective. Or, adult romantic relationships may reflect the sequelae of early attachment on the caregiving and sexual systems in the absence of an active attachment regulatory system. Appropriate flexibility may be the true marker of health—reflecting an ability to adjust roles (e.g., caregiver vs. receiver) and regulate competing system functions and demands (e.g., sexual satisfaction vs. caregiving demands).

Conclusions about Attachment Theory

In sum, attachment theory provides a rich framework for understanding thoughts, feelings, and behaviors in relationships. Its strengths include a focus on both normative

and pathological individual differences, a perspective that considers etiology in a developmental context, and a focus on the function served by varying responses to attachment concerns. The multifaceted nature of the theory has led to warranted criticisms that have opened up more sophisticated ways of conceptualizing adult attachment. Recognition that the processes involved are complex and that attachment is only one predictor within a greater context remains important in understanding the development of personality and psychopathology. It is especially important when potentially modifying current nosological systems that an awareness of this complexity be tethered to wider reaching applications of attachment theory.

The Current Projects

Given the rich theoretical and empirical literature on attachment, researchers and theorists are beginning to consider its role in the development of multiple behaviors and outcomes, both normative and pathological ones. This dissertation seeks to continue that line of inquiry in three distinct projects by exploring how attachment may relate to and inform evolving constructs of (1) personality pathology, (2) posttraumatic stress and reactions to trauma, and (3) lifespan personality growth and development of the self. These projects use multiple methods of analysis. While the first two projects are empirically-based, the third is theoretical and interdisciplinary.

Personality Pathology & Attachment

Personality Pathology & Diagnosing Disorder

If *personality* refers to characteristic patterns of thoughts, feelings, and behaviors exhibited by a person over time across a variety of situations, then *personality disorder* (PD) arises when these patterns become “inflexible and maladaptive” to the point of

causing "significant functional impairment or subjective distress" (Diagnostic & Statistical Manual of Mental Disorders, 4th Edition, Text Revision, *DSM-IV-TR*, American Psychiatric Association, 2000, p. 686). These disorders are set apart from other more acute disturbances because of their longevity and relative intractability. Young (1999) described three key features of PDs: (1) rigidity, (2) avoidance of distressing thoughts and emotions, and (3) interpersonal difficulties. In the current *DSM*'s multiaxial system, the ten official PDs are situated on Axis II, to separate them from other disorders, and organized hierarchically into three clusters: Cluster A (odd/eccentric), Cluster B (dramatic, emotional, erratic), and Cluster C (anxious/fearful). Like attachment, PD research has greatly expanded in the past few decades, but also like attachment, that growth has come with greater complexity and controversies. For one, the current diagnoses arose from clinical expertise and were not derived from empirical research. PDs are also highly comorbid with one another, leaving some to question whether they truly represent discrete syndromes or co-occur due to problematic criteria (e.g., Blais & Norman, 1997; McGlashan et al., 2005).

These debates correspond to methodological and measurement issues as well. Just as in the attachment literature, the nature of PDs is more dimensional, despite the continued use of categorical diagnoses (Livesley, 2007). Just how to operationalize dimensional versions of these constructs, which personality theories to base them on, and how to deal with the complications of making Axis II dimensional yet clinically useful are all concerns that have prevented consensus among researchers and clinicians (Huprich & Bornstein, 2007). The current system, for example, could be replaced with simple dimensional ratings for each disorder to reflect either the number of criteria met,

the degree of match to the construct prototype, or levels of certain personality traits (Ortigo, Westen, & Bradley, 2010; Widiger, Costa, & McCrae, 2002). Furthermore, various personality measures also differ on their assessment method (i.e., self- vs. interviewer-report) for similar theoretical reasons as in the attachment literature.

Of the proposed revisions for *DSM-V* recently published online by the APA (2011), perhaps the most radical changes from previous manuals have been in the diagnosis of personality pathology (see Appendix A) (see also, Skodol & Bender, 2009; Skodol et al., 2011). First, the APA has considered dissolving the multiaxial system in favor of integrating PDs with other diagnostic categories. Second, the PD Work Group has suggested a clarified version of the general definition for personality pathology. According to the new definition, PDs now represent an adaptive failure in developing a sense of self (e.g., identity, direction, self-esteem) and/or the capacity for interpersonal functioning (e.g., empathy, intimacy, social causality) in the presence of extreme levels of one or more personality traits or strong match with a PD prototype. Third, dimensional assessments of five prototypes and six personality traits now replace the cluster-based organization of the ten categorical PDs. In making official PD diagnoses, psychologists must rate (1) levels of impairment in self-identity and interpersonal functioning, (2) degrees of match between given clinical presentations and five personality prototypes, and (3) levels of six broader personality trait domains and their facets. The prototypes include Antisocial/Psychopathic, Avoidant, Borderline, Obsessive-Compulsive, and Schizotypal types, and the personality trait domains resemble those of the five-factor model and include Negative Emotionality, Detachment, Antagonism, Disinhibition, Compulsivity, and Schizotypy. Most importantly, these new reformulations are intended

to be used for every individual being assessed, not just those with clear personality pathology. Arguably, this approach further increases the relevancy of incorporating personality factors into clinical case formulation (cf., Shedler et al., 2010).

Diagnostic manuals since the *DSM-III* (APA, 1980) have purposely remained unaligned as to theoretical underpinnings and etiology. Most criteria describe observable behaviors and require little interpretation about the motivations, fantasies, or functions behind such behaviors. Although beneficial for research purposes, this atheoretical stance raises questions about the constructs. For example, some researchers have pointed out the unwarranted lack of attention to developmental issues in diagnostic revisions to personality pathology (Tackett, Balsis, Oltmanns, & Krueger, 2009). Others have proposed that PDs represent failed efforts at adaptation (Svrakic, Lecic-Tosevski, & Divac-Jovanovic, 2008). If so, what needs are these seemingly maladaptive behaviors trying to accommodate, and what functions might generally maladaptive personality characteristics serve for the individual?

Personality Disorders & Attachment: Distinctions & Connections

Connections between adult attachment and PDs might be meaningful, but interpreting their overlap requires first an understanding of how they are distinct. First, personality is a broader construct than attachment. Millon et al. (2004) have described personality as "deeply embedded psychological characteristics that are expressed automatically in almost every area of psychological functioning" (p. 2). Even for theorists who view personality as exclusively interpersonal, attachment is more specific because it refers to characteristics expressed primarily in one's closest relationships. Second, current PDs do not have associated etiological theories whereas attachment theory makes explicit

etiological hypotheses. Overlap may be suggestive of etiology, but cross-sectional research provides only the first basic test. Third, individual differences in attachment are hypothesized to be adaptive strategies for functioning in one's early environment. Attachment insecurity, even in adulthood, does not necessarily indicate pathology or its inevitable development. Whereas PDs are by definition maladaptive, personality characteristics related to attachment dysfunction may represent efforts to adapt to suboptimal social environments. Other characteristics, though, may not be tied to adaptive strategies (e.g., temperament). Even if closely related, one must not conclude attachment insecurity equals disordered personality because PDs would represent only rigid, extreme forms of attachment insecurity.

Another theoretical distinction has involved the development and stabilization of personality. Particularly relevant to its relation with attachment is the question of when in development personality can be considered crystallized and stable. Traditional psychoanalytic theories have typically argued that the structure of personality is strongly shaped by and has clear origins in early childhood (e.g., Kernberg, 1975, 1976; Westen, Gabbard, & Ortigo, 2008), and other personality theories based on biological temperament have also argued for early stabilization (e.g., H. Eysenck, 1967). Some modern research has assessed personality as early as in toddlers (conceptualized as temperament; e.g., Goldsmith, 1996; Kochanska, Murray, & Coy, 1997). In a review of longitudinal studies of personality, Roberts and DelVecchio (2000) found that rank-order consistency, indicated by test-retest correlations, were lowest from age 0 to 2.9 ($r = .31$) and reached a plateau after age 50 (r's > .70). After age 3, test-retest correlations did not drop below .43. Despite evidence of some consistency of personality, the *DSM* does not

include official diagnoses of PDs for children and adolescents.

Empirical investigations of attachment and normative personality have shown measures of each construct correlate but also possess unique variance unexplained by the other. Research based on self-reports has repeatedly shown overlap between attachment and the five-factor model (McCrae & Costa, 2008). Most consistently, attachment anxiety is strongly correlated with higher Neuroticism, and attachment avoidance is moderately correlated with lower Extraversion and Agreeableness (for a review, see Noftle & Shaver, 2006). Still, attachment dimensions' overlap with factors and their facets only partially accounted for their individual variance, and when predicting relationship quality, attachment dimensions added incremental validity over factors but not vice versa (for similar findings of the AAI's unique variance, see Roisman et al., 2007). Connections with the interpersonal circumplex (Kiesler, 1996) generally show positive associations between attachment security and warm-dominance. Bartholomew and Horowitz (1991) found fearfully-attached individuals fell into the cold-submissive quadrant, preoccupied in the warm-dominant quadrant, and dismissing on the cold side with mid-range scores on dominance. Secure individuals were not deep into any one quadrant but fit closest with warm-dominant. As with the five-factor model, attachment is distinguishable from the circumplex.

Additionally, in the treatment literature, McBride et al. (2006) found attachment avoidance moderated treatment response to cognitive-behavioral versus interpersonal therapy, even when controlling for Obsessive-Compulsive and Avoidant PDs. Depressed individuals with higher levels of attachment avoidance responded better to cognitive-behavioral therapy than interpersonal therapy. Meyer et al. (2001) similarly found initial

attachment security alone uniquely predicted adaptive functioning after treatment even when controlling for Borderline, Narcissistic, and Passive-Aggressive PDs. Other evidence suggests personality may sometimes mediate attachment's influence on some Axis I disorders (e.g., for eating disorders, Eggert, Levendosky, & Klump, 2007).

Thus, although strong evidence supports the distinction between personality and attachment, the relations between the two are empirically complex and require careful consideration of theory and methodology. One must be mindful of these distinctions when trying to interpret connections between PDs and attachment; otherwise, notions of attachment and of personality may expand and extend the reach of the theory's legitimate bounds. Various researchers have suggested reconceptualizing Axis II disorders as disorders of attachment (Birtchnell, 1997; Lyddon & Sherry, 2001; Page, 2001; Perris, 2000; West & Sheldon-Keller, 1994). Even if potentially beneficial clinically and empirically, researchers should take care in understanding how and when attachment is important in PDs.

Given these precautions, what role might attachment dysfunction play in PDs? For one, attachment security level alone may an insufficient pathway to PDs but may act as a risk or resilience factor for later problems. If true, mechanisms underlying attachment's role as a diathesis for PDs need to be outlined—an essential task for attachment theory as a whole. Being heavily influenced by attachment dynamics, problems with views of self and the self system, views of others and relationships, and affect regulation are also fundamental to most PDs. Which of these posited pathways and insecurity patterns are relevant and how they lead to personality problems may be disorder-specific. Largely, questions about causality and pathways have been rigorously

debated theoretically but require careful empirical research that also considers bidirectional relationships.

Summary & Purpose for First Project

The first project of this dissertation seeks to explore connections between personality pathology and adult attachment. Because of the controversies within the attachment and the personality literature, multiple measures and methods are used to assess both constructs. The focus of data analysis is on the cross-sectional overlap between these constructs and their shared and independent contributions to predicting global adaptive functioning in a traumatized, urban sample. Possible implications include those for research and clinical applications of attachment and personality theories.

Trauma, Posttraumatic Stress Disorder, & Attachment

Trauma & Its Sequelae

Of all the possible real-life experiences touted by Bowlby and others as essential to understanding development, none are quite as striking as traumatic ones. Coming from the Greek word for "wound" (Collins English DictionaryCollins UK Staff, 2009), *trauma*, in everyday vernacular, can refer to a range of experiences that result in physical or emotional injury. The term's use in psychiatry first gained significance through Pierre Janet's (1889) book, *L'automatisme psychologique*, in which he explored how traumatic experiences can lead to psychopathology, especially severe dissociated states (van der Kolk & van der Hart, 1989). In modern psychology, the *DSM-IV-TR* has defined trauma as occurring when an individual experiences "intense fear, helplessness, or horror" in response to experiencing, witnessing, or confronting "an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (APA, 2000, pp. 467-468).

The National Comorbidity Survey, a large epidemiological study of the United States civilian population (*N* = 5877), found that 61% of men and 52% of women have experienced a trauma (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Interviewers assessed trauma exposure by asking about 11 types of events that would count under the *DSM-III-R* (APA, 1987) criteria and by then adding a final open-ended question about "any other terrible experience that most people never go through" (Kessler, et al., 1995, p. 1049). Of note, the *DSM-III-R* definition was more stringent than the current definition because it required an individual to experience "an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone" (APA, 1987, p. 250). Thus, rates of trauma exposure according to the newer definition may be even higher. Risk for trauma exposure is contingent on multiple social factors including demographics (e.g., gender, age), socio-economic status, and area of residence—particularly neighborhoods with violent activity and war-torn countries (e.g., Gapen et al., 2011; Johnson & Thompson, 2008; Norris et al., 2002).

Reactions to trauma range from a number of normative stress responses to more impairing aftereffects related to potential traumatic brain injuries and/or severe emotional distress. Though traumatic experiences often lead to some temporary disruption in normal functioning, some individuals continue to feel aftereffects for months, even years, after exposure. Combat veterans were some of the first identified as having been affected deeply by traumatic experiences. Terms such as *war neurosis*, *battle fatigue* and *shell shock* were used to describe serious cases of prolonged posttraumatic reactions after World Wars I and II (e.g., Fenton, 1926; Ferenczi, 1921; Grinker, 1945). The medical community did not officially recognize the syndrome until 1980 in the *DSM-III* when the

APA included Posttraumatic Stress Disorder (PTSD) as a diagnosis warranted when these reactions become impairing and last longer than a month. The National Comorbidity Survey estimated lifetime prevalence of PTSD as 8% for the general population (5% of men, 10% of women) (Kessler, et al., 1995).

The current *DSM* (APA, 2000) separates PTSD symptoms into three criterion sets—intrusive/re-experiencing, avoidance/numbing, and hyperarousal (see Table 1 for the complete criteria). Intrusive/re-experiencing symptoms include recurrent recollections of trauma-related stimuli, nightmares, flashbacks, and intense psychological and physiological reactivity to reminders of the trauma. Avoidance/numbing symptoms encompass efforts to avoid internal and external trauma reminders, difficulty recalling aspects of the trauma, detachment from others, restricted emotional experience, and a sense of foreshortened future. The final symptom set includes difficulties with sleep, irritability, concentration, hyper-vigilance, and exaggerated startle response indicative of hyperarousal. PTSD is acute if these symptoms last less than 3 months and chronic if longer than 3 months. Delayed onset must be indicated if the symptoms do not begin until at least 6 months after the trauma. Importantly, by requiring an external traumatic experience before it can be diagnosed, PTSD is the only diagnosis in the *DSM* that explicitly includes an etiological assumption in its criteria (Rosen & Lilienfeld, 2008).

The APA has proposed revising the PTSD criteria for *DSM-V* (APA, 2010). For one, the definition of trauma would remove the requirement of experiencing an intense emotional reaction and add the option of "repeated exposure to aversive details" of trauma to acknowledge individuals whose jobs require such exposure (e.g., first responders, police officers). In addition, the revisions would divide the

avoidance/numbing criterion set into separate "avoidance" and "negative alterations in mood or cognitions" criteria. Wording changes have also been proposed, including listing flashbacks as part of a range of dissociative reactions and expanding a sense of foreshortened future to include negative expectations about self, others, or the world. A few other criteria would also be added, such as persistent blame of self or others, pervasive negative emotional state, and reckless/self-destructive behaviors. Finally, the acute vs. chronic specifier may be removed.

The diagnosis of PTSD is not without its fair share of controversy and criticisms (Rosen & Lilienfeld, 2008; Rosen, Lilienfeld, Frueh, McHugh, & Spitzer, 2010; Rosen, Spitzer, & McHugh, 2008; Spitzer, First, & Wakefield, 2007) (cf., Yehuda & McFarlane, 2009). Even one of the *DSM-III* (APA, 1980) creators, Robert Spitzer, who was instrumental in adding PTSD into official diagnostic nomenclature, has acknowledged the diagnosis as generating great controversy as to its boundaries, criteria, validity, and use by professionals (Spitzer, et al., 2007). For example, several researchers have criticized the Criterion A definition of trauma as being too inclusive. Rosen et al. (2010) even pointed out how remarkable it is that proposed revisions need to include an explicit statement that watching events through media does not count as traumatic. Moreover, critics have argued that because many PTSD symptoms overlap with other disorders, it may not represent a discrete syndrome—just a collection of posttraumatic reactions that do not necessarily hang together. PTSD is highly comorbid with mood and anxiety disorders (e.g., major depressive, phobic, generalized anxiety, and panic disorders), substance abuse, and personality pathology (Deering, Glover, Ready, Eddleman, & Alarcon, 1996; Keane & Wolfe, 1990; Kessler, et al., 1995; Southwick, Yehuda, & Giller

Jr, 1993; A. Young, 2008). Finally, the PTSD diagnosis may not adequately consider failure to recover as sometimes resulting from efforts at secondary gain (e.g., pending lawsuits, government assistance, attention) (Frueh, Smith, & Barker, 1996; E. Jones & Wessely, 2007; Rosen, 2004).

Posttraumatic Reactions: Predictors of Risk & Resilience

Regardless of whether PTSD and its current criteria represent a discrete, valid syndrome, many individuals experience reactions after trauma exposure. The most dominant theories of why trauma can lead to PTSD are based on cognitive-behavioral theory (Foa, Hembree, & Rothbaum, 2007; Foa & Kozak, 1986; Taylor, 2006). Generally speaking, these theories argue that PTSD is developed and maintained by (1) behavioral and cognitive avoidance and (2) maladaptive beliefs and information processing. The logic follows that if traumatized individuals avoid trauma-related stimuli, situations, thoughts or memories then they prevent themselves from re-learning that many of these stimuli are actually safer than they believe or feel. Furthermore, some individuals generalize aspects of their traumatic experiences to other stimuli and begin to believe, for example, that all men are dangerous, malicious sex offenders. In line with these theories, many cognitive-behavioral treatments involve efforts to expose individuals with PTSD to avoided trauma memories and situations and help them process and adjust their rigid, over-generalized beliefs about others, themselves, or the world (Prolonged Exposure, Cognitive Processing Therapy; Foa, et al., 2007; Resick, Monson, & Chard, 2008).

Thoroughly understanding risk and resilience to PTSD requires consideration of pre- and peri-trauma factors as well. Of pre-trauma factors, meta-analyses have shown female gender, lower socioeconomic status (SES), family psychiatric history, previous

trauma, prior adjustment and adverse childhood events, particularly abuse, are associated with PTSD (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003). Predictors from childhood indicate how important the developmental timing of trauma exposure is. Theoretically, early traumas would likely have even greater impact on personality formation than adult traumas would. The most powerful predictors were more proximal to the trauma than childhood and included the trauma severity, perceived life threat, and intensity of emotional response. The strongest predictor overall was dissociating during or in the immediate aftermath of the traumatic experience (i.e., peri-traumatic dissociation) (Ozer, et al., 2003).

Meta-analyses by Brewin et al. (2000) and Ozer et al. (2003) also showed perceived social support to be a strong predictor of less likelihood of developing PTSD. Social support has also been shown in cross-sectional and longitudinal studies to predict greater likelihood for recovery from PTSD (Charuvastra & Cloitre, 2008). Though not included as predictors in the meta-analyses, personality characteristics such as general negative emotionality, lack of constraint, and unstable self esteem have also been implicated in developing PTSD and its comorbid problems (e.g., Kashdan, Uswatte, Steger, & Julian, 2006; M. W. Miller, 2003; M. W. Miller, Vogt, Mozley, Kaloupek, & Keane, 2006).

Attachment may play a role in the development of PTSD, especially when one considers how attachment is related to several risk factors including childhood experiences, social support, and beliefs about oneself and others. Attachment insecurity may act as a risk factor (Benoit, Bouthillier, Moss, Rousseau, & Brunet, 2010; Besser, Neria, & Haynes, 2009; S. Scott & Babcock, 2010) or a consequence of trauma exposure

(Bogaerts, Daalder, Van Der Knaap, Kunst, & Buschman, 2008; Cloitre, Stovall-McClough, Zorbas, & Charuvastra, 2008; Sandberg, Suess, & Heaton, 2010; Twaite & Rodriguez-Srednicki, 2004). One clear connection between attachment and PTSD lies in how they both involve social cognition and object relations—namely, views and representations of self and others (Westen, 1991b). These theoretical and empirical connections among attachment, object relations, and PTSD have led some theorists to incorporate attachment-based frameworks into treating trauma (Allen, 2005; Stein & Allen, 2007).

Alongside risk factors, resilience to trauma may be conceptually broader than the simple lack of PTSD development. Inspired by the broader positive psychology movement (Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2009, 2002), some theorists have started attending to potential benefits of experiencing and recovering from trauma (Pals & McAdams, 2004; J. P. Wilson, 2006a). *Posttraumatic growth*, coined in Tedeschi, Park, and Calhoun's (1998) edited book, includes any positive psychological changes such as "an increased appreciation for life in general, more meaningful interpersonal relationships, an increased sense of personal strength, changed priorities, and a richer existential and spiritual life" (Tedeschi & Calhoun, 2004, p. 1). If genuine posttraumatic growth occurs (for a critical review, see Zoellner & Maercker, 2006), then it may have overlapping as well as independent predictors not shared with PTSD.

Continuing Research: An Overview of The Grady Trauma Project

Because posttraumatic reactions vary depending on multiple complex factors, a thorough investigation of PTSD must incorporate comprehensive and systematic assessments of diverse constructs. The Grady Trauma Project is an ongoing, NIMH-

funded cross-sectional epidemiological study that seeks to do just that. Data collection started in 2006 with the overarching goal of investigating the roles of genetic and environmental factors and their interaction in predicting PTSD symptoms in a low-SES, primarily African American adult community population. Study participants have been recruited in the waiting rooms of the primary care and obstetrical-gynecological clinics of an inner city, public hospital. Initial data suggest a lifetime trauma exposure rate of over 80% and PTSD prevalence of roughly 30%.

After agreeing to be involved in the study, participants gave a saliva-based DNA sample and completed an initial screening interview of 45-75 minutes that assessed demographic variables, trauma history, and PTSD symptoms. A subset of these screened participants then returned for a series of more comprehensive assessments that evaluated in more detail trauma exposure, childhood experiences, psychiatric symptomatology, personality characteristics, attachment, adaptive functioning, family history of mental illness, cortisol levels, and other biological and psychological variables. In all interviews, self-report instruments were read aloud because of the relatively poor literacy levels.

Because the initial data collection has already produced several informative research findings, NIMH has recently approved the Grady Trauma Project for 5 more years of funding. The study has published research on genetic vulnerabilities (Binder et al., 2008; Gillespie, Phifer, Bradley, & Ressler, 2009; Heim et al., 2009; Jovanovic & Ressler, 2010; Kohli et al., 2010; Norrholm & Ressler, 2009; Ressler et al., 2010), neuroendocrine functioning and physiological reactivity (R. G. Bradley et al., 2008; Jovanovic et al., 2009; Jovanovic et al., 2010), neurocognitive performance (Fani, Bradley-Davino, Ressler, & McClure-Tone, 2010; Wingo, Fani, Bradley, & Ressler,

2010), and environmental and childhood abuse related factors in the development of psychopathology (Gapen, et al., 2011; A. Powers, Ressler, & Bradley, 2009; A. D. Powers, Thomas, Ressler, & Bradley, in press; Wingo et al., 2010). In general, the findings have supported the role of main effect and interactions among genetic, biological, environmental, and individual difference variables in how an individual responds to trauma.

Summary & Purpose for Second Project

The second project of this dissertation fits into the larger Grady Trauma Project by continuing to explore individual difference variables in reactions to trauma. Adult attachment's relationship to PTSD symptoms has been documented in the literature. Nevertheless, because we do not know as much about the mechanisms of how attachment may affect risk for PTSD, this project also tests whether object relations variables can account for some of the links between attachment and PTSD. Just as in the first project, multiple measures and methods of attachment are used to assess the construct. The focus of data analysis is on the cross-sectional overlap among these constructs and mediational models of influence. Possible implications include a greater understanding of what aspects of attachment and social cognition have greatest influence on the expression of posttraumatic symptoms.

Jungian Psychology, Individuation & Its Modern Relevance

A primary goal of this dissertation is to explore attachment theory's relation to personality and mental health functioning across the lifespan. While attachment theory emphasizes the effects of early parental and interpersonal relationships across the life, other developmental theories emphasize the effects of more intrapsychic factors from infancy to adulthood. Swiss psychiatrist Carl Gustav Jung's (1875-1961) analytical

psychology is one of the few fleshed out theories of adult development and spotlights a noteworthy process occurring exclusively in adulthood. This process, coined *individuation*, revolves around an individual's process in becoming more psychologically "whole" and complete by dethroning the ego from its dominance over the psyche and replacing it with what Jung calls the *Self*, an overarching structure at the center of both the conscious and unconscious elements of the psyche (Storr, 1983). Despite heavily involving many esoteric concepts, key aspects to this process include accepting the discomforting aspects of oneself that are often projected onto others and resolving inner contradictions and personality imbalances all the while maintaining conscious control.

Modern psychology infrequently references Jung's theory of individuation. Reasons for this oversight are likely that Jung's theory, as a whole, is viewed as more historical and less relevant in mainstream psychology (similar to Freudian psychoanalysis) but also as too eccentric in many circles of modern psychoanalysis. One reason why Jung is dismissed is his incorporation of spiritual and at times mystical concepts (e.g., alchemy) in his theory; in fact, aspects of his theories have been co-opted by many "new age" movements (see Tacey, 2001). Still, I argue important reasons exist as to why his theory of individuation is still relevant to modern ideas about adult development and personality.

Historical Context – Freud vs. Jung

Jung's theoretical perspective was distinct even in his own period. In fact, the clash between the focus on early development versus adult development is perhaps best exemplified by the unfortunate tale of friendship-turned-antagonism between Freud and Jung. Relatively early in both of their careers, Jung became interested in the burgeoning

psychoanalytic theory shortly after Freud published his groundbreaking work *The Interpretation of Dreams* (1900/1953). In his memoirs, Jung (1961/1989) admitted he at first did not understand the book, “At the age of twenty-five, I lacked the experience to appreciate Freud’s theories” (p. 147). Later, after gaining experience studying schizophrenia, he began to realize his approach to interpreting dreams and hallucinations overlapped with Freud’s approach. Though only 31, Jung had already gained success in Zürich, and in 1906, he shared his admiration of Freud and his theories by writing a letter and attaching some of his own writings supportive of psychoanalysis. Freud promptly responded by sending a collection of papers to Jung, and soon a close friendship grew.

The two formed a striking pair—Jung a young, Swiss psychiatrist, raised Christian by his minister father, and Freud an older, Austrian neurologist, nominally Jewish but raised atheist. Still, their relationship quickly became that of mentor-successor and father-son (Gay, 1989). Jung’s humble and devoted attitude helped foster Freud’s own idealization of Jung. Perhaps surprisingly, Jung’s skepticism of Freud’s emphasis on sexuality and affective cathexis at the expense of, among other things, therapeutic rapport was evident in their first communications (Jung, 1906/1974). Freud’s response was a hopeful but portentous plea, “May we continue to work together and allow no misunderstanding to arise between us” (Freud, 1907/1974, p. 19).

In spite of such hopes, the eventual degradation of their relationship in 1914 was multiply determined. The break has been variously attributed to Freud’s suspicions of Jung’s anti-Semitism, an unspoken erotic transference between the two, and Freud’s growing dogmatism coupled with Jung’s increasingly bold assertions (Donn, 1988; Hayman, 1999). The dispute ended with Jung resigning his high positions in various

psychoanalytic associations, and shortly after, he entered a “period of inner uncertainty” and a “state of disorientation” (Jung, 1961/1989, p. 170). Historically, the break occurred amid the sociopolitical tensions at the onset of World War I, and of personal importance to Freud, after Freud’s recent public and bitter split with Adler in 1911.

For both Freud and Jung, though, the core problem was incompatibility of their theories, which manifested primarily in conflicts of spirituality versus sexuality and primacy of early experiences versus recent occurrences. Commonly cited as the start of the eventual break, a shared voyage to America in 1909 resulted in a mutual sharing and interpreting of each other’s dreams. Jung (1961/1989) recounted being dissatisfied with Freud’s rigid, wish fulfillment interpretations of Jung’s dreams, and instead believed the dreams signaled a personal search “for something still unknown which might confer meaning upon the banality of life” (p. 165). Jung’s search for meaning and spirituality contrasted greatly with Freud’s life-long atheism, so Jung interpreted Freud’s theoretical dogmatism as a displacement of his spiritual fervor onto his own theory.

Furthermore, Jung was dissatisfied with Freud’s emphasis on early psychosexual stages in his theory of neurosis and interpretation of dreams. Freud (1905/1953, 1933) viewed these stages as culminating in adolescence when sexual libido would be transferred to others outside of the family and viewed dreams and neuroses as indications of early libidinal fixation and regression. Jung (1916/1970), however, believed the libido was not primarily sexual but a general psychic energy requiring balance. Development continued across the lifespan and culminated for some people in the process of individuation.

In one of Jung's (1910/1981) rare writings on early development, "Psychic Conflicts in a Child," he originally followed closely Freud's emphasis on sexuality. Later in 1915, after his break from Freud, his enthusiasm for the piece was more subdued in the forward to this work's second edition. "The essence of human psychology, precisely because so many different possible principles exist, can never be fully comprehended under any one of them, but only under the totality of individual aspects" (p. 4). In the third edition forward in 1938, he could hardly cloak his distaste of the more dominant Freudian theory, stating that "theory is the best cloak for lack of experience and ignorance, but the consequences are depressing: bigotedness [*sic*], superficiality, and scientific sectarianism" (p. 7).

Jung's split from Freud constituted a major break for Jung from traditional psychoanalytic emphases on sexuality and also childhood development. In fact, for Jung, perhaps the *most* important process in life, individuation, occurred entirely in adulthood because it was potentially dangerous for the individual's psyche. Individuation demands replacing the ego with the Self (i.e., "the archetype of unity and totality," Storr, 1983, p. 20), accepting one's shadow (i.e., disagreeable aspects of oneself that are often projected onto others), and resolving inner contradictions and personality imbalances. Each aspect of the process involved risking the ego's delicate containment of the psyche. Jung (1929/1983) argued, "If the unconscious can be recognized as a co-determining factor along with consciousness, and if we can live in such a way that conscious and unconscious demands are taken into account as far as possible, then the centre of gravity of the total personality shifts its position" (p. 45). This shift would lead to acknowledging

interconnection with others and thus, “more intense and broader collective relationships and not isolation” (Jung, 1921/1976a, p. 448).

For Jung, his split from Freud marked a turning point in his life and jumpstarted his own individuation. The resultant period of emotional instability and identity crisis eventually blossomed into a new period of theoretical creativity and personal and professional growth (see *The Red Book*, Jung, 2009). This personal experience of change as an adult likely influenced and reinforced Jung’s intuitions about stressing the importance of recent developments in a person’s life over childhood experiences.

An Overview of Jungian Theory

Model of the psyche. One reason why Jung’s theory is sometimes referred to as *depth psychology* is that his model of the psyche has more layers than Freud’s model (see Figure 2). Like Freud, Jung split the psyche into conscious and unconscious aspects. Consciousness contains two primary psychic constructs—the persona and the ego. The *persona* is the interpersonal self-presentation of an individual’s personality, namely, that which others notice when first interacting with a person. The *ego* contains the more genuine aspects of an individual’s personality, still primarily conscious but more guarded than the persona. The ego’s more unconscious elements are, in part, tasked with protecting the individual from unwanted truths and conflicts through various defense mechanisms (for reviews of defense mechanisms research, see Cramer, 2006, 2008).

Unlike Freud, Jung further divided the unconscious into personal and collective layers. The *personal unconscious* contains forgotten and repressed content and is thus similar to Freud’s unconscious. The *collective unconscious* includes deeper elements that “are not individually acquired but are inherited” such as instincts and archetypes (Jung,

1919/1972, p. 133). Jung derived the concept of *archetypes* from “the repeated observation that, for instance, the myths and fairy tales of world literature contain definite motifs which crop up everywhere” and also appear “in the fantasies, dreams, deliriums, and delusions of individuals living today” (Jung, 1958/1970, p. 449). Archetypes are thus universal, unconscious ideas, themes, and forms whose content is only determined once they become expressed externally in culture or more consciously in the individual. They can only offer a “possibility of representation,” not a specific memory or idea handed down through generations (Jung, 1954/1980, p. 79).

Archetypes can exert more control over the ego through complexes in the personal unconscious or at the extreme, through archetypal possession. *Complexes* are affectively ladened “psychic fragments which have split off owing to traumatic influences or certain incompatible tendencies” and “interfere with the intentions of the will and disturb the conscious performance” (Jung, 1942/1972, p. 121). For example, an individual whose mother was emotionally abusive may indiscriminately experience older women as predominantly controlling and overly critical, despite a lack of objective evidence. Full-on *archetypal possession* can occur when a personality becomes identified with and overwhelmed by a particular archetype, most commonly characteristics of the other sex, through the so-called Anima/Animus archetype.

Although not limited to these, the most important archetypes for Jung include those of the Shadow, Anima/Animus, Spirit, and the Self. The *Shadow* archetype is the psyche’s depository for undesirable and consciously disavowed qualities and ideas. For example, an atheist’s personal shadow may include assumed characteristics possessed by a fervently religious individual. The *Anima/Animus* is the archetype of the qualities of the

other sex such that a man has an Anima whereas a woman has an Animus. Though heterosexist in his formulation, Jung (1931/1981) believed that romantic love could only be achieved through first projection of one's Anima/Animus onto a person of the other sex. The *Spirit* is the archetype of nature and the supernatural—of wisdom on the positive side and of primitive, consuming power on the negative side (Jung, 1948/1980). The *Self* archetype, however, plays the most important role in the psyche. In artistic and religious cultural images, the Self (and by extension individuation) is often represented by mandalas and/or circular relics or glyphs. It is "not only the centre but also the whole circumference which embraces both consciousness and unconscious; it is the centre of this totality, just as the ego is the centre of the conscious mind" (Jung, 1952/1968a, p. para. 44) (for reviews of the term *self*, see Ashmore & Jussim, 1997; Neisser, 1995; Westen, 1992). Because of its breadth and encompassing nature, the Self archetype symbolizes wholeness and is the archetype that steers an individual's search for wholeness through the process of individuation.

Personality typology. Jung (1921/1976b) argued that personality was as much about how one sees the world as how one interacts with it. He argued that individuals could be separated into two large groups (*attitude-types*) based on their orientation toward objects or others (i.e., "the direction of their interest," p. 330). He coined the term *extravert* for those who invest more libidinal energy into others, relating, and the immediate environment and *introvert* for those who invest energy more inwardly and toward abstraction more than reality. Though common descriptors for extraverts include "open, sociable, jovial, or at least friendly and approachable" and for introverts "reserved, inscrutable, [and/or] rather shy" (p. 330), all extraverts do not relate to others in a positive

manner just like all introverts do no lack approachability. He viewed the extravert-introvert distinction as fundamental to understanding individual differences, and unusual for his time period, instead of considering one type as superior to the other, he judged each by its costs and benefits and warned against relying too greatly on either attitude. He hypothesized that personality type is evident in childhood, biologically influenced and unconsciously driven but unrelated to class or sex.

Within each attitude-type, individuals perceive and interact with the world through favored *function-types*. In Jung's (1921/1976a, 1921/1976b) formulation, function-types are divided into two general classes—the rational and the irrational. The *rational* functions (thinking vs. feeling) operate according to laws of reasoning whereas the *irrational* functions (sensation vs. intuition) are "*beyond* reason" and deal with simple facts or conclusions derived from processes too complex for logic (emphasis in original, Jung, 1921/1976a, p. 454). The psychological functions of each class are not necessarily always rational or irrational but in general do or do not follow principles of reason. Each individual typically has bias for a primary and a secondary function (e.g., a thinking type that regularly uses intuition).

Of the rational functions, *thinking* involves directed or unconscious connecting and judging of concepts. *Feeling*, on the other hand, involves judging objects primarily through emotional response and assigning value to them (i.e., like or dislike, acceptance or rejection). Of the irrational functions, *sensation* deals primarily with the conscious perception of objects, both their physical and their subjective qualities. *Intuition*, in contrast, deals with unconscious perception. Like sensation, perceptions derived from intuition present themselves as facts or givens removed from any rational process.

To characterize any given individual, one must understand his/her predispositions toward introversion or extraversion first and then their biases toward thinking vs. feeling and sensation vs. intuition. One factor in isolation would be incomplete for understanding the expression of the entire personality. For example, a feeling-sensing extravert may react very differently to a painting than a feeling-sensing introvert. While both share an emphasis on connecting emotional experience to the physical perception of an object, the extravert would very much incorporate the views of others and the social context into their valuation of a painting whereas the introvert would value much more his/her internal, subjective emotional experience of the painting. Thus, Jung argued for a typology of personality over a trait-based approach because each trait would necessarily interact with other traits to create an overall personality character.

The process of individuation. Jung's process of individuation provides the primary framework for the third project of this dissertation. As discussed earlier, *individuation* refers to an individual's unique process or journey in adulthood to become psychologically whole, complete, and self-actualized. The process is complex, not uniform across individuals, and often non-linear, but one of Jung's former trainees, Jolande Jacobi (1942/1973, 1958), distilled individuation into two broad phases—ego development in the first half of life and reconnection with archetypes in the second half. The second phase is where individuation begins in earnest and requires awareness of various archetypes. First, one must become conscious of the shadow and accept those aspects of oneself that s/he cannot change, have repressed, and/or projected onto others, most commonly members of out-groups. This awareness leads to a more honest confrontation of the darker side of the psyche and can, at its best, lead to a more

integrated view of good/bad, light/dark, and holy/evil. Second, one must become conscious of the anima/animus. Jung emphasized the role of contrasexual characteristics in the psyche, and in this phase of individuation, one must acknowledge and integrate aspects of oneself that do not fit within stereotypical masculine or feminine categories. This process does not mean, for example, that a hyper-masculine, “tough” man must become feminine but instead that he must acknowledge and awaken the more feminine, nurturing parts of himself that already exist, no matter how deeply buried.

Third, according to Jacobi (1942/1973), involves becoming conscious of the spirit archetype. This archetype is commonly represented by a wise old man or by Mother Nature (e.g., Gaia) and involves the meeting of the material and the immaterial. In the individuation process, awareness of this archetype means confronting more transcendent aspects of the psyche. Because the archetype lends itself to projection onto older mentors or gurus (see also "mana-personality," Jung, 1945/1966), this phase may involve searching more inwards for guidance. The final phase requires one to become aware of the innermost archetype of the Self and to shift away from an ego/consciousness-centered perspective to a broader, more whole psyche-centered one.

Whether these phases capture the totality of individuation or not, the overarching goal of individuation is wholeness achieved through personality balance. Wholeness, for Jung, meant becoming more aware of and integrating even the deepest unconscious aspects of the psyche. Alongside and through the phases discussed above, achieving personality balance occurs through exploration and integration of aspects of one’s personality not typically expressed. As introduced earlier, Jung’s (1921/1976b) personality typology splits people into introverted or extroverted types and then by their

predominant psychological functions—thinking vs. feeling and sensing vs. intuiting. A more individuated person would not rely as heavily on one psychological function or attitude but instead be able to apply each flexibly and adaptively depending on the situation. Ideally, one's approach towards understanding oneself, others, and the world would incorporate all of these functions. Importantly, individuation is an ongoing process with no end-state except death. In fact, Jung's close colleague and fellow analyst, Aniela Jaffé (1950/1989), even stated that individuation was ultimately "a preparation for death" (p. 38). Despite the lofty goal of wholeness, the individuation process can be dangerous and may paradoxically lead to ego inflation or at worse to a collapse of ego integrity. For example, Jung warned that some individuals might find themselves "possessed" by an archetypal complex and express only characteristics associated with that archetype instead of more fully integrating their awareness of the archetype.

Critique. As acknowledged earlier, modern day psychology often views Jungian psychology as a part of history without much current relevance. Some of this relegation makes sense in light of various criticisms. First, Jung's psychology is heavy in esoteric and mystic concepts that are at odds with the perspective of contemporary psychology and take effort and motivation to comprehend. The mystic aspects of his theory, such as his belief in immaterial transcendence and the predominance of religious and cultural concepts, prove to be significant barriers for modern, scientific psychologists. Even so, I argue that one can understand individuation independent from much of Jung's more mystical concepts. Second, Jung's theories are doggedly situated in adulthood with only occasional mention of infancy or childhood (cf., Jung, 1981). This focus on adulthood was partly a reaction against Freudian psychoanalysis and partly a function of Jung's own

proclivities, but the relative absence of connections to early developmental periods is another barrier to his incorporation into more modern theories.

Third, analytical psychology, like early psychoanalysis, is perhaps too interpsychically oriented without enough attention paid to interpersonal processes. In his autobiography, Jung (1961/1989) admitted to being more introverted in orientation, so his lack of attention to interpersonal processes is perhaps unsurprising. Similar criticisms have been applied to other growth-oriented, humanistic theories, such as Abraham Maslow's (1968) concept of self-actualization, which is descriptively similar to some aspects of individuation. Modifications of his theory to include relational and interpersonal elements have nonetheless proven fruitful (Hanley & Abell, 2002).

Fourth, the individuation process may not be a normative process in the statistical sense. Do most individuals actually progress much through individuation? Or, is this process limited to a select few with a combination of genetic and environmental predispositions and cultural resources? Jung suggested most individuals do not undertake individuation in earnest because of its inherent difficulty and dangers (Storr, 1983). If not part of normal development, then studying individuation might require a niche sample of individuals.

Salvaging Individuation's Relevance

So, why study individuation? Recognizing these criticisms, I argue that placing Jung's theory of individuation in conversation with other developmental and personality theories can produce a more whole and complex understanding of adult development than afforded by most modern day psychological theories. Jungian individuation is ripe for updating because it is one of the few, fully developed theories of adult development (see

also Erikson, 1950; Maslow, 1968) but it simply lacks the benefits of being informed by more modern, scientific approaches. It is also a developmental theory that has connections to both humanistic, strength-based approaches and psychodynamic ones. Its psychodynamic roots are similar to attachment theory, and its growth-oriented stance has ties to the current positive psychology movement (Seligman & Csikszentmihalyi, 2000). What this combination allows is a balancing between the overly optimistic, rose-colored view of positive psychology and the pathology-focused view of traditional psychoanalytic accounts of development (e.g., Diener, 2003; Geller, 1982; Lazarus, 2003).

Jung, childhood, and attachment. Individuation's relevance is evident when one considers potential conceptual relationships between this adult developmental process and the other major concepts examined in this dissertation—attachment, personality, and trauma. Adult attachment and individuation may share more than a common historical thread in psychodynamic thought. Although rare in his writings, Jung (1954/1981) did discuss childhood and parenting periodically. His thinking on childhood followed other psychodynamic accounts in discussing the early origins of the ego and the potential detrimental effects of parenting.

He spent the most time, however, emphasizing the importance of education and the child-teacher relationship. What was of utmost importance in education was not the teaching method or amount of knowledge conveyed but that the personal relationship between student and teacher fostered the child's independence and development into a fully functioning individual. This fostering of independence was particularly important

for gifted children (Jung, 1946/1981). Nevertheless, in very clear language, he warned that personality development in childhood is entirely incomplete:

> The fact is that the high ideal of educating the personality is not for children: for what is usually meant by personality…is an *adult ideal* [emphasis in original]. It is only in an age like ours, when the individual is unconscious of the problems of adult life, or—what is worse—when he consciously shirks them, that people could wish to foist this ideal on to childhood….[W]e talk about the child, but we should mean the child in the adult. For in every adult there lurks a child—an eternal child, something that is always becoming, is never completed, and calls for unceasing care, attention, and education. That is the part of the human personality which wants to develop and become whole. But the man of today is far indeed from this wholeness. Dimly suspecting his own deficiencies, he seizes upon child education and fervently devotes himself to child psychology, fondly supposing that something must have gone wrong in his own upbringing and childhood development that can be weeded out in the next generation (Jung, 1934/1981, pp. 169-170).

Here Jung was reacting against the dogmatic psychoanalytic emphasis on early developmental determinism. As also learned from more recent developments in adult attachment (Fraley, 2002), adult development is influenced but not wholly determined by childhood experiences.

More striking than the similarities between each theory's tenets about early development are the similarities between the descriptions of an individuated person and a securely attached adult. In their book on adult attachment, Mikulincer and Shaver

(2007d) contemplated attachment security's relation to other psychological, philosophical, and even religious concepts in later life. Attachment security encourages one to broaden and build their social resources in life and "promotes ego-transcendence by freeing a person to a great extent from anxiety and defensiveness and encouraging a calmer, more mindful, more generous attitude toward self and others" (p. 467). This description of the possibilities afforded by secure attachment shares a lot with the honest self-examination and resultant benefits of individuation. Furthermore, individuation and secure attachment may share links to observing ego skills (Freud, 1933) in that they both encourage one to step outside of his/her own personality dynamics and understand him/herself from a more objective stance.

Individuation and modern personality theory. Because it is a process of adult personality development, individuation clearly shares at least the general domain of study of modern personality theory. Even more specific connections exist, though, when considering currently dominant personality models and proposed revisions to how the *DSM* conceptualizes personality pathology. The most dominant personality trait theory, the Five Factor Model of personality, emerged in response to a series of factor analyses on an extensive list of words that describe a person's character. The foundation of this approach is the lexical hypothesis—the idea that the most important aspects of personality should be encoded in language because of their practical and social significance. The resulting model organizes traits into five higher-order domains (or factors) and their lower-order facets (McCrae & Costa, 2008) (see Table 2).

Jung's influence is most apparent with the Extraversion vs. Introversion domain, but the facets also reveal other similarities. For example, in the Openness to Experience

domain, the facet *feelings* likely relates to Jung's feelings type but the facet *ideas* to his thinking type. One of the major researchers and founders of the Five Factor Model, Robert McCrae (1994) has acknowledged the significant influences Jung has had on personality theory. McCrae cited him not only as the originator of the Extraversion-Introversion distinction but also as one of the first theorists to study Openness, though not by name. McCrae even called Jung "almost archetypally open to experience. How else can we characterize someone who first embraced the radical tenets of psychoanalysis and then rejected its dogmatic orthodoxy? Who travelled to India, Uganda, and New Mexico in search of spiritual insights? Who wrote volumes on the interpretation of alchemy and proposed that flying saucers were a modern myth?" (p. 260). Regarding Jung's imaginative, loose cognitive style and radical ideas, McCrae noted, "these features suggest a particular structure of consciousness, in which the rigid dichotomies between reality and fantasy, self and other, cause and effect are softened. In some individuals this may represent a form of psychosis; in others it is only the *modus vivendi* of an extremely open mind" (italics in original, p. 260).

In reviewing past research, McCrae (1994) has argued that Jung's dichotomies of thinking-vs.-feeling and intuition-vs.-sensation are actually correlated characteristics and not polar opposites. Research has shown openness to feelings and openness to ideas correlate positively and belong to the same domain. In addition, the Five Factor Model's Extraversion domain captures the social aspects of Jung's typology but the intrapsychic and imaginative aspects of an introverted type may best belong to the Openness domain (McCrae, 1994). Empirical research has shown that personality factor scores, based on the NEO Personality Inventory – Revised (NEO-PI-R) self-report (Costa & McCrae,

1992), correlate with continuous scores on the Myers-Briggs Type Indicator (MBTI) self-report (Myers & McCaulley, 1985), a purported measure of Jungian personality types. As expected, a large negative correlation between NEO Extraversion and MBTI Introversion and a large positive correlation between NEO Openness and MBTI Intuition existed with a moderate positive correlation also present between NEO Agreeableness and MBTI Feeling (McCrae & Costa, 1989).

Jung's relevance to modern personality theory is also evident in proposed revisions to the personality pathology section of the *DSM-V* (APA, 2011). As already discussed, the proposed revisions define personality pathology as occurring when an individual is impaired in at least one of two domains—self and interpersonal functioning. Jungian psychology and individuation concerns itself with both of these domains. Regarding the self, the *DSM-V* task force has noted the importance of having a stable and accurate self-view, strong self regulation and emotion regulation skills, an experience of oneself as unique, the ability for productive self-reflection, and a sense of meaning and purpose in pursuing one's goals. Individuation is very much about forging a unique, meaningful self-identity while maintaining a realistic view of self and ego integrity. Within the interpersonal functioning domain, the *DSM-V* task force has pointed to feeling empathy and respect for others, understanding social causality and individual differences, and connecting with others in a deep, intimate way as hallmarks for health. Individuation, through balancing personality, also seeks to increase connection with others through understanding one's own dynamics and retracting any negative projections onto other people or groups.

These connections between current conceptualizations of personality pathology and health and Jungian individuation are not simply surface-level similarities in descriptions. Individuation provides a possible road map from pathology to health. By being a lifespan developmental theory, individuation concerns not only static individual differences but also the possibility of personality growth in adulthood. Thus, through its continued connections with both modern normative and pathology-focused personality models, individuation is a process that offers distinct opportunities to integrate theories of mental health, psychopathology, and adult development.

Trauma, recovery, and individuation. Less obvious connections also exist between individuation and recovery from trauma. By definition, experiencing a traumatic event forces an individual to confront extreme levels of emotional distress and at least the potential of serious physical injury or death, either for oneself or for someone else. Thus, trauma is about facing the less appealing possibilities of human existence and the reality of our own mortality. At worse, trauma exposure can lead to prolonged, impairing posttraumatic stress reactions, but the possibility for posttraumatic growth also exists, even if its occurrence is after the development of PTSD. As an author, poet, and queer activist Cherrie Moraga (2011) notes, “Sometimes a breakdown can be the beginning of a kind of breakthrough, a way of living in advance through a trauma that prepares you for a future of radical transformation” (para. 1) (see also, Pals & McAdams, 2004). This sentiment captures the idea behind posttraumatic growth. In Jungian terms, trauma exposure can involve confrontation with the Shadow through facing the negative realities about oneself, others, and the world. If unsuccessful in processing the trauma, one’s core

beliefs may become rigid and extremely negative. If processed successfully, trauma exposure can lead to more realistic, balanced views of self, others, and the world.

Modern theorists have recently begun to explore the relationship between posttraumatic reactions, growth, and Jungian psychology. J. P. Wilson (2006d), a co-founder and past president of the International Society for Traumatic Stress Studies, has edited a book exploring ways in which Jungian theory can inform our understanding of how trauma affects the self. Among other things, the book argued that severe trauma can lead individuals to either a state of “self-dissolution” (J. P. Wilson, 2006b, p. 46) or alternatively through “healthy metabolism of trauma” to “self-transformation (i.e., transcendence)” (J. P. Wilson, 2006c, p. 201). The developmental timing of trauma is particularly important because if trauma occurs in childhood, then the likelihood is greater that the fear and anxiety of PTSD usurps the psyche and “The *survival self* replaces the *individuating self*” (italics in original, Nader, 2006, p. 138). To transform, the individual must confront deep existential truths without becoming overwhelmed by dread and despair. Jaffé (1950/1989) has perhaps stated this most simply, “Individuation centers around the fact that one must, in the course of life, accept death constantly as a pre-condition of inner transformation” (p. 39).

Furthermore, various treatments for PTSD have therapeutic goals shared with individuation. One of the most empirically supported treatments of PTSD, Prolonged Exposure Therapy (Foa, et al., 2007) involves directing the patient to recount the traumatic event in vivid detail, especially its most unbearable aspects, and shares with individuation the difficulty and intensity of the process and the emphasis on confronting that which is most difficult to confront. Another empirically supported treatment,

Cognitive Processing Therapy (Resick, et al., 2008) focuses instead on the effects of trauma on one's core beliefs about self, others, and the world. The goal of this treatment is to challenge overly negativistic or positive core beliefs and replace them with more balanced, realistic, and adaptive ones. Core beliefs and schema are structurally similar to Jung's notion of complexes but instead of being a sign of psychopathology, core beliefs and schema are shared by everyone and are judged more in terms of their adaptiveness and accuracy. Just like individuation, the goal of Cognitive Processing Therapy is the balance and accuracy of an individual's perspective, not ignoring the trauma in hopes of returning to a pre-trauma state of mind.

Similarly, in psychodynamic and interpersonal treatments for PTSD, the goals include breaking down maladaptive, rigid defenses and restoring an individual to a healthier state of interpersonal and intrapsychic functioning; individuation also shares this goal and many aspects of the therapeutic process. Thus, individuation's connections with modern theories of and treatments for trauma and PTSD also support its relevance as a significant psychological process with broad applications.

Applications of Individuation in Critical Theory

Finally, the process of individuation offers many possible interdisciplinary applications outside of traditional psychology. The primary interdisciplinary area of application is that of critical theory. Critical theory is a broad field of social inquiry that seeks to use knowledge from the humanities and social sciences to critique societal norms, values, and structures. Sociologist Max Horkheimer (1937/2002) was the first to define the term and argued that critical theory, as opposed to traditional theory, is about changing society as much as understanding it, though critical theory inherently must

recognize the interdependence between a theory and the historical, personal, and societal contexts of its derivation. Classic and influential movements within critical theory include, among many others, (neo-)Marxist theory based on Karl Marx and Friedrich Engels' (1848/2002) *The Communist Manifesto* and Marx's (1867/1976) *Capital* and queer theory arguably founded by Michel Foucault's (1978/1990) first volume of *The History of Sexuality*.

Psychological theory, particularly psychoanalysis, has been both widely used and critiqued within critical theory. As an example, Foucault (1978/1990) made a striking argument against Freud's fundamental position that sexuality has been repressed in individuals and society. Instead of being repressed, Foucault argued that sexuality has been used to identify, categorize, and control individuals and populations through medical and government institutions such as psychiatry. Foucault considered this use of sexuality as an example of *bio-power*. When critiquing the repressive hypothesis, he mused, "What is peculiar to modern societies, in fact, is not that they consigned sex to a shadow existence, but that they dedicated themselves to speaking of it *ad infinitum*, while exploiting it as *the* secret" (emphasis in original, p. 35). In no other period of history has sex been talked about as much as our own. What is more noteworthy is who can talk about sex with authority (e.g., psychiatrists, sex educators, experts, religious figures) and who is encouraged to confess about sex (e.g., the everyday person or subject).

Foucault's perspective is just one example of a larger critique of humanism. Humanism is generally the idealization and valuation of humankind as the highest form of life and existence and as a sovereign and self-governing mode of life, cut off from the animal or the technological. The primary problem with humanism is that in its many

forms, there becomes an inherent hierarchy of who and what counts as the ideal human subject. For example, in Marxist theory, the primary critique is of capitalism and the ruling class's dominance over the proletariat. In queer theory, the critique is of heteronormativity, gender essentialism, and the violence done to those who do not fit within a strictly heterosexual identity. These critiques of humanism are relevant for the current project in order for Jungian individuation to be deployed in critical theory.

Critical theorists, nevertheless, have used a range of psychological theories despite their concerns over humanism. Psychoanalysis has a long history of use in social, literary and film criticism, see, for example, Judith Butler (2003). More recent psychological concepts have also been used, including attachment (Berlant, 2001) and affect (Sedgwick, 2003b; E. A. Wilson, 2010). Fortunately, the tension between critical theory and Jungian psychology's humanism has not prevented communication between each area. The best examples of Jung's use in critical theory come from film analysis. Film theorists have predicated much of Jungian analysis on the analogy that dreams are to the personal unconscious what films are to the collective unconscious (Davies, Farrell, & Matthews, 1982; Hockley, 2001; Rushing & Frentz, 1995). Rushing and Frentz (1995) have argued that in many science fiction films what is most often portrayed is an underlying fear of technology's ability to replace humanity (indicating technology as the shadow) and a growing sense of disconnection with the self. By tracing this developing theme in films such as *Jaws* (Spielberg, 1975), *The Deer Hunter* (Cimino, 1978), *Blade Runner* (R. Scott, 1982), and *The Terminator* (Cameron, 1984), they have pointed to individuation as a way to break through the fragmentation of the postmodernism and move toward the wholeness of what they call transmodernism (see also, Griffith, 2001).

Following their work, I have argued that other films, specifically *Alien Resurrection* (Jeunet, 1997), show that humans may no longer be the heroes of these films but can be replaced by "less ideal" subjects that have a deeper connection to the shadow (Ortigo, 2007). This shift may act as a partial rebuttal to the humanism inherent in Jung's theory of individuation; for, if outcast non-humans can partake in the individuation process, then it has become less exclusionary than originally believed.

Summary & Purpose for Third Project

In sum, Jungian psychology, particularly the process of individuation, is a relevant yet underused developmental theory of adult personality. It is distinct for its connections with the major concepts addressed in this dissertation including attachment, personality pathology and health, and trauma and PTSD. The goals of the third project of this dissertation are to situate individuation within the broader theoretical literature, address weaknesses in the theory related to its lack of connections to child development and lack of emphasis of the process's interpersonal aspects, and discuss implications for interdisciplinary applications of individuation. In part, this project acknowledges Jung's own bias toward introspective, introverted thinking and seeks to balance it by incorporating a more extraverted, interpersonal perspective of development. The methods employed are that of textual and conceptual analysis.

Structure of Dissertation

The core structure of this dissertation consists of three independent chapters on each of the projects previewed above. The first two chapters are structured like traditional empirical papers with their own introduction, methods, results, and discussion sections. The third chapter is an entirely theoretical project with its own structure. Of note, I have

written each chapter independently without reference to this introduction or other projects. Therefore, to consider broader implications that connect all three projects, I conclude the dissertation with a general discussion of conclusions and implications.

Chapter II:

Relationships between Adult Attachment & Personality Pathology in a Traumatized, Urban Population

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Abstract

Although many theorists have proposed strong connections between attachment and personality pathology, extant studies have rarely incorporated the diverse assessments necessary to address controversies about measurement relevant to both constructs. This study seeks to address these problems in the literature by using both self-report and interview-based measures of adult attachment in close relationships and personality pathology. Present data were drawn from an NIMH-funded study investigating environmental and genetic risk factors for PTSD in low-SES, primarily African American individuals seeking care at a public urban hospital. Three representative personality disorders (one from each of the *DSM-IV* clusters) and six personality traits (i.e., negative temperament, positive temperament, detachment, internalizing, externalizing, emotionally dysregulation) were correlated with six attachment constructs (i.e., attachment anxiety and avoidance, secure, dismissing, preoccupied, and disorganized/unresolved attachment). Results generally found small-to-moderate correlations in expected directions with some findings dependent on assessment strategy. In addition, hierarchical regressions confirmed that both personality and attachment predict unique variance in global adaptive functioning above the other. Results are discussed in terms of the importance of multiple measures of attachment and personality constructs and in considering both attachment and personality in clinical case conceptualization.

An increasingly productive area of research lies in explicating connections between Bowlby's (1969) attachment theory and personality disorders (PDs). Because many aspects of PDs involve chronic problems with relating to others, the conceptual overlap with attachment problems is noteworthy. Nevertheless, because of its atheoretical stance and limited empirical evidence at its inception, the current *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition, (*DSM-IV*, American Psychiatric Association, 1994) does not explicitly discuss attachment theory in relation to diagnostic criteria for PDs. Clarifying the boundaries and relations between attachment in adulthood and these disorders could benefit efforts to revise *DSM-V*, which in turn may help address difficulties in research methodologies and treatment efficacy. Additionally, the more we understand about the essential PD features and etiology, the more we may understand how disparate characteristics of personality disturbance may be related to one another.

A particular concern is how multiple methods of assessing both attachment and personality exist. Most previous studies have used a single method, such as only self-report or only interviewer-report, or have operationalized constructs in a specific manner that ignores alternative conceptualizations. Thus, most of these studies cannot speak to issues of method variance and competing theoretical models. This study adds to the literature by incorporating both self-report and interview-based measures of diverse and relevant attachment and personality constructs.

Attachment & Personality Disorders

Alongside the exponential growth of the separate research literatures of attachment and personality pathology over the past few decades, various researchers have suggested reconceptualizing personality pathology as a disorder of attachment

(Birtchnell, 1997; Lyddon & Sherry, 2001; Page, 2001; Perris, 2000; West & Sheldon-Keller, 1994). Although it is unlikely *a priori* that attachment constructs capture all aspects of PDs (e.g., problems with impulse regulation or cognitive peculiarities), that the two domains are clearly interrelated requires explanation. Associations between attachment and personality may be due to shared roots in early development, conceptual similarity in constructs, overlapping third variables (e.g., method variance), or a combination of these. Despite abundant theoretical literature and speculations on the connections between PDs and attachment, relatively few studies test their overlap systematically. Of two extant systematic reviews of the empirical literature, one focused on Borderline PD (Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004) whereas the other focused on the Cluster C “anxious/fearful” disorders (Ortigo, 2011). Cluster A “odd/eccentric” disorders have received limited attention as to potential connections with attachment, partly reflecting their distinctiveness and perceived link to psychotic-spectrum disorders. Still, some studies found that even Schizotypal PD, which may belong on a spectrum with schizophrenia, showed some associations with attachment. In one study, whereas attachment anxiety was associated with Schizotypal’s positive symptoms (e.g., odd beliefs, ideas of reference), attachment avoidance was associated with both positive and negative/ anhedonic symptoms (J. S. Wilson & Costanzo, 1996). In another sample, Schizotypal PD correlated negatively with secure and positively with avoidant/dismissing and disorganized/unresolved attachment ratings (Nakash-Eisikovits, Dutra, & Westen, 2002).

Belonging to the Cluster B “dramatic, emotional, or erratic” disorders, Borderline PD is the most researched Axis II disorder, and attachment’s relevance to it is evident

from Borderline PD being prototypically marked by interpersonal instability (Boschen & Warner, 2009). Some have argued that many disparate borderline features, such as emotional dysregulation, identity problems, and mentalization difficulties (i.e., relative inability to reflect on the minds of self and others), all arise from early problematic attachment relationships (Fonagy, Gergely, Jurist, & Target, 2002). Agrawal et al.'s review of thirteen studies on borderline and attachment concluded that despite diverse assessment strategies, borderline was characterized by very high rates of attachment insecurity, specifically by disorganized/unresolved status or fearful attachment (depending on which was assessed), and by preoccupied attachment to a lesser extent. Although these associations were fairly consistent across studies, Agrawal et al. cautioned solid conclusions required further clarifying the distinct attachment constructs and their overlap.

In reviewing research with Cluster C PDs, Ortigo (2011) concluded that Avoidant and Dependent PDs were moderately associated with insecure attachment whereas Obsessive-Compulsive PD was not. Specifically, Avoidant PD, regardless of its similarity in name to the infant attachment style of anxious/avoidant, is more characterized by fearful and secondarily by preoccupied attachment, not dismissing attachment, the approximate adult-equivalent of anxious/avoidant. A primary distinction is that adult dismissing attachment is defined by less experienced anxiety, but Avoidant PD includes a mix of anxiety and behavioral avoidance, as in fearful attachment (Meyer, Pilkonis, & Beevers, 2004). Dependent PD showed a similar pattern as Avoidant PD but was characterized most by preoccupied and secondarily by fearful attachment. Obsessive-Compulsive PD's associations with attachment were too inconsistent to draw

conclusions.

Similar to Agrawal et al.'s review, Ortigo pointed out weaknesses in the literature related to diverse assessment strategies for both attachment and personality pathology. Most important of these criticisms, at least for Cluster C PDs, resulted from two key differences in assessment strategies. First, focusing assessment on attachment to parental figures versus close relationships resulted in different findings. Cluster C PDs appeared to be more consistently related to attachment in close relationships than parental relationships. Second, no measure exists that taps both fearful and disorganized/unresolved attachment, and most studies included only one attachment measure. In fact, only one sample included measures of both fearful and disorganized/unresolved attachment, and those results were published in two separate articles (Riggs, Paulson, et al., 2007; Riggs, Sahl, et al., 2007). Whereas many researchers assume fearful and disorganized/unresolved attachment are similar constructs, meaningful theoretical differences exist and their relationship has not been systematically tested. Thus, using multiple measures of attachment can help clarify the full breadth of relationships with personality pathology.

Personality Traits & Attachment

Related but distinct from personality constellations or disorders are personality traits. Traits have a long history in the psychological literature (Allport, 1937), but most dominant models now organize traits into five (Digman, 1996; McCrae & Costa, 2008) or three (H. J. Eysenck & Eysenck, 1985; Tellegen & Waller, 1992) overarching factors or domains. Because these models focus on "normal" personality and not pathology, some researchers have criticized them for lacking clinical relevance (Westen, 1996). Other

researchers have attempted to connect normal and pathological personality trait models (Clark, 2005; Tellegen, 1993; Widiger, et al., 2002). Most of these models share some version of Negative Emotionality/Temperament, Positive Emotionality/Temperament, and Detachment (or extreme Introversion) (Clark, 1993; Tellegen & Waller, 1992).

Research on the relationships between these dimensions and adult attachment is limited. An unpublished dissertation with non-clinical undergraduate and community samples found that attachment avoidance and anxiety positively correlated with negative temperament and detachment and negatively correlated with positive temperament (Gehl, 2010). Most correlations were small-to-moderate, but the largest correlations were between negative temperament and attachment anxiety (r = .52-62). Given the importance of traits in the proposed *DSM-V* (APA, 2011) revisions, more focal research will be required in understanding their relations with attachment.

An alternative but also dominant model of personality and psychopathology organizes trait-like behaviors into internalizing and externalizing varieties (Krueger, 1999; Krueger, Markon, Patrick, & Iacono, 2005; Krueger, McGue, & Iacono, 2001; Krueger, Skodol, Livesley, Shrout, & Huang, 2007; Krueger & South, 2009). Internalizing traits include more inwardly focused negative affect like depression, anxiety, and fear whereas externalizing traits direct negative affect outwards in aggressive or angry behaviors. Krueger et al. (2001) found that internalizing symptoms moderately correlated positively with negative emotionality. Positive emotionality was largely unrelated to internalizing and externalizing symptoms with the exception of a small negative correlation with internalizing symptoms in women. Alongside these two broad factors, Westen and Shedler (2007) have empirically identified in multiple

samples a third spectrum, emotional dysregulation, that they have argued may best capture the distinct qualities of individuals who have a mix of internalizing and externalizing traits and symptoms as common in Borderline PD.

Some limited research has started addressing the relationships between internalizing, externalizing, and emotional dysregulation dimensions and attachment. In a community sample, Muris, Meesters, and van den Berg (2003) found adolescents who classified themselves as insecurely attached (either avoidant/dismissing or anxious-ambivalent/preoccupied) had higher rates of internalizing and externalizing behaviors than securely attached adolescents. Nakash-Eisikovits, Dutra, and Westen (2002) similarly found internalizing, externalizing, and emotional dysregulation dimensions negatively correlated with secure attachment in adolescence. Though small in size, correlations between internalizing and anxious/ambivalent (preoccupied) attachment and between externalizing and avoidant (dismissing) attachment were significant. The largest correlations, however, were between internalizing and emotional dysregulation symptoms and disorganized/unresolved attachment. In adults, Crawford et al. (2007) found self-reported emotional dysregulation positively correlated with general insecure attachment but at the dimension-specific level, only with attachment anxiety not avoidance.

The Current Investigation

The purpose of the current study is to expand past research into personality pathology and attachment by examining the empirical relationships of selected personality diagnoses and pathological personality traits with adult attachment using diverse assessment strategies in a highly traumatized, urban sample. To focus data analysis, I selected three PDs and six personality traits. The selected PDs (Schizotypal,

Borderline, Avoidant) have relatively clear conceptual links to attachment, have a history in the empirical literature, are representative of the *DSM-IV*'s three clusters, and are currently retained in proposed revisions for *DSM-V*. I selected six personality traits based on their dominance in the psychological literature and their potential empirical overlap with attachment. They include negative temperament, positive temperament, detachment, internalizing, externalizing, and emotional dysregulation dimensions. This study adds to previous research by including multiple assessment strategies (self- and interviewer-report) and measures of distinct constructs (personality disorders vs. pathological traits, attachment dimensions vs. attachment prototypes). Given that some studies have found stronger associations with attachment in close relationships, the current study utilizes measures of attachment in close relationships.

Although not ignoring differences in constructs reflected in the split between self-report and narrative/interviewer-based measurement, interpretation of results situates findings within an integrative model of adult attachment proposed by Bartholomew, Kwong, and Hart (2001) and Mikulincer and Shaver (2007a) (see Figure 1). This model combines the attachment dimensions of anxiety and avoidance with the dimensions of views of self and views of others, respectively. In addition, the resultant quadrants are labeled in terms of the four dominant attachment styles of secure, preoccupied, dismissing, and fearful. The most debated aspect of this model is the placement of unresolved or disorganized classification (Main & Hesse, 1990; Main & Solomon, 1986). Thus, data analysis pays careful attention to addressing disorganized/unresolved attachment as distinct from fearful attachment (high anxiety, high avoidance) while noting the different methods used to measure each construct. I make the following

hypotheses based on theoretical predictions, previous research, and similarity in behaviors associated with each disorder or trait.

Personality Disorders

- Schizotypal PD will be associated with (a) lower secure and higher dismissing and disorganized/unresolved attachment ratings, and (b) higher attachment anxiety and avoidance (aka, fearful attachment) (e.g., Nakash-Eisikovits, et al., 2002; J. S. Wilson & Costanzo, 1996).
- Borderline PD will be associated with (a) lower secure and higher preoccupied and disorganized/unresolved attachment ratings, and (b) higher attachment anxiety and avoidance (aka, fearful attachment) (Agrawal, et al., 2004).
- Avoidant PD will be associated with (a) lower secure and higher preoccupied attachment ratings, and (b) higher attachment anxiety and avoidance (aka, fearful attachment) (Ortigo, 2011).

Personality Traits

- Negative temperament will be associated with (a) lower secure and higher preoccupied and disorganized/unresolved attachment ratings, and (b) higher attachment anxiety and avoidance (e.g., Gehl, 2010).
- Positive temperament will be associated with (a) higher secure attachment ratings and (b) lower attachment anxiety and avoidance (e.g., Gehl, 2010).
- Detachment will be associated with (a) lower secure and higher dismissing attachment ratings, and (b) higher attachment anxiety and avoidance (e.g., Gehl, 2010).

- Internalizing traits will be associated with (a) lower secure and higher preoccupied and disorganized/unresolved attachment ratings, and (b) higher attachment anxiety and avoidance (e.g., Muris, et al., 2003; Nakash-Eisikovits, et al., 2002).
- Externalizing traits will be associated with (a) lower secure and higher dismissing attachment ratings, and (b) higher attachment avoidance (e.g., Muris, et al., 2003; Nakash-Eisikovits, et al., 2002).
- Emotionally dysregulation traits will be associated with (a) lower secure and higher preoccupied and disorganized/unresolved attachment ratings, and (b) higher attachment anxiety and avoidance (e.g., Crawford, et al., 2007; Nakash-Eisikovits, et al., 2002).

Finally, exploratory analyses address whether attachment and personality constructs predict unique variance in global adaptive functioning. Global adaptive functioning acts as the primary criterion variable because of its clear connections with overall level of mental wellbeing or psychological health. Showing that both sets of constructs independently predict adaptive functioning would provide empirical evidence that they are distinct yet related constructs with significant relations to external criteria.

Methods

Sample

We collected these data as part of a larger study investigating the roles of genetic and environmental factors in predicting PTSD diagnosis in a low socioeconomic status (SES), primarily African American adult population present in the waiting rooms of the primary care clinic and obstetrical-gynecological clinic of an urban, public hospital.

Research participants were approached while waiting for their medical appointments or while waiting with others who were scheduled for medical appointments. Eligibility requirements included ability to give informed consent. We first conducted an initial screening interview in the hospital clinic waiting rooms at the time participants were recruited. This evaluation involved completion of a 45-75-minute battery of self-report measures in a sample of 2708 participants. The length of the screening interview was dependent in large part on the extent of the participant's trauma history and symptoms. In all study evaluations, we read instruments to participants because of relatively poor literacy levels. The subset of participants (*N* = 263) whose data are presented here were also scheduled for more comprehensive assessments in which they completed more extensive interview-based assessments of trauma exposure, history of childhood abuse, PTSD symptoms, personality, attachment, and other biological and psychiatric assessments. Because each analysis was conducted independently with all data available, the number of participants for each analysis varies (*N* = 122 – 482). Details of this process are described in prior studies (e.g., Schwartz et al., 2006; Schwartz, Bradley, Sexton, Sherry, & Ressler, 2005).

Measures

Demographics Screening Instrument (DSI). The DSI obtains basic demographic data including race/ethnicity, age, marital status, income, current living situation and level of education.

Schedule for Nonadaptive and Adaptive Personality (SNAP). The SNAP is a factor-analytically derived self-report personality assessment questionnaire with 375 true-false items (Clark, 1993). Relevant scales for this investigation include two temperament

dimensions (negative and positive temperament) and the detachment trait dimension as well as three PD scales based on *DSM-III-R* (APA, 1987) diagnostic criteria. The SNAP has demonstrated adequate test-retest reliability and predictive validity (e.g., Melley, Oltmanns, & Turkheimer, 2002).

Clinical Diagnostic Interview (CDI). The CDI is a 2-3 hour systematic clinical interview, designed to systematize and standardize the kind of interviewing approach typically used by experienced clinicians (Westen, 2011; Westen & Muderrisoglu, 2006). Following initial questions about the nature and history of current symptoms, the interviewer asks individuals about a series of significant interpersonal relationships from the past and present, their work history, particularly stressful or difficult times, their moods and emotions, and their characteristic ways of thinking. For each of these categories, the interviewer follows general questions with instructions to describe specific episodes or examples. Although the CDI includes direct questions (e.g., self-injurious behavior), it does not ask individuals to describe their personalities. Rather, it asks them to tell narratives about their lives that allow the interviewer to make judgments about their characteristic ways of thinking, feeling, regulating emotions, experiencing themselves and others, and so forth. CDI interviewers were primarily experienced psychologists or psychiatrists. In addition, select advanced-level doctoral students with their master's degree and major coursework completed also conducted the CDI after reliability training. All interviewers were blind to other interview data (e.g., SCID, SNAP), and vice versa.

Shedler-Westen Assessment Procedure-II (SWAP-II). The SWAP-II, the latest version of the SWAP instrument, consists of 200 personality-descriptive statements, each

of which may describe a given individual well, somewhat, or not at all (Shedler & Westen, 2004a, 2004b, 2007; Westen & Shedler, 1999a, 1999b, 2007). After conducting the CDI, trained interviewers sorted the statements into eight categories, from least descriptive of the participant (a value of 0) to most descriptive (a value of 7), according to a fixed distribution (Block, 1978). An increasing body of research supports the validity and reliability of the adult SWAP in predicting a wide range of external criteria, such as suicide attempts, history of psychiatric hospitalizations, adaptive functioning, interview diagnoses, and developmental and family history variables (e.g., Ortigo, Bradley, & Westen, 2009; Westen & Muderrisoglu, 2003; Westen & Shedler, 1999a; Westen & Weinberger, 2004). Raters attended reliability meetings as part of their training and met a criterion standard before administering the SWAP-II after the CDI. Relevant scales from the SWAP-II for this study include the internalizing, externalizing, and emotionally dysregulation trait dimensions and three of the *DSM-IV-TR* (APA, 2000) PD scales.

Adult Attachment Prototype Questionnaire (AAPQ). After completing the CDI, advanced clinical interviewers gave participants 5-point ratings of degree of match to four attachment prototypes and then categorized participants into one dominant style (Westen & Nakash, 2005; Westen, Nakash, et al., 2006). The four prototypes included *secure* ("can rely on the availability and sensitivity of the people they love"), *dismissing* ("tend to minimize or dismiss the importance of close relationships"), *preoccupied* ("seek intense emotional intimacy with others but constantly feel ambivalent about them"), and *disorganized/unresolved* ("tend to respond to intimate relationships in ways that appear inconsistent, contradictory, or dissociative"). Data from our research group indicated strong inter-rater reliability for this measure (intraclass r = .76).

Experiences in Close Relationships Scale – Revised Edition (ECR-R). The ECR-R is a 36-item, self-report of an individual's thoughts, feelings, and behaviors in close relationships. Fraley, Waller, and Brennan (2000) used item-response theory to revise the original scale from Brennan, Clark, and Shaver's (1998) large factor analysis of adult attachment measures. The ECR-R items load on two factors—attachment anxiety and attachment avoidance, which form the two-dimensional space seen in Figure 1.

Adaptive functioning. We assessed adaptive functioning across multiple areas, including items from the Life Base interview (Keller et al., 1987), the Structured Clinical Interview for *DSM* Disorders (SCID; Gibbon & Williams, 2002), and the clinician rated Clinical Data Form (CDF; Defife, Drill, Nakash, & Westen, 2010; Westen & Shedler, 1999a; Westen, Shedler, Durrett, Glass, & Martens, 2003). We aggregated standardized adaptive functioning variables from the Life Base (self-reported and interviewer-assessed life satisfaction in past month and best six month period of past 2 years), CDF (personality functioning, quality of romantic relationships, friendships, employment functioning, number of close relationships, and physical health), and interviewer ratings (*DSM*-based GAF from the SCID, two interviewer ratings of match to a health prototype, Westen, Shedler, & Bradley, 2006) (see Ortigo, et al., 2010). This aggregated variable had an acceptable internal consistency (Cronbach's $\alpha = .84$).

Statistical Analyses

Three sets of statistical analyses were conducted. First, the relationship between the self-report ECR-R and interviewer-report AAPQ were explored through correlational and regression analyses. Second, the primary hypotheses were tested by correlating attachment and personality pathology variables. Finally, as a test of the unique variance

captured by both personality and attachment constructs, regression analyses were conducted to inform whether particular attachment and personality variables account for greater variance of overall adaptive functioning.

Results

Attachment Prototypes & Dimensions

Adult attachment constructs, as measured by the ECR-R and AAPQ, correlated generally in the expected pattern (see Table 3). The two ECR-R attachment dimensions had a small yet significant positive correlation ($r = .17$). The AAPQ prototype ratings generally had moderate negative correlations with each other with two exceptions. Specifically, the preoccupied and disorganized/unresolved prototypes had a small, significant positive correlation ($r = .15$) whereas the dismissing and disorganized/ unresolved prototypes did not significantly correlated with one another.

As predicted by the integrated model of attachment constructs (see Figure 1), the ECR-R's attachment anxiety dimension correlated positively with the AAPQ's preoccupied ($r = .29$) and disorganized/unresolved prototype ratings ($r = .22$) and negatively with the secure ($r = -.19$) and dismissing prototype ratings ($r = -.17$). Also as predicted, the ECR-R's attachment avoidance dimension correlated positively with the AAPQ's dismissing ($r = .26$) and disorganized/unresolved prototypes ($r = .16$) and negatively with the secure prototype ($r = -.25$). However, attachment avoidance did not significantly correlate with the preoccupied prototype.

Though the pattern of correlations was generally in the expected direction, the self-reported ECR-R attachment dimensions only accounted for a portion of the variance in interviewer-rated AAPQ prototype ratings and vice versa. The ECR-R dimensions

accounted for 12.0% (R^2) of the variance in the secure, ($F[2, 169] = 11.5$, $p < .001$), 7.0% of the dismissing ($F[2, 167] = 6.3$, $p = .002$), 11.2% of the preoccupied ($F[2, 169] = 10.7$, $p < .001$), and 5.5% of the disorganized/unresolved AAPQ prototypes ($F[2, 167] = 4.8$, $p = .009$). In the reverse, the AAPQ prototypes accounted for 14.5% of the variance in attachment anxiety ($F[4, 200] = 8.5$, $p < .001$) and 10.6% of the variance in attachment avoidance ($F[4, 183] = 5.4$, $p < .001$).

Personality Disorders & Attachment

Relationships between attachment constructs and PD diagnostic scales differed by personality measure but not consistently due to self-report or interviewer-rated method variance (see Table 4). For Schizotypal PD, the self-reported ECR-R attachment dimensions of anxiety and avoidance correlated in hypothesized directions with the self-reported SNAP scale (*r*'s = .28 and .18, respectively) but not the interviewer-rated SWAP-II scale. The interviewer-rated prototypes' correlations were not as dependent on personality assessment method. Two of these attachment prototypes showed particularly robust relationships by correlating with both the SNAP and SWAP-II Schizotypal scales. First, as hypothesized, the secure prototype ratings correlated negatively with the SNAP ($r = -.16$) and SWAP-II scales ($r = -.39$). Second, also as expected, the disorganized/unresolved ratings correlated positively with the SNAP ($r = .15$) and SWAP-II scales ($r = .24$). The SWAP Schizotypal scale also demonstrated the hypothesized positive correlation with dismissing ratings ($r = .17$) whereas the SNAP Schizotypal scale had an additional positive yet unpredicted correlation with preoccupied ratings ($r = .13$).

For Borderline PD, the SWAP-II scale's correlations with both self-report and interviewer-rated attachment were more abundant compared to the SNAP scale's correlations. The SWAP Borderline scale's distinct relationships were as hypothesized and included positive correlations with attachment anxiety ($r = .34$), attachment avoidance ($r = .28$), and preoccupied ratings ($r = -.28$) and a negative correlation with secure ratings ($r = -.28$). The SNAP Borderline scale shared none of these correlations but instead had an unexpected, small positive correlation with dismissing ratings ($r = .15$). The one robust relationship for both SNAP and SWAP-II scales of Borderline PD was the hypothesized positive correlation with disorganized/unresolved ratings ($r = .21$ and $r = .27$, respectively).

For Avoidant PD, two hypothesized and robust correlations existed for both SNAP and SWAP-II scales. First, attachment anxiety correlated positively with SNAP ($r = .23$) and SWAP-II scales ($r = .18$). Second, secure ratings correlated negatively with SNAP ($r = -.17$) and SWAP-II scales ($r = -.17$). The only additional correlation was the hypothesized positive one between self-reported attachment avoidance and the interviewer-rated SWAP-II Avoidant scale ($r = .28$).

Personality Traits & Attachment

Regarding the personality trait dimensions from the self-report SNAP, negative temperament was overall the most correlated with attachment constructs (see Table 5). As predicted, negative temperament correlated positively with attachment anxiety ($r = .26$), attachment avoidance ($r = .22$), preoccupied ratings ($r = .14$), and disorganized/unresolved ratings ($r = .21$) and negatively with secure ratings ($r = -.13$). Also, as predicted, the detachment dimension correlated positively with attachment

anxiety (r = .26), attachment avoidance (r = .22), and dismissing ratings (r = .15) and negatively with secure ratings (r = -.14). Positive temperament did not correlate with any attachment construct.

Of the interviewer-report SWAP-II personality trait dimensions, the dysregulation scale most consistently correlated with attachment constructs (see Table 10). The dysregulation dimension showed the hypothesized pattern of correlating positively with attachment anxiety (r = .41), attachment avoidance (r = .30), preoccupied ratings (r = .38), and disorganized/unresolved ratings (r = .24) and negatively with secure ratings (r = -.28). Also as predicted, the internalizing dimension correlated positively with attachment anxiety (r = .20) and attachment avoidance (r = .19) and negatively with secure ratings (r = -.21). Finally, the externalizing dimension correlated positively with dismissing (r = .23) and negatively with secure ratings (r = -.31), as hypothesized.

Adaptive Functioning

Attachment. The aggregated adaptive functioning variable correlated significantly with all six attachment constructs in expected directions, all $p < .001$ (N = 200-263). The strongest relationship was the positive one with secure ratings (r = .63). Negative correlations existed with attachment anxiety (r = -.28), attachment avoidance (r = -.29), dismissing ratings (r = -.21), preoccupied ratings (r = -.24), and disorganized/unresolved ratings (r = -.33).

A hierarchical regression explored the relative amount of variance explained in aggregated adaptive functioning by the ECR-R attachment dimensions and AAPQ prototype ratings (see Table 6). When entered by themselves, the ECR-R dimensions accounted for 16.0% (R^2) of the variance in adaptive functioning, $F_{\text{change}}(2, 165) = 15.7$, p

$< .001$. Both dimensions were significant, independent predictors. Adding the AAPQ prototypes significantly enhanced prediction of adaptive functioning by adding an additional 32.2% (ΔR^2) of explained variance, $R^2 = .482$, $F_{\text{change}}(4, 161) = 25.0$, $p < .001$. In the final model, only attachment avoidance ($\beta = -.15$, $p = .018$) and secure prototype ratings ($\beta = .55$, $p < .001$) were significant, independent predictors. When entered first, AAPQ prototypes accounted for 44.2% of the variance, $F_{\text{change}}(4, 163) = 34.0$, $p < .001$. However, adding ECR-R dimensions to the model still significantly added a small amount of incremental prediction, $\Delta R^2 = .027$, $R^2 = .482$, $F_{\text{change}}(2, 161) = 4.2$, $p = .017$.

Attachment versus personality. As tests of the relative abilities of attachment and personality constructs to predict adaptive functioning, hierarchical regressions were performed. Predictors were selected based on the strength of the zero-order correlations. Any attachment or personality variable that correlated with the aggregated adaptive functioning variable above +/- .20 met criteria for inclusion. This selection process resulted in all six attachment constructs, one SNAP diagnostic scale (Avoidant), two SWAP-II diagnostic scales (Schizotypal, Borderline), one SNAP trait dimension (negative temperament), and all three SWAP-II trait dimensions (internalizing, externalizing, emotional dysregulation) being included in the subsequent regressions.

Attachment and personality disorder scales. The first hierarchical regression included the attachment constructs, the SNAP's Avoidant PD scale and the SWAP-II's Schizotypal and Borderline PD scales as predictors (see Table 7). In the first step, the personality diagnostic scales were entered alone. In this model, the SWAP-II Schizotypal ($\beta = -.30$, $p < .001$) and Borderline ($\beta = -.51$, $p < .001$) scales were significant, independent predictors. All together, the personality diagnostic scales accounted for

37.5% (R^2) of the variance in adaptive functioning, $F_{change}(3, 125) = 25.0$, $p < .001$. Including the attachment constructs in the second step added 53.2% (ΔR^2) to the total explained variance, $R^2 = .751$, $F_{change}(6, 119) = 8.7$, $p < .001$. Of the personality diagnostic scales, only the SWAP-II's Borderline scale ($\beta = -.34$, $p < .001$) remained a significant, unique predictor of adaptive functioning in the final model. In addition, secure attachment ($\beta = .40$, $p < .001$) was the only significant, independent predictor from the attachment variables. When the attachment constructs were entered first, they accounted for 47.9% (R^2) of the variance, $F_{change}(6, 122) = 18.7$, $p < .001$. Including the personality diagnostic scales resulted in a significant increase of 8.6% in the model's prediction of adaptive functioning, $R^2 = .565$, $F_{change}(3, 119) = 7.8$, $p < .001$.

Attachment and personality traits. The second hierarchical regression included the attachment constructs, the SNAP's negative temperament scale, and the SWAP-II's internalizing, externalizing, and dysregulation scales as predictors (see Table 8). In the first step, the personality trait dimensions were entered alone. In this model, the SWAP-II internalizing ($\beta = -.32$, $p < .001$), externalizing ($\beta = -.23$, $p = .007$), and dysregulation ($\beta = -.41$, $p < .001$) scales were significant, independent predictors. All together, the personality dimensions accounted for 43.2% (R^2) of the variance in adaptive functioning, $F_{change}(4, 122) = 23.2$, $p < .001$. Including the attachment constructs in the second step added 17.8% (ΔR^2) to the total explained variance, $R^2 = .610$, $F_{change}(6, 116) = 8.8$, $p < .001$. Of the personality trait dimensions, only the SWAP-II's dysregulation scale ($\beta = -.43$, $p < .001$) remained a significant, unique predictor of adaptive functioning in the final model. Alongside dysregulation, secure ($\beta = .42$, $p < .001$) and dismissing ($\beta = -.13$, $p = .052$) ratings were significant, independent predictors from the attachment variables.

When the attachment constructs were entered first, they accounted for 48.2% (R^2) of the variance, $F_{change}(6, 120) = 18.6$, $p < .001$. Including the personality trait dimensions resulted in a significant increase of 12.8% in the model's prediction of adaptive functioning, $R^2 = .610$, $F_{change}(4, 116) = 9.5$, $p < .001$.

Discussion

This study confirmed the majority of hypothesized associations among attachment in close relationships and personality pathology. Nevertheless, many relationships were dependent on the particular constructs assessed and measures used. For one, the attachment measures relied on two different assessment strategies (self-report vs. interviewer-rated). They also measured distinct yet related constructs, that is, the ECR-R's focus on emotional and behavioral traits versus the AAPQ's assessment of the gestalt of narrative qualities and behavior in relationships. The self-report ECR-R dimensions of anxiety and avoidance correlated in the expected directions with the interviewer-rated AAPQ prototypes with only one exception; attachment avoidance did not negatively correlate with the preoccupied prototype as expected. The overall pattern still confirmed that despite important differences in assessment strategy and constructs, adult attachment patterns generally fit the pattern seen in Figure 1. That the magnitudes of cross-method correlations were generally small to moderate suggests that the two methods are either differentially assessing the same constructs or assessing different but related constructs (e.g., conscious/explicit vs. unconscious/implicit representations).

Follow-up hierarchical regressions confirmed that each measure captures distinct information not fully assessed by the other. Using adaptive functioning as an important criterion variable, all six attachment constructs showed significant zero-order

relationships. That regression analyses found interviewer-based attachment security ratings predicted unique variance above self-reported attachment anxiety and avoidance suggests that attachment security as assessed from interpersonal narratives by an experienced clinical observer is not simply the absence of these insecure traits as assessed by self-report. These findings lend support to Mikulincer and Shaver's (2007c) notion that the multi-faceted nature of attachment may require diverse assessment strategies. Another way to view these findings is that conscious/explicit and unconscious/implicit attachment may be distinct and require different assessment strategies (see also this distinction in personal motivations, McClelland, Koestner, & Weinberger, 1989; Schultheiss, 2008).

Relationships between personality and attachment constructs were generally small to moderate in size. Though one might expect measures that share the same assessment strategy to correlate most highly because of method variance, the pattern of results seemed less dependent on method variance than on constructs. Of the PD diagnostic scales, the self-report SNAP and interviewer-rated SWAP-II shared only a portion of their correlations with attachment constructs. The most robust relationships were those hypothesized associations of Schizotypal PD with higher disorganized/unresolved and lower secure ratings, Borderline PD with higher disorganized/unresolved ratings, and Avoidant PD with higher attachment anxiety and lower secure ratings.

Of the other hypothesized relationships for the diagnostic scales, Schizotypal PD positively correlated with attachment anxiety and avoidance when measured by the SNAP and with dismissing ratings when measured by the SWAP-II. Besides their relationships with disorganized/unresolved ratings, the SNAP and SWAP-II Borderline

PD scales showed very different patterns. The SWAP-II scale correlated as hypothesized with additional positive relationships with attachment anxiety, attachment avoidance, and preoccupied ratings and a negative relationship with secure ratings whereas the SNAP scale showed none of these correlations. Regarding Avoidant PD, whereas the SWAP-II scale showed the hypothesized, positive association with attachment avoidance, neither the SNAP nor SWAP-II scales correlated with preoccupied ratings as hypothesized.

Overall, personality trait dimensions also correlated in expected directions with attachment constructs with small to moderate effect sizes. Three dimensions in particular correlated fairly consistently across several constructs—emotional dysregulation, negative temperament, and detachment. Although emotional dysregulation's correlations were generally stronger, emotional dysregulation and negative temperament shared the same pattern of relationships. Specifically, both correlated positively with attachment anxiety, attachment avoidance, preoccupied ratings, and disorganized/unresolved ratings and negatively with secure ratings. As hypothesized, the only attachment construct unrelated to both was the dismissing prototype. Detachment, conversely, did negatively correlate with dismissing ratings and also correlated with several others, including positively with attachment anxiety and avoidance and negatively with secure ratings, all as predicted.

Of the other personality traits, internalizing and externalizing dimensions both correlated negatively with secure ratings as hypothesized. Internalizing also showed the predicted positive relationships with attachment anxiety and avoidance but did not show the expected positive correlation with preoccupied ratings. Likewise, externalizing showed the hypothesized positive correlation with dismissing ratings but did not correlate

with attachment avoidance, as hypothesized. Positive temperament was the only trait not associated with attachment at all.

Besides standard concerns about measurement error, the different correlation patterns of the SNAP and SWAP-II scales with attachment may be due to differences in (1) the *DSM* criteria on which the PD scales were based, (2) the construct validity of each, (3) the assessment strategy (i.e., self-vs.-interviewer-report), or (4) some combination. Because the changes in PD criteria were relatively minor between *DSM-III-R* (APA, 1987) and *DSM-IV* (APA, 1994), it is unlikely this difference can substantially account for the distinct correlation patterns and magnitudes. Differences in construct validity may account for more of the difference in patterns for the SNAP and SWAP-II, but one study alone cannot speak to the relative validity of these measures, especially considering both have extensive histories in the research literature. Alternatively, many have argued that some personality dynamics and motives, especially the entrenched, rigid, and maladaptive ones characteristic of personality pathology, are less amenable to self-report measures because they are often unknown to the individual (e.g., McClelland, et al., 1989; Westen, 1998). These data support that notion at least in correlating with adult attachment and predicting adaptive functioning, as seen in hierarchical regressions.

Hierarchical regressions showed that together, the significant PD diagnostic and trait scales from the SNAP and SWAP-II and the attachment constructs predicted a very large proportion (i.e., 61.0% to 75.1%) of the variance in global adaptive functioning. When considered separately, the set of attachment constructs accounted for 15.0% (dimensions) to 44.2% (prototypes) of the variance whereas the set of personality constructs accounted for 37.5% (PD scales) and 43.2% (trait dimensions). In each

regression, attachment added incremental validity over personality constructs and vice versa. In sum, these findings again confirm attachment and personality pathology are related but separate constructs with important, distinct implications for adaptive functioning.

Limitations & Recommendations for Future Research

This study's strengths include the use of multiple measures and strategies for assessing attachment and personality pathology; nonetheless, some limitations also exist. First, these data draw from a low SES, primarily African American community sample, whose generalizability to a broader population is unknown. On the other hand, the use of this sample was deliberate to help address the research literature's imbalance toward studying more middle-class, Caucasian samples. Second, conducting multiple analyses could inflate the experiment-wise error. To address this issue, I limited analyses to a selected subset of personality pathology constructs and made focal *a priori* hypotheses for each construct. Given the sheer number of personality and attachment variables in the literature, this problem of increased Type 1 error rates frequently presents itself. Replication of the present and previous findings is probably one of the best solutions available for such a large area of study.

Future research can further explicate the relationships between attachment and personality pathology. Though arguing causality was not a goal of the current investigation, these cross-sectional data cannot speak to causal roles. Some have theorized the relationship is due to early attachment' s affects on personality, but this pathway may not hold for all personality pathology, especially when considering that sometimes attachment in close relationships is more closely related to personality

pathology than is attachment to parents (Ortigo, 2011). The developmental natures of attachment and personality are not confined to infancy and early childhood; thus, the interchange of these constructs may be more complex and include bidirectional influences in adulthood. Related to the questions of causality and etiology is that of the boundaries between attachment and personality pathology. These data confirm a small-to-moderate relationship between the constructs and their independent influences on adaptive functioning, so the aspects of each construct that are unique are just as important to specify and acknowledge.

Another area for future consideration is how method variance plays a role in empirical relationships. Method variance appeared to be a much more significant factor for the PD scales than the attachment scales. The debate over assessment strategy in the PD literature is longstanding, and these data support the notion of multiple strategies capturing the most information. At least in the current study, though, interviewer-rated personality dimensions from the SWAP-II seemed to correlate more strongly with attachment and adaptive functioning. Another consideration for the personality research is item overlap between PD and trait scales within the same measure. Because traits and disorders do relate (e.g., Larstone, Jang, Livesley, Vernon, & Wolf, 2002; Widiger, et al., 2002), this overlap within the same measure is somewhat unavoidable.

This study is one of the first to consider the empirical overlap between fearful and disorganized/unresolved attachment. Unfortunately each of these constructs could not be assessed by both self-report and interviewer-rated measures. Despite method variance, these data confirm that the disorganized/unresolved construct is closest to the fearful construct, but observed correlations were only small to moderate and therefore suggest

their distinctiveness. Continued investigation of these constructs may help integrate divergent models of adult attachment (Bartholomew, et al., 2001; Main, et al., 1985; Mikulincer & Shaver, 2007a).

Clinical Implications

The findings of this study may have clinical implications. First, these data suggest that despite overlap between attachment and personality pathology, they are both important in predicting adaptive functioning. One benefit of dimensional models of personality in clinical work is that even "normal" varieties can have a rightful place in case conceptualization. I believe the demonstrated relationships between attachment and various social, emotional, and behavioral outcomes relevant to psychopathology support attachment's clinical relevance as well. Case conceptualization can characterize insecure attachment (at least non-extreme varieties) not as a sign of psychopathology per se but as a clinically relevant characteristic that can affect (1) therapeutic alliance, (2) course of treatment, (3) symptom expression, and (4) available resources for any given individual. This greater attention to attachment would also fall in line with Tackett, Balsis, Oltmanns, and Krueger's (2009) call for greater consideration of developmental issues in revising the *DSM* and diagnosing personality pathology.

Conclusions

In sum, the current data confirm adult attachment and personality pathology constructs have both shared and distinct aspects. Though individual constructs showed distinct patterns of correlations, relationships were generally small-to-moderate between attachment in close relationships and personality. The multiple measures in this study also confirm that researchers should carefully attend to assessment strategies and

consider using multiple measures as appropriate. Finally, clinical implications include the incorporation of attachment as a separate but related domain to personality for consideration in case conceptualization. Future directions of research should include more attention to boundaries between attachment and personality as well as the particular aspects of personality that relate to attachment. These data, nevertheless, suggest that continuing to study these constructs and their complex relationships will continue to bear fruit for our understanding of development across the lifespan.

Chapter III:

Attachment, Object Relations, & Posttraumatic Stress Symptoms in a Traumatized, Urban Population: Evidence for the Mediating Role of Object Relations

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Abstract

Research has linked multiple risk and resiliency factors to the development of Posttraumatic Stress Disorder (PTSD) after trauma exposure. One potentially important construct for understanding connections between trauma exposure and PTSD is attachment in close relationships. Although relationships between attachment and risk for developing PTSD have been described theoretically, relatively little research has addressed the relationships between these constructs. Furthermore, aspects of object relations theory also overlap with attachment and PTSD but have not been adequately incorporated in empirical research. One proposed pathway between attachment and PTSD involves the mediating role of object relations, particularly views of self and of others. Present data were drawn from an NIMH-funded study investigating environmental and genetic risk factors for PTSD in low-SES, primarily African American individuals seeking care at a public urban hospital. Correlations and hierarchical regressions confirmed that adult attachment and object relations both relate to trauma exposure in childhood and adulthood as well as current self-reported PTSD symptoms. Mediational analyses generally found relationships between attachment constructs and PTSD were partially mediated by object relations. Based on these data, theoretical, clinical and research implications are discussed for understanding how particular aspects of attachment, specifically its affects on object relations, may protect against or predispose one to develop PTSD.

Trauma exposure affects approximately 50-60% of the United States population, with estimates from other countries sometimes higher (Kessler, 2000). For roughly 8% of the American population (Breslau et al., 1998; Kessler, et al., 1995), exposure to trauma can lead to a cluster of symptoms characterized in the current Diagnostic and Statistical Manual of Mental Disease (*DSM-IV-TR*, American Psychiatric Association, 2000) by avoidance of reminder cues of the trauma, hyperarousal, emotional numbing, and re-experiencing of the trauma that all fall under the umbrella of Posttraumatic Stress Disorder (PTSD). PTSD is associated with multiple physical, mental health, and quality of life problems including comorbid substance abuse, major depression, suicidality, work impairment, and difficulty utilizing healthcare services (Hoge, Terhakopian, Castro, Messer, & Engel, 2007; Kilpatrick et al., 2003; Sareen et al., 2007).

Though trauma is not uncommon, everyone who experiences a trauma does not develop PTSD, but we do not fully understand the factors related to risk and resilience. A range of pre-trauma, peri-trauma, and post-trauma factors have been identified as promoting risk for PTSD, but the combination and interaction of multiple factors are likely more responsible for risk than any single, isolated factor. Of pre-trauma risks, meta-analyses have shown previous trauma, prior adjustment and adverse childhood events, particularly abuse, to be associated with PTSD (Brewin, et al., 2000; Ozer, et al., 2003). Still, meta-analyses and other reviews have indicated that while pre-trauma risk factors do exist, the most powerful predictors were more proximal to the trauma (e.g., severity of the trauma, perceived life threat, peritraumatic dissociation, emotional experience, and perceived social support) (Brewin, et al., 2000; Keane, Marshall, & Taft, 2006; Ozer, et al., 2003). Social support, in particular, has been shown in cross-sectional

and longitudinal studies to predict less likelihood of developing PTSD and greater likelihood for recovery from PTSD (Charuvastra & Cloitre, 2008). Likely related to social support variables, personality characteristics such as general negative emotionality, lack of constraint, and unstable self esteem have also been implicated in development of PTSD and its comorbid problems (e.g., Kashdan, et al., 2006; M. W. Miller, 2003; M. W. Miller, et al., 2006).

Nevertheless, we do not know much about the mechanisms by which these factors affect risk for PTSD. One mechanism of how trauma leads to PTSD is through changing or reinforcing beliefs about oneself, others, and the world, and current empirically supported treatments that target these beliefs have shown efficacy in treating PTSD (Feeny & Foa, 2006; Resick, et al., 2008). Two developmental theories, that of attachment and of object relations, also address how these beliefs are formed in infancy and early childhood and then affect social, cognitive processing across the lifespan. As such, they may provide clues as to how prior beliefs and experiences can affect an individual's processing of a traumatic experience.

Attachment & Object Relations

One place to begin looking for the psychological mechanisms underlying risk for PTSD would be within a theoretical framework that can bind disparate risk factors. A framework closely tied to known risk factors across the pre-trauma to post-trauma spectrum (e.g., childhood abuse, emotional experiences, social support) is attachment theory (J. Bowlby, 1969). Attachment theory argues that a behavioral system activated in infancy to aid in infant bonding with a caregiver remains active throughout the lifespan and affects the emotional experiences and behavioral responses within close

relationships. An individual's attachment history, beginning in infancy, colors each person's expectations of self and others in relationships to varying degrees. Attachment expectations can be more or less secure, that is, consisting of positive expectations of self and others and a willingness to trust and seek out mature relationships.

Although originating from psychodynamic thinking, attachment research has spread across many domains of psychology. More recently, some researchers have returned to its psychodynamic roots and have begun to study empirically attachment's relation to object relations and social cognition (e.g., Calabrese, Farber, & Westen, 2005; Fonagy, et al., 2002; Goldman & Anderson, 2007; Priel & Besser, 2001; Shaver & Mikulincer, 2005). Object relations theory considers the development of the self in relation to the early social environment and the internalization of early experiences in relationships and their continuing influence throughout life (see Fairbairn, 1954; Klein, 1975b; Winnicott, 1953). The theoretical similarities are apparent given that both approaches focus on mental representations of self, others, and relationships and how one does or does not make use of his/her social support (Charuvastra & Cloitre, 2008).

Theoretical distinctions between attachment and object relations also exist. One distinction is that object relations theories place greater emphasis on the role of implicit, internal re-workings of interpersonal experiences. Another distinction is that object relations theories describe the internalized objects as affecting more general representations of self and others than attachment theory. Attachment-related views of self and others focus more on the expectations of self and others in close relationships. For attachment theory to explain even partially the development of PTSD, it must account for how these specific expectations about close relationships transform to

broader generalizations about self and others often present in PTSD. One pathway is through the influence of attachment-related experiences and expectations on the more generalized beliefs of object relations.

Studies on the empirical associations between attachment and object relations are limited. Calabrese et al. (2005) found that self-reported attachment-related scales of feared loss, perceived unavailability, and lack of use of attachment figures correlated with various narrative-based object relations ratings. Consistent with the pathway proposed above, some evidence suggests that object relations mediates some effects of attachment; for example, Priel and Besser (2001) found object relations variables (e.g., complexity and benevolence of representations) almost completely mediated attachment's effects on mother's antenatal attachment to their offspring. This study also confirmed that despite theoretical similarities, the object relations and attachment variables did not load on a single overarching latent construct, thus confirming their distinctiveness. One weakness of this analysis, though, was that the attachment variables were self-report and the object relations variables were narrative-based ratings, so method variance might explain their separate loadings.

Attachment & Object Relations' Connections to PTSD

Theoretically, attachment, object relations, and PTSD all deal with one's views of self and others, but empirical research has rarely addressed all three areas simultaneously. The following section reviews selected research that independently ties attachment or object relations to PTSD symptoms.

Attachment. In the context of PTSD, attachment and more specifically its effects on social cognition may give us further clues into why some individuals develop PTSD

and others do not (Charuvastra & Cloitre, 2008). Research on attachment and PTSD has increased exponentially over the past decade. Generally findings support a connection between attachment anxiety and PTSD symptoms with mixed or null findings regarding attachment avoidance (e.g., Besser & Neria, 2010; Declercq & Willemsen, 2006; Mikulincer, Florian, & Weller, 1993; Mikulincer, Horesh, Eilati, & Kotler, 1999; Muller, Sicoli, & Lemieux, 2000). For example, Besser and Neria (2010) found Israel-Gaza war civilians' attachment anxiety ratings positively correlated with both war time and post-cease fire PTSD symptoms whereas attachment avoidance ratings at both times were near zero. Perceived social support ratings had very similar correlations with PTSD symptoms as attachment anxiety but in the opposite direction. In contrast, other studies have found attachment avoidance positively correlated with PTSD symptoms, some even after controlling for demographics (e.g., Cohen, Dekel, & Solomon, 2002; Dekel, Solomon, Ginzburg, & Neria, 2004; Fraley, Fazzari, Bonanno, & Dekel, 2006; O'Connor & Elklit, 2008; Renaud, 2008; Z. Solomon, Ginzburg, Mikulincer, Neria, & Ohry, 1998).

The role of attachment in PTSD has been explored through tests of moderation and mediation. Studies of moderation have usually assumed attachment security as a protective factor against PTSD. For example, Scott and Babcock (2010) found that when attachment anxiety is high, women's exposure to intimate partner violence is more associated with PTSD symptoms. However, of note, other evidence suggests attachment security's protective role may not always hold, particularly when the level of trauma severity is moderate to high (Elwood & Williams, 2007; Harari et al., 2009; Kanninen, Punamaki, & Qouta, 2003).

Regarding mediation, some researchers have treated attachment as part of the causal nexus that links traumatic exposure to PTSD symptoms. Besser, Neria, and Haynes (2009) found attachment anxiety's positive association with PTSD symptoms was partially mediated by perceived social support when controlling for age and gender. Attachment avoidance's positive correlation with PTSD symptoms did not remain after controlling for age and gender. In addition, Benoit, Bouthillier, Moss, Rousseau, and Brunet (2010) found that attachment security's negative association with PTSD symptoms was mediated by substance use and emotion-focused coping strategies.

Alternatively, some researchers have conceptualized attachment insecurity as one of the effects of trauma exposure (e.g., Bogaerts, et al., 2008). Sandberg, Suess, and Heaton (2010) tested a mediational model in which they established attachment anxiety as a partial mediator between women's exposure to interpersonal and intimate partner violence and PTSD symptoms. Sandberg et al. did not test potential mediation by attachment avoidance even though it also demonstrated a positive correlation with PTSD symptoms. Twaite and Rodriguez-Srednicki (2004) identified attachment security, alongside dissociation proneness, as a mediator between histories of childhood sexual and/or physical abuse and adult PTSD. Similarly, Cloitre, Stovall-McClough, Zorbas, and Charuvastra (2008) used a path analysis to confirm childhood maltreatment's effects on later functional impairment were mediated by insecure attachment (particularly preoccupied attachment) and its effects on emotion regulation and expectations of social support.

Object relations. Although less extensive than research with attachment, some studies testing connections between object relations and trauma also exist. Research with

children, adolescents, and adults have found those abused as children have more negative affective expectations of relationships, poorer understanding of social causality, and lower capacity for emotional investment in relationships and morals (Freedenfeld, Ornduff, & Kelsey, 1995; Nigg et al., 1991; Ornduff & Kelsey, 1996; Westen, Ludolph, Block, Wixom, & Wiss, 1990). Laor, Wolmer and Cohen (2001) found that after a war-related trauma, Israeli mothers' overall object relation scores correlated with their children's PTSD symptoms with healthier object relations resulting in lower PTSD symptoms in their children. In adolescents, Haviland, Sonne, and Woods (1995) found that PTSD symptoms positively correlated with self-reported object relation variables of egocentricity and insecure attachment (as measured by the Bell Object Relations & Reality Testing Inventory, BORRTI; M. Bell, Billington, & Becker, 1986) in a small sample of abused, conduct disordered adolescents. For adults, Regehr and Marziali (1999) found all four BORRTI object relation scales (alienation, egocentricity, insecure attachment, and social insecurity) positively correlated with PTSD symptoms in a sample of female rape victims, and Regehr, Hill and Glancy (2000) found the BORRTI scales of alienation and attachment insecurity accounted for 22% of the variance in traumatic stress levels in a sample of firefighters. Though the research is limited, connections between object relations, trauma, and PTSD appear consistent.

The Current Investigation

Knowing that attachment in close relationships and object relations are independently related to PTSD provides only an initial understanding of potential roles of each in the development of PTSD. The role of models of self, others, and the world cut across theoretical orientations and phenomena related to adult attachment, object

relations, and PTSD; thus, further explication of their connections may provide clues about the process involved in attachment's role in making one vulnerable or resilient to the onset of PTSD. Thus, the purpose of this study is to explore the interrelationships of attachment, object relations, and PTSD symptoms with validated measures in a highly traumatized sample. Particularly important is the testing of mediational models to explore which aspects of object relations might help explain attachment's connections with PTSD.

Although not ignoring differences in constructs reflected in the split between self-report and narrative/interviewer-based measurement, interpretation of results situates findings within an integrative model of adult attachment proposed by Bartholomew, Kwong, and Hart (2001) and Mikulincer and Shaver (2007a) (see Figure 1). This model combines the attachment dimensions of anxiety and avoidance with the dimensions of views of self and views of others, respectively. In addition, the resultant quadrants are labeled in terms of the four dominant attachment styles of secure, preoccupied, dismissing, and fearful. The use of multiple assessment strategies also addresses the possibility of explicit (self-report) and implicit (interview-based) attachment constructs being distinct. The most debated aspect of this model is the placement of unresolved or disorganized classification (Main & Hesse, 1990; Main & Solomon, 1986). Thus, data analysis pays careful attention to addressing disorganized/unresolved attachment as separate from fearful attachment (high anxiety, high avoidance) while noting the different methods used to measure each construct.

Based on theoretical predictions and previous research, I hypothesize that object relation will mediate part of the relationship between attachment and PTSD. Given that

attachment, object relations, and PTSD all deal to some degree with one's views of self and views of others, I expect that object relations variables related to views of self (here labeled *self-esteem*) and views of others (here labeled *affective representation of others*) will be most consistently and strongly associated with both attachment and PTSD symptoms. Furthermore, I hypothesize these variables will mediate the relationship between attachment and PTSD. The following are specific hypotheses about the proposed mediators for each attachment construct:

Attachment Dimensions

- The object relations variable of *self-esteem (views of self)* will mediate the expected positive relationship between *attachment anxiety* and PTSD symptoms.
- The object relations variable of *affective quality of representations of others* will mediate the expected positive relationship between *attachment avoidance* and PTSD symptoms.
- The object relations variables *affective quality of representations of others* and *self-esteem (views of self)* will negatively correlate with PTSD symptoms.

Attachment Prototypes

- The object relations variables *affective quality of representations of others* and *self-esteem (views of self)* will mediate the relationship between *attachment prototype* (i.e., secure, dismissing, preoccupied, disorganized/unresolved) ratings and PTSD symptoms.
- Whereas *secure attachment* ratings will positively correlate with the proposed object relations mediators, the *dismissing, preoccupied, and*

disorganized/unresolved attachment ratings will negatively correlate with the proposed object relations mediators.

Methods

Sample

We collected this data as part of a larger study investigating the roles of genetic and environmental factors in predicting PTSD diagnosis in a low socioeconomic status (SES), primarily African American adult population present in the waiting rooms of the primary care clinic and obstetrical-gynecological clinic of an urban, public hospital. Research participants were approached while waiting for their medical appointments or while waiting with others who were scheduled for medical appointments. Eligibility requirements included ability to give informed consent. We first conducted an initial screening interview in the hospital clinic waiting rooms at the time participants were recruited. This evaluation involved completion of a 45-75-minute battery of self-report measures in a sample of 2708 participants. The length of the screening interview was dependent in large part on the extent of the participant's trauma history and symptoms. In all study evaluations, we read instruments to participants because of relatively poor literacy levels. The subset of participants (N = 263) whose data are presented here were also scheduled for more comprehensive assessments in which they completed more extensive interview-based assessments of trauma exposure, history of childhood abuse, PTSD symptoms, personality, attachment, and other biological and psychiatric assessments. Because each analysis was conducted independently with all data available, the number of participants for each analysis varies (N = 178 – 1433). Details of this process are described in prior studies (e.g., Schwartz, et al., 2006; Schwartz, et al., 2005).

Measures

Demographics Screening Instrument (DSI). The DSI obtains basic demographic data including race/ethnicity, age, marital status, income, current living situation and level of education.

Childhood Trauma Questionnaire (CTQ). The CTQ is a 28-item validated self-report measure of child maltreatment (Bernstein & Fink, 1998). The CTQ yields a total continuous score as well as subscale scores, each corresponding to 5 items rated on a 5-point scale from 1 (*never true*) to 5 (*very often true*). In this paper the relevant variables include those from the total, physical, sexual and emotional abuse subscales. The CTQ has demonstrated consistent test-retest reliability, internal consistency and validity, including in another large community sample (Scher, Stein, Asmundson, McCreary, & Forde, 2001).

Traumatic Events Inventory (TEI). This instrument is a 13-item structured interview that assesses lifetime history of traumatic experiences including experiencing, witnessing, and being confronted with these stressors (B. O. Rothbaum & Davidson, 2005; Schwartz, et al., 2005). Grady Trauma Project researchers developed the TEI in the course of prior work in the Grady primary care population. Items probe for whether a participant has experienced common traumatic experiences such as interpersonal assault, child abuse, and car accidents. The relevant variable for this study is the total score for traumatic events experienced, not witnessed, in adulthood.

PTSD Symptom Scale (PSS). The PSS is a 17-item self-report scale assessing frequency of PTSD symptomatology over the prior 2 weeks (Falsetti, Resnick, Resick, & Kilpatrick, 1993; Foa & Tolin, 2000; Schwartz, et al., 2006; Schwartz, et al., 2005). The

frequency of each of the 17 *DSM-IV* (APA, 1994) symptoms are rated from 0 (*not at all*) to 3 ($\geq$ *5 times a week*) and summed to obtain a continuous measure. In this sample, the PSS had strong internal consistency (Cronbach's $\alpha = .92$).

Clinical Diagnostic Interview (CDI). The CDI is a 2-3 hour systematic clinical interview, designed to systematize and standardize the kind of interviewing approach typically used by experienced clinicians (Westen, 2011; Westen & Muderrisoglu, 2006). Following initial questions about the nature and history of current symptoms, the interviewer asks patients about a series of significant interpersonal relationships from the past and present, their work history, particularly stressful or difficult times, their moods and emotions, and their characteristic ways of thinking. For each of these categories, the interviewer follows general questions with instructions to describe specific episodes or examples. Although the CDI includes direct questions (e.g., self-injurious behavior), it does not ask patients to describe their personalities. Rather, it asks them to tell narratives about their lives that allow the interviewer to make judgments about their characteristic ways of thinking, feeling, regulating emotions, experiencing themselves and others, and so forth. CDI interviewers were primarily experienced psychologists or psychiatrists. In addition, select advanced-level doctoral students with their master's degree and major coursework completed also conducted the CDI after reliability training. All interviewers were blind to other interview data (e.g., SCID, SNAP), and vice versa.

Social Cognition and Object Relations Scale – Global Rating Version (SCORS-G). Also after completing the CDI, advanced clinical interviewers used the SCORS-G (Hilsenroth, Stein, & Pinsker, 2004) to give ratings of participants' quality of object relations. The SCORS-G is a simplified version of the original SCORS which was

first developed for use on responses from the Thematic Apperception Test (TAT; Murray, 1943) and later adapted for other narratives (Westen, 1985, 1991a, 1995). The SCORS-G consists of eight ratings on a 7-point scale with lower scores indicating less psychological health. The eight scales tap participants' complexity of representations of others (*complexity*), affective quality of representations (*affective quality*), capacity for emotional investment in relationships (*relationships*), investment in morals and values (*morals*), understanding of social causality (*social causality*), management of aggressive impulses (*aggression control*), views and feelings towards self (s*elf-esteem*), and identity and coherence of self (*identity*) (see Ackerman, Clemence, Weatherill, & Hilsenroth, 1999). Multiple studies have found acceptable convergent validity and inter-rater reliability when using TAT responses, therapy content, dream narratives, and interview data (e.g., Ackerman, et al., 1999; Ackerman, Hilsenroth, Clemence, Weatherill, & Fowler, 2000; Eudell-Simmons, Stein, DeFife, & Hilsenroth, 2005; Huprich & Greenberg, 2003; Porcerelli et al., 2006). In this study, the inter-rater reliability for the SCORS-G was strong (intraclass $r = .72$).

Experiences in Close Relationships Scale – Revised Edition (ECR-R). The ECR-R is a 36-item, self-report of an individual's thoughts, feelings, and behaviors in close relationships. Fraley, Waller, and Brennan (2000) used item-response theory to revise the original scale from Brennan, Clark, and Shaver's (1998) large factor analysis of adult attachment measures. The ECR-R items load on two factors—attachment anxiety and attachment avoidance, which form the two-dimensional space seen in Figure 1.

Adult Attachment Prototype Questionnaire (AAPQ). After completing the CDI, advanced clinical interviewers gave participants 5-point ratings of degree of match

to four attachment prototypes and then categorized participants into one dominant style (Westen & Nakash, 2005; Westen, Nakash, et al., 2006). The four prototypes included *secure* ("can rely on the availability and sensitivity of the people they love"), *dismissing* ("tend to minimize or dismiss the importance of close relationships"), *preoccupied* ("seek intense emotional intimacy with others but constantly feel ambivalent about them"), and *disorganized/unresolved* ("tend to respond to intimate relationships in ways that appear inconsistent, contradictory, or dissociative"). Data from our research group indicated strong inter-rater reliability for this measure (intraclass $r = .76$).

Statistical Analyses

The statistical analyses consist of two stages. First, the zero-order relationships among the attachment, object relations, and trauma-related variables are explored through correlational analyses. These correlations are used to corroborate or disconfirm the specific bidirectional, *a priori* hypotheses. Second, the relative abilities of attachment and object relations variables to predict PTSD symptoms are compared through hierarchical regressions. Third, tests of mediation, following Baron and Kenny (1986), are conducted in which the *a priori* hypothesized object relations variables are designated as potential mediators for the relationship between attachment variables and self-reported PTSD symptoms. In mediational analyses, attachment variables are analyzed separately whereas object relation variables, if more than one is proposed, are entered simultaneously to assess each variable's relative responsibility in contributing to the prediction of current PTSD symptoms. As a relatively conservative check for significance (MacKinnon, Warsi, & Dwyer, 1995), Sobel's *Z*-tests are conducted to test the significance of the mediation for each specified path

Results

Attachment & Object Relations

Attachment prototypes & dimensions. Adult attachment constructs, as measured by the ECR-R and AAPQ, correlated generally in the expected pattern (see Table 3). The two ECR-R attachment dimensions had a small yet significant positive correlation ($r = .17$). The AAPQ prototype ratings generally had moderate negative correlations with each other with two exceptions. Specifically, the preoccupied and disorganized/unresolved prototypes had a small, significant positive correlation ($r = .15$) whereas the dismissing and disorganized/unresolved prototypes did not significantly correlated with one another. As predicted by the integrated model of attachment constructs (see Figure 1), the ECR-R's attachment anxiety dimension correlated positively with the AAPQ's preoccupied ($r = .29$) and disorganized/unresolved prototype ratings ($r = .22$) and negatively with the secure ($r = -.19$) and dismissing prototype ratings ($r = -.17$). Also as predicted, the ECR-R's attachment avoidance dimension correlated positively with the AAPQ's dismissing ($r = .26$) and disorganized/unresolved prototypes ($r = .16$) and negatively with the secure prototype ($r = -.25$). However, attachment avoidance did not significantly correlate with the preoccupied prototype.

Though the pattern of correlations was generally in the expected direction, the self-reported ECR-R attachment dimensions only accounted for a portion of the variance in interviewer-rated AAPQ prototype ratings and vice versa. The ECR-R dimensions accounted for 12.0% (R^2) of the variance in the secure, ($F[2, 169] = 11.5$, $p < .001$), 7.0% of the dismissing ($F[2, 167] = 6.3$, $p = .002$), 11.2% of the preoccupied ($F[2, 169] = 10.7$, $p < .001$), and 5.5% of the disorganized/unresolved AAPQ prototypes ($F[2, 167] = 4.8$, p

= .009). In the reverse, the AAPQ prototypes accounted for 14.5% of the variance in attachment anxiety ($F[4, 200] = 8.5$, $p < .001$) and 10.6% of the variance in attachment avoidance ($F[4, 183] = 5.4$, $p < .001$).

Object relations & social cognition variables. All eight variables from the SCORS-G were highly intercorrelated (see Table 9). Correlations ranged from .42 (for complexity and self-esteem) to .74 (for complexity and social causality). The two proposed mediators between attachment and PTSD symptoms, affective quality of representations and self-esteem were positively correlated, $r = 61$. Because of the high intercorrelations, a factor analysis using unweighted least squares was conducted to test whether these dimensions capture one or more latent variables. A single factor accounted for 60.2% of the variance, and inspection of the scree plot confirmed that a one-factor solution was most appropriate. Table 10 displays the loadings of each SCORS-G dimension on the global object relations factor. Based on this factor analysis, a global object relations variable was created by calculating each participant's mean on all eight SCORS-G scales (Cronbach's $\alpha = .90$).

Attachment and object relations. As expected, attachment and object relations variables generally showed moderate-to-strong correlations (see Table 11). Attachment anxiety negatively correlated with object relation variables with the exception of non-significant relations with complexity and social causality. Similarly, attachment avoidance negatively correlated with the same variables as well as social causality. Of the attachment prototypes, secure attachment's positive relationships with object relations variables were the strongest with magnitudes ranging from its correlation with aggression control ($r = .42$) to affective quality of representations ($r = .70$) and global object

relations (r = .71). Dismissing and disorganized/unresolved ratings also negatively correlated with all object relations variables, though to a smaller degree. Of all the attachment variables, preoccupied ratings had the fewest significant correlations with object relations; however, its sole significant correlations were the hypothesized negative ones with the proposed mediators, affective quality of representations and self-esteem (for both, r = -.24), and with the global object relations variable (r = -.13).

Most object relations variables correlated significantly with at least five of the six attachment constructs. The only exceptions were complexity and social causality, which did not correlate with attachment anxiety or preoccupied ratings. Complexity also did not correlate with attachment avoidance. Two object relations scales, the proposed mediators affective quality and self-esteem, correlated with all six attachment constructs. Affective quality's strongest correlation was its positive one with secure ratings (r = .70) followed by its negative one with disorganized/unresolved ratings (r = -.35). Self-esteem's strongest correlation was also its positive one with secure ratings (r = .60), but its strongest negative correlation was with attachment anxiety (r = -.40).

Relations with Trauma & PTSD Symptoms

Attachment. Relationships between attachment constructs and trauma-related variables were generally significant with small-to-moderate correlations (see Table 12). The primary exception was dismissing ratings' lack of relationships with childhood and adulthood trauma or current PTSD symptoms. All other attachment constructs correlated significantly with at least four of the six trauma-related variables. On the whole, attachment and childhood trauma variables from the CTQ had small-to-moderate correlations. The CTQ total scale correlated positively with attachment anxiety (r = .33),

attachment avoidance (r = .17), preoccupied ratings (r = .27), and disorganized/unresolved ratings (r = .25) and negatively with secure ratings (r = -.19). Of the CTQ subscales, the emotional abuse scale correlated most consistently with attachment and included positive relationships with attachment anxiety (r = .28), attachment avoidance (r = .16), preoccupied ratings (r = .24), and disorganized/unresolved ratings (r = .27) and a negative relationship with secure ratings (r = -.20). The sexual abuse scale only correlated with attachment anxiety (r = .28), preoccupied ratings (r = .18), and disorganized/unresolved ratings (r = .15), and the physical abuse scale only with attachment anxiety (r = .17), attachment avoidance (r = .14), and preoccupied ratings (r = .21).

Attachment constructs' relations to adult trauma-related variables were also explored. The TEI adult total scale only positively correlated with preoccupied (r = .14) and disorganized/unresolved (r = .17) ratings and negatively with secure ratings (r = -.20). As hypothesized, except for dismissing ratings, the attachment constructs correlated with current PTSD symptoms. PSS total scores correlated positively with attachment anxiety (r = .29), attachment avoidance (r = .15), preoccupied ratings (r = .25), and disorganized/unresolved ratings (r = .23) and negatively with secure ratings (r = -.20).

Object relations. With two exceptions, relationships between the object relations variables and trauma-related variables were also generally significant with small-to-moderate negative correlations (see Table 13). The two exceptions were that complexity did not significantly correlate with any trauma variable whereas social causality only had small negative correlations with the CTQ's total (r = -.13) and physical abuse (r = -.14) scales. The other object relation variables negatively correlated with at least five of the

six trauma-related variables. If a correlation between the other object relations variables and a trauma-related variable was not significant, it was consistently the CTQ's sexual abuse scale that did not correlate. The CTQ's sexual abuse scale only correlated negatively with affective quality (r = -.17), aggression control (r = -.20), and self-esteem (r = -.23). Three specific object relations scales correlated negatively with all six trauma-related variables. They were aggression control and the proposed mediators, affective quality of representations and self-esteem. Regarding the trauma exposure variables, affective quality and aggression control most strongly correlated with CTQ emotional abuse (r = -.31 and r = -.27, respectively); self-esteem most strongly correlated with the CTQ's emotional abuse and total scales (both r = -.29). Current PTSD symptoms negatively correlated with all object relations variables except complexity and social causality. The PSS total scale correlated strongest with self-esteem (r = -.36) followed by affective quality (r = -.29), identity (r = -.29), global object relations (r = -.26), morals (r = -.24), relationships (r = -.19), and aggression control (r = -.18).

Incremental validity. As a secondary analysis, hierarchical regressions tested the relative abilities of the set of attachment variables with the set of object relations variables in their prediction of PTSD symptoms. Because of the high multicollinearity, individual results for each predictor are likely highly unstable. Thus, only the model statistics are reported. The set of six attachment variables significantly predicted 13.6% (R^2) of self-reported PTSD symptoms, $F(6, 139) = 3.6$, $p = .002$. Adding the set of object relations variables added an additional 10.8% (ΔR^2) to the model's prediction, $R^2 = .244$, $F(8, 131) = 2.3$, $p = .022$. When reversing the order, the set of object relations variables alone accounted for 18.4% of variance, $F(8, 137) = 3.9$, $p < .001$, but adding the set of

attachment variables only added a non-significant 6.0% to the model's prediction, R^2 = .244, $F(6, 131) = 1.7$, $p = .119$.

Mediational Analyses for Attachment Dimensions

Baron and Kenney (1986) outlined four steps in testing mediation through multiple regressions. First, the predictor variable (here, each attachment construct) must correlate with the outcome variable (current PTSD symptoms as measured by the PSS). Second, the predictor variable must correlate with the proposed mediator(s) (here, the object relations variables of self-esteem and/or affective quality of representations). Third, the mediator variable(s) must predict the outcome variable while controlling for the predictor variable. Fourth, to argue for *complete* mediation, the predictor variable's relationship to the outcome variable must equal zero when the mediator variable(s) are included in the model. This fourth step does not refer to significance testing but to the actual size of the standardized coefficient (β) in the final regression model. If the fourth step is the only step not met, then *partial* mediation has occurred. An additional final step is to test if the observed mediation is significant through Sobel's Z-test. The mediational analyses discussed below are presented in hierarchical regression tables (see Tables 18-23) and mediation figures (see Figures 3-8). The above results on bidirectional relationships confirmed that the object relations variables of self-esteem and affective quality of representations of others had the most consistent and usually strongest relationships with attachment and with PTSD symptoms, as hypothesized. Thus, I continued with the original hypothesized mediation models. Because *a priori* directional hypotheses drove the mediational analyses, the regression analyses report one-tailed significance levels.

Attachment anxiety. The object relations variable self-esteem was hypothesized to mediate attachment anxiety's relationship with current PTSD symptoms. Table 14 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 14, attachment anxiety met step 1's requirement of significantly predicting the outcome variable ($\beta = .29$, $p < .001$) and accounted for 8.5% of the variance in current PTSD symptoms. For step 2, a separate regression confirmed attachment anxiety ($\beta = -.40$) significantly predicted self-esteem ($R^2 = .156$, $F[1, 202] = 37.3$, $p < .001$). In the final model of Table 14, step 3 was confirmed by showing self-esteem's significant prediction of current PTSD symptoms ($\beta = -.22$, $p = .003$) while controlling for attachment anxiety. As the test for complete mediation, step 4 was not met because attachment anxiety remained a significant though diminished, non-zero predictor for PTSD symptoms in the final model ($\beta = -.20$, $p = .005$). The final model accounted for 11.5% (R^2) of the variance in current PTSD symptoms. Figure 3 shows the mediation model with zero-order and final standardized coefficients (β's) for each path. A Sobel's Z-test confirmed significant, partial mediation, $Z = 4.2$, $p < .001$.

Attachment avoidance. The object relations variable affective quality of representations was hypothesized to mediate attachment avoidance's relationship with current PTSD symptoms. Table 15 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 15, attachment avoidance met step 1's requirement of significantly predicting the outcome variable ($\beta = .14$, $p = .029$) but accounted for only 1.5% (R^2) of the variance in current PTSD symptoms. For step 2, a separate regression confirmed attachment avoidance ($\beta = -.27$) significantly predicted affective quality of representations ($R^2 = .070$, $F[1, 192] = 14.5$, $p < .001$). In

the final model of Table 15, step 3 was confirmed by showing affective quality's significant prediction of current PTSD symptoms (β = -.29, p < .001) while controlling for attachment avoidance. As the test for complete mediation, step 4 was met in terms of significance level; however, attachment avoidance's standardized coefficient was non-zero (β = .07, p = .155), despite being diminished from the first model. The final model accounted for 9.0% of the variance in current PTSD symptoms. Figure 4 shows the mediation model with zero-order and final standardized coefficients (β's) for each path. A Sobel's Z-test confirmed significant mediation, Z = 3.0, p = .003.

Mediational Analyses for Attachment Prototypes

For the following attachment prototypes, both object relations variables (i.e., self-esteem and affective quality of representations) were hypothesized as mediators.

Secure attachment. Table 16 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 16, secure attachment met step 1's requirement of significantly predicting the outcome variable (β = -.21, p < .001) and accounted for 4.3% (R^2) of the variance in current PTSD symptoms. For step 2, two separate regressions confirmed secure attachment significantly predicted self-esteem (β = .60, R^2 = .362, F[1, 255] = 144.9, p < .001) and affective quality of representations (β = .70, R^2 = .487, F[1, 261] = 247.5, p < .001). In the final model of Table 16, step 3 was confirmed for both mediators. While controlling for secure attachment, self-esteem (β = -.28, p < .001) and affective quality of representations (β = -.21, p = .009) significantly and independently predicted current PTSD symptoms. As the test for complete mediation, step 4 was met in terms of significance level, but secure attachment's standardized coefficient was non-zero in the final model (β = .11, p = .112).

Moreover, the direction of the relationship changed from negative to positive which is suggestive of a possible yet unexpected suppression effect. The final model accounted for 13.9% of the variance in current PTSD symptoms. Figure 5 shows the mediation model with zero-order and final standardized coefficients (β's) for each path. Sobel's *Z*-tests confirmed significant, independent mediation for self-esteem, $Z = 5.5$, $p < .001$, and for affective quality of representations, $Z = 4.6$, $p < .001$.

Dismissing attachment. Table 17 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 17, dismissing attachment did not meet step 1's requirement of significantly predicting the outcome variable ($\beta = .00$, $p = .475$). Though not hypothesized, failing to meet step 1 does not necessarily mean mediation has not occurred, especially in models with multiple mediators (Kenny, Kashy, & Bolger, 1998; MacKinnon, Fairchild, & Fritz, 2007). An example of how this situation can occur is when multiple mediators exist but exert their influence on the outcome variable in opposite directions, a situation termed "inconsistent mediation" (MacKinnon, et al., 2007, p. 602). Thus, the remaining steps were still conducted to rule out the possibility of inconsistent mediation or suppression.

For step 2, two separate regressions confirmed dismissing attachment significantly predicted self-esteem ($\beta = -.14$, $R^2 = .020$, $F[1, 252] = 5.1$, $p = .026$) and affective quality of representations ($\beta = -.25$, $R^2 = .059$, $F[1, 258] = 17.1$, $p < .001$). In the final model of Table 17, step 3 was confirmed for both mediators. While controlling for dismissing attachment, self-esteem ($\beta = -.25$, $p < .001$) and affective quality of representations ($\beta = -.17$, $p = .013$) significantly and independently predicted current PTSD symptoms. Because the directions of the mediating relationships were identical,

these data do not support mediation, inconsistent or otherwise. In the final model, dismissing attachment's standardized coefficient was non-zero but only marginally significant (β = -.09, p = .088). The relationship between dismissing attachment and PTSD symptoms changed from zero to a negative one which is suggestive of a possible suppression effect, but the relationship was opposite of that hypothesized. The final model accounted for 13.6% (R^2) of the variance in current PTSD symptoms.

Preoccupied attachment. Table 18 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 18, preoccupied attachment met step 1's requirement of significantly predicting the outcome variable (β = .24, p < .001) and accounted for 5.5% (R^2) of the variance in current PTSD symptoms. For step 2, two separate regressions confirmed preoccupied attachment significantly predicted self-esteem (β = -.24, R^2 = .057, F[1, 255] = 15.4, p < .001) and affective quality of representations (β = -.24, R^2 = .057, F[1, 261] = 15.7, p < .001). In the final model of Table 18, step 3 was confirmed by self-esteem's significant (β = -.25, p < .001) and affective quality of representations' marginally significant (β = -.12, p = .060), independent prediction of current PTSD symptoms, while controlling for preoccupied attachment. As the test for complete mediation, step 4 was not met because preoccupied attachment's standardized coefficient, though diminished, remained significant in the final model (β = .15, p = .009). The final model accounted for 16.0% of the variance in current PTSD symptoms. Figure 6 shows the mediation model with zero-order and final standardized coefficients (β's) for each path. Sobel's Z-tests confirmed significant and independent partial mediation for self-esteem, Z = 3.3, p < .001, and for affective quality of representations, Z = 3.0, p = .002.

Disorganized/unresolved attachment. Table 19 displays the results of the hierarchical regression for testing mediation. As can be seen in the first model of Table 19, disorganized/unresolved attachment met step 1's requirement of significantly predicting the outcome variable ($\beta = .25$, $p < .001$) and accounted for 6.0% (R^2) of the variance in current PTSD symptoms. For step 2, two separate regressions confirmed disorganized/unresolved attachment significantly predicted self-esteem ($\beta = -.32$, $R^2 = .100$, $F[1, 254] = 28.2$, $p < .001$) and affective quality of representations ($\beta = -.35$, $R^2 = .122$, $F[1, 260] = 36.2$, $p < .001$). In the final model of Table 19, step 3 was confirmed by self-esteem's significant ($\beta = -.25$, $p < .001$) and affective quality of representations' marginally significant ($\beta = -.12$, $p = .064$), independent prediction of current PTSD symptoms, while controlling for disorganized/unresolved attachment. As the test for complete mediation, step 4 was not met because disorganized/unresolved attachment's standardized coefficient was diminished but remained significant in the final model ($\beta = .13$, $p = .021$). The final model accounted for 15.8% of the variance in current PTSD symptoms. Figure 7 shows the mediation model with zero-order and final standardized coefficients (β's) for each path. Sobel's Z-tests confirmed significant, independent mediation for self-esteem, $Z = 4.0$, $p < .001$, and for affective quality of representations, $Z = 3.8$, $p < .001$.

Discussion

Summary & Discussion of Current Findings

Direct relationships. The findings of this study confirm robust relationships among attachment in close relationships, object relations, and PTSD symptoms in adulthood. Bivariate correlations identified relationships between similar constructs as

well as separate ones. First, the attachment measures relied on two different assessment strategies (i.e., self-report vs. interviewer-rated) and measured distinct yet related constructs (i.e., emotional and behavioral traits vs. the gestalt of narrative qualities and behavior in relationships). The self-report ECR-R dimensions of anxiety and avoidance correlated in the expected directions with the interviewer-rated AAPQ prototypes with the exception of attachment avoidance not correlating with the preoccupied prototype. The overall pattern confirmed that despite important differences in strategy and constructs, adult attachment patterns generally fit that seen in Figure 1. Follow-up regressions also confirmed that each measure captures distinct information not fully assessed by the other, which supports (1) Mikulincer and Shaver's (2007c) notion that the multi-faceted nature of attachment may require diverse assessment strategies and/or (2) the possibility of that explicit and implicit attachment constructs are distinct. Similarly, the object relations dimensions of the SCORS-G were highly intercorrelated, and a factor analysis confirmed a single latent factor accounted for over 60% of the variance. This high degree of overlap is consistent with, for example, Priel and Besser's (2001) finding that an overall object relations latent variable accounted for a large proportion of the variance in narrative-based parental representation dimensions. Nevertheless, the individual object relations dimensions still showed distinct and at times widely different relationships with other constructs, thus supporting the utility in specifying what aspects of object relations are assessed.

One such example of their distinct correlations is when comparing attachment and object relations. Object relations' correlation magnitudes were strong, positive and consistent with secure attachment but much less consistent with preoccupied attachment.

Correlations with attachment anxiety and avoidance and with dismissing and disorganized attachment were negative but small-to-moderate. Thus, healthy object relations appear to be most associated with the degree of secure attachment rather than particular forms of insecure attachment. In other words, the gestalt of secure attachment seems to hold more information than the simple lack of insecure attachment or low levels of attachment anxiety or avoidance. Furthermore, the two object relations variables that correlated with every attachment construct were the proposed mediators—self-esteem and affective quality of representations—which is consistent with the integrative model of attachment constructs (see Figure 1). These correlations speak most to the interpretation of attachment anxiety and avoidance corresponding to views of self and views of others. Though correlations between attachment avoidance and affective quality of representations (views of others) and between attachment anxiety and self-esteem (views of self) were in the expected directions, the correlations between attachment avoidance and self-esteem and between attachment anxiety and affective quality of representations were also significant and negative. In addition, the correlations between preoccupied attachment and affective quality of representations and between dismissing attachment and self-esteem were negative, not positive as expected from the integrative model. Other studies (Collins & Read, 1990; Hazan & Shaver, 1987; Pietromonaco & Barrett, 1997) have also found similar results with preoccupied and dismissing attachment having similarly negative views of others (see Pietromonaco & Barrett, 2000).

These patterns may be due to attachment-related views of self and of others (1) not being equivalent to these object relations variables and/or (2) being more distinct from attachment anxiety and avoidance than previously thought. Regarding the first

possibility, the object relations self-esteem, for example, is not a simple positive-vs.-negative rating but a lesser-vs.-greater healthy one. The healthiest rating's descriptive anchor is "tends to have realistically positive feelings about him/herself" and does not include grandiose or fluctuating views of self (Hilsenroth, et al., 2004; Westen, 1995). This distinction with the attachment-related valence of views of self may explain some of the distinct pattern of correlations.

In line with the second possible explanation, Bartholomew and Griffin (1994) used latent construct analyses on multiple assessment strategies and measures to conclude that models of self and of others underlie attachment in adulthood , just as Bowlby (1969) originally theorized. Years later, Brennan, Clark, and Shaver (1998) performed a factor analysis on a nearly exhaustive list of attachment measures and concluded that the dimensions of attachment anxiety and avoidance best capture the content of the most highly loaded items on the two latent dimensions. They based the ECR on this original factor analysis. The current findings suggest that these attachment dimensions may be less strongly related to views of self and others than suggested by the integrated model. One possibility is that models of self and others tap more implicit attachment constructs whereas anxiety and avoidance relate to more conscious, phenomenological experiences of attachment.

Both attachment and object relation constructs showed relationship with trauma-related variables. Attachment generally showed small-to-moderate correlations with childhood trauma, adult trauma, and current PTSD symptoms. Dismissing attachment, however, did not correlate with any trauma variable. Similarly, attachment avoidance only correlated to a small degree with trauma variables. These results are somewhat

surprising given the assumed similarity between avoidance in close relationships and avoidance as a hallmark of PTSD but may be consistent with the notion that attachment avoidance can be protective, or at least not deleterious, in some circumstances. For example, experimental data have confirmed that attachment styles differ in their emotion regulation strategies (see Mikulincer & Shaver, 2007b; Pietromonaco, Barrett, & Powers, 2006), and whereas attachment anxiety is generally associated with intensification of negative emotional experience, attachment avoidance is more often associated with the defensive, down-regulation of negative affect (Fraley, Davis, & Shaver, 1998; Fraley & Shaver, 1997).

Most object relations dimensions also related to trauma variables. Of note, complexity of representations was an exception because it did not correlate with any trauma variable. Three object relations dimensions correlated with each trauma-related variable. They were the proposed mediators (affective quality of representations and self-esteem) and aggression control. The proposed mediators were most strongly associated with childhood trauma, particularly emotional abuse, and current PTSD symptoms, but aggression control was most associated with childhood emotional abuse and only weakly with current PTSD symptoms. In general, traumas in both childhood and adulthood were related to adult object relations, which supports the relevancy of object relations across the lifespan. Also of note, when considered together, object relations predicted PTSD symptoms above attachment constructs, but attachment did not add significant incremental validity over object relations.

Mediated relationships. The primary goal of this study was to test the mediating role of object relation variables in the relationship between adult attachment and current

PTSD symptoms. Overall, results were robust for object relations' partial mediation of attachment's relationship to PTSD symptoms. For the ECR-R attachment dimensions, attachment anxiety's relation to PTSD symptoms was partially mediated by self-esteem, and attachment avoidance's relation was partially mediated by affective quality of representations, both as hypothesized. For the AAPQ attachment prototypes, the mediational models were more complex. Both self-esteem and affective quality of representations partially mediated secure attachment's relationship with PTSD symptoms. Preoccupied and disorganized/unresolved attachment were also partially mediated by self-esteem and marginally so by affective quality of representations.

Dismissing attachment, conversely, did not meet the first step of mediation because it did not significantly predict PTSD symptoms. Exploratory mediational analyses revealed a marginally significant suppression effect for dismissing attachment when adding self-esteem and affective quality of representations into the model. This effect suggests that after removing the portions of dismissing attachment due to self-esteem and affective quality of representations, the remaining dismissing construct is slightly protective in regards to PTSD symptoms. This protective role would be consistent with the down-regulating strategy seen in individuals with avoidant or dismissing attachment styles (see Mikulincer & Shaver, 2007b; Pietromonaco, et al., 2006). Because dismissing attachment and PTSD did not correlate in the first place, these data are not strong enough to argue for dismissing attachment being protective in PTSD and do not support any clear mediation of object relations. Thus, despite the diverse assessment strategies and constructs for attachment, the findings support the theoretical predictions relating attachment, object relations, and PTSD symptoms.

Limitations & Future Directions

While the strengths of this study include the diverse assessment strategies for attachment, the limitations of this study revolve around issues of methodology and specification of the mediational models. First, these data draw from a low SES, primarily African American community sample, whose generalizability to a broader population is unknown. On the other hand, the use of this sample was deliberate to help address the research literature's imbalance toward studying more middle-class, Caucasian samples, and the high rates of trauma in this population make it an ideal place to look for individual risk and resilience factors after trauma exposure. Second, this study included only an interviewer-rated measure of object relations. Having a self-report measure could further support the robustness of findings, but many researchers and theorists have argued that object relations, like some aspects of personality, are deeply imbedded in the individual and thus not as amenable to self-report approaches (e.g., McClelland, et al., 1989; Westen, 1998).

Other limitations of this study involve the inherent difficulties in conducting mediational analyses. First, the number of analyses required to test each mediational model was high and might have increased the Type 1 experiment-wise error rate. Before conducting the analyses, though, I used *a priori* predictions help guide the process and limit the number of excessive, exploratory analyses, but replication, as always, will be a necessary step for future research. The use of Sobel's *Z*-tests also decreases the likelihood of Type 1 errors because it is a relatively conservative test of significant mediation (MacKinnon, et al., 1995). Second and more importantly, these cross-sectional data cannot speak directly to issues of causality. Based on theory (and supported by these

data), attachment and object relations are separate but related constructs. Both have their origins in infancy and early childhood but are somewhat malleable throughout the lifespan. An even more complete mediational model would include the independent effects of early parenting on both attachment and object relations as well as the attachment relationship mediating part of parenting's effect on object relations.

Moreover, in adulthood, other "third" variables may also impact attachment, object relations, and PTSD symptoms. Chief among these possibilities would be trauma exposure. Controlling for trauma exposure while conducting a mediational analysis, however, would be too conservative of a test because trauma exposure rates would explain too large of a percentage of PTSD symptoms to allow for many other factors to maintain unique predictive abilities. The level of multicollinearity, already inherently higher in mediational analyses, would also increase if adding other factors, like trauma exposure rates. The best approach to confronting these limitations in future research would be a longitudinal study that measures attachment, object relations, and trauma-related variables. The earlier in the lifespan this study could begin the more complete a picture may be drawn, but the fluctuating patterns of attachment and object relations before and after trauma exposure would be most critical.

Implications for Trauma & PTSD

Implications of this study range from basic science to clinical applications. First, this study has confirmed the importance of both attachment and object relations in the clinical presentation of PTSD symptoms after trauma exposure. Evidence suggests that attachment can act as both a protective (higher security) and a risk (higher insecurity) factor for developing PTSD. Healthier object relations, particularly in regards to self-

esteem and affective quality of representations of others, can also act as a buffer for the onset of PTSD. The finding of partial mediation suggests that attachment has both direct and indirect influence on current PTSD symptoms. All together, these findings support the notion that prior developmental and individual factors have an impact on how one reacts to trauma.

Clinically speaking, these data reinforce the importance of assessing developmental factors in conceptualizing cases dealing with trauma exposure and PTSD. As with Cognitive Processing Therapy (Resick, et al., 2008), therapeutic focus on how trauma has either reinforced or altered previous views of self and others will likely prove beneficial. What attachment and object relations theories provide is an additional, developmental framework for understanding the complex processes involved throughout the lifespan as well as a way to think about any issues that may arise within the therapeutic alliance. Finally, the lack of a correlation between dismissing attachment and PTSD symptoms may suggests that not all forms of insecure attachment necessarily predispose someone to react to trauma with chronic psychopathology. Further research will need to address this possibility and how it may impact therapeutic approaches (McBride, et al., 2006). For example, for those who develop PTSD, dismissing individuals may find it easier to commit more to short-term Prolonged Exposure Therapy (Foa, et al., 2007) than to a more dynamic, interpersonal, or even cognitive approach.

Conclusions

Overall, this study explored and confirmed the mediational role of object relations in adult attachment's association with PTSD symptoms. These data provide initial support for the centrality of views of self and others in connecting attachment theory to

PTSD, and future longitudinal studies can help further disentangle the complex relationships among these constructs. Clinical and research implications include the incorporation of assessing developmental history and current attachment in close relationships and object relations as part of the conceptualization and treatment for individuals with PTSD. With this information and future treatment outcome research, the field may continue to identify who is at greatest risk for developing PTSD and may clarify which treatments work best for particular individuals.

Chapter IV:

Facing the Shadow of Wholeness & Self:

Using Developmental Theories of the Self to Inform Jung's Theory of Individuation

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Abstract

The use of psychological theories in critical theory has a long history, but problems exist with the lack of attention to updating and integrating older analytic theories with other perspectives and with the tension between critiques of humanism and the humanism inherent in many psychological theories. One such theory of potential use for critical theory and modern psychology is Carl Jung's process of individuation—the lifelong journey to become more psychologically whole. Jung has been criticized for not adequately considering the role of childhood and of relationships in the individuation process. Drawing on developmental theories of Winnicott, Stern, Bowlby, and Erikson, this chapter seeks to trace connections between the adult process of individuation and the relational, childhood origins for the capacity to individuate. Along the lines of Sedgwick's use of Klein to call for so-called reparative readings, I then address how the resultant synthesis can benefit critical theory despite Jungian theory's alignment with problematic aspects of humanism.

Many social critics have described the majority of contemporary individuals as fragmented, disconnected, and without a coherent sense of self and subjectivity (Baudrillard, 1983; Rushing & Frentz, 1995; Sobchack, 1987). For example, Rushing and Frentz have argued this fragmentation began as a result of the advent of modern technology and the extension of genuine or attributed consciousness and subjectivity into humanity's creations. This shifting subjectivity is exemplified in the fears acted out in Western science fiction films that depict cyborgs rebelling against their human creators. Jung's theory of individuation, the process by which an individual reaches wholeness, may provide a useful framework for thinking about how integration may occur post-fragmentation.

Jung has been criticized for neither (1) drawing extensively on theories of early childhood development nor (2) thoroughly exploring the role of relationships and mutuality in the individuation process. In this chapter, I argue that these criticisms might be addressed productively. In making connections among early childhood, relationships, and individuation, this chapter draws on several theorists who consider the role of childhood and relationships in the development of the self. These theories include, among others, Winnicott's (1958) paradoxical formation of the capacity to be alone, Stern's (1985/2000) states of self, Bowlby's (1969) effects of attachment security, and Erikson's (1950) psychosocial stages across the lifespan. By putting these theories in conversation with one another, the last portion of this chapter considers how this synthesis and expansion of Jungian individuation may provide clues for enhancing critical theory. Primarily, reconciling and showing how fragmentation and wholeness can work together are crucial to understanding how individuation is a relevant process in this contemporary

age.

Jungian Individuation

Unlike his psychoanalytic contemporaries, Jung unabashedly focused his theory on adulthood. Despite acknowledging childhood's importance in development, his later work was more concerned with personality growth in adulthood—specifically, the quest to become more psychologically whole, which he called *individuation*. Not to be confused with Mahler's (1974) separation-individuation phase in infancy, Jungian individuation is a process through which one becomes connected with an inner most structure, which he called the *Self*, "the archetype of unity and totality" (Storr, 1983, p. 20). Individuation is arduous because it demands replacing the ego with the Self, accepting one's shadow (i.e., unsavory aspects of oneself that are often projected onto others), and healing inner contradictions and personality imbalances. Jung (1929/1983) considered these shifts in perspective as transformative:

> If the unconscious can be recognized as a co-determining factor along with consciousness, and if we can live in such a way that conscious and unconscious demands are taken into account as far as possible, then the centre of gravity of the total personality shifts its position. It is then no longer in the ego, which is merely the centre of consciousness, but in the hypothetical point between conscious and unconscious. This new centre might be called the self (p. 45)

Individuation leads to acknowledging interconnection with others and thus, "more intense and broader collective relationships and not isolation" (Jung, 1921/1976a, p. 448) (comparable to the concept of "mature dependence," Fairbairn, 1946, p. 34). The wholeness achieved in individuation concerns all aspects of the psyche. Jung's

unconscious was much deeper than Freud's (1933) because it included the collective unconscious and archetypes—roughly, the shared, often implicit, cultural and evolutionary aspects of human experience, and the potentialities for experiences that follow common motifs, respectively. At the psyche's center, though, was the Self archetype. Figure 2 graphically represents Jung's model of the psyche. Individuation is an ongoing process with no end-state except death and according to some analysts, is even ultimately "a preparation for death" (Jaffé, 1950/1989, p. 38).

Jung's Views on Early Development

Jung acknowledged that feeling genuine connection with others emerged from individuation, but he did not clearly expand on whether or how this sense of connection or the individuation process itself developed in an interpersonal context and/or if the process stemmed from childhood (cf., Jung, 1981). When he did discuss childhood, his thinking followed other psychodynamic accounts of the early origins of the ego and the potential detrimental effects of parenting, especially enmeshed parent-child relationships. He spent the most time, however, emphasizing the role of education and the child-teacher relationship. What was of utmost importance in education was not the teaching method or knowledge conveyed but that the personal relationship between student and teacher fostered the child's independence and development into a fully functioning individual (Jung, 1946/1981). In very clear language, he still warned that personality development in childhood is incomplete:

> The fact is that the high ideal of educating the personality is not for children: for what is usually meant by personality…is an *adult ideal* [emphasis in original]….[W]e talk about the child, but we should mean the child in the adult.

> For in every adult there lurks a child—an eternal child, something that is always becoming, is never completed, and calls for unceasing care, attention, and education. That is the part of the human personality which wants to develop and become whole. But the man of today is far indeed from this wholeness. Dimly suspecting his own deficiencies, he seizes upon child education and fervently devotes himself to child psychology, fondly supposing that something must have gone wrong in his own upbringing and childhood development that can be weeded out in the next generation (Jung, 1934/1981, pp. 169-170).

Though Jung was reacting against his contemporaries' dogmatic psychoanalytic emphasis on early developmental determinism, this reaction might have led him to neglect the role of early development in his own theory of individuation.

Purpose

Here a connection is drawn from individuation to potential precursors in early development described by others. What these theorists all share is an interest in the development of the self and the role of relationships. My approach to this project is an analysis of the relevant theories since Jung's with a goal of integrating these theories with that of individuation. I also refer to pertinent empirical findings in aid of this goal. After drawing comparisons between these theories and individuation, I explore the implications of the findings, paying particular attention to interdisciplinary uses of these and other theories in order to draw out potential benefits and costs of using an integrative notion of Jungian individuation. The development of the self is a very broad area of inquiry that would require a wide array of theories to review in its entirety (see Levin, 1992; Rochat, 1995; Westen, 1992). In selecting theories, I extracted those perspectives that most

clearly addressed limitations in Jung's theory and added to the overarching project of exploring self development in a relational context across the lifespan. For space limitations, some sacrifices were made in that I have not fully addressed other potentially useful theories, including Kohut's (1978-1991) self psychology (see Jacoby, 1985/1990), Maslow's (1968) concept of self-actualization, and Harter's (1999) constructivist view of self development, but when relevant, I do cite their work.

Potential Links from Early Development to Individuation

Individuation's Ties to Winnicott's Capacity to be Alone

Like individuation's emphasis on being one(self), being alone intuitively forecloses interpersonal contact. Nevertheless, for Winnicott (1958), the capacity to be alone in adulthood arose paradoxically from a relationship in infancy. Development of the capacity occurred in three phases, represented linguistically by the phrase, "I am alone," with "I" indicating rudimentary self-awareness, "I am" a sense of developing growth and life, and "I am alone" the recognition of the other's continued existence despite temporary absence (p. 418). The ideal outcome requires the infant's eventual introjection of a reliable, "ego-supportive" caregiver and establishment of an "internal environment" in which the caregiver's actual presence was unnecessary (p. 418-9).

Winnicott postulated that the infant-caregiver relationship would later come to underlie all interpersonal relating. How this relationship allowed personal id impulses to be fully experienced in the presence of ego support was essential. For the infant, the id impulse allows oneself to be "unintegrated, to flounder… to exist for a time without being either a reactor…or an active person" (p. 418). The caregiver when present must not make demands of the infant for this experience to occur. Winnicott (1958) believed

the infant-caregiver relationship represented an early form of *ego-relatedness*—a two-person relationship in which "the presence of each is important to the other" (p. 417). This experience is why the infant-caregiver relationship would affect future relationships in adulthood. Later, this capacity would underwrite the abilities to relax, use personal time, and experience quiet aloneness with relationship partners. Without a well-integrated personality and the capacity to be alone, it would be difficult to experience such situations comfortably.

The capacity to be alone necessarily contributes to individuation in that individuation requires a degree of turning inwards and self-reflection. Winnicott (1958) speculated about this capacity in later life by discussing the concept of a non-sexual, satisfactory climax of ecstasy (e.g., being entirely absorbed listening to music). This climax operates in adulthood and parallels infant id impulses originally tolerated in the caregiver's presence. Winnicott stated, "The individual who has developed the capacity to be alone is constantly able to rediscover the personal impulse … because the state of being alone is something which (though paradoxically) always implies that someone else is there" (p. 419). If these adult experiences coincide with unintegrated id experiences of infancy, then they ostensibly contradict the drive for integration (individuation). When read more closely, though, Winnicott considered these experiences necessary for personal growth (Abram, 1996). Because personal growth is a goal of effectively utilizing alone time, one process by which this occurs could be discovering and fully experiencing implicit wishes and fears (id impulses) non-defensively. This process would be necessary for greater awareness of the unconscious, especially the shadow elements.

Still, would the presence of another person disrupt or aid this goal in adulthood?

The answer depends on the other's own capacities to be alone and movement towards individuation. For example, Winnicott (1958) discussed this process in psychotherapy:

> In almost all our psycho-analytic treatments there come times when the ability to be alone is important to the patient. Clinically this may be represented by a silent phase or a silent session, and this silence, far from being evidence of resistance, turns out to be an achievement on the part of the patient. Perhaps it is here that the patient has been able to be alone for the first time (p. 416).

Thus, because the capacity to be alone must originate relationally and seems necessary for personality growth even in adulthood, individuation must also have relational ties.

Assimilating the Jungian & Sternian Selves

Like Jung, Stern (1985/2000)'s developmental theory focuses more on the self than the ego. Considering older psychoanalytic theories "less and less tenable and less interesting in light of the new information about infants" (p. 5), Stern has diverged from previous psychoanalytic accounts by focusing on innate self-other differentiation, conscious emotional states, and continuity of self across the lifespan instead of assuming primary narcissism, unconscious fantasies, and strict stages in infancy (cf., Freud, 1905/1953; Klein, 1975b; Kohut, 1978-1991). Although acknowledging diverse philosophical and psychological ideas of what constitutes the self, he argued that a sense of self intuitively "permeates daily social experience" (p. 5) and allows one to develop senses of agency, physical cohesion, temporal continuity, affective experience, subjectivity-intersubjectivity, internal coherence/ organization, and communication. Whereas achieving self-cohesion required much work according to Freud and other analysts, Stern believed that at least the preliminary structure of these senses of self were

universal from birth.

Stern (1985/2000) posited four distinct senses of self that develop relatively independently in their own domain of relatedness and “serve as organizing principles of development” (p. 19). First, the *emergent* self (0-2 months) concerns an innate integration and organization of diverse sensory, affective and social experiences and a sense of “coming into being” (p. 28). Second, the *core* self (2-6 months) forms from the realization of having a unique physical being with distinct actions and history. The core self includes both self-versus-other and self-with-other elements. Next, the *subjective* self (7-15 months) arises from awareness of other minds and mental states. This self represents a “quantum leap” in social development because it allows understanding, attuning to, and consequently sharing in another’s mental and affective states (p. 27). Emerging after 15 months, the final sense, the *verbal* self, helps one store personal and experiential knowledge, convey symbolic meanings through language, and self-reflect.

As Stern (1985/2000) noted, the term *self* has been used in several ways (see also, Ashmore & Jussim, 1997; Neisser, 1995), and at first glance, the Jungian and Sternian selves have little in common. Jung’s Self is spiritual and whole; Stern’s is experiential and composed of different states and phases. Jung’s Self is most central in an individuating adult; Stern’s selves are active throughout life, though his theory describes them more fully in infancy. Jung’s process of Self-discovery is more intrapsychic and individual; Stern’s selves emerge in a context of interrelatedness and mutuality. Still, similarities exist. Both Jung and Stern argued that the self served an organizing function for understanding experience and that life-issues arose throughout the lifespan, not simply in demarcated developmental periods.

Stern's states of self may prove useful in updating the Jungian Self and individuation process. Questions of what is and is not "me" are central to early senses of self and to individuation—particularly with the acceptance of shadow aspects of one's psyche. Because one of Stern's senses of self, the emergent self, is about the integration of diverse experiences and "coming into being" (Stern, 1985/2000, p. 28), individuation's coming into wholeness could parallel the integration first experienced in infancy and would thus primarily involve the sense of emergent self in adulthood. Considering that Stern's postulated senses of self remained active throughout life, the emergent self may become more complex and sophisticated as other senses of self develop and alter this original, basic sense of self. For example, newer capacities for mentalization (subjective self) and self-reflection (verbal self) could become particularly transformative with the adult sense of emergent self. Stern argued, "Self-reflection and language come to work upon these preverbal existential senses of the self and, in so doing, not only reveal their ongoing existence but transform them into new experiences" (p. 6). Rochat (2003) similarly argued that distinct levels of self-awareness emerge from infancy, but in adult experience what changes "is the rhythm and fluctuating patterns of oscillation among these basic levels" (p. 728). Individuation could revolve around deeper self-awareness and a renewed sense of emergence, an emergence of a broader, more whole self that includes elements previously consigned to the preverbal and unconscious. Alternatively, individuation may be a process so qualitatively different that it concerns a fifth sense of self—perhaps the *transcendent* self. This new sense of self, not wholly achieved by all individuals, would require "a synthesis between conscious and unconscious, a sense of calm acceptance and detachment, and a realization of the meaning of life" (Storr, 1983, p.

19) (for a discussion of individuation within Buddhism, see Preece, 2006).

Stern's theory also provides clues for the role of relatedness glaringly absent in much of Jungian individuation. For example, if senses of self develop in specific domains of relatedness, perhaps this hypothesized sense of transcendent self develops in a domain of spiritual or existential relatedness—arising from the recognition and mutual reflection of each person's search for personal meaning and connectedness. This possibility would fit with later theoretical expansions of Jung's ideas into the monomythic hero's journey and the role of spiritual mentoring in individuation (J. Campbell, 1949/2004; Rushing & Frentz, 1995). Though individuation is primarily intrapsychic for Jung, others have suggested older, wiser mentors are required for guidance in the process. This relationship would play a crucial role in developing a new sense of self.

Bowlby's Attachment Theory, Security & Personality Growth

According to Bowlby (1969, 1973, 1980), the attachment behavioral system primarily functions in infancy, solidifying around 6 months, to aid infants in maintaining safety from environmental dangers. This system sustains a homeostasis by motivating infants to attend to the caregiver's physical proximity and to adjust behavior to maintain closeness as needed. *Proximity-seeking* behaviors are adaptive to infants because they ensure the caregiver serves as a *safe haven* if the infant is threatened. Later, infants also use the caregiver as a *secure base* from which they may venture out to explore the environment. As the system solidifies, infants begin to internalize signal-response expectations of their caregiver's consistency and appropriateness. The psyche organizes these expectations into affective and behavioral schema called *internal working models*, which act as blueprints for relationships throughout the lifespan. The infant's ability to

adapt flexibly to the caregiver's behavior is essential to the system, and as predicted, an infant's degree of attachment security has been shown to coincide with the caregiver's responsiveness (Ainsworth, et al., 1978; Main & Solomon, 1986).

Although written before Bowlby's theories, some of Jung's ideas about childhood overlap with attachment concepts. First, Jung (1928/1981) was concerned with enmeshed or "excessively strong attachment" in parent-child relationships and the role of the parent's own personality in the child's development (p. 55). Second, Jung concurred with other psychoanalytic accounts and attachment theory that the parent-child bond has ramifications for adult romantic relationships. When speaking about romantic relationships, Jung (1931/1981) even argued that a partner's adjustment to marriage is more easily achieved if s/he has a positive relationship with his/her parents, but a partner who has more difficulty adjusting can still do so despite a history of problematic parent-child relationships. This achievement is similar to the concept of earned security in the attachment literature (Berlin & Cassidy, 1999; Roisman, Padrón, Sroufe, & Egeland, 2002). Moreover, some modern theorists have already considered the attachment system within a Jungian framework by marking it as an archetype, an inherited pattern of behavior and/or by comparing attachment's relational processes to the role of transference and countertransference in Jungian therapy (R. A. Jones, 2007; Knox, 2009; Young-Eisendrath, 1985).

Attachment theory also connects with Winnicott's capacity to be alone in that both develop around 6 months of age and insecure attachment patterns parallel difficulties with being alone, resulting in either defensive withdrawal or fear of being alone (Abram, 1996). If the system corresponds to an archetype, then its personal content

would depend on an individual's experiences with his/her caregiver. The attachment relationship works as the context for the developing capacity for being alone and the development of the Sternian senses of self, both of which have its own hypothesized ties to adult individuation.

In fact, how attachment works in adulthood is a highly active and productive area of research and theorizing. At the end of their book on adult attachment, Mikulincer and Shaver (2007d) speculated about the nature of attachment security and its relation to other psychological, philosophical, and even religious concepts. For these authors, attachment security "promotes ego-transcendence by freeing a person to a great extent from anxiety and defensiveness and encouraging a calmer, more mindful, more generous attitude toward self and others" (p. 467) (for evidence, see Fraley, Garner, & Shaver, 2000; Mikulincer, 1997; Mikulincer & Horesh, 1999). This sentiment echoes the individuated state of "calm acceptance and detachment" and sense of meaning described by Storr (1983, p. 19). Both the individuation process and attachment security foster reduced defensiveness that allows an openness to uncomfortable realities about the self and others—unlike psychological defenses that distort reality in some way to protect the ego. Honest confrontation of existential questions regarding death, loneliness, aging, and freedom allow one to create meaning in his/her life instead of avoiding the deep existential anxiety these questions typically evoke (see terror management theory, Burke, Martens, & Faucher, 2010; Hayes, Schimel, Arndt, & Faucher, 2010). According to Mikulincer and Shaver, securely attached individual would be more likely to rebalance his/herself after confronting these deep issues:

A secure base can help children become creative, honest, and perceptive adults,

> who confront their uniqueness and the existential universals of human life, including the existence of their own Jungian "shadows" (dark, hidden aspects), failures, injuries, and weaknesses. In fact, this is one of the basic tasks in attachment-based therapy—providing a secure base that supports exploration of painful and threatening experiences….The task of living and developing is never finished until death, however. Perfection is never achieved, and the kind of security we have been describing is a launching pad for continued development, not a final, dusty psychological trophy (p.485).

That secure relationships enhance these capacities for self-reflection and exploration supports the role of relationships in individuation. Though the drive for attachment and the drive for wholeness are distinct, they must necessarily interact within the individual.

(Self-)Identity throughout the Eriksonian Life Cycle

Erik Erikson often comes to mind when contemplating lifespan development, but unlike Jung's theory, Erikson's (1950, 1959/1980, 1982) psychosocial developmental theory addressed stages from infancy to mature adulthood (see Table 20). Key to his understanding of these stages was the concept of *epigenesis*—the emergence of qualitatively distinct periods of development that have both roots in prior stages and effects on later developmental periods. For healthy development, successful negotiation of each stage's task allows a greater likelihood of successfully negotiating the next stage. For example, as in attachment theory, an infant that comes to trust his/her primary caregiver in the first stage can more easily develop a sense of autonomy in early childhood. Alternatively, less than ideal movement through earlier stages can constrain later development. Another central aspect of his theory, and one relevant to the current

project, is the role that relationships play in each psychosocial stage. Many of his ideas on early childhood highlight the experience of one's biological and psychological impulses in relation to an external caregiver and thus fit with other psychoanalytic theories, including those of Freud (1905/1953), Winnicott (1953), and Klein (1936/1975).

Erikson did not generally use the term *self*, but self-identity did play a major role in his ideas and may link to individuation. For one, he described a rudimentary sense of self developing from early experiences of mutual recognition between infant and caregiver, but like Jung, he connected this near-universal individual experience with broader cultural and societal rituals:

> I submit that this first and dimmest affirmation of the described polarity of "I" and "Other" is basic to a human being's ritual and esthetic needs for a pervasive quality which we call the *numinous*: the aura of a hallowed presence. The numinous assures us, ever again, of *separateness transcended* and yet also of *distinctiveness confirmed*, and thus of the very basis of a sense of "I" (italics in original, Erikson, 1982, p. 45).

In much of his later work, Jung referred to the numinous as well, even noting the Self and its representations as inherently having a numinous quality (Jung, 1955/1970). Through individuation, connecting with the Self would similarly create a sense of *separateness transcended* and *distinctiveness confirmed*, as Erikson described above. Erikson simply went a step further than Jung did by connecting this adult sense of transcendence with a primal experience in infancy.

According to Erikson (1982), the most formative stage of identity development occurs in adolescence and requires individuals to affirm or repudiate prior childhood

identifications while social processes begin identifying them "as persons who had to become the way they are" (p. 72). From adolescence onward, identity is "an *evolving configuration*—a configuration that gradually integrates constitutional givens, idiosyncratic libidinal needs, favored capacities, significant identifications, effective defenses, successful sublimations, and consistent roles. All these, however, can only emerge from a mutual adaptation of individual potentials, technological world views, and religious or political ideologies" (italics in original, p. 74). Erikson also pointed to the importance in this stage of transferring "the need for guidance from parental figures to mentors and leaders" (p. 73), which may be a precursor to the role of spiritual mentorship in adult individuation mentioned previously (J. Campbell, 1949/2004; Rushing & Frentz, 1995). Even so, identity at this stage concerns only a relational aspect of self. Erikson argued that "a lasting sense of self cannot exist without a continuous experience of a conscious 'I,' which is the numinous center of existence: a kind of *existential identity*, then, which…in the 'last line' must gradually transcend the psychosocial one" (italics in original, p. 73).

Perhaps the stage with the greatest connections to individuation is the final one—integrity vs. despair. Erikson (1982) viewed old age as a challenging period because no matter how psychologically healthy one was, it necessarily involves grappling with existential fears of death, real losses of cognitive functioning, and deteriorating physical wellbeing. The greatest challenge of old age is to create and maintain integrity in the face of dying, that is, "a sense of *coherence* and *wholeness* that is, no doubt, at supreme risk under such terminal conditions" (italics in original, p. 65). Like individuation, genuine integrity requires relative freedom from reality-distorting defensive processes. If

achieved, this sense of integrity becomes the culmination of similar elements from previous stages and results in wisdom. The wholeness achieved in Erikson's final stage mirrors that achieved through Jungian individuation—defenses become lessened, perspectives become broadened, and the integrity of the entire personhood becomes (re)affirmed. The final stage, just like individuation, is ultimately a preparation for death. But, due to the continual epigenetic process that is development, the possibilities at the end of life depend as much on one's negotiating of prior stages as one's own current capacities and circumstances.

Summary –Individuation across the Lifespan

In reviewing these developmental theories of the self, I have demonstrated potential links from infancy and early childhood to the adult process of individuation. From the earliest emanations of the Sternian senses of self and the roots of Winnicott's capacity to be alone and of Bowlby's attachment security, an individual's self awareness and knowledge begin forming at infancy. These initial experiences then continue to affect individuals in adolescence as identity is dismantled and reconstituted. All throughout these experiences, close relationships act as catalysts for self development. So then must be their influence in adult individuation. In individuation, the transformation of the self involves a deepening of meaning and coherence through honest self exploration, a process that is at least potentiated by prior developmental experiences. Current adult relationships may also enhance this process through spiritual mentorship, mutual reflection, and/or by being vessels for one's own projections. Though individuation has connections to early experiences, early development does not wholly determine later development (Fraley, 2002; McAdams & Olson, 2010). In time, the adult can use his/her

greater cognitive capacities and experiences to utilize and organize the vestiges of earlier self-experiences into a more cohesive whole and personal narrative of selfhood (Harter, 1999; McAdams, 2008). Individuation involves this process as well as the uncovering of previously inexperienced, inchoate aspects of oneself, including the shadow and other unexpressed personality characteristics. Similarly, considering these other developmental theories together has allowed Jungian theory to explore its own undeveloped parts.

Wholeness in Fragmentation: Individuation & Critical Theory

Perhaps the crucial criticism directed toward Jung and other psychological approaches from critical theory is its inherent and problematic humanism. Particularly salient is the elevation of humanity as the pinnacle of existence and specifically the ideal of the rational, calm, self-actualized human subject. This ideal inevitably causes violence in that all who do not fit every aspect are expunged—including, at times, the queer, the non-human, and the non-individuated. A relevant example lies in humanist psychologist Abraham Maslow's (1968) descriptions of self-actualized individuals. Though the drives for self-actualization and individuation are quite similar, Maslow listed several specific outcomes of self-actualization including increased spontaneity, creativity, self-acceptance, detachment, richness of emotional experience, and valuing of democracy. Despite Maslow acknowledging the difficulty of specifying these characteristics, his descriptions grew from Western liberalism (Buss, 1979) and inherently created out-groups in the form of members of other cultures and time periods that lacked the same values. Although these out-groups, whatever they may be, are particularly removed from a humanist theory's ideological center, the foundational violence of humanism is that everyone necessarily fails to reach its idealized perfection.

Given this unfortunate effect, how might critical theory deploy the concept of individuation? For one, it must acknowledge and critique the hierarchy among those who are more or less individuated. For example, a lack of individuation should not necessarily be indicative of psychopathology especially if the individual's socioemotional and cultural resources are limited. Individuation is a much more likely option for a financially stable, educated, and emotionally aware person than for someone who comes from a traumatic childhood background with subsequently fewer social, emotional, and financial resources to engage in the process. As argued by Brooke (2008), cultural variations of the individuation process must also be identified and explored.

Furthermore, whereas Rushing and Frentz's (1995) use of individuation and shadow acceptance is productive as a cure for the contemporary ailments of self-fragmentation and over extensions of the ego, the focus is too closely on "human" individuation and traditional, mythic heroes (usually men). What of those who are not typically lauded as heroes, or even human? Haraway (1991), a social critic, feminist, and biologist, has called for not only the acceptance of but also the celebration of fragmentation and what she calls *cyborgs*—those who exist on the "border" between self/other, human/animal, mind/body, male/female, whole/part, etc. (p. 150, 177). Like Haraway, I agree that the post-human, cyborgs, hybrids, and queers deserve celebration, and using Haraway and others, I have argued they are just as capable of an individuated existence, if not a somewhat different one (Ortigo, 2007). The very nature of either not fitting into or not being central players in the grid of intelligibility (Foucault, 1978/1990) may even enhance individuation by more forcefully confronting the subject with his/her own experience of rejection at the hands of allegedly more centralized, rational, liberal

subjects. In fact, reorienting concepts of self, individuation, and other "human" constructs to literal and metaphorical non-humans may be necessary in freeing traditional psychological theories from the ties and violence of humanism; for, if outcast, metaphorical non-humans can partake in the individuation process, then the process has become less exclusionary than originally believed.

If possible, what aspects of the theory may be modified productively? How might the fragmentation inherent in many critical theories be healed, reconciled, or allowed to coexist with the wholeness sought by the individuation process? The two most important modifications seem to be (1) a refocusing on the individuality of individuation – see Sedgwick's (1990) Axiom 1 - "People are different from each other" (p. 22) – and (2) the explicit inclusion of relational components involved in individuation. The first modification necessarily draws attention to aspects of Jung's theory that may be distorted by some readers, specifically the diversity of what constitutes any given individual's ego, self, and shadow. In putting Jungian theory into dialogue with postmodernism, Jones (2007) saw points of convergence between theorists Hermans and Kempen's (1993) view of therapy being about the self-integration of multiple positions of "I" (or subjectivities) and Jung's view of the psyche as a conglomeration of dualities and oppositions. These theorists and Jung both saw opposition and conflict as necessary for unity—as opposed to needing resolution—and shifted away from ideas of the self as centralized, conscious subjective experience (see also, McAdams, 1997). The primary difference for Jones was that Jung's self kept the spiritual realm and the collective unconscious. Given these multiple subjectivities, it is easier to see why Jung considers individuation a dangerous process; it requires a certain undoing of the self in order to dethrone the ego. The best

example of this danger can be seen in the self and identity problems associated with borderline personality pathology (R. Bradley & Westen, 2005; Kernberg, 1967). With borderline phenomena, the self lacks cohesion and is experienced as split, among other things, into bad and good parts. Even for healthier individuals, being confronted with conflicting information about oneself can lead to great anxiety and discomfort. Jung's recognition of the dangers in dismantling ego defenses is why he considered adulthood to be the only proper timing for individuation.

Like the multiplicity of subjectivities, what constitutes any one person's shadow will also vary. So-called rational, liberal subjects' shadows may be emotional, reactive and unenlightened lower-class workers; but, those same lower-class workers' shadows may correspond to out-of-touch, rigid authority figures that are unresponsive to emotional needs. In seeking wholeness and balance, simply switching shadows will be unproductive. For example, the shadow of an individual fixated with Haraway's (1991) idealization of cyborgs may be wholeness and humanity. Through self-questioning and occupation of multiple "I" positions, a wholeness that transforms opposites can emerge (see also, Lifton, 1993; McAdams, 1997). What this wholeness will look like is unpredictable and entirely individual. In some instances, the individuated person may even maintain a distinct duality that in most circumstances would require one side to win out (Ortigo, 2007). Just like Jungian theorists Aron & Aron (2006) warn attachment researchers about idealizing infants, early development, and attachment security, critical theorists must be careful not to project specific ideals onto what subjects are.

A second modification is the more explicit incorporation of relationships into individuation. As has been argued here, the role of relationships in early development

points to their role in at least the origins of the individuation process. Later in life, though, other individuals must also play a role, even if unknowingly. For example, Jones (2007) pointed out the necessity of projecting the shadow before it can be accepted and argued that "we need other people in order to see our own self…like needing a mirror with which to see our own face" (p. 92). Jung himself (1951/1969) stated "the shadow can be realized only through a relation to a partner" (p. 22). Still, even Jones seems to circumvent the true role of relationships, for they are not just for empty containers of our own internal psychic content. Rushing and Frentz (1995) viewed one relationship, in particular, as integral to the process and more than a psychic projection—the relationship between an individual and a spiritual mentor (traditionally a ritual elder). To the certain pleasure of Haraway (1991), films, being symbolic of cultural dreams (Davies, et al., 1982), have recently shown this mentor can even take the form of a queer cyborg (Ortigo, 2007). This expansion of traditional, more modern ideas of mentor figures provides hope for productively using Jung in critical theory.

Conclusion: An Openness to Possibilities

If seeking wholeness is a motivation present deep within most contemporary individuals, how might it apply to critical theory? For one, it coincides and expands Sedgwick's (2003a) application of Klein's (1975a, 1975b) ideas of the paranoid and depressive positions to critical theory. Sedgwick identified much of critical theory as occupying a paranoid position "marked by hatred, envy, and anxiety" and a "terrible alertness to the dangers posed by the hateful and envious part-objects" (p. 128). Her antidote was a call for more reparative readings, corresponding to a depressive position that seeks to "assemble or 'repair' the murderous part-objects" through love (p. 128).

An individuation-based approach is provocative because it also requires accepting undesirable aspects of theories (i.e., theories' shadows) while still seeking the more complex, sophisticated whole that may result despite such problems. Given similarities between their description of a securely attached adult and Jung's individuated person, a particularly salient question Mikulincer and Shaver (2007d) posed was, "How can a person seeking optimal development (self-actualization)…benefit from a sense of security without losing the vital edge of challenge, critical questioning, and change?" (p. 459). This question speaks directly to our purposes here. Jung's (1939/1980) discussion of individuation might also give guidance on how to conduct critical theory:

> Conscious and unconscious do not make a whole when one of them is suppressed and injured by the other...Both are aspects of life. Consciousness should defend its reason and protect itself, and the chaotic life of the unconscious should be given the chance of having its way too….This means open conflict and open collaboration at once…. Out of this union emerge new situations and new conscious attitudes (pp. 287-289).

What the individuation process might offer critical theory is its emphasis on not only making the implicit explicit but also recognizing and exploring duality, conflict, and complexity. That is, it suggests that paranoid and reparative readings must operate in tandem to provide a more holistic account of texts so long as the underlying critique is not abandoned for a more "rosy" view. Often times, theoretical shadows play into theoretical strengths, as symbolic double-edged swords. Theoretical conflicts should be lively and should be open, but we as critics must be open to the shadow projection that necessarily aids in the passion we feel. Having a greater curiosity about how we respond

emotionally to texts and to theories can not only provide information about our own internal dynamics but also lead to more productive, complex considerations within our work. For the individual, acceptance of one's shadow is necessarily affectively driven and has profound effects on the organization of the psyche. One must ponder the transformations such an approach to critical theory may produce.

Chapter V:

General Discussion of Dissertation:

Looking Forward in the Study of Attachment, Personality, & Lifespan Development

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In embarking on the journey of this dissertation, my goal was to consider adult development from the perspectives of multiple theories and constructs, particularly those of attachment and personality. In the first empirical chapter, I found that adult attachment and personality pathology were related but distinct constructs with their own unique predictive abilities. In the second empirical chapter, I found that object relations variables related to views of self and of others partially mediate attachment's relationship with Posttraumatic Stress Disorder (PTSD) symptoms. In the final core chapter, I switched analytic strategies by focusing more on theoretical descriptions of developmental theories to aid in evolving Jung's theory of individuation. Through that analysis, I argued for the roles of early childhood and of relationships in potentiating the individuation process with special attention to how individuation may be applied productively in critical theory. In each of these projects, I have explored distinct, sometimes rather different, theoretical and empirical roles of attachment across the lifespan. In this general discussion, I consider connections across the core projects and speculate about areas for future inquiry.

Understanding Our Past – Theoretical Considerations

Interpreting the findings of all three projects entails acknowledging several, important theoretical issues in studying personality lifespan development. Chief among these are issues related to (1) continuity versus discontinuity from childhood to adulthood and (2) diversity and scope of theories and methods. Because this dissertation's empirical research used cross-sectional data, some implications for theory are discussed in terms of previous and future work in the area.

Continuity versus discontinuity. The degree to which personality and attachment stabilize early in development or change throughout the lifespan is a

longstanding debate that intersects with many other debates in the field. Unavailable to many of the theorists discussed in this dissertation, current longitudinal research bears on this issue (for reviews, see McAdams & Olson, 2010; Roberts, et al., 2008). For personality, Roberts and DelVecchio (2000) meta-analyzed 152 longitudinal studies of major personality traits, primarily the Big Five, and found that test-retest reliability of traits averaged around .31 in infancy and early childhood, rose above .40 in adolescence, increased to over .60 in middle adulthood, and plateau-ed at .74 in later life. Of note, stability was higher for personality traits compared to temperament, which is consistent with Costa and McCrae's (1999) distinction between temperamental dispositions and characteristic adaptations. Terracciano, Costa, and McCrae (2006), however, found that median personality coefficients stabilize earlier around .70 after age 30. Regarding attachment, Fraley's (2002) meta-analysis of 27 samples used a conservative test of consistency between Strange Situation attachment security at age 1 and security at age 19 and found a stability coefficient of .30. The data support both consistency and change of personality and attachment throughout the lifespan.

If discontinuity can occur, why does it happen? Among other issues, this question involves the historical debate of the roles of reality versus fantasy in development. On the reality side, life events, such as trauma exposure, can produce change. For example, Fraley (2002) found stability coefficients for attachment were smaller for high-risk samples (i.e., those involving family instability, marital discord, and abuse). Even so, interpretations of real events play a role as well. Following information processing theory, being confronted by events that do not fit our previous understandings of ourselves, others, or the world (*schema*) leads to two primary options—ignoring or

changing the event to fit our previous held beliefs (*assimilation*) or changing our beliefs to fit the new information (*accommodation*) (Block, 1982; Piaget, 1954). Assimilation and accommodation can occur either consciously or unconsciously. When considering how individuals may interpret events differently, fantasy can begin playing a more significant role in personality change or stability. Moreover, the rigidity and flexibility of internal schema is also an individual difference that can affect personality development across the lifespan. In fact, rigidity is a hallmark of personality pathology (J. E. Young, 1999). Whether a person's personality configuration changes over time may itself be a worthy individual difference to study (Block, 1971).

What this debate over continuity versus discontinuity means for this dissertation's empirical projects lies in interpreting the risk and resilience that attachment offers in the development of personality pathology or PTSD. Although adult attachment relates to both outcomes, it is a moderate relationship that, at least in the case of PTSD, is partially mediated by other factors. In other words, attachment is not the sole contributor. Furthermore, contrary to traditional psychoanalytic theory prior to the 1950's, one simply cannot argue that early childhood determines lifespan development, not only because the current data are cross-sectional but also because stability coefficients for personality and attachment are not 1.0. That personality is not 100% stable across time and situations is not a failure of the personality construct (Mischel, 1968) but an argument for adapting our theories to account for change.

Similarly, what this debate means for the third project is that despite the connections between early childhood and the individuation process, Jung (1934/1981) and Erikson (1982) were fundamentally right in arguing that personality is not fully

formed in childhood. Early experiences may constrain or potentiate later development to some extent, but they can only offer a partial account of later outcomes. Erikson's concept of epigenesis comes closest to capturing what the data suggest—that is, the changes that occur in each stage of an individual's life involve what came before in other stages and has subsequent ramifications for later stages. A Jungian model can adapt to these data on stability from childhood, as shown in the third project of this dissertation, without changing the fundamental argument for individuation in adulthood.

A somewhat trickier challenge is how a Jungian model can incorporate instability of personality in adulthood, as seen in both the meta-analytic data and postmodern theorists' critiques of the notion of a "true self" while arguing for the multiplicity of selves. This adaptation is best formed by (1) situating the Jungian Self as a compilation and gestalt of all the other selves—quite similar to how Jung viewed the psyche through dualities (e.g., introversion-extraversion)—and (2) identifying and tracing multiple paths through the individuation process. Thus, rather than being controversial, the dynamic between continuity and discontinuity and their intrapsychic and relational mechanisms become the field upon which individuation occurs.

Diversity and scope. Studying a field as large as lifespan personality development requires an understanding of diverse theories and a respect for multiple modes of epistemology. A primary tension relevant to this dissertation has been that between empirical, scientific research (the first and second core chapters) and theoretical, textual analysis (the third core chapter). Though these modes of inquiry are different and often antagonistic, they ideally can work in tandem through an iterative process. Theories beget empirical investigations, and the resultant data amend theories. Modern psychology

has largely adopted this process, but one current risk is abandoning rich theories in fear of their unfalsifiability and/or lack of empirical research. On the flip side, dogmatic loyalty to theories in their original form can promulgate errors, stall empirical investigations, and prevent productive revisions. Theories devoid of any kind of data are empty just as data without connection to theories and ideas are meaningless. In acknowledging different modes of epistemology, we must also contemplate what "counts" as data. Ideally, theories can withstand multiple modes of inquiry. Thus far, attachment theory has done just that.

Alongside arguing for multiple modes of epistemology, this dissertation has sought to expand conceptualizations of personality development that focus too heavily on either psychopathology or health. The debate over pathology and health also has an extensive history in psychology, exemplified by the traditional psychoanalytic emphasis on what can go wrong for the individual and the humanistic view that wellbeing is more than lacking pathology. More recently, the positive psychology movement has reinvigorated this debate by arguing that exciting things can happen if researchers study what occurs when things go right (Seligman & Csikszentmihalyi, 2000). A more complete understanding of personality requires both of these elements. This dissertation's first project studied the relationships between attachment and personality pathology, but attachment's relationships with more normative and even optimal personality characteristics require further study (e.g., Noftle & Shaver, 2006). Nevertheless, I have considered attachment theory and Jungian theory as two examples of this balancing between pathology and optimal development.

Relevant to the issue of a theory's scope, an additional question for lifespan personality development is what constitutes the endpoint of development. Achieving integrity and an individuated existence may appear at first glance to be the answer, but the reality is that in the end, death is the only point at which one's personality truly ceases to change. How does this endpoint reverberate throughout theories of personality and attachment? For attachment, it means life comes full circle—from early experiences of the infant being separated from the caregiver to later adult experiences of grieving the loss of others and then finally facing one's own mortality (J. Bowlby, 1969, 1973, 1980). For personality, it means the same—the ego and rudimentary senses of self that emerge from the confusion of infancy and become integrated in adulthood return to the void. Though Erikson (1982) argued integrity and wisdom in the face of decline was the optimal solution to his eighth stage, ultimately physical and mental integrity are lost through death. How can theories of wholeness and integrity cope with the reality of death—the ultimate disintegration and undoing of the self? What does optimal development really mean when death becomes "the great equalizer"?

It is at this point that lifespan psychology merges and diverges from religious and existential perspectives (Shelburne, 1983). Perhaps it is because individuation is "a preparation for death" (Jaffé, 1950/1989, p. 38) that Jung (1952/1968b) felt compelled to delve into spiritual, mythic, and alchemical symbols to understand individuation. His grappling with death and subsequent forays into religion and metaphysics gained him both followers and critics. Despite the risks, a theory of lifespan development must face the universality of death to be complete. As Kastenbaum (2000) has pointed out, the challenge of studying death is that it requires us "to discover how much we can learn

about the dying process with the ‘dying’ left out” (p. 226). Unsurprisingly then, the limited research on how to help the dying deal with existential concerns reveals our understanding to be quite inadequate (Henoch & Danielson, 2009; Kaut, 2002). These musing about death are not so esoteric that they are only relevant to the third project; they also relate to the second project’s focus on PTSD. By definition, traumatic experiences force individuals to confront the possibility of death, serious injury, or a loss of integrity. After trauma exposure, attachment security may be protective not only because it helps one maintain realistic, positive views of self and others but also because it allows one to return from the brink of death psychologically intact (Mikulincer & Shaver, 2007d). In some ways, studying the experience of trauma may be a proxy for studying the experience of death.

Overall, the diversity of theories and modes of epistemology represent a challenge and a strength to the field of lifespan personality development. As seen in this dissertation, using multiple perspectives, constructs, and methods can help illuminate complex processes. Capitalizing on the benefits of such diversity, however, requires a cogent, consistent idea of what is and is not the object of study while recognizing the limitations of each approach.

Looking Toward the Future – Research Implications

In moving the field forward, empirical research must attend carefully to issues of measurement, operationalization, and methodology. Below I discuss recommendations for future research in attachment and personality as well as creating an empirical study of individuation.

Attachment and personality. Throughout the empirical chapters of this dissertation, I have argued for and shown the utility of incorporating multiple measures of core constructs. This approach is similar to the multi-trait, multi-method approach recommended for testing construct validity (D. T. Campbell & Fiske, 1959), but instead of being concerned simply with convergent and divergent validity of single measures, the area of personality and attachment requires multiple strategies also because of theoretical controversies about what the constructs even are. The measurement controversy most relevant to this dissertation is that between self-report and other/interviewer-report strategies. As discussed in other chapters, one argument for interviewer-based ratings is that some personality dynamics, motives, and traits cannot be reliably accessed by individuals, especially those with poor insight and personality pathology, (e.g., McClelland, et al., 1989; Westen, 1998). The data in the first core chapter supports that argument in that the PD diagnostic scales of the interviewer-report SWAP-II generally outperformed the self-report SNAP scales in terms of predicted associations with attachment and adaptive functioning.

Another argument is that the relatively low overlap between self-report and interviewer-report measures of the same construct is not due to one being more valid than the other but to their measuring of two, distinct constructs—one implicit and one explicit. Implicit characteristics correspond to unconscious material best assessed through non-self-report strategies whereas explicit characteristics are in conscious awareness and more easily tapped through self-report measures (if the individual is truthful) (Greenwald & Banaji, 1995). Classic examples of the implicit-explicit distinction include research in attitudes (e.g., racism and self-esteem, Gawronski & Bodenhausen, 2006; Hofmann,

Gawronski, Gschwendner, Le, & Schmitt, 2005) and motivations (McClelland, et al., 1989; Woike, 2008). Because both empirical chapters found that self-reported and interviewer-rated attachment constructs overlap but also differentially predict personality pathology and PTSD symptoms, the current data suggest that these constructs may correspond to implicit and explicit aspects of attachment. Some researchers have already begun to address this possibility through implicitly priming attachment (e.g., Bartz & Lydon, 2004) and comparing differential prediction of implicit and explicit attachment measures (e.g., Banse & Kowalick, 2007)

Another issue related to measurement is the operationalization of attachment and personality. As discussed in this dissertation's introduction, the breadth of attachment theory is a double-edged sword in that attachment predicts diverse outcomes but threatens to become a grand theory that extends beyond its appropriate boundaries. One protection against this threat is for researchers and theorists to separate carefully the effects of attachment on other systems from the more construct-near aspects of attachment. For example, in this dissertation I attempted to distinguish attachment from similar constructs in personality and object relations and constrain interpretations to attachment in close relationships (not parental attachment). Operationalizing attachment in future research should also include careful consideration of what aspect and what type of attachment is being investigated. Longitudinal designs that distinguish between attachment and its effects on other systems would also provide a useful methodological tool. For example, studying the mechanisms of influence, such as the mediating role of object relations, is ideally conducted through longitudinal research. In addition, the diversity of pathways to similar attachment outcomes (*equifinality*) and from similar attachment origins

(*multifinality*) can shed light on the complex, dynamic processes that can occur throughout development (Cicchetti & Rogosch, 1996).

Individuation. Because of the radically different forms of epistemology employed by Jung and by modern psychology, one might assume that individuation is not amenable to scientific study. Just because a concept has not been studied by name does not mean that relevant data do not exist. Nevertheless, when trying to define self-actualization, even Maslow (1968) admitted, “We just don’t know enough about growth yet to be able to define it” (p. 24). The difficulties in empirical investigations of individuation include problems in adequately and accurately operationalizing the construct and employing appropriate methodologies to flesh out its development (Battey, 1995; Freedle, 2007; Mitchell & Friedman, 1994).

Operationalizing and studying individuation may benefit from other researchers’ efforts to create viable measures and methodologies to test personality growth through related constructs like self-actualization. Multiple instruments exist that purport to measure self-actualization (e.g., the Personal Orientation Inventory; Shostrom, 1964), and example findings include higher self-actualization being associated with greater self-disclosure with others (Hekmat & Theiss, 1971; Lombardo & Fantasia, 1976), intellectual giftedness (Masters, 2009; Pufal-Struzik, 1999), and tolerance for ambiguity (Foxman, 1976). Some evidence suggests that transcendental meditation may even increase self-actualization scores (Alexander, Rainforth, & Gelderloos, 1991). Many of these measures, unfortunately, suffer from poor reliability, inadequate validation, and inconsistent definitions.

In response to these criticisms, one research group used conceptual and empirical analyses to create the Measure of Actualization of Potential (MAP) (Leclerc, Lefrançois, Dubé, Hébert, & Gaulin, 1998; Lefrançois, Leclerc, Dubé, Hébert, & Gaulin, 1997). Through content analysis based on expert opinions, Leclerc et al. found that self-actualized individuals share two essential characteristics: *openness to experience*—"when individuals are fully aware of, and in contact with, their experiences of themselves, of others, and the world"— and *reference to self*—"when [individuals'] speech and behavior truly reflect their thoughts, values, convictions and does not depend upon others' demands and expectations" (p. 78). Their final definition of self-actualization was "a process through which one's potential is developed in congruence with one's self-perception and one's experience" (p. 78-79). Similarly, in factor analyzing items to create the MAP, Lefrançois et al. found five initial factors (openness to others, autonomy, openness to life, openness to self, adaptation) that belonged to the two higher-order factors Leclerc et al. found.

Alternatively, Orwoll and Perlmutter (1990), in considering the attainment of wisdom from an integrative perspective, have argued that both optimal *self-development* (self-actualization) and *self-transcendence* result in "an unusually integrated and mature personality structure that transcends preoccupation with self-referent thoughts and feelings" (p. 160). Citing their ideas, Beaumont (2009) tested hypothesized relationships among self-reported Eriksonian identity development, self-actualization, self-transcendence, and sense of meaning in an undergraduate sample. Self-actualization was defined by the MAP's total score. Structural equation modeling confirmed that greater match to an information-oriented identity style (i.e., identity formation based more on

personal discovery of values through social exploration) predicted greater self-actualization and self-transcendence, which in turn predicted greater subjective happiness and sense of personal meaning. Similar to this finding about identity, research in motivation, autonomy, and self-determination has shown the benefits of relying on intrinsic, internal rewards over extrinsic ones (e.g., wealth, social approval) (e.g., Deci & Ryan, 2002; Kasser & Ryan, 1996).

Narrative approaches to studying identity and growth have also proved useful (McAdams, 2008; McAdams & Cox, 2010; McLean, Pasupathi, & Pals, 2007). In an undergraduate sample, McAdams et al. (2006) found that narrative qualities (i.e., complexity, emotional tone, and themes) show both high-to-moderate stability and change over a 3-year period. Narratives generally became more positive, nuanced, and suggestive of personal growth and understanding. Re-analyzing that same data, Bauer and McAdams (2010) found that growth-oriented goals in personal narratives at time 1 predicted actual growth three years later. In particular, agentic, intellectual goals predicted increased ego development, and communal, socioemotional goals predicted subjective wellbeing. Of note, these goals within narratives may reflect a larger individual difference in the motivation for personal growth (Ryff, 1985). In a study of male adolescents, McLean, Breen, and Fournier (2010) found that sophistication of meaning making in narratives was highest when themes of autonomy and connectedness were both present. The association between sophistication and well-being, however, changed drastically by age. At younger ages, sophistication correlated negatively with well-being, but in late adolescence, the correlation reversed and became positive.

Jungian concepts may prove more amenable to narrative research as well. In fact, some work in unpublished dissertations has already applied qualitative analysis to personal narratives. For example, Mintz (2004) analyzed individuation-related themes in the narratives of men who identified experiencing a transformation in adulthood. Common themes included confronting challenges to previously held views of success, having positive and negative relational experiences, and dealing with re-emerging issues from childhood. Todd (2004) explored the role of numinous experiences in the individuation process and found individuals linked their adult experiences to similar childhood ones. Others have qualitatively analyzed narratives for individuation-related themes in individuals terminally ill and near-death (Cureton, 2003; Oxidine, 2001).

Although extant research in self-actualization and growth overlaps with many core aspects of individuation, Jung specified other elements of individuation that need further incorporation into lifespan developmental research. First, research should address the processes involved in confronting the shadow. Some research on self-knowledge likely relates to shadow formation and integration. Ogilvie (1987) found in an undergraduate sample that perceived distance between actual self and unwanted self was a better predictor of life satisfaction than distance between actual self and ideal self, as hypothesized by Rogers (1961). Organization, particularly compartmentalization, of negative and positive self-knowledge also predicts self-esteem and depressive symptoms depending on which self-aspects are activated or valued (Showers, 1992). Other research suggests that breaking down this compartmentalization can lead to increased creativity and self-awareness (Kao, Lin, & Sun, 2008). One unpublished dissertation attempted to study the prediction of individuation (operationalized as ego development) based on

levels of shadow projection and cognitive complexity in a sample of middle aged women, but the measures and operationalization of constructs were highly specific and arguably invalid (Battey, 1995).

Second, research on individuation should consider how to measure personality balance and self-complexity. One possibility is that moderate scores on personality trait measures correspond to the balance of dualisms Jung discussed. This option may be inaccurate, though, when considering the similarity of Openness to Experience to many outcomes and characteristics of individuation (Leclerc, et al., 1998; McCrae, 1994). Considering the role of anima/animus exploration, research on androgyny as a form of personality balance may also be relevant (Gilbert, 1981; Woodhill & Samuels, 2003). Research on the self-concept is consistent with a Jungian model and has confirmed that generally people's complexity of self-representations increase over time (Labouvie-Vief, Chiodo, Goguen, Diehl, & Orwoll, 1995), but whether they include differentiation consistent with Jungian notions of archetypes and personality typology requires more specific study.

If individuation and its aspects begin to reveal themselves as more amenable to research than previous thought, then future research may explore empirically the relational and childhood origins of the process proposed in this dissertation's third core chapter. A particularly exciting prospect is to explicate the role of therapy in aiding individuation, especially considering the evidence that therapy can change personality (e.g., Leichsenring & Leibing, 2003; Piedmont, 2001). Treatment outcome studies provide a great tool for investigating processes and mechanisms of change. Being able to test theorized connections between individuation and different forms of therapy—like

relational, attachment-based therapy (Knox, 2009) or music therapy (Wärja, 1994)—could elucidate not only their efficacy but also mediating factors. Basic research on individuation is a first major step, but later development of applied research could revitalize Jung's influence in modern psychology.

Conclusions

Studying personality development across the lifespan requires a framework that makes sense of current experiences while connecting them to prior development and possible future outcomes. In this dissertation, I explored attachment as one framework that has empirical relationships with personality pathology and reactions to trauma as well as theoretical relationships with personality growth in the form of Jungian individuation. Although connected with other constructs, attachment remains distinct, not subsumed by these other theories; instead, attachment can serve as a developmental and relational context within which other processes evolve. For example, as discussed in the third, core chapter, secure attachment relationships can potentiate the individuation process and help address the relative lack of both childhood origins and relationality in Jung's theory. Attachment, in providing a framework to understand both risk and resilience, also offers more than a one-sided account of either negative or positive outcomes. Looking forward, theory and research on lifespan personality development should continue to consider attachment in its utility for understanding other theories and outcomes as well as its specific boundaries. Doing so, though challenging, will likely require creative and diverse methodologies but will ensure the fields of attachment, personality, and lifespan development continue to be exciting and productive areas of inquiry.

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Table 1.

DSM-IV-TR (APA, 2000) Criteria for PTSD (Diagnostic Code 309.81)

Criterion A – Trauma

The person has been exposed to a traumatic event in which both of the following have been present:

1. The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others.
2. The person's response involved intense fear, helplessness, or horror. Note: In children, it may be expressed instead by disorganized or agitated behavior.

Criterion B – Intrusive/Re-experiencing Symptoms

The traumatic event is persistently re-experienced in at least one of the following ways:

1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: in young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
2. Recurrent distressing dreams of the event. Note: in children, there may be frightening dreams without recognizable content
3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated). Note: in children, trauma-specific reenactment may occur.
4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
5. Physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

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Criterion C – Avoidance/Numbing Symptoms

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:

1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
3. Inability to recall an important aspect of the trauma

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4. Markedly diminished interest or participation in significant activities
5. Feeling of detachment or estrangement from others
6. Restricted range of affect (e.g., unable to have loving feelings)
7. Sense of foreshortened future (e.g., does expect to have a career, marriage, children, or a normal life span)

Criterion D – Hyperarousal Symptoms
Persistent symptoms of increasing arousal (not present before the trauma), indicated by <u>at least two</u> of the following: 1. Difficulty falling or staying asleep 2. Irritability or outbursts of anger 3. Difficulty concentrating 4. Hyper-vigilance 5. Exaggerated startle response
Criterion E – Duration
Duration of the disturbance (symptoms in B, C, and D) is more than one month.
Criterion F – Impairment/Distress
The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
Specifiers
Acute: if duration of symptoms is less than three months *Chronic*: if duration of symptoms is three months or more *With* or *Without Delayed Onset*: Onset of symptoms at least six months after the stressor

Table 2.

The Five-Factor Model of Personality Factors and Facets based on Costa and McCrae's (1992) NEO-PI-R (adapted from McCrae & Costa, 2008)

Factors	Facets (correlated trait adjective)	
Neuroticism	Anxiety (tense)	Self-consciousness (shy)
	Angry hostility (irritable)	Impulsiveness (moody)
	Depression (not contented)	Vulnerability (not self-confident)
Extraversion	Warmth (outgoing)	Activity (energetic)
	Gregariousness (sociable)	Excitement-seeking (adventurous)
	Assertiveness (forceful)	Positive Emotions (enthusiastic)
Openness to Experience	Fantasy (imaginative)	Actions (wide interests)
	Aesthetics (artistic)	Ideas (curious)
	Feelings (excitable)	Values (unconventional)
Agreeableness	Trust (forgiving)	Compliance (not stubborn)
	Straightforwardness (not demanding)	Modesty (not show off)
	Altruism (warm)	Tender-mindedness (sympathetic)
Conscientiousness	Competence (efficient)	Achievement Striving (thorough)
	Order (organized)	Self-discipline (not lazy)
	Dutifulness (not careless)	Deliberation (not impulsive)

Table 3.

Correlations among Self-reported ECR-R Attachment Dimensions and Interview-based AAPQ Attachment Prototypes

	1	2	3	4	5
1. Attachment Anxiety (ECR-R)	--				
2. Attachment Avoidance (ECR-R)	.17*	--			
3. Secure Attachment (AAPQ)	**-.19****	**-.25*****	--		
4. Dismissing Attachment (AAPQ)	**-.17***	**.26*****	**-.34*****	--	
5. Preoccupied Attachment (AAPQ)	**.29*****	.05	**-.22*****	**-.23*****	--
6. Disorganized Attachment (AAPQ)	**.22****	**.16***	**-.29*****	.04	**.15***

Note. Bolded correlations are significant and in the predicted direction based on the integrative model (see Figure 1). N = 178-262. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 4.

Correlations among Attachment Constructs and Personality Diagnostic Scales

	Attachment Constructs						Diagnostic Scales				
SNAP Diagnostic Scales	Anxiety (ECR-R)	Avoidance (ECR-R)	Secure (AAPQ)	Dismissing (AAPQ)	Preoccupied (AAPQ)	Disorganized (AAPQ)	1	2	3	4	5
1. Schizotypal	**.28*** **	**.18***	**-.16***	.09	.13*	**.15***	--				
2. Borderline	.12	.10	-.03	.15*	.04	**.21****	.51***	--			
3. Avoidant	**.23****	.12	**-.17****	.05	.03	.06	.57***	.44***	--		
SWAP-II Diagnostic Scales											
4. Schizotypal	-.03	.14	**-.39*** **	**.17***	-.11	**.24*** **	.07	.13	.06	--	
5. Borderline	**.34*** **	**.28*** **	**-.28*** **	.00	**.26*** **	**.27*** **	.12	.23***	.24***	.14*	--
6. Avoidant	**.18***	**.17***	**-.17****	-.02	.11	.03	.12	.06	.09	.20**	-.06

Note. SNAP diagnostic scales correspond to the number of *DSM-III-R* criteria met for each disorder whereas SWAP-II scales correspond to the degree of match with each *DSM-IV* diagnostic construct. Bolded correlations are significant and in predicted directions based on *a priori* hypotheses. For SNAP scales, sample sizes were N = 188-243 for correlations with attachment and N = 482 for those among diagnostic scales. For SWAP-II scales, sample sizes were N = 163-221 for correlations with attachment and N = 240 for those among the diagnostic scales. N = 218 for correlations between SNAP and SWAP-II scales. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.

Correlations among Attachment Constructs and Personality Trait Dimensions

	Attachment Constructs						Trait Dimensions				
SNAP Dimensions	Anxiety (ECR-R)	Avoidance (ECR-R)	Secure (AAPQ)	Dismissing (AAPQ)	Preoccupied (AAPQ)	Disorganized (AAPQ)	1	2	3	4	5
1. Negative Temperament	**.26*** **	**.22** **	**-.13* **	.03	**.14* **	**.21** **	--				
2. Positive Temperament	.02	-.06	.06	-.08	-.02	.04	-.08	--			
3. Detachment	**.26*** **	**.22** **	**-.14* **	**.15* **	.01	.10	.48***	-.42***	--		
SWAP-II Dimensions											
4. Internalizing	**.20** **	**.19* **	**-.21** **	-.07	.13	.02	.07	-.11	.14*	--	
5. Externalizing	.03	.09	**-.31*** **	**.23*** **	.09	.11	.03	-.10	.09	-.34***	--
6. Dysregulation	**.41*** **	**.30*** **	**-.28*** **	-.12	**.38*** **	**.24*** **	.30***	-.20**	.18**	.25***	.27***

Note. Bolded correlations are significant and in the predicted direction based on *a priori* hypotheses. For SNAP dimensions, sample sizes were N = 184-243 for correlations with attachment and N = 473-482 for those among the dimensions. For SWAP-II dimensions, sample sizes were N = 163-221 for correlations with attachment and N = 240 for those among dimensions. N = 214-218 for correlations between SNAP and SWAP-II trait dimensions. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 6.

Hierarchical Regression Comparing Incremental Validity of AAPQ Prototype Ratings Predicting Aggregated Adaptive Functioning Above ECR-R Attachment Dimensions

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (ECR-R Dimensions)	.160	.150	.160	2	165	15.7	< .001
Model 2 (AAPQ Prototypes)	.482	.463	.322	4	161	25.0	< .001
	b	β	SE	t	p	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Attachment Anxiety	-.01	-.20	.00	2.8	.006	-.26	.96
Attachment Avoidance	-.01	-.31	.00	4.2	< .001	-.35	.96
Model 2							
Attachment Anxiety	.00	-.08	.00	1.2	.219	-.26	.84
Attachment Avoidance	-.01	-.15	.00	2.4	.018	-.35	.86
Secure Attachment	.32	.55	.04	8.1	< .001	.67	.68
Dismissing Attachment	-.02	-.04	.04	0.7	.500	-.23	.74
Preoccupied Attachment	-.04	-.07	.04	1.0	.333	-.28	.72

Disorganized Attachment	-.03	-.05	.04	0.8	.419	-.29	.86

Note. When entering AAPQ prototypes in Step 1, the total R^2 was .442 (F_{change}[4, 163] = 34.0, $p < .001$), and including ECR-R dimensions in Step 2 significantly added incremental prediction ($\Delta R^2 = .027$, $R^2 = .482$, F_{change}[2, 161] = 4.2, $p = .017$).

Table 7.

Hierarchical Regression Comparing Incremental Validity of Attachment Constructs Predicting Aggregated Adaptive Functioning Above Personality Diagnostic Scales

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Personality Disorders)	.375	.360	.375	3	125	25.0	<.001
Model 2 (Attachment)	.751	.565	.532	6	119	8.7	<.001
	b	β	*SE*	t	p	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Schizotypal (SWAP-II)	-.62	-.30	.15	4.2	<.001	-.37	.68
Borderline (SWAP-II)	-1.14	-.51	.17	6.8	<.001	-.53	.70
Avoidant (SNAP)	.02	.06	.03	0.9	.391	-.10	.85
Model 2							
Schizotypal (SWAP-II)	-.20	-.09	.15	1.3	.204	-.37	.68
Borderline (SWAP-II)	-.75	-.34	.16	4.7	<.001	-.53	.70
Avoidant (SNAP)	.03	.08	.03	1.1	.258	-.10	.85
Attachment Anxiety	.00	-.03	.00	0.5	.639	-.27	.76

Attachment Avoidance	-.00	-.09	.00	1.4	.168	-.38	.81
Secure Attachment	.24	.42	.05	5.0	<.001	.64	.52
Dismissing Attachment	-.05	-.09	.04	1.2	.223	-.23	.75
Preoccupied Attachment	-.03	-.06	.04	0.8	.424	-.27	.65
Disorganized Attachment	.00	.00	.05	0.1	.957	-.34	.75

Note. Predictors were selected based on whether they had a correlation magnitude greater than .20 in zero-order correlations with the entire data set. When the attachment constructs were entered in Step 1, they accounted for 47.9% of the variance ($R^2 = .479$, $F_{change}[6, 122] = 18.7$, $p < .001$), and including the personality diagnostic scales in Step 2 significantly added to the model's prediction of adaptive functioning ($\Delta R^2 = .086$, $R^2 = .565$, $F_{change}[3, 119] = 7.8$, $p < .001$).

Table 8.

Hierarchical Regression Comparing Incremental Validity of Attachment Constructs Predicting Aggregated Adaptive Functioning Above Personality Trait Dimensions

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Personality Traits)	.432	.414	.432	4	122	23.2	<.001
Model 2 (Attachment)	.610	.577	.178	6	116	8.8	<.001
	b	β	SE	t	p	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Negative Temperament (SNAP)	.00	-.03	.01	0.4	.714	-.24	.86
Internalizing (SWAP-II)	-.21	-.32	.05	4.1	<.001	-.35	.75
Externalizing (SWAP-II)	-.17	-.23	.06	2.8	.007	-.31	.65
Dysregulation (SWAP-II)	-.35	-.41	.08	4.7	<.001	-.59	.61
Model 2							
Negative Temperament (SNAP)	.01	.05	.01	0.8	.436	-.24	.77
Internalizing (SWAP-II)	-.07	-.10	.05	1.4	.163	-.35	.61
Externalizing (SWAP-II)	.02	.03	.06	0.3	.739	-.31	.52

Dysregulation (SWAP-II)	-.36	-.43	.07	5.2	<.001	-.59	.51
Attachment Anxiety	.00	.03	.00	0.4	.710	-.28	.73
Attachment Avoidance	.00	-.05	.00	0.8	.422	-.38	.78
Secure Attachment	.24	.42	.05	5.2	<.001	.66	.52
Dismissing Attachment	-.07	-.13	.04	2.0	.052	-.25	.72
Preoccupied Attachment	-.02	-.03	.04	0.4	.696	-.31	.68
Disorganized Attachment	-.03	-.05	.04	0.7	.488	-.33	.81

Note. Predictors were selected based on whether they had a correlation magnitude greater than .20 in zero-order correlations with the entire data set. When the attachment constructs were entered in Step 1, they accounted for 48.2% of the variance (R^2 = .482, $F_{change}[6, 120] = 18.6$, $p < .001$), and including the personality trait dimensions in Step 2 significantly added to the model's prediction of adaptive functioning (ΔR^2 = .128, R^2 = .610, $F_{change}[4, 116] = 9.5$, $p < .001$).

Table 9.

Correlations among SCORS-G Object Relations Variables

SCORS Variables	1	2	3	4	5	6	7
1. Complexity	--						
2. Affective Quality	.58***	--					
3. Relationships	.60***	.62***	--				
4. Morals	.52***	.57***	.62***	--			
5. Social Causality	.74***	.54***	.60***	.57***	--		
6. Aggression Control	.44***	.47***	.50***	.58***	.47***	--	
7. Self-Esteem	.42***	.61***	.48***	.47***	.46***	.48***	--
8. Identity	.52***	.57***	.59***	.52***	.53***	.53***	.67***

Note. N = 255-263 for correlations among SCORS-G variables.

Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 10.

Factor Loadings of SCORS Variables on the Global Object Relations Latent Variable

	Latent Factor Loading		Correlation
SCORS Variables	Initial	Extracted	Global Object Relations
Complexity	.61	.55	.78***
Affective Quality	.56	.59	.80***
Relationships	.56	.61	.81***
Morals	.53	.55	.78***
Social Causality	.61	.58	.79***
Aggression Control	.43	.44	.73***
Self-Esteem	.54	.48	.74***
Identity	.57	.58	.79***

Note. Extraction method used was unweighted least squares. The latent variable accounted for 60.2% of variance in the SCORS variables. The Global Object Relations variable was created by calculating each participant's mean on all eight SCORS-G scales (Cronbach's $\alpha = .90$). $N = 250$ for the factor analysis and $N =$ 258-263 for the correlations between scales and the Global Object Relations variable.

Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 11.

Correlations between Attachment Constructs and SCORS-G Scales

	Attachment Constructs					
SCORS Variables	Anxiety (ECR-R)	Avoidance (ECR-R)	Secure (AAPQ)	Dismissing (AAPQ)	Preoccupied (AAPQ)	Disorganized (AAPQ)
1. Complexity	.00	-.02	.53***	-.21***	.00	-.23***
2. Affective Quality	-.26***	-.27***	.70***	-.25***	-.24***	-.35***
3. Relationships	-.15*	-.14*	.64***	-.28***	-.10	-.25***
4. Morals	-.18**	-.18*	.49***	-.22***	-.02	-.15*
5. Social Causality	-.11	-.18*	.50***	-.20**	-.02	-.33***
6. Aggression Control	-.23**	-.25***	.42***	-.17**	-.09	-.26***
7. Self-Esteem	-.40***	-.31***	.60***	-.14*	-.24***	-.32***
8. Identity	-.29***	-.21**	.56***	-.19**	-.11	-.38***
9. Global Object Relations	-.26***	-.25***	.71***	-.26***	-.13*	-.37***

Note. N = 191-263 for attachment and SCORS-G correlations. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 12.

Correlations between Attachment Constructs and Trauma-Related Variables

	Attachment Constructs						Trauma Variables				
Trauma Variable	Anxiety (ECR-R)	Avoidance (ECR-R)	Secure (AAPQ)	Dismissing (AAPQ)	Preoccupied (AAPQ)	Disorganized (AAPQ)	1	2	3	4	5
1. CTQ Total	.33***	.17*	-.19**	-.02	.27***	.25***	--				
2. CTQ Physical	.17*	.14*	-.12	-.03	.21***	.10	.77***	--			
3. CTQ Sexual	.28***	.13	-.11	-.04	.18**	.15*	.70***	.44***	--		
4. CTQ Emotional	.28***	.16*	-.20**	-.04	.24***	.27***	.85***	.65***	.50***	--	
5. TEI Adult Total	.09	.07	-.20**	-.01	.14*	.17**	.30***	.31***	.16***	.34***	--
6. PSS Total	.29***	.15*	-.20**	.01	.25***	.23***	.35***	.31***	.24***	.38***	.42***

Note. N = 186-250 for correlations between attachment and trauma-related variables. N = 1280-1433 for correlations among trauma-related variables. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 13.

Correlations between SCORS-G Scales and Trauma-Related Variables

	SCORS-G Scales								
Trauma Variable	Complexity	Affective Quality	Relationships	Morals	Social Causality	Aggression Control	Self-Esteem	Identity	Global Object Relations
CTQ Total	-.01	-.29***	-.18**	-.18**	-.13*	-.25***	-.29***	-.17**	-.24***
CTQ Physical Abuse	-.01	-.20**	-.13*	-.17**	-.14*	-.19**	-.23***	-.15*	-.19**
CTQ Sexual Abuse	-.04	-.17**	-.11	-.08	-.09	-.20**	-.23***	-.09	-.18**
CTQ Emotional Abuse	-.04	-.31***	-.19**	-.21***	-.12	-.27***	-.29***	-.21**	-.27***
TEI Adult Total	-.10	-.20**	-.18**	-.15*	-.10	-.22***	-.17**	-.14*	-.21***
PSS Total	-.08	-.29***	-.19**	-.24***	-.11	-.18**	-.36***	-.29***	-.26***

Note. N = 238-251 for correlations between SCORS-G and trauma variables. Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table 14.

Hierarchical Regression Testing Self-Esteem's Mediation of the Relationship between Attachment Anxiety and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.085	.081	.085	1	186	17.4	< .001
Model 2 (Object Relations)	.124	.115	.039	1	185	8.2	.005
	b	β	SE	t	$p_{\text{one-tailed}}$	$r_{\text{zero-order}}$	*Tolerance*
Model 1							
Attachment Anxiety	.30	.29	.07	4.2	< .001	.29	1.00
Model 2							
Attachment Anxiety	.21	.20	.08	2.7	.005	.29	.82
Self-Esteem	-.22	-.22	.08	2.9	.003	-.30	.82

Note. All variables were standardized to allow testing of potential moderating effects. Because the interaction term between attachment anxiety and self-esteem did not significantly add to the overall prediction of PTSD symptoms (ΔR^2 = .010, R^2 = .134, F_{change}[1, 184] = 2.1, p = .148), it was removed from the final model. A Sobel's Z test confirmed significant mediation, Sobel's Z = 4.2, SE = .03, p < .001.

Table 15.

Hierarchical Regression Testing Object Relations Variable Affective Quality of Representations' Mediation of the Relationship between Attachment Avoidance and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.020	.015	.020	1	179	3.7	.057
Model 2 (Object Relations)	.100	.090	.080	1	178	15.7	< .001
	b	β	SE	t	$p_{one\text{-}tailed}$	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Attachment Avoidance	.15	.14	.08	1.9	.029	.14	1.00
Model 2							
Attachment Avoidance	.08	.07	.08	1.0	.155	.14	.95
Affective Quality	-.31	-.29	.08	4.0	< .001	-.31	.95

Note. All variables were standardized to allow testing of potential moderating effects. Because the interaction term between attachment avoidance and affective quality did not significantly add to the overall prediction of PTSD symptoms ($\Delta R^2 = .002$, $R^2 = .101$, $F_{change}[1, 177] = 0.3$, $p = .586$), it was removed from the final model. A Sobel's Z test confirmed significant mediation, Sobel's $Z = 3.0$, $SE = .03$, $p = .003$.

Table 16.

Hierarchical Regression Testing Object Relation Variables' Mediation of the Relationship between Secure Attachment Ratings and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.043	.039	.043	1	235	10.6	.001
Model 2 (Object Relations)	.139	.128	.096	2	233	12.9	< .001
	b	β	*SE*	t	$p_{one\text{-}tailed}$	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Secure Attachment	-.21	-.21	.065	3.3	< .001	-.21	1.00
Model 2							
Secure Attachment	.11	.11	.09	1.2	.112	-.21	.46
Self-Esteem	-.29	-.28	.08	3.5	< .001	-.34	.58
Affective Quality	-.22	-.21	.09	2.4	.009	-.30	.47

Note. All variables were standardized to allow testing of potential moderating effects. Two-way interactions (i.e., secure X self-esteem, secure X affective quality, and self-esteem X affective quality) did not significantly add to the overall prediction of PTSD symptoms (ΔR^2 = .018, R^2 = .157, F_{change}[3, 230] = 1.7, p = .172). Neither did the three-way interaction (i.e., secure X self-esteem X affective quality) (ΔR^2 = .001, R^2 = .158,

F_{change}[1, 229] = 0.3, p = .583). Thus, interaction terms were removed from the final model. Sobel's Z tests confirmed significant mediation for self-esteem, Sobel's Z = 5.5, SE = .04, p < .001, and for affective quality, Sobel's Z = 4.6, SE = .05, p < .001.

Table 17.

Hierarchical Regression Testing Object Relation Variables' Mediation of the Relationship between Dismissing Attachment and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.000	.000	.000	1	232	0.0	.949
Model 2 (Object Relations)	.136	.125	.136	2	230	18.1	< .001
	b	β	*SE*	t	$p_{one\text{-}tailed}$	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Dismissing Attachment	.00	.00	.07	0.1	.475	.00	1.00
Model 2							
Dismissing Attachment	-.09	-.09	.06	1.4	.088	.00	.94
Self-Esteem	-.26	-.25	.08	3.3	< .001	-.34	.66
Affective Quality	-.18	-.17	.08	2.2	.013	-.30	.63

Note. All variables were standardized to allow testing of potential moderating effects. Two-way interactions (i.e., dismissing X self-esteem, dismissing X affective quality, and self-esteem X affective quality) did not significantly add to the overall prediction of PTSD symptoms (ΔR^2 = .017, R^2 = .153, $F_{change}[3, 227] = 1.5$, p = .218). Neither did the three-way interaction (i.e., dismissing X self-esteem X affective quality) (ΔR^2 = .001, R^2 = .154, $F_{change}[1, 226] = 0.3$, p = .568). Thus, interaction terms were removed from the final model.

Table 18.

Hierarchical Regression Testing Object Relation Variables' Mediation of the Relationship between Preoccupied Attachment and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.055	.051	.055	1	235	13.8	< .001
Model 2 (Object Relations)	.160	.149	.105	2	233	14.5	< .001
	b	β	*SE*	t	$p_{\text{one-tailed}}$	$r_{\text{zero-order}}$	*Tolerance*
Model 1							
Preoccupied Attachment	.24	.24	.07	3.7	< .001	.24	1.00
Model 2							
Preoccupied Attachment	.15	.15	.06	2.4	.009	.24	.93
Self-Esteem	-.26	-.25	.08	3.4	< .001	-.36	.64
Affective Quality	-.12	-.12	.08	1.6	.060	-.31	.63

Note. All variables were standardized to allow testing of potential moderating effects. Two-way interactions (i.e., preoccupied X self-esteem, preoccupied X affective quality, and self-esteem X affective quality) did not significantly add to the overall prediction of PTSD symptoms (ΔR^2 = .005, R^2 = .165, $F_{\text{change}}[3, 230] = 0.4$, p = .734). Neither did the three-way interaction (i.e., preoccupied X self-esteem X affective quality) (ΔR^2 =

.000, $R^2 = .165$, $F_{change}[1, 229] = 0.1$, $p = .737$). Thus, interaction terms were removed from the final model. Sobel's *Z* tests confirmed significant mediation for self-esteem, Sobel's $Z = 3.3$, $SE = .03$, $p < .001$, and for affective quality, Sobel's $Z = 3.0$, $SE = .02$, $p = .002$.

Table 19.

Hierarchical Regression Testing Object Relation Variables' Mediation of the Relationship between Disorganized/Unresolved Attachment and Self-Reported PTSD Symptoms

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.060	.056	.060	1	234	14.9	< .001
Model 2 (Object Relations)	.158	.147	.098	2	232	13.5	< .001
	b	β	*SE*	t	$p_{one\text{-}tailed}$	$r_{zero\text{-}order}$	*Tolerance*
Model 1							
Disorganized Attachment	.25	.25	.07	3.9	< .001	.25	1.00
Model 2							
Disorganized Attachment	.14	.13	.07	2.0	.021	.25	.87
Self-Esteem	-.26	-.25	.08	3.3	< .001	-.36	.64
Affective Quality	-.12	-.12	.08	1.5	.064	-.31	.62

Note. All variables were standardized to allow testing of potential moderating effects. Two-way interactions (i.e., disorganized X self-esteem, disorganized X affective quality, and self-esteem X affective quality) did not significantly add to the overall prediction of PTSD symptoms (ΔR^2 = .009, R^2 = .166, F_{change}[3, 229] = 0.8, p = .498). Neither did the three-way interaction (i.e., disorganized X self-esteem X affective quality) (ΔR^2 =

.001, R^2 = .167, $F_{change}[1, 228] = 0.3$, p = .605). Thus, interaction terms were removed from the final model. Sobel's Z tests confirmed significant mediation for self-esteem, Sobel's $Z = 4.0$, $SE = .03$, $p < .001$, and for affective quality, Sobel's $Z = 3.8$, $SE = .03$, $p < .001$.

Table 20.

Erikson's Psychosocial Stages (adapted from Erikson, 1950, 1959/1980; 1982)

Psychosocial Crisis Stage	Significant Relations	Basic Strengths	Basic Antipathies	Developmental Period
Trust vs. Mistrust	Mother	Hope	Withdrawal	Infancy
Autonomy vs. Shame, Doubt	Parents/Caregivers	Will	Compulsion	Early Childhood
Initiative vs. Guilt	Family	Purpose	Inhibition	Play Age
Industry vs. Inferiority	Neighborhood, School	Competence	Inertia	School Age
Identity vs. Identity Diffusion	Peer Groups & Out-Groups, Models of Leadership	Fidelity	Repudiation	Adolescence
Intimacy vs. Isolation	Partners in Friendship, Sex, Competition, Cooperation	Love	Exclusivity	Young Adulthood
Generativity vs. Stagnation	Divided Labor & Shared Household	Care	Rejectivity	Adulthood
Integrity vs. Despair	Humankind, "My Kind"	Wisdom	Disdain	Mature Age

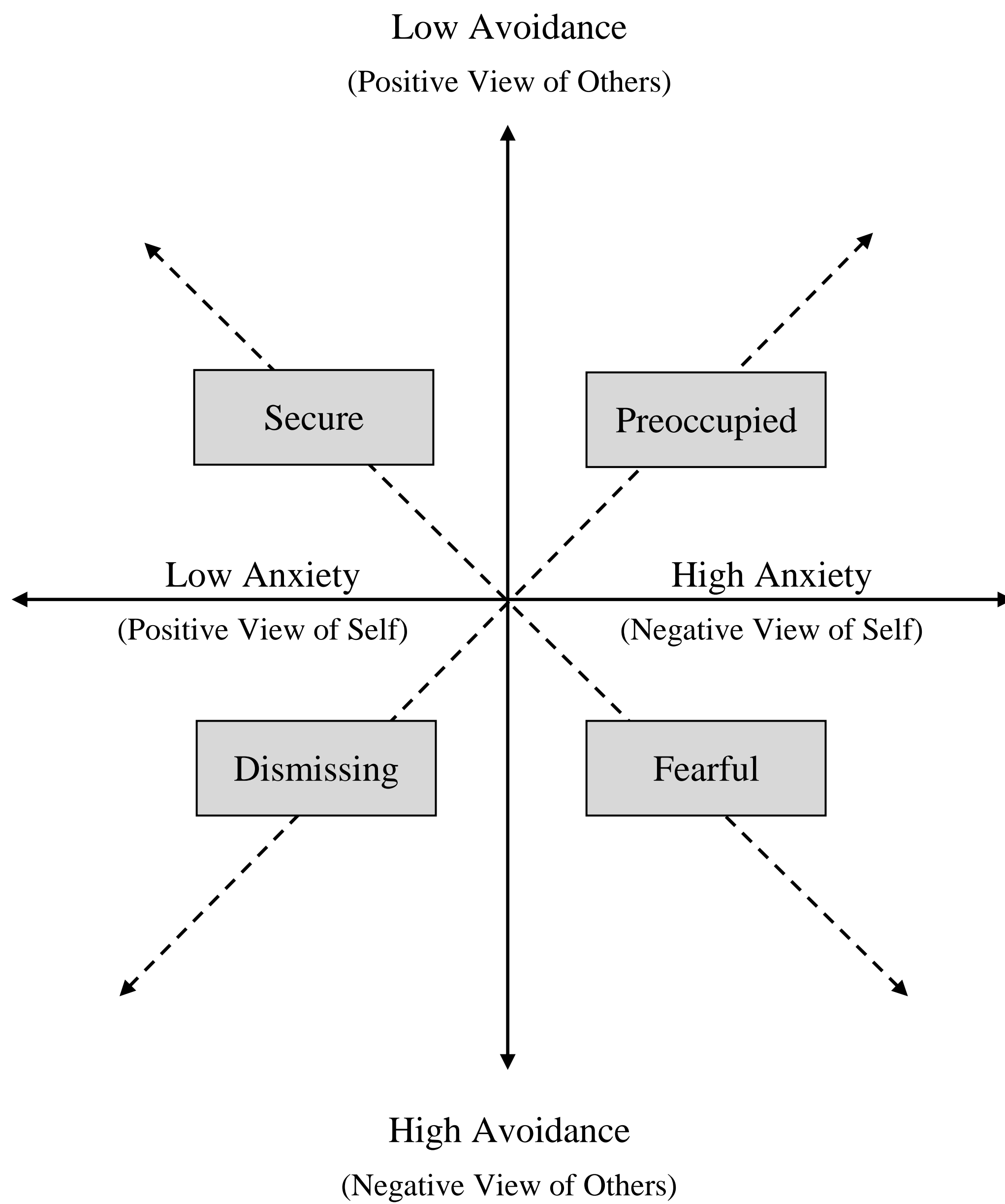


Figure 1. An integrative model of adult attachment (modified and adapted from Mikulincer & Shaver, 2007a)

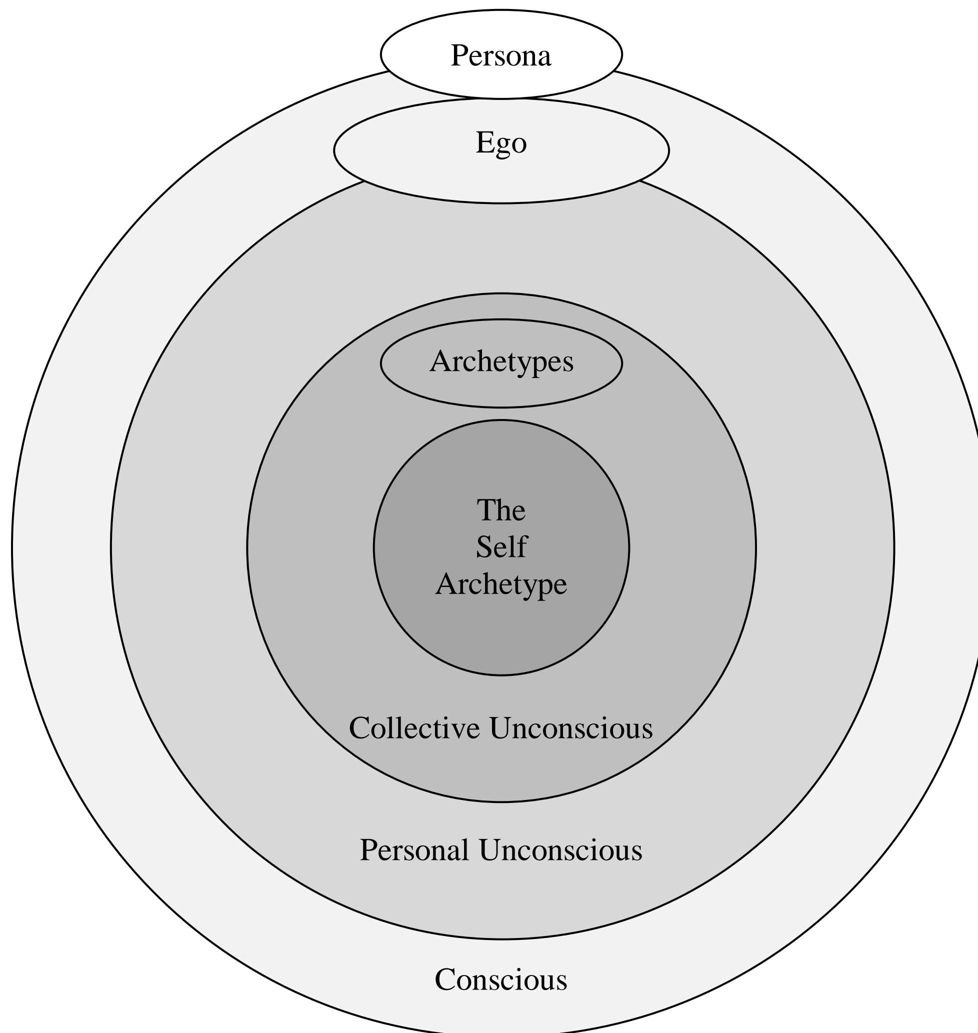


Figure 2. Visual representation of Jung's model of the psyche (adapted from Rushing, 2003)

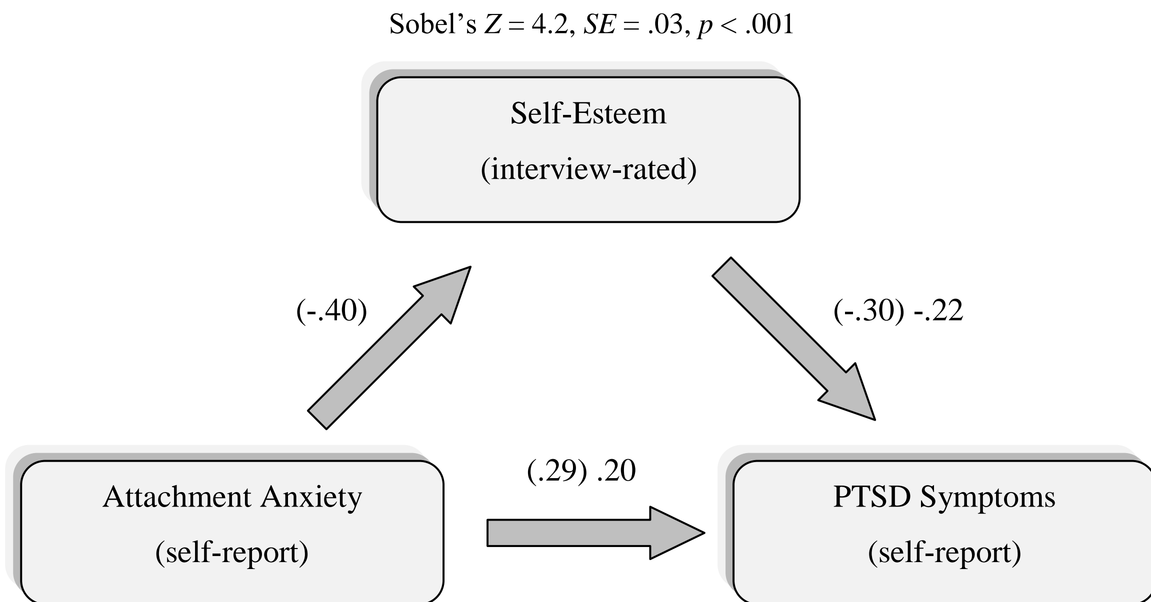
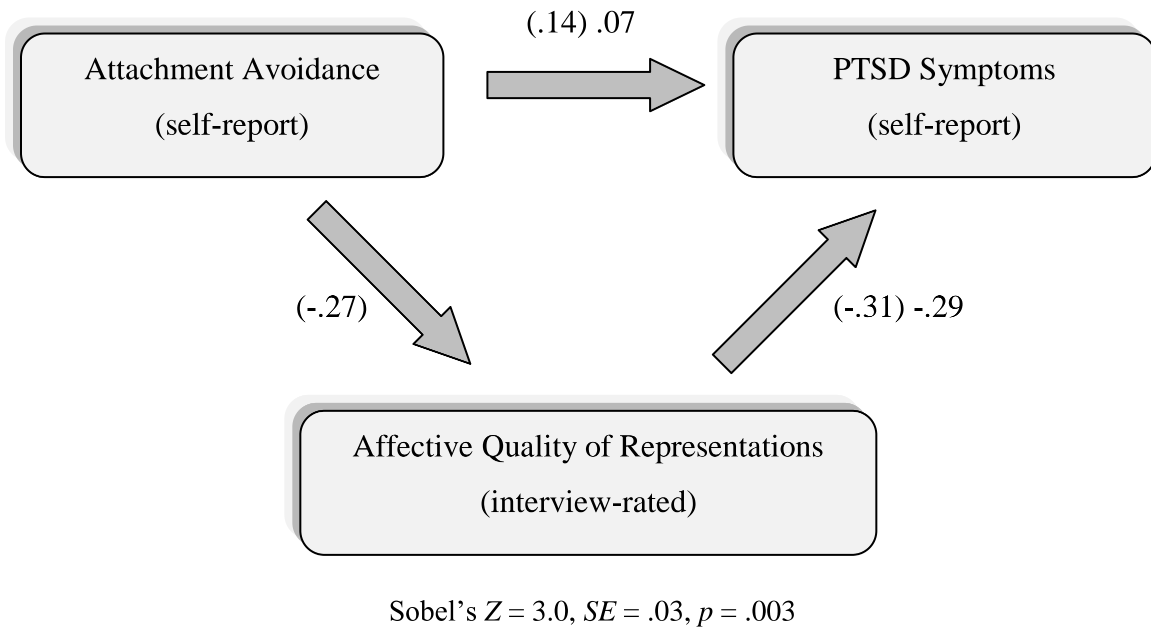


Figure 3. Model for self-esteem's mediation of attachment anxiety's relationship with self-reported PTSD symptoms. Values in parentheses are zero-order, standardized coefficients.



Sobel's $Z = 3.0$, $SE = .03$, $p = .003$

Figure 4. Model for affective quality of representations' mediation of attachment avoidance's relationship with self-reported PTSD symptoms. Values in parentheses are zero-order, standardized coefficients.

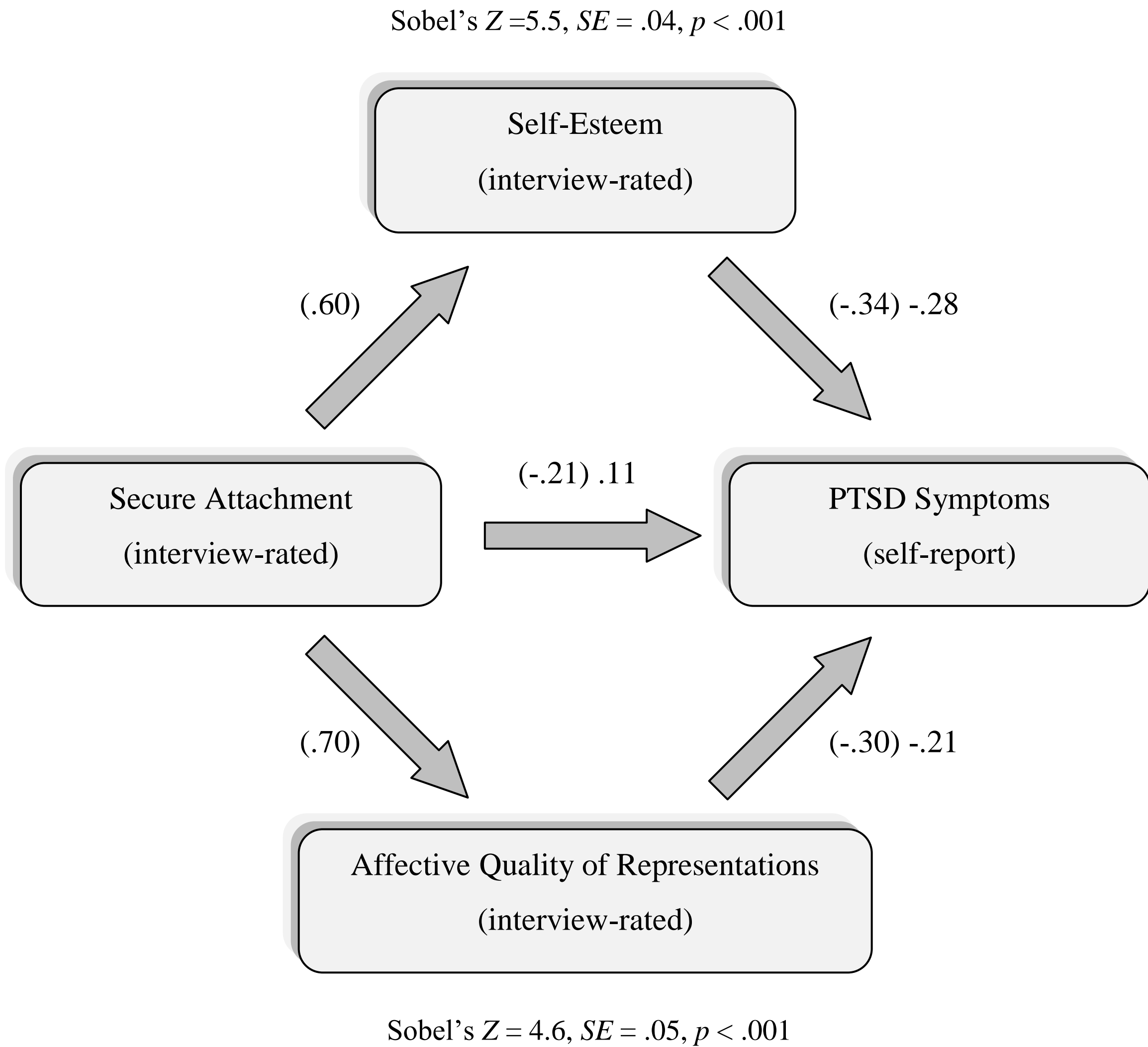


Figure 5. Model for object relations variables' mediation of secure attachment's relationship with self-reported PTSD symptoms. Values in parentheses are zero-order, standardized coefficients.

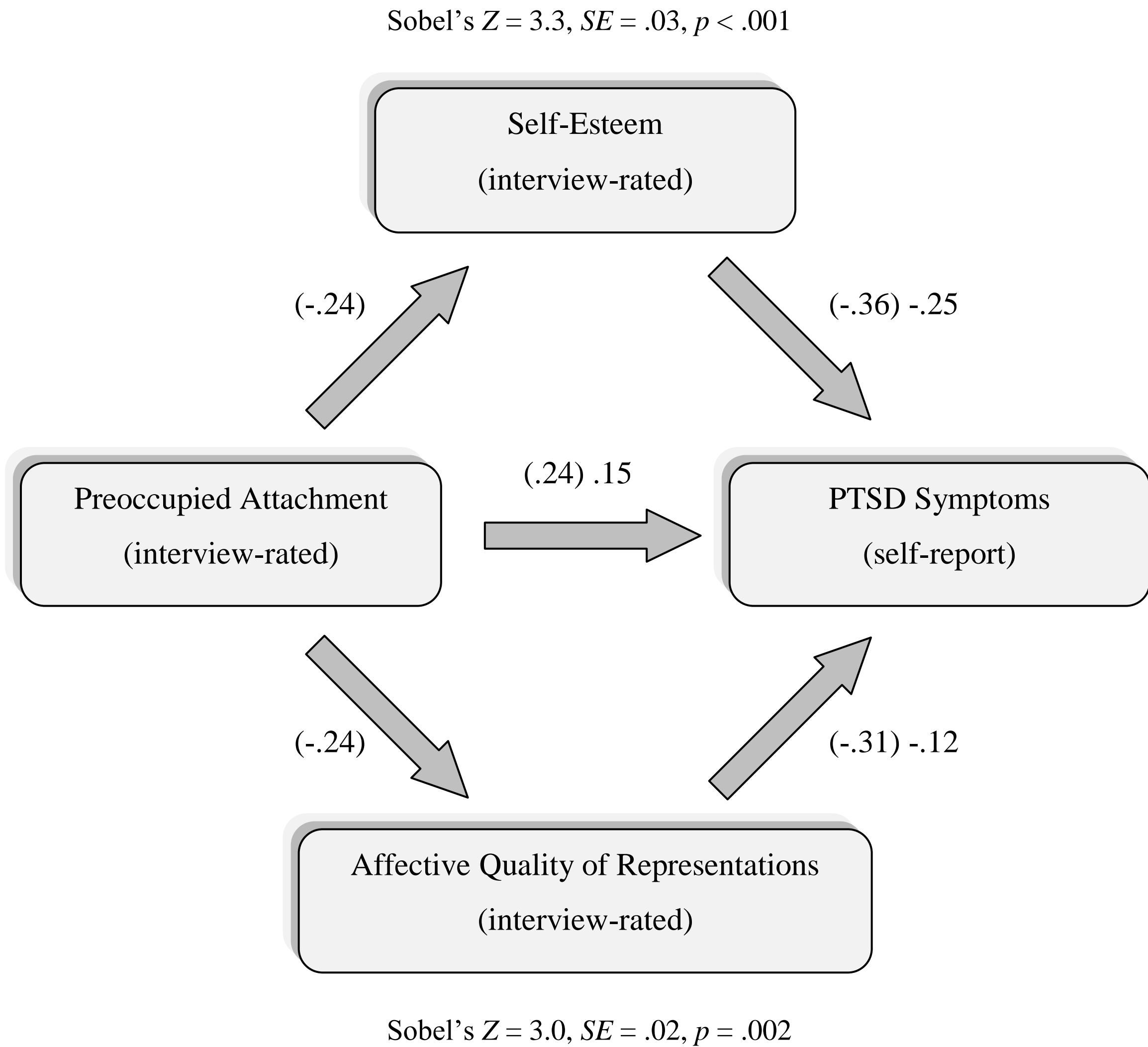


Figure 6. Model for object relations variables' mediation of preoccupied attachment's relationship with self-reported PTSD symptoms. Values in parentheses are zero-order, standardized coefficients.

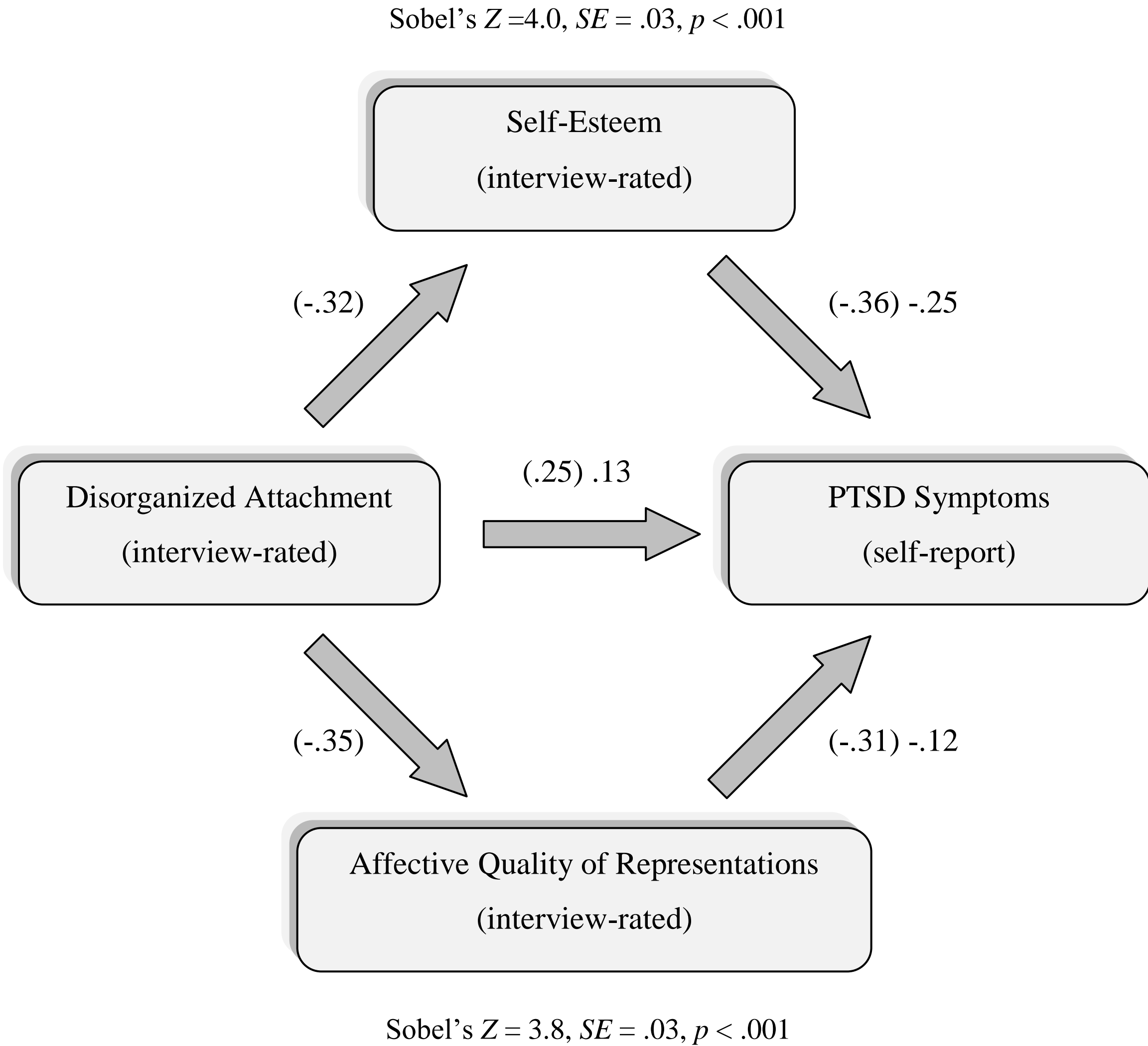


Figure 7. Model for object relations variables mediation of disorganized/unresolved attachment's relationship with self-reported PTSD symptoms. Values in parentheses are zero-order, standardized coefficients.

Appendix A

Proposed Revisions for the *DSM-V* 's Personality Disorders (adapted from APA, 2011)

Note. The following is taken mostly verbatim from the *DSM-V* website, which can be reached at http://www.dsm5.org.

Overview

A hybrid dimensional-categorical model for personality and personality disorder assessment and diagnosis has been proposed for field testing. In its current iteration, ratings from three assessments combine to comprise the essential criteria for a personality disorder:

1. A rating of mild impairment or greater on the Levels of Personality Functioning (Criterion A),
2. A rating of (a)
    a. a "good match" or "very good match" to a Personality Disorder Type *or*
    b. "quite a bit" or "extremely" descriptive on one or more of six Personality Trait Domains (Criterion B).
3. Diagnosis also requires relative stability of (1) and (2) across time and situations, and excludes culturally normative personality features and those due to the direct physiological effects of a substance or a general medical condition.

Criterion A – Levels of Personality Functioning

Personality psychopathology fundamentally emanates from disturbances in thinking about self and others. Because there are greater and lesser degrees of disturbance of the self and interpersonal domains, the following continuum comprised of levels of self and interpersonal functioning is provided for assessing individual patients.
Instructions—Rate the patient's functioning on the 5-point rating scale shown below for each domain of functioning:

_____ 0 = No Impairment
_____ 1 = Mild Impairment
_____ 2 = Moderate Impairment
_____ 3 = Serious Impairment
_____ 4 = Extreme Impairment

Each level is characterized by typical functioning in the following areas:

Self

1. *Identity*: Experience of oneself as unique, with clear boundaries between self and others; coherent sense of time and personal history; stability and accuracy of self-appraisal and self-esteem; capacity for a range of emotional experience and its regulation
2. *Self-direction*: Pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively

Interpersonal

1. *Empathy*: Comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding of social causality
2. *Intimacy*: Depth and duration of connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behavior

Criterion B – Personality Types

Instructions—Rate the patient's personality using the 5-point rating scale shown below for each of five personality types:

5	Very Good Match:	patient *exemplifies* this type
4	Good Match:	patient *significantly* resembles this type
3	Moderate Match:	patient has *prominent features* of this type
2	Slight Match:	patient has *minor features* of this type
1	No Match:	description does not apply

Antisocial/Psychopathic Type

Individuals who resemble this personality disorder type seek power over others and will manipulate, exploit, deceive, con, or otherwise take advantage, in order to inflict harm or to achieve their goals. An arrogant, self-centered, and entitled attitude is pervasive, along with callousness and little empathy for others' needs or feelings. Rights, property, or safety of others is disregarded, with little or no remorse or guilt if others are harmed. Emotional expression is mostly limited to irritability, anger, and hostility; acknowledgement and articulation of other emotions, such as love or anxiety, are rare. There is little insight into motivations and an impaired ability to consider alternative interpretations of experience.

Temperamental aggression and a high threshold for pleasurable excitement are typically associated with this type, linked to reckless sensation-seeking behaviors, impulsivity without regard for consequences, and a sense of invulnerability. Unlawful or unethical behavior is often pursued, including substance abuse and physical violence. Aggressive or sadistic acts are common in pursuit of personal agendas, and sometimes pleasure or satisfaction is derived from humiliating, demeaning, dominating, or hurting others. Superficial charm and ingratiation may be employed to achieve certain ends, and there is disregard for conventional moral principles. General irresponsibility about work obligations or financial commitments is commonly present, as well as problems with authority figures.

Avoidant Type

Individuals who resemble this personality disorder type have a negative sense of self, associated with profound feelings of inadequacy, and inhibition in establishing close interpersonal relationships. Anxiety, inferiority, social ineptness, and a personal lack of appeal are often experienced, along with shame, embarrassment, and self-criticism. Unrealistically high self-standards are held and there may exist a desire to be recognized by others as special and unique. On the other hand, self-blame for bad things that happen is common, and often little or no pleasure, satisfaction, or enjoyment in life's activities is experienced. Emotions are inhibited or constricted, and difficulty acknowledging or expressing wishes, emotions (positive and negative), and impulses is present.

Despite high standards, passivity may dominate, undermining pursuit of personal goals or achieving success. This tendency sometimes leads to inappropriately low

aspirations or achievements. Risk aversion is characteristic. In social situations, behavior is shy or reserved, and sometimes social and occupational situations are avoided altogether because of fear of embarrassment or humiliation. Sensitivity toward potential criticism or rejection is high, with reluctance to disclose personal information. Basic interpersonal skills can appear to be lacking, resulting in few close friendships. Intimate relationships are avoided because of a general fear of attachments and intimacy, including sexual intimacy.

Borderline Type

Individuals who resemble this personality disorder type have an impoverished and/or unstable self-structure and difficulty maintaining enduring and fulfilling intimate relationships. Self-concept is easily disrupted under stress, and often associated with the experience of a lack of identity or chronic feelings of emptiness. Self-appraisal is filled with loathing, excessive criticism, and despondency. There is sensitivity to perceived interpersonal slights, loss or disappointments, linked with reactive, rapidly changing, intense, and unpredictable emotions. Anxiety and depression are common. Anger is a typical reaction to feeling misunderstood, mistreated, or victimized, which may lead to acts of aggression toward self and others. Intense distress and characteristic impulsivity may also prompt other risky behaviors, including substance misuse, reckless driving, binge eating, or dangerous sexual encounters.

Relationships are often based on excessive dependency, a fear of rejection and/or abandonment, and urgent need for contact with significant others when upset. Behavior may sometimes be highly submissive or subservient. At the same time, intimate involvement with another person may induce fear of loss of identity as an individual – psychological and emotional engulfment. Thus, interpersonal relationships are commonly unstable and alternate between excessive dependency and flight from involvement. Empathy for others is significantly compromised, or selectively accurate but biased toward negative characteristics or vulnerabilities. Cognitive functioning may become impaired at times of interpersonal stress, leading to concrete, black-and white, all-or-nothing thinking, and sometimes to quasi-psychotic reactions, including paranoia and dissociation.

Obsessive-Compulsive Type

Individuals who resemble this personality disorder type are ruled by need for order, precision, perfection, and control. There is an overdeveloped sense of duty and obligation, and significant insecurity, anxiety, guilt, or shame over real or perceived deficiencies or failures may arise. At the same time, behavior or attitudes are commonly controlling, competitive, and critical. There may be conflict about authority (e.g., pressure to submit to it or rebel against it), a tendency toward power struggles (overtly or covertly), and a self-righteous or moralistic attitude. Appreciation of the ideas, emotions, and behaviors of other people is compromised at times. For the most part, strong emotions – both positive (e.g., love) and negative (e.g., anger) – are not consciously experienced or expressed, although irritability over self or others falling short of expectations may be common.

Activities are often conducted in super-methodical and overly detailed ways, along with concerns with time, punctuality, schedules, and rules. The need to try to do things perfectly may result in a paralysis of indecision, as the pros and cons of alternatives are weighed, such that important tasks may not ever be completed. Tasks, problems, and people are approached rigidly, and there is limited capacity to adapt to changing demands or circumstances.

Schizotypal Type

Individuals who resemble this personality disorder type have social deficits, marked by discomfort with and reduced capacity for interpersonal relationships; eccentricities of appearance and behavior, and cognitive and perceptual distortions. Anxiety in social situations (even when familiar with the situation), feeling like an outcast, difficulty in connecting with others, and suspiciousness of others' motivations is typical. Despite any internal distress at being "set apart", there appears to be detachment or indifference to others' reactions. Emotional experience and expression is likely constricted. Appearance and manner can be eccentric or odd (e.g., grooming, hygiene, posture, and/or eye contact are strange or unusual), and speech may be vague, circumstantial, metaphorical, over elaborate, concrete, or stereotyped. These characteristics are all linked to a tendency to have few, if any, close friends and/or intimate relationships.

Behavior may be influenced by magical thinking, such as superstitions, or belief in clairvoyance or telepathy. Perception of reality is sometimes impaired, and reasoning and perceptual processes may become odd and idiosyncratic (e.g., seemingly arbitrary inferences, or seeing hidden messages or special meanings in ordinary events), or quasi-psychotic, with symptoms such as pseudo-hallucinations, sensory illusions, over-valued ideas, mild paranoid ideation, or transient psychotic episodes. There usually is the ability, however, to "reality test" psychotic-like symptoms, along with intellectual acknowledgement of irrationality and false beliefs.

Criterion B – Personality Trait Dimensions

Negative Emotionality—characterized by frequent experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/ shame, worry, anger, etc.), as well as the behavioral (e.g., self-harm) and interpersonal (e.g., clinginess, mistrustfulness) manifestations of these emotions.

> *Trait facets*: Emotional lability, anxiousness, submissiveness, separation insecurity, pessimism, low self-esteem, guilt/shame, self-harm, depressivity, suspiciousness

Detachment—characterized by withdrawal from other people--ranging from withdrawal from intimate, friendly, and social relationships to withdrawal from the world at large; by restricted affective experience and expression; and by having limited hedonic capacity.

> *Trait facets*: Social withdrawal, social detachment, intimacy avoidance, restricted affectivity, anhedonia

Antagonism—characterized by callous antipathy toward others (e.g., aggression, oppositionality, deceitfulness, manipulativeness), and a correspondingly exaggerated sense of self-importance (e.g., narcissism).

> *Trait facets*: Callousness, manipulativeness, grandiose narcissism, histrionic style, hostility, aggression, oppositionality, deceitfulness

Disinhibition—characterized by an orientation towards immediate gratification, with behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences.

> *Trait facets*: Impulsivity, distractibility, recklessness, irresponsibility

Compulsivity—characterized by perseverative, perfectionistic thinking, and by acting according to a narrowly defined and unchanging ideal, and by the rigid expectation that this ideal should be adhered to by everyone

> *Trait facets*: Perfectionism, perseveration, rigidity, orderliness, risk aversion

Schizotypy—characterized by a wide range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions, including both process (e.g., perception, dissociation) and content (e.g., beliefs).

> *Trait facets*: Unusual perceptions, unusual beliefs, eccentricity, cognitive dysregulation, dissociation proneness

Appendix B

Attachment & Object Relations Measures

Experiences in Close Relationships – Revised (ECR-R)

Generic Instructions—The statements below concern how you feel in emotionally intimate 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 the statement on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). (*Note*. These items are administered in a randomized order.)

Attachment Anxiety Items

1. I'm afraid that I will lose my partner's love.
2. I often worry that my partner will not want to stay with me.
3. I often worry that my partner doesn't really love me.
4. I worry that romantic partners won't care about me as much as I care about them.
5. I often wish that my partner's feelings for me were as strong as my feelings for him or her.
6. I worry a lot about my relationships.
7. When my partner is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
9. I rarely worry about my partner leaving me. (*Reverse scored*)
10. My romantic partner makes me doubt myself.
11. I do not often worry about being abandoned. (*Reverse scored*)
12. I find that my partner(s) don't want to get as close as I would like.
13. Sometimes romantic partners change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from my partner.
17. I worry that I won't measure up to other people.
18. My partner only seems to notice me when I'm angry.

Attachment Avoidance Items

19. I prefer not to show a partner how I feel deep down.
20. I feel comfortable sharing my private thoughts and feelings with my partner. (*Reverse scored*)

21. I find it difficult to allow myself to depend on romantic partners.
22. I am very comfortable being close to romantic partners. (*Reverse scored*)
23. I don't feel comfortable opening up to romantic partners.
24. I prefer not to be too close to romantic partners.
25. I get uncomfortable when a romantic partner wants to be very close.
26. I find it relatively easy to get close to my partner. (*Reverse scored*)
27. It's not difficult for me to get close to my partner. (*Reverse scored*)
28. I usually discuss my problems and concerns with my partner. (*Reverse scored*)
29. It helps to turn to my romantic partner in times of need. (*Reverse scored*)
30. I tell my partner just about everything. (*Reverse scored*)
31. I talk things over with my partner. (*Reverse scored*)
32. I am nervous when partners get too close to me.
33. I feel comfortable depending on romantic partners. (*Reverse scored*)
34. I find it easy to depend on romantic partners. (*Reverse scored*)
35. It's easy for me to be affectionate with my partner. (*Reverse scored*)
36. My partner really understands me and my needs. (*Reverse scored*)

Adult Attachment Prototype Questionnaire (AAPQ)

Instructions—What follows are descriptions of four attachment styles of prototypes. Please read the statements that define each prototype and form an overall impression of the type of person being described. Then rate the extent to which your patient matches or resembles the prototype, using the following scale: ***1=no match, 3=moderate match, 5=very strong match***. (Remember, if your patient has changed substantially during treatment, please describe him/her at the time s/he began treatment with you).

A) Patients who match this prototype tend to expect that they can rely on the availability and sensitivity of the people they love. They are able to become emotionally close and express affections toward significant others. They tend to feel comfortable depending on others and having others depend on them, and they tend to feel calmed and comforted by contact and support they receive when distressed. They are generally sensitive to other people's "signals"; tend to be empathic and emotionally "present"; and are able to problem-solve and think constructively when in emotionally difficult interpersonal situations. They tend to have balanced, realistic views of significant others and to view themselves as lovable and worthy of care. Individuals who match this prototype are able to explore and openly talk about emotionally significant life events, even when doing so is painful. They are generally able to tell coherent narratives about significant life events; to answer comfortably when asked for details and examples; and to reflect on their childhood and its effects on who they are today.

Rating (circle one) ***1 2 3 4 5***
No match Moderate match Very strong match

If the patient received a rating of 2 or more, please rate the following:

The patient tends to expect that s/he can rely on the availability and sensitivity of significant others.
Rating ____________ *(1= untrue, 3=moderately true, 5= very true)*

The patient is able to explore and openly discuss emotionally significant experiences with significant others, even when doing so is painful.
Rating: ______*(1= untrue, 3=moderately true, 5= very true)*

B) Patients who match this prototype tend to minimize or dismiss the importance of close relationships. They are uncomfortable with emotional intimacy, physical contact, etc. They tend to derive a sense of self-worth by being independent and self-sufficient, and to disparage sentimentality, tenderness, or discussion or expression of feelings. When distressed, they tend to withdraw or attempt to cope by themselves. They may over idealize their parents or attachment figures, having trouble acknowledging their imperfections. Alternatively, they may disparage, contemptuously derogate, or belittle their parents role or their role in their own development in an attempt to dismiss their

importance. Patients who match this prototype have minimal access to specific memories from childhood and little interest in exploring or retrieving them. They tend to offer sparse narratives about interpersonal events, and to appear unwilling or unable to describe interpersonal experiences in detail or to provide specific examples. They often offer generalizations about their significant relationships that do not cohere with supporting details (e.g. they may describe their relationship with their mother as "loving" but, when pressed for specific examples, provide memories that seem distant or unpleasant). They tend to take and excessively pragmatic approach to language, having no use for "wasted" words.

Rating (circle one) **1 2 3 4 5**
No match Moderate match Very strong match

If the patient received a rating of 2 or more, please rate the following:

The patient tends to minimize or dismiss the importance of close relationships.
Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

The patient tends to offer sparse narratives about interpersonal events, and to appear unwilling or unable to describe interpersonal experiences in detail or to provide specific examples.
Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

C) Individuals who match this prototype seek intense emotional intimacy with others but constantly feel ambivalent about them. They tend to experience others as less accessible or responsive then they want them to be, leading to distress, frustration, anger, anxiety, passive helplessness, etc. They may feel smothered by significant others at the same time as never quite given enough, taken care of well enough, etc. When distressed, they turn to significant others for comfort, but they chronically feel disappointed. They seem to be mired in, or preoccupied with past attachment relationships (e.g. they still seem to be fighting old battles with mother, father, etc.). Individuals who match this prototype tend to have trouble staying on topic when discussing significant interpersonal events or relationships, often offering excessively long descriptions of events wandering from topic to topic, cannot stop crying while describing past events, etc. They tend to use vague, meaningless, or empty words when describing interpersonal events (e.g., may insert nonsense words such as "dadada" into sentences, use psychobabble such as "she has a lot of material around that issue," etc.)

Rating (circle one) **1 2 3 4 5**
No match Moderate match Very strong match

If the patient received a rating of 2 or more, please rate the following:

The patient tends to seek intense emotional intimacy with others by constantly feels ambivalent about them, experiences significant others as less responsive than s/he would like, etc.

Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

The patient tends to have trouble staying on topic, offers overly lengthy or rambling descriptions of interpersonal events, etc.
Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

D) Individuals who match this prototype have had trouble getting beyond, mastering, resolving, or making meaning of traumatic events (e.g., loss or abuse), so that they tend to respond to intimate relationships in ways that appear inconsistent, contradictory, or dissociative. They have difficulty trusting significant others, and tend to manifest contradictory responses when distressed or in need of help (e.g., pushing the other away while demanding help, or responding simultaneously with anger and help-seeking). They tend to be controlling in close relationships, either through hostile, critical, or punitive responses; or through over involved, "enmeshed," or smothering care giving. Individuals who match this prototype seem to lose the capacity to keep in mind the perspective of the listener; and show signs of illogical, childish, or peculiar reasoning (e.g., indicating that a dead person is still alive in the physical sense, or appearing convinced that their thoughts or feelings killed someone in childhood). They may lapse into prolonged silences, unfinished sentences, or stilted, "eulogistic," speech when describing traumatic events or losses.

Rating (circle one) ***1 2 3 4 5***
No match Moderate match Very strong match

If the patient received a rating of 2 or more, please rate the following:

The patient has had trouble getting beyond or making meaning of traumatic events, and tends to respond to intimate relationships in ways that appear inconsistent or contradictory.
Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

When talking about traumatic evens, the patient tends to show signs of disorientation, disorganization, or dissociation.
Rating ______ *(1= untrue, 3=moderately true, 5= very true)*

Primary attachment style:
If you had to choose among this four prototypes, which one best describes your patient (A,B,C, or D)? __________

Social Cognition & Object Relations Scale – Global Version (SCORS-G)

Please rate the patient on each of the following dimensions, using the 1-7 scales indicated. Each scale is on a continuum, with higher scores indicating more mature or healthy functioning.

Complexity of representations of people: 1 = tends to be grossly egocentric, or to confuse his/her own thoughts, feelings, or attributes with others'; 3 = views the self and others with little subtlety or complexity; descriptions of people tend to be sparse, simple, one-dimensional, poorly integrated, or split into all-good or all-bad (e.g., tends to describe people as "nice," "mean," etc.); 5 = views of the self and others have some depth and complexity but are relatively conventional; is able to see people's strengths as well as weaknesses, and to take others' perspective; 7 = is psychologically minded; views of people are subtle, rich, and complex.

1 2 3 4 5 6 7

Affective quality of representations: (what the person expects from, and experiences in, relationships): 1 = tends to have malevolent expectations of relationships; often experiences people as abusive or intentionally destructive; 3 = tends to experience relationships as somewhat unpleasant, hostile, or indifferent, or to feel very alone; 5 = expectations of relationships are affectively mixed; tends to describe both positive and negative relationship experiences; 7 = has genuinely positive expectations of relationships, but is not "pollyannish" (i.e., can see people for what they are). Note: Where affective quality of representations of relationships tends to be bland, absent, limited, or defensively positive, code "4."

1 2 3 4 5 6 7

Capacity for emotional investment in relationships: 1 = tends to focus primarily on his/her own needs in relationships; to have unstable, tumultuous relationships; or to have few if any relationships; 3 = relationships tend to be shallow, lacking in depth, or based primarily on mutual participation in shared activity or mutual self-interest; 5 = demonstrates conventional sentiments of friendship, caring, love, and empathy in relationships; 7 = tends to have deep, committed relationships characterized by mutual sharing, emotional intimacy, interdependence, respect, and appreciation.

1 2 3 4 5 6 7

Emotional investment in values and moral standards: 1 = evidences a relative absence of moral values and concerns for the needs of others; may behave in selfish, inconsiderate, self-indulgent, or aggressive ways with little sense of remorse or guilt; 3 = shows signs of *some* internalization of standards (e.g., avoids doing "bad" things because knows others will think badly of him/her; thinks in relatively simple or childlike ways about right and wrong") but lacks mature feelings of guilt or remorse for wrongdoing and a capacity to override own desires that regulate behavior; 5 = is invested in moral values and experiences guilt for hurting other people or failing to meet moral standards; has conventional moral views; 7 = thinks about moral questions in a way that combines abstract thought, a willingness to challenge or question convention, and genuine compassion and thoughtfulness in actions. Note: Where the person is morally harsh and rigid toward self or others, code "4."

1 2 3 4 5 6 7

Understanding of social causality *(ability to understand why people do what they do)*: 1 = explanations of people's behavior or narrative accounts of interpersonal experiences tend to be confused, confusing, distorted, extremely sparse, or difficult to follow; "stories" of events tend to lack coherence; 3 = explanations of people's behavior or narrative accounts of interpersonal events tend to be slightly confusing; descriptions of interpersonal events often have incongruities that require "work" to understand fully; 5 = tends to provide straightforward narrative accounts of interpersonal events in which people's actions result from the way they experience or interpret situations; 7 = tends to provide rich, coherent, and accurate accounts of interpersonal events. Note: where the person tends to describe interpersonal events as if they "just happen," with little sense of why people behave the way they do (i.e., *alogical* rather than *illogical* narratives, which seem to lack any causal understanding), rate "2."

1 2 3 4 5 6 7

Experience and management of aggressive impulses: 1 = is physically assaultive, destructive, sadistic, or in poor control of aggressive impulses; 3 = tends to be angry, passive-aggressive, denigrating of others, physically abusive to self, or unable to protect self from escapable abuse; 5 = avoids dealing with anger by denying it, defending against it, or avoiding confrontations; 7 = can express anger and aggression and assert him/herself appropriately.

1 2 3 4 5 6 7

Self-esteem: 1 = views self as loathsome, evil, rotten, contaminating, or globally bad; 3 = has low self-esteem (e.g., feels inadequate, inferior, self-critical, etc.); 5 = displays a range of positive and negative feelings toward the self; 7 = tends to have realistically positive feelings about him/herself. Note: where person is grandiose, or alternates between overvaluation and devaluation of self, rate "4." 1 2 3 4 5 6 7
Identity and coherence of self: 1 = has multiple personalities; 3 = views of, or feelings about, the self fluctuate widely or unpredictably; lacks stable goals, ambitions, or core values; has an unstable sense of self; feels as if s/he "doesn't know who s/he is"; 5 = identity and self-definition are not a major concern or preoccupation; 7 = feels like an integrated person, with stable commitments to long-term ambitions, goals, values, and relationships. 1 2 3 4 5 6 7

Appendix C

Supplemental Data Analysis

Table A1.

Correlations of SNAP & SWAP-II Personality Diagnostic Scales with Attachment Constructs and Aggregated Adaptive Functioning

			Attachment Constructs						Aggregated Adaptive Functioning
			Anxiety (ECR-R)	Avoidance (ECR-R)	Secure (AAPQ)	Dismissing (AAPQ)	Preoccupied (AAPQ)	Disorganized (AAPQ)	
Cluster A	SNAP	Paranoid	.24***	.10	-.14*	.07	.12	.12	-.19***
		Schizoid	.12	.15*	-.10	.11	-.02	.05	-.10
		Schizotypal	.28***	.18*	-.16*	.09	.13*	.15*	-.16**
	SWAP-II	Paranoid	.08	.13	-.35***	.20**	.16*	.20**	-.40***
		Schizoid	-.06	.20**	-.41***	.32***	-.08	.10	-.26***
		Schizotypal	-.03	.14	-.39***	.17*	-.11	.24***	-.28***
Cluster B	SNAP	Antisocial	.10	.05	-.03	.16*	-.03	.13	-.04
		Borderline	.12	.10	-.03	.15*	.04	.21**	-.06
		Histrionic	.09	.09	-.05	.10	-.02	.17**	-.04

		Narcissistic	.17*	.15*	-.11	.14*	.03	.18**	-.10
Cluster B	SWAP-II	Antisocial	.07	.05	-.23***	.24***	.05	.12	-.42***
		Borderline	.34***	.28***	-.28***	.00	.26***	.27***	-.52***
		Histrionic	.26***	.08	-.21**	-.03	.27***	.21**	-.31***
		Narcissistic	-.09	-.05	-.19**	.22**	.01	.02	-.08
Cluster C	SNAP	Avoidant	.23**	.12	-.17**	.05	.03	.06	-.22***
		Dependent	.13	.05	-.01	.08	-.02	.10	-.02
		Obsessive-Compulsive	.29***	.16*	-.09	.13	.05	.14*	-.07
	SWAP-II	Avoidant	.18*	.17*	-.17**	-.02	.11	.03	-.17*
		Dependent	.32***	.12	-.15*	-.16*	.36***	.07	-.20**
		Obsessive-Compulsive	-.31***	-.06	.26***	.00	-.27***	-.17*	.45***

Note. SNAP diagnostic scales correspond to the number of *DSM-III-R* criteria met for each disorder whereas SWAP-II scales correspond to the degree of match with each *DSM-IV* diagnostic construct. For the SNAP scales' correlations, sample sizes were N = 188-243 for attachment and N = 322 for adaptive functioning. For the SWAP-II scales, sample sizes were N = 163-221 for attachment and N = 231 for adaptive functioning.

Two-tailed, * $p < .05$ ** $p < .01$ *** $p < .001$

Table A2.

Hierarchical Regression Comparing Incremental Validity of Object Relations Predicting Self-Reported PTSD Symptoms above Attachment Constructs

	R^2	Adjusted R^2	ΔR^2	df_1	df_2	F_{change}	p_{change}
Model 1 (Attachment)	.136	.098	.136	6	139	3.6	.002
Model 2 (Object Relations)	.244	.163	.108	8	131	2.3	.022
	b	B	SE	t	p	$r_{\text{zero-order}}$	*Tolerance*
Model 1							
Attachment Anxiety	.29	.26	.10	3.0	.003	.33	.83
Attachment Avoidance	.07	.07	.09	0.8	.406	.14	.87
Secure Attachment	-.06	-.06	.10	0.6	.538	-.18	.66
Dismissing Attachment	-.07	-.07	.10	0.7	.475	-.04	.73
Preoccupied Attachment	.03	.03	.09	0.3	.766	.18	.69
Disorganized Attachment	.14	.12	.10	1.4	.157	.19	.85
Model 2							
Attachment Anxiety	.20	.18	.10	2.0	.046	.33	.71

Attachment Avoidance	.03	.03	.09	0.4	.705	.14	.78
Secure Attachment	.19	.19	.13	1.4	.151	-.18	.33
Dismissing Attachment	-.07	-.07	.10	0.7	.473	-.04	.71
Preoccupied Attachment	.04	.04	.10	0.4	.664	.18	.63
Disorganized Attachment	.11	.10	.10	1.0	.297	.19	.70
Complexity	.09	.08	.14	0.6	.551	-.09	.32
Affective Quality	-.18	-.17	.13	1.4	.174	-.29	.37
Relationships	-.10	-.09	.12	0.8	.410	-.24	.46
Morals	-.27	-.25	.12	2.2	.031	-.32	.45
Social Causality	.21	.20	.14	1.5	.141	-.12	.33
Aggression Control	-.03	-.03	.11	0.3	.798	-.26	.52
Self-Esteem	-.09	-.09	.13	0.7	.482	-.29	.37
Identity	-.12	-.12	.13	1.0	.342	-.30	.40

Note. All variables were standardized before conducting the regression analyses. When the object relations variables were entered in Step 1, they accounted for 18.4% of the variance ($R^2 = .184$, $F_{change}[8, 137] = 3.9$, $p < .001$), but including the attachment constructs in Step 2 only added a non-significant 6.0% of variance explained to the final model ($\Delta R^2 = .060$, $R^2 = .244$, $F_{change}[6, 131] = 1.7$, $p = .119$).