

## ABSTRACT

Title of Document: CLIENT ATTACHMENT AS A PREDICTOR OF THERAPIST INTERVENTIONS, THE WORKING ALLIANCE, AND THE REAL RELATIONSHIP IN THE INITIAL, MIDDLE, AND FINAL PHASES OF PSYCHOTHERAPY

John Lawrence Jackson, Doctor of Philosophy, 2014

Directed By: Professor Clara E. Hill, Ph.D., Department of Psychology

This study investigated client attachment style as a predictor of (a) therapist interventions in an early, middle, and late session of psychotherapy; (b) client and therapist post-session ratings of the working alliance over the course of therapy; and (c) client and therapist post-session ratings of the real relationship over the course of therapy. A total of 41 clients and 14 therapists completed measures prior to and throughout open-term courses of psychotherapy ranging from 8 to 106 sessions. Client attachment style was measured using the anxiety and avoidance subscale scores from the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998). Therapist interventions were coded by trained observers using the

Psychotherapy Q-Set (PQS; Jones, 2000). A factor analysis of therapist interventions revealed four factors: Therapist Facilitative Approach (TFA), Therapist Psychodynamic versus Behavioral Interventions (TPB), Therapist Supportive Approach (TSA), and Therapist Process Comments (TPC). Client attachment avoidance was positively associated with Therapist Supportive Approach (TSA), such that therapists were more likely to use directly supportive interventions with clients who endorsed higher levels of attachment avoidance at the outset of therapy. Otherwise, client attachment ratings were not significantly associated to overall levels of therapist interventions or change in therapist interventions over the course of therapy. Neither client attachment anxiety nor avoidance significantly predicted initial levels, mean levels, or patterns of change in client or therapist ratings of the working alliance or the real relationship over the course of psychotherapy. The findings are discussed in the context of findings and methodological differences from other investigations of client attachment, therapist interventions, and client and therapist ratings of the working alliance and the real relationship. Implications for future research and clinical practice are also discussed.

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INTERVENTIONS, THE WORKING ALLIANCE, AND THE REAL  
RELATIONSHIP IN THE INITIAL, MIDDLE, AND FINAL PHASES OF  
PSYCHOTHERAPY

By

John Lawrence Jackson

Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2014

Advisory Committee:

Professor Clara E. Hill, Ph.D., Chair

Professor Jude Cassidy, Ph.D.

Professor Emeritus Charles J. Gelso, Ph.D.

Professor Mary Ann Hoffman, Ph.D.

Professor Jonathon Mohr, Ph.D.

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## Acknowledgements

I wish to thank my advisor, Clara E. Hill, for her invaluable guidance and patience throughout the process of writing this dissertation. Thank you, Clara, for what became and remains a truly Corrective Relational Experience. I also wish to thank Jon Mohr for the warmth and precision with which he served as a consultant for the statistical procedures used in this study. Finally, I am grateful to the clients and professors with whom I have worked in graduate study, great teachers of psychotherapy one and all.

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## Chapter 1: Introduction to the Problem

Over the past two decades, scholars from numerous disciplines within and outside the field of psychology have produced a sizeable body of literature on the implications of attachment theory for adult psychotherapy (Obegi & Berant, 2009). The origins of this literature can roughly be traced to John Bowlby's (1988) chapter on what he believed were the essential therapeutic implications of attachment theory. Bowlby explained that psychotherapy involves a secure base attachment relationship within which the therapist collaborates with the client to explore, understand, and restructure the internal working models that underlie psychopathology and maladaptive relational patterns. Bowlby emphasized the therapeutic relationship as fundamental to a successful therapeutic endeavor, asserting that "unless a therapist can enable his patient to feel some measure of security, therapy cannot even begin" (p. 140). Bowlby noted, however, that the therapeutic relationship and therapeutic process will differ based to a large extent on client attachment patterns at the outset of therapy. Clients who enter therapy with pronounced attachment insecurity are likely to misconstrue the therapist's attentiveness and empathy, responding with distrust and hostility or a yearning for more care and support than is realistic or advantageous. Bowlby noted that tailoring the therapeutic work to address such reactions is imperative to overcoming what are often substantial challenges to initiating and maintaining a secure base therapeutic relationship.

Several scholars (most notably Wallin, 2007 and Holmes, 2001) have provided theoretically and empirically derived recommendations on how to best

conduct therapy with clients who exhibit pronounced attachment anxiety and/or avoidance. A review of these works reveals that a majority of the material is devoted to a description of likely relational occurrences in therapy, with a primary focus on client attitudes and behavior, rather than how a therapist may modify interventions when working with clients who present for therapy with different attachment styles. For example, Wallin (2007) asserted that the therapist stands to benefit from an initial assessment of a client's attachment style and an approach to the therapeutic work that fits this assessment. However, in his respective chapters on therapy with preoccupied, dismissing, and disorganized clients, Wallin's suggestions for working with each client type are largely indistinguishable. Wallin focused, for example, on the necessity of therapist empathy in successful treatment across all three client types. When distinguishable, suggested interventions appear theoretically rather than empirically based. Wallin indicated that *metacommunicative confrontation* (speaking in the here-and-now about the therapist's feelings and thoughts regarding the client) is likely helpful for clients exhibiting a dismissive attachment style, whereas limit setting is likely helpful for clients exhibiting a preoccupied attachment style. He further indicated that clients with preoccupied or unresolved attachment styles stand to benefit from mindfulness practice. Although his insights, suggestions, and clinical anecdotes are highly informative, many of Wallin's notions do not appear to have been empirically derived, nor have they been examined empirically. At present, psychotherapy and attachment researchers possess minimal information on whether or how therapists intervene differentially in their work with clients who present with different attachment styles.

In one empirical attempt to gain access to such valuable information, Hardy et al. (1999) used a qualitative method to examine therapist responsiveness in client-identified helpful events in brief-term psychodynamic-interpersonal psychotherapy. The authors adapted criteria from the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984) to classify clients as preoccupied, dismissing, or both (preoccupied and dismissing) based on client discourse patterns in transcripts of events. The authors found that therapist interventions in 9 of the 10 events involved providing the client with safety and structure and containing the client's anxiety. Events were also discussed in terms of "interpersonal distance," such that therapists also focused either on interventions that served to provide the client with understanding (e.g., reflections of feelings) or challenge and a push for change (e.g. interpretations and directives). Hardy et al. noted that preoccupied clients tended to pull more understanding and psychodynamic-interpersonal interventions from therapists, whereas dismissing clients tended to pull more challenging, cognitive-behavioral interventions from therapists. The authors concluded that therapists responses to clients likely differ based on client attachment style, such that therapists initially work to provide a secure base "holding" environment for client issues, moving to a more emotionally attuned response style with "overinvolved," preoccupied clients and a more cognitively challenging and directive response style with "underinvolved," dismissive clients (p. 51).

Daly and Mallinckrodt (2009) also utilized qualitative methods to investigate differences in therapists' conceptualizations of and interventions with clients who presented for therapy with either high attachment anxiety or high attachment

avoidance. Experienced therapists responded to two “stimulus vignettes,” which were two-paragraph descriptions of fictitious clients. Using statements derived from the 18-item Anxiety and Avoidance subscales of the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998), one vignette portrayed a client with pronounced attachment anxiety and the other a client with pronounced attachment avoidance. Themes in therapist responses to these vignettes were connected through the concept of *therapeutic distance*, which the authors defined as “the level of transparency and disclosure in the psychotherapy relationship from both client and therapist, together with the immediacy, intimacy, and emotional intensity of a session” (p. 559). When discussing how they might work with the client with pronounced attachment anxiety, therapists described allowing initially for a level of therapeutic distance that they believed to be lower than ideally adaptive but that gratified the client’s needs for proximity. The therapists described making an effort over time to increase therapeutic distance, in turn encouraging the client’s achievement of more autonomy, a lowered fear of abandonment, and an increased ability to self-regulate affect. When discussing how they might work with the client with pronounced attachment avoidance, therapists described allowing initially for a level of therapeutic distance that they considered higher than ideally adaptive but that would not challenge the client’s need to deactivate her/his attachment system. Therapists described working over time to decrease therapeutic distance, encouraging a higher level of emotional intimacy and mutuality in the therapeutic relationship and in outside relationships. The authors thus concluded that management of therapeutic

distance is critical for facilitating a corrective emotional experience for clients with pronounced attachment avoidance or anxiety.

In a quantitative examination of therapist interventions in therapeutic work with clients who exhibited varied attachment patterns, Huang and Hill (in preparation) utilized a microanalytic coding system to capture the interventions or “response modes” of 4 therapists, each in intake sessions with two clients who terminated from therapy following the intake and two clients who showed engagement in therapy by attending at least 11 subsequent sessions. In an analysis of client data, Huang and Hill found that those clients who terminated from therapy immediately following intake rated significantly higher attachment anxiety than did those clients who engaged in therapy. In addition, therapists used more reflections of feeling at the end of intake sessions with clients who dropped out versus with clients who engaged. These findings suggest that therapists do in fact intervene differently when working with clients who present for therapy with differing attachment styles.

Although these three studies shed light on how therapists conceptualize their work and intervene based on client presenting attachment style, they possess a number of limitations. First, the Hardy et al. study was limited to transcripts of brief, helpful events from 10 clients. A focus on such events seems problematic for obtaining a validated, well-informed assessment of client attachment patterns as well as for generalizing findings to the helpful, unhelpful, and neutral moments that comprise therapeutic work. It is thus important to examine therapist interventions during full sessions over a course of psychotherapy rather than in a single event. Second, the Daly and Mallinckrodt study involved therapists’ responses to fictitious

client vignettes. It thus is critical to examine elements of therapy process in actual sessions of psychotherapy. Third, although Huang and Hill coded video recorded sessions, judges in the study coded only the intake session and coded a limited range of therapist interventions (verbal response modes). In order to develop an understanding of the associations among client attachment and components of therapy process, it is necessary to examine therapists' work with their clients across different phases of treatment.

The primary purpose of the present study was to utilize a quantitative, observer-rated coding system to examine elements of psychotherapy process with clients who present with varying degrees of attachment anxiety and avoidance. I utilized the Psychotherapy Process Q-set (PQS; Jones, 1985, 2000), a Q-sort coding system that assesses client, therapist, and interactional/relational aspects of psychotherapy sessions, to code one session from the initial, middle, and final phases of completed courses of treatment. Using the PQS allowed me to examine associations among client attachment style and elements of therapeutic process across multiple phases of treatment. This study provided an empirical perspective on how client attachment style relates to therapeutic process.

## Chapter 2: Literature Review

In this chapter, I provide a review of the literature on attachment theory and the implications of this literature for psychotherapy with adult clients. First, I provide a broad overview of attachment theory, beginning with a history of the theory and proceeding with an overview of contemporary attachment theory and the study of attachment in adulthood. In the second section of the review, I provide a synopsis of the theoretical and empirical literature on adult attachment and psychotherapy process and outcome. Finally, I present a brief section on observational methods of assessing therapeutic process and discuss the use of observational methodology for furthering knowledge on the associations among attachment style and elements of psychotherapy process.

### **The Origins and Development of Attachment Theory**

According to Holmes (1993), attachment theory was originally developed through the independent and collaborative work of John Bowlby and Mary Ainsworth. The origins of the theory lie to a certain extent within a major debate among members of the British psychoanalytic community during the 1940s. The debate, known as the “Controversial Discussions,” centered on a theoretical dispute between Melanie Klein and Anna Freud regarding child development and the origins of neurosis. Klein, an originator of object-relations theory, emphasized the importance of the mother-infant, relationship, with a particular focus on the conflict and anger that arises when an infant fantasizes about the mother as both good and

bad, an object of satisfaction and frustration. Klein used the terms *good breast* and *bad breast* to describe the infant's splitting of the mother into two oppositional objects. In contrast, Freud, an originator of ego psychology, emphasized the development of Oedipal conflict later in childhood, focusing on libidinal frustration rather than infant fantasy as the origin of neurosis.

John Bowlby began his psychoanalytic training under the supervision of Melanie Klein during the 1930s (Holmes, 1993). Bowlby sought training with Klein because her experience working with children matched his desire to enter the emerging field of child psychiatry. After working with Klein, Bowlby spent several years during World War II developing officer selection procedures. He returned to his work with children under the supervision of Klein at the Tavistock Clinic in London. As Bowlby surveyed the debate between Klein and Freud, he became disconcerted with the lack of empirical testing of their psychoanalytic claims. Bowlby viewed Klein and Freud as proponents of their own intuitions rather than scientifically informed theorists. He thus set out to develop his own scientifically-informed theory regarding childhood experience and personality development.

From 1948 to 1950, Bowlby collected observational data on the effects of parent-child separation in hospitalized and institutionalized children (Holmes, 1993). Bowlby and his colleague James Robertson randomly selected one child from their sample and filmed the child at regular periods throughout the day. Their film, *A Two-Year-Old Goes to Hospital* (Robertson & Bowlby, 1952) showed the intense distress suffered by a young girl separated from her parents upon hospitalization (Bretherton, 1992). Bowlby explained the material in the film and his observations of other

hospitalized children as evidence for experience rather than fantasy as the cause of distress and neurosis (Holmes, 1993). Mary Ainsworth joined Bowlby's research unit during this period of observational research. Ainsworth had obtained a doctoral degree in psychology at the University of Toronto, where she completed a multimethod dissertation investigating the effects of "familial security" on child personality development. Based on her findings, Ainsworth (1940) concluded, "Where familial security is lacking, the individual is handicapped by the lack of what might be called a secure base from which to work" (p.45). Her concept of the caregiver as a secure base became foundational in the development of attachment theory (Bretherton, 1992).

Advancing from his study of separation, Bowlby's first formal presentation of attachment theory emerged in three papers presented to the British Psychoanalytic Society from 1958 through 1962. In his first paper, "The Nature of the Child's Tie to His Mother," Bowlby (1958) refuted numerous classical and contemporary psychoanalytic perspectives on human bonding, particularly the attachment between child and mother. Bowlby indicated that psychoanalytic perspectives adhered to a theory of "secondary drive," a term he adopted from behaviorist Learning Theory. According to secondary drive theory, an infant has numerous innate physiological needs (e.g. warmth, food) but no innate social needs. An infant's attachment to his mother results from the infant learning that the mother is the source of gratification of physiological needs. According to the theory, the drive for need gratification is thus the primary drive, whereas the drive to attach is secondary.

Bowlby (1958) refuted the classical Freudian notion that an infant's tie to her

mother is a libidinal tie involving both physiological need gratification on the infant's sensual experience of breastfeeding. Bowlby also disagreed with Melanie Klein's focus on orality and food as another secondary drive theory, noting her position that the bond between infant and mother centers around the mother's breast as the object of gratification of infant hunger and the related sucking impulse. Bowlby also characterized Harry Stack Sullivan's (1953) interpersonal theory as a Secondary Drive theory. He noted that Sullivan viewed the infant's primary need, "the need for tenderness," as arising from the infant's associations of tender interactions with "physio-chemical" equilibrium, a state achieved when physiological needs such as hunger and the need for warmth were met by the mother. After reviewing each perspective, Bowlby noted that these theorists (Sigmund Freud, Klein, and Sullivan) had all, at some point in their writing, alluded to the possible existence of a distinct bonding instinct. He indicated, however, that these remarks were typically speculative and not integrated within any existing theoretical framework.

Bowlby (1958) refuted secondary drive theory, arguing that the human relational drive is innate and equal in significance to physiological needs and responses such as feeding and sexual behavior. He proposed instead that attachment served to bind infant and mother as a means of protection for the infant. Bowlby defined attachment by identifying a number of specific behaviors, such as clinging, sucking, following, smiling, and crying. He explained that attachment behavior was activated and terminated by both external and internal stimuli. External stimuli include environmental cues of potential danger that activate attachment behavior (e.g. darkness, loud noises, absence of an attachment figure) and those that terminate

attachment behavior (e.g. being picked up and held by the mother). Internal stimuli include hormonal activity, interoceptive sensations, and cognitions that either activate or terminate attachment behavior. Bowlby suggested that attachment behaviors such as crying and following are innate and extremely efficient in arousing a response from the mother that promotes proximity to the infant. He characterized these behaviors as "...instruments of self-preservation and reproduction," concluding that attachment fit natural selection due to its species-protective function.

In his second paper, "Separation Anxiety," Bowlby (1959) indicated that psychoanalytic theory could not account for the distressed experienced by young children when separated from their mothers. Bowlby argued that anxiety becomes aroused in a child when his attachment figure (typically the mother) is unavailable. Bowlby thus indicated that the mother's consistent availability and responsiveness is critical to healthy child development, particularly when the child is experiencing some degree of distress and exhibits attachment behavior. He disputed Freud's notion that "overgratification" is a hazard during infancy, reframing the term as "smother overprotection" that likely results from a mother's compensation for her own neurosis (Bretherton, 1992).

In his third paper, "Grief and Mourning in Infancy and Early Childhood," Bowlby (1960) refuted Anna Freud's claim that, due to insufficient ego development, bereaved infants and young children are unable to mourn. Contrarily, Bowlby indicated that infants, children, and adults exhibit an intense grief process in response to loss. He explained that the distress of loss is due primarily to the activation of attachment behavior when the attachment figure is unavailable. Anna Freud also

claimed that a succession of substitute caregivers, in any number, could assuage whatever negative response a child exhibited as a result of the early loss of a caretaker. Bowlby indicated that a succession of substitute caregivers following early loss would more likely lead to the mourning child's inability to form fulfilling, intimate relationships with others (Bretherton, 1992). Rather, Bowlby emphasized the importance of a child attaining and maintaining consistent access to either one or a small number of responsive caregivers following loss.

**Ainsworth's Strange Situation.** In 1953, Mary Ainsworth left the Tavistock Clinic to accompany her husband Leonard Ainsworth to Uganda. Leonard Ainsworth, having completed his doctoral training in London while Mary Ainsworth worked alongside Bowlby at Tavistock, had accepted a research position with the East African Institute of Social Research. Mary Ainsworth received funding from the same institution to complete an observational study on the development of mother-infant attachment. Although Ainsworth was familiar with Bowlby's theoretical propositions regarding attachment, she maintained that attachment theory required empirical validation. In her Ganda study, Ainsworth observed 26 families with babies aged 1-24 months every two weeks for a period of 9 months. Whereas Bowlby's writing focused on attachment as a biologically-based, evolutionarily valuable drive, Ainsworth's findings established a new phenomenon of inquiry: individual differences in the quality of infant-mother attachment. Ainsworth identified three infant attachment patterns in the Ganda study. Securely attached infants cried infrequently and were content to explore when in the presence of their mothers. Insecurely attached infants cried frequently and explored little, often

continuing to cry even when held by their mothers. Not-yet-attached infants showed no distinct behavior toward their mothers. Ainsworth found that attachment security was significantly correlated with “maternal sensitivity,” a term she defined as a mother’s detailed knowledge about and high sensitivity to the nuances of her infant’s behavior. Babies of less sensitive mothers were apt to be insecurely attached, whereas babies of more sensitive mothers were apt to be securely attached (Bretherton, 1992).

In 1963, Ainsworth arrived in Baltimore, having accepted a faculty position at Johns Hopkins University. She began a second observational study of mother-infant attachment, now known as the Baltimore Project. The project was a study of 26 families that involved 18 four-hour home visits beginning in the infant’s first month and ending at 54 weeks. During these visits, Ainsworth took notes at five-minute intervals and later transcribed these notes to audiotape. Analyses of her notes revealed consistent mother-infant interaction patterns during the first three months of observation. In line with her Ganda data, Ainsworth found that sensitivity in the first quarter of her study (approximately the first three months) correlated with more amiable mother-infant interactions during the final quarter. When mothers were highly responsive to their infants’ crying during the first quarter, infants cried less during the fourth quarter and used more facial expressions, vocalizations, and gestures to communicate (Bretherton, 1992).

As part of the Baltimore Project, Ainsworth developed a laboratory procedure known as the Strange Situation paradigm to examine attachment and exploratory behavior of one-year-old infants under conditions of high and low stress. The Strange

Situation is a 20-minute procedure comprised of eight events: (1) mother and infant enter a laboratory playroom, and the infant is encouraged to play with toys on the floor; (2) a stranger joins the mother and infant and begins to play with the infant; (3) the stranger continues to play with the infant; (4) the mother leaves the room; (5) the mother returns to the room; (6) the mother and the stranger leave the room; (7) the stranger returns to the room; and (8) the mother returns to the room (Bretherton, 1992).

Based on patterns of mother-infant interaction, infant exploratory play behavior, and infant behavior upon reunion with the mother, Ainsworth identified three major patterns of attachment. Secure attachment was marked by lively exploration of the playroom in the presence of the mother, protest upon the mother's departure, and proximity-seeking upon her return. Once proximity was obtained, securely attached infants appeared soothed and returned to exploratory play. Ambivalent attachment was marked by less exploratory behavior in the presence of the mother, protest upon the mother's departure, and proximity-seeking upon the mother's return. However, infants with ambivalent attachment patterns appeared more difficult to soothe than securely attached infants. They often clung to their mothers, sometimes kicking or hitting the mother, and they typically did not return to exploratory play. Avoidantly attached infants showed a lack of intimacy with their mothers, often engaging in play upon entry to the room and paying no attention to the mother. Although these infants sometimes recognized the departure of the mother and engaged in searching behavior, they often did not respond to the mother upon reunion (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth's Strange Situation paradigm and her categorization of

attachment behavior patterns were major foundational contributions to attachment theory and remain significant in contemporary attachment research.

**Bowlby's Attachment Trilogy.** In 1969, John Bowlby published *Attachment*, the first of a three-volume collection written to elaborate attachment theory. Bowlby initially intended on writing a single volume but found that much more text was required to present a contemporary, empirically-based explanation of human motivation and behavior that he felt would properly establish attachment theory (Holmes, 1993). Bowlby's first volume focused primarily on instinctive human behavior and the functioning of various human "behavioral systems" as well as on the application of these notions to infant-mother attachment. The majority of Bowlby's notions on human behavior were extrapolated from contemporary findings in ethological research. Ethologists argued that animal species, especially more complex species such as primates, exhibited innate responses that appeared to serve the purpose of promoting social interaction independent of physiological need gratification. Bowlby hypothesized that humans possess an innate drive for social bonding throughout the lifespan, and he indicated that humans, like other species, exhibit a number of behaviors that function to satisfy this innate drive to form social bonds. Bowlby explained that all human behavior could be organized within a framework of behavioral systems, and he explained that these systems are engaged and terminated such that people can meet evolutionary adaptive goals of attachment, caregiving, mating, feeding, and exploration. He indicated that behavior systems are "goal-corrected," explaining that they are flexible and adaptive to environmental changes in the course of working toward a particular goal. Bowlby noted that

behavioral flexibility, although ultimately adaptive for species survival, has the drawback of allowing behavior to be thrown off of a path of optimal development given recurrent, adverse environmental conditions.

In the second half of *Attachment*, Bowlby (1969) applied his theory of behavior systems to infant-mother attachment. Bowlby defined attachment behavior as any form of behavior that functions to achieve and/or maintain proximity to a caregiver (usually the mother). Bowlby explained that attachment behavior is evolutionarily adaptive and ultimately functions to protect an infant from danger, thus increasing the likelihood of species survival. Attachment behaviors are innate and are originally directed to all potential caregivers. During early infancy, however, attachment behavior becomes directed to those figures who are responsive to and who regularly engage in social interaction with the infant. The infant's selective direction of attachment behavior to specific individuals reflects the development of attachment bonds. Once an attachment bond has been developed, the infant utilizes the caregiver as a secure base from which to explore his/her environment and a safe haven to which to return when potential danger is perceived. Based in part on Ainsworth's strange situation data and observational findings, Bowlby indicated that the effectiveness of the caregiver, also known as the attachment figure, as a secure base and safe haven depend on his or her sensitivity to infant attachment behavior (e.g. crying, gesturing) and the smoothness of the caregiver-infant interactions in the consistent provision of soothing and a sense of security.

In Bowlby's (1973) second volume, *Separation*, he set forth a theory about fear and its relation to attachment. Bowlby discussed two types of circumstances that

elicit fear in children: (1) the presence of unlearned and/or learned clues to potential danger (e.g. Loud noises, darkness, sudden movement of a figure in one's visual field), and (2) the absence of an attachment figure. Bowlby further explained that humans fear not only the absence of an attachment figure but also the absence of particular comforting situations. Thus, he noted that humans are typically drawn to remain close to people and places that are familiar. Bowlby referred to the maintenance of an individual within his familiar environment as "homeostasis." Collaborative functioning of the fear and attachment behavioral systems allows for the attainment and/or maintenance of homeostasis. Whereas the fear system operates to remove an individual from potentially dangerous situations, the attachment behavioral system operates to lead an individual to situations that are potentially safe. Bowlby noted that escaping *from* danger and *to* an attachment figure typically occur together but are directed by separate behavioral systems, the fear behavioral system and the attachment behavioral system respectively. Bowlby explained that maintaining homeostasis and remaining in a familiar locale with familiar companions provides an individual with protection from hazards (e.g. Predators, falling, drowning) as well as a greater likelihood of finding food and drink.

Bowlby (1973) described homeostasis as an innate human motivation, but he also emphasized the importance of an innate yet antithetical motivation to autonomously explore novel objects and situations. Bowlby indicated that termination of the fear and attachment systems often results in activation of the exploratory behavioral system, allowing a child to autonomously approach and learn about particular objects and situations that have potential to serve as important tools

for survival in her environment. Bowlby indicated that humans endeavor to strike a balance between maintaining homeostasis and exploring novel situations.

Bowlby (1973) devoted a significant amount of text in *Separation* to describing the role of cognition in the development and maintenance of attachment patterns. Bowlby introduced the term “internal working model,” writing, “...each individual builds working models of the world and himself in it, with the aid of which he perceives events, forecasts the future, and constructs his plans” (p. 203). Key features of internal working models are one’s cognitions regarding the availability and responsiveness of caregivers and the worthiness of the self to receive a helpful, soothing response from others. When caregivers are consistently responsive and soothing, an individual develops an internal working model of self as valued and confident. When caregivers are inconsistently available and/or responsive or when they are punitive or abusive in their response to attachment behavior, the child develops an internal working model of self as unworthy and incompetent. Bowlby emphasized that internal working models develop as a result of many experiences with attachment figures during childhood, such that these experiences during one’s “years of immaturity” promote long-standing expectations of how one will be treated by significant others. Bowlby wrote, “So deep are his expectations and so repeatedly have they been confirmed that, as an adult, he finds it difficult to imagine any other kind of world” (p. 208).

Bowlby (1973) explained that internal working models play a significant role in the intergenerational transmission of attachment patterns. An individual who matures to be stable and self-reliant likely has parents who were consistently available,

supportive, and soothing in response to attachment behaviors and who promoted autonomy and exploration during times of security. These parents, according to Bowlby, communicate openly about their own internal working models of self, of the child, and of others, and they indicate to the child that working models are open to revision. Bowlby thus explained that the “family microculture” plays as important if not a more important role than do genes in the inheritance of mental health and mental illness.

In *Separation*, Bowlby (1973) made a number of claims regarding individual differences in attachment patterns. He identified “secure attachment,” “anxious attachment,” and “detachment” as three patterns of attachment behavior deriving from experiences with caregivers in childhood and adolescence. Bowlby focused primarily on a description of “anxious attachment,” which he also referred to as “insecure attachment.” He defined anxious attachment as a condition in which individuals are “...prone to show unusually frequent and urgent attachment behavior and who do so both persistently and without there being, apparently any current conditions to account for it” (p. 213). Further, he wrote, “...the heart of the condition is apprehension lest attachment figures be inaccessible and/or unresponsive” (p. 213). Bowlby explained that individuals with anxious attachment patterns display clinging behavior in both literal and figurative manners and have been described in clinical literature as jealous, possessive, greedy, immature, and overdependent. Bowlby explained that individuals with anxious attachment patterns exhibit clinging behavior as a means of maintaining proximity to caregivers and ensuring that they will remain available when desired.

Bowlby (1973) described three types of circumstances that likely lead an individual to develop anxious attachment patterns: (1) the experience of separation from an attachment figure, particularly prolonged separation; (2) parents' threats of abandonment and/or threats to no longer love the child if he misbehaves or fails to meet certain expectations; and (3) parent fighting, which a child may equate to the risk of one parent departing. In addition, Bowlby noted that unpredictable parenting, specifically when parents are not consistently available or responsive to a child's attachment behavior, can lead to the development of anxious attachment patterns. Bowlby indicated that the same circumstances may also lead to a very different type of behavior, termed "detachment." He defined detachment as a state in which a child no longer shows care or trust in others, particularly attachment figures.

Bowlby (1973) indicated that anger is typically observed as accompanying anxious or clinging behavior in individuals with anxious attachment patterns. He described this type of anger as "...the anger of hope," and indicated that it served to discourage an attachment figure from failing to be responsive or from abandoning the child in the future. Bowlby stated that children and adults, particularly those with anxious attachment patterns, exhibit "angry coercive behavior," which may involve berating a romantic partner in adulthood for either being or seeming unfaithful. Angry coercive behavior is adaptive if it serves to maintain the attachment bond, but it more often becomes dysfunctional and weakens bonds. Bowlby concluded that anxious attachment patterns develop "...not because a child has been excessively gratified, as is sometimes held," but because, through separation, parent threats, and unpredictable caregiving, the child has experience a deprivation of parental

availability and/or responsiveness during times of need (p. 225). Anxious, clinging behavior and angry behavior are aroused by the experience of such deprivation and serve as strategies for maintaining proximity to an attachment figure. Bowlby noted, however, that angry and anxious states “aggravate” one another and thus cause an individual with anxious attachment patterns to experience sustained mental and possibly physical distress.

Bowlby (1980) devoted the majority of his third volume, *Loss*, to mourning processes in children and adults. Of interest here is Bowlby’s explanation of psychological defenses and his elaboration on the functioning of internal working models, two significant contributions in *Loss*, both of which he related to the psychotherapy process. Bowlby explained psychological defense from an information-processing perspective, drawing upon contemporary empirical and theoretical works of cognitive psychologists and neurophysiologists. He argued that the use of an information-processing framework made way for more systematic collection of data and examination of hypotheses framed in a language shared by a variety of behavioral scientists.

Bowlby (1980) explained that a majority of information-processing occurs outside of awareness. He indicated that the selective exclusion of information from conscious processing functions routinely as a means of preventing the overload of an individual’s cognitive capacities. Bowlby cited a number of empirical studies showing evidence that selective exclusion of information and the effects of information excluded from awareness has automatic effects on an individual’s thoughts, feelings, and behavior. He noted one study in which galvanic skin response

(GSR) increased when words that had previously been paired with a painful electric shock were subliminally presented to participants. A significant yet less pronounced increase in GSR occurred when homonyms or synonyms of these words were subliminally presented.

Bowlby termed persistent, maladaptive exclusion of information “defensive exclusion,” stating that defensive exclusion involved the exclusion of information that, when “accepted” for conscious processing in an individual’s past, led to marked suffering. This information likely related to conflict and distress in one’s early experiences with caregivers. He discussed two types of situations in which distress likely led to defensive exclusion. First, when a child’s attachment behavior is strongly activated and is not responded to and terminated by an attachment figure, the child experiences pronounced distress. If this pattern recurs, distress is prolonged and the systems mediating attachment behavior (e.g. the fear system) may be unconsciously deactivated. For example, when fear of a stranger is experienced, the child may run away from the stranger but not seek an attachment figure. Alternatively, the child may no longer experience the presence of a stranger as fearful. Bowlby noted that deactivation is most likely to occur if the attachment figure is both unresponsive in soothing the child and terminating attachment behavior *and* rejects, punishes, or threatens the child. Deactivation of systems that mediate attachment behavior leads to a state of emotional detachment in the child, similar to the “detachment” behavior Bowlby (1973) discussed in *Separation*.

Second, defensive exclusion is likely to occur if the child observes parent behavior that his parents wish or demand that the child not know about. Bowlby

described cases in which parents demand that their children constantly view them in a favorable light and threaten abandonment or a loss of love for the child should the child notice, acknowledge, or speak of any adverse parent behavior. In the case of parents' adverse treatment of the child, the child is often led to believe that the treatment is his fault.

Bowlby (1980) indicated that defensive exclusion resulting from the situations discussed above may involve (1) the exclusion of particular types of information from reaching consciousness for long periods of time or permanently; (2) amnesia for information already stored in long-term memory; or (3) perceptual blocking of information arriving via the sense organs. Bowlby explained that the main purpose of psychotherapy is thus to enable a person to "...accept for processing information that has been excluded," noting that processing this information in the company of a trusted therapist should aid the client in understanding present behavior and make changes to maladaptive interaction patterns that, in part, developed from experiences with caregivers in the past.

Bowlby (1980) explained that, in addition to the deactivation of behavioral systems, a major consequence of defensive exclusion of information is that an individual's responses to others become somewhat rigid and disconnected from the interpersonal situations that elicit the responses. The individual thus becomes unaware of why he or she behaves in a particular way in relationships. Behaviors, thoughts, and feelings related to potentially painful information may be replaced by a diversionary set of thoughts, feelings, and behaviors that though narrow is completely absorbing. Second, a child or adult may misidentify the situation that elicits a

particular response. For instance, a child may identify a fear of leaving home as due to potentially being criticized by a teacher rather than to her greater fear of being deserted by a caregiver during her absence.

Bowlby (1980) noted that defensive exclusion and the thoughts, feelings, and behavior patterns that emerge thereafter should be viewed as both maladaptive and adaptive. The defensive exclusion process is essentially a strategy developed as a result of experiences in childhood. The strategy allows a child to maintain proximity to an attachment figure whose hostile or punitive behavior would threaten proximity if the child exhibited typical attachment behavior when in distress (e.g. crying, clinging). Thus, by deactivating attachment behavior, the child maintains proximity and will likely be protected if highly dangerous circumstances arise. The strategy, however, is considered sub-optimal and is only developed under adverse caregiving conditions. Based on Bowlby's notion that proximity promotes protection and survival, the advantages of deactivation strategies outweigh disadvantages. However, the major disadvantage of developing such a strategy becomes evident when an adult whose strategy is deeply engrained and has served to placate an unreliable or abusive parent ends up finding himself unable to act any other way in close relationships.

Within his presentation of psychological defense and defensive exclusion, Bowlby (1980) elaborated on the functioning of internal working models. Bowlby indicated that internal working models develop and function to organize attachment behavior based on learning experiences, or experiences in interactions with attachment figures that begin in the first year of life and are repeated many times throughout childhood and adolescence. As the result of repeated experiences, a

child's cognitive structures (internal working models) and actions (attachment behavior) become stored as semantic memory structures and begin to operate automatically outside of his or her awareness. Thus, rules for appraising one's actions, thoughts, and feelings are applied automatically and without awareness in social interactions and when alone. Although the tendency for internal working models and attachment behavior to become automated is advantageously efficient, they are not easily accessible to consciousness and thus are difficult to change. If internal working models develop through healthy experiences and are well adapted, their automaticity is advantageous. If, however, they develop through adverse experiences and are maladaptive in future relationships, change is quite difficult.

Although Bowlby (1980) noted the difficulty of remediating internal working models and patterns of defensive exclusion, he asserted that change is certainly possible. He explained that one of the most complex facilities of human consciousness is the ability to inspect automated and maladaptive patterns of thought, emotion, and behavior. He explained that, in light of new information, models long out of awareness become available for reappraisal and efforts can be made to change them. Bowlby explained that psychotherapy enables a conscious and often emotional narrative appraisal of the working models that mediate attachment behavior, including the appraisal and modification of deeply held rules for the appraisal of thoughts, feelings, and actions that hitherto have remained outside of awareness.

**A summary of the foundations of attachment theory.** Across the broad body of work published by John Bowlby and Mary Ainsworth, several foundational components of attachment theory are prominent. First, attachment of a child to a

caregiver is biologically based, evolutionary requisite for protection and species survival. Attachment is evident in attachment behavior (e.g. crying, clinging, following), any behavior that serves to achieve and/or maintain proximity to a caregiver. Attachment behavior functions within the attachment behavior system, that operates in accord with an individual's set goal of achieving proximity to a caregiver as well as reassurance of the caregiver's availability during times of need. The attachment behavior system is activated and terminated by both environmental (e.g. emergence of a stranger) and internal (e.g. proprioception of pain or relief) stimuli. Further, the attachment behavior system functions harmoniously with other innate behavior systems, including the fear and exploratory systems. The collaborative activity of these systems optimally aids a person in obtaining proximity to and soothing from a caregiver during times of need and autonomous exploration of the physical and social environment during times of felt security. Additionally, the workings of these systems aid a person in meeting goals for feeding, bonding, mating, and coping with interpersonal separation and loss of significant others.

Second, there exist critical individual differences in patterns of attachment behavior and the quality of attachment bonds. Individual differences in attachment patterns result from experience, such that psychological development results primarily from ongoing interactions among children and their caregivers. Based on her observations of the nonverbal behavior of infants during home visits and laboratory Strange Situation sessions, Mary Ainsworth detected and described three attachment classifications. Secure attachment to a caregiver is evinced by an infant's tendencies to explore when they feel safe and seek comfort from the caregiver when

they perceive threat. Separation from the caregiver is particularly threatening, but, upon reunion, they appear quickly comforted and reassured and return to play.

Ainsworth identified that secure attachment to the caregiver appeared to be developed through interactions in which the caregiver consistently responded with sensitivity and flexibility to the communications of the infant's attachment behavior (Ainsworth et al., 1977).

Avoidant attachment to a caregiver is evinced by an infant's tendencies to appear indifferent in the presence of the caretaker, upon departure, during separation, and upon reunion. Ainsworth characterized this indifference as superficial and later studies have found that avoidant infants' heart rates are as elevated as those of secure infants (Sroufe & Waters, 1977) and their cortisol levels from pre- to post-procedure of the Strange Situation as significantly greater than that of secure infants (Spangler & Grossman, 1993). The superficial indifference is thus a defense developed through interactions with caregivers who ignored, punished, or exhibited little emotional expression and a seeming aversion to physical closeness in response to infant attachment behavior. Ambivalent attachment to a caregiver is evinced by an infant's preoccupation with the caregiver's location to the extent that they engaged in little exploratory play even in the caregiver's presence. Further, ambivalent infants responded with intense distress upon the caregiver's departure and reacted with tantrums that involved both clinging to and angrily pushing away from the caregiver. Importantly, reunion did not assuage the infant's distress nor their preoccupation with the caregiver's location. Ainsworth identified that an ambivalent attachment resulted from experiences with a caregiver who was unpredictably available and nurturing, a

caregiver who more regularly was insensitive to attachment behavior and discouraging of autonomous behavior (Ainsworth et al., 1977).

As is clear from the foregoing description of individual differences in attachment patterns, experiences in interactions with caregivers result in behavior that adapts to caregiver behavior in such a way that proximity may be maintained. In the case of avoidant attachment, proximity is maintained and punishment or abandonment evaded through the defensive inhibition of typical attachment behavior. In the case of ambivalent attachment, proximity is maintained by the intense expression of anger and overwhelming fear that pleads with a caregiver to provide nurturance and demands more consistent availability and responsiveness. Bowlby explained that the mechanism through which experience influenced attachment behavior is a cognitive structure known as an internal working model. Internal working models, according to Bowlby (1973), allow for a forecasting of the behavior of self and caregiver in future situations based upon experiences in past situations. These cognitive models organize both previous experiences with caregivers and attachment behavior in present and future situations as a means of adaptively maintaining proximity, even in the face of consistently suboptimal caregiving. Unfortunately, internal working models developed through adverse experiences with caregivers result in narrowed interpersonal behavior patterns that may prove maladaptive in relationships during childhood and adolescence and throughout adulthood.

Internal working models operate within associative memory networks that involve affect, thoughts about self and others, and declarative or autobiographical

material (e.g. recollections of specific events) based on experiences with caregivers. As diverse and widespread cognitive structures, internal working models become deeply engrained and operate at an automated, unconscious level such that conscious attachment-related thought and unhealthy rigid behavior patterns may be confusing or unknown to an individual (Bowlby, 1980). Bowlby indicated, however, that internal working models, including cognition and affect, remain to some extent available for conscious appraisal. Bowlby (1988) argued that, in addition to fostering a trusting, secure base relationship, the therapist's primary task is to aid the client in a conscious reappraisal of what once were unconscious and likely painful notions, emotions, and behavior patterns related to attachment experiences. Through these efforts, the therapist facilitates the client's appraisal and restructuring of internal working models that likely lie at the root of the client's difficulties in functioning.

### **Contemporary Perspectives on Attachment**

John Bowlby and Mary Ainsworth formed a theoretical and empirical foundation of attachment theory that continues to stimulate a vibrant area of research in the social and biological sciences. Accordingly, major concepts of attachment theory have been examined and expanded upon significantly. In this section, I provide a synopsis of contemporary theory and empirical research on attachment, with a particular focus on work that is relevant to psychotherapy research and practice. I begin with a review of theory and research on attachment at the level of mental representation, an area of study led by attachment researcher Mary Main and colleagues. I then review the work of clinical psychologist and attachment researcher Peter Fonagy, whose conceptualization of internal working models bears directly on

psychotherapy process and outcome. Finally, I review the model of adult attachment put forth by social psychologists Mario Mikulincer and Philip Shaver. Mikulincer and Shaver's model of adult attachment describes the functioning of various adult attachment styles and considers the implications of adult attachment style for psychotherapy.

**Attachment and mental representation.** Whereas Mary Ainsworth examined Bowlby's claims on the fundamental behavioral components of attachment, Mary Main focused on Bowlby's claims regarding internal working models and their associations with individual differences in attachment patterns. Main, Kaplan, & Cassidy (1985) defined internal working models as "...a set of conscious and unconscious rules for the organization of information relevant to attachment and for obtaining or limiting access to that information, that is, to information regarding attachment-related experiences, feelings, and ideations" (p.92). Ainsworth utilized observational methodology to capture patterns in infant and mother nonverbal behavior. Main focused on the internal world of mental representations in adults and their children. She aimed to examine the memories, emotions, and beliefs that comprise a person's internalized attachment history and play a role in the prediction of a person's future attachment behavior.

In order to examine the unseen mental topography of attachment in adolescents and adults, Main and colleagues developed the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996). The AAI allows researchers to "see" what cannot be observed in nonverbal or verbal behavior. Main (1991) asserted that an interviewee's patterns of narrative, discourse, and imagination

during the AAI are the “representational artifacts” of her or his attachment system (p. 130). The AAI consists of a series of questions and follow-up probes that directly elicit an interviewee’s memories related to attachment. First, interviewees are asked to provide an overall description of their childhood relationships with both parents (“Now I’d like you to try to describe your relationship with your parents as a young child, starting as far back as you can remember,” George, Kaplan, & Main, 1996, from Hesse, 2008, p.555). Next, the interviewee is asked to choose five adjectives or phrases to best describe his or her early relationships with both parents. For each adjective or phrase, the interviewee is asked to recall a specific instance for illustration. The interview continues with more detailed and complex questions posed at a swift pace (e.g. “How do you think your overall early experiences have affected your adult personality? Re there any aspects you consider a setback to your development?” George, Kaplan, & Main, 1996, from Hesse, 2008, p. 555).

Mary Main, who was passionate about both psychology and linguistics (Wallin, 2007), proposed that language is a means by which to both conceal and reveal important information. She thus attended to the *manner* in which interviewees utilized words rather than the *content* of the words alone. The AAI was designed to “surprise the unconscious” and “prime” an interviewee’s attachment system, revealing the interviewee’s “state of mind with respect to attachment” through the process and form in the narrative of his or her responses (Main, 1995, pp. 436-437). Whereas Ainsworth classified an infant’s attachment to his or her mother, Main’s classifications, based upon AAI narratives, are independent of any particular relationship (Main, Kaplan, & Cassidy, 1985).

In order to access and examine representational responses from children, who cannot be interviewed using the AAI, Main et al. (1985) utilized a number of age-appropriate observational and projective measurement techniques, including an analysis of discourse in parent-child dyads and the child's response to the presentation of a family photograph. One interesting technique used by Main et al. (1985) involved showing the child photos depicting children experiencing separations from the parents. The photos ranged in emotional intensity from one depicting a parent saying goodnight to a child to one depicting the parents leaving the child for 2 weeks. Child participants were shown the photographs and then provided the following prompt: "Parents worry sometimes about what children think when they have to go away for a little while. So we thought we would ask you to tell us what you think a child your age would feel and what a child your age would do when parents go away for a little while" (p. 87).

In order to investigate the development and functioning of internal working models and their relation to individual differences in patterns of attachment behavior, Main et al. (1985) compared infants' strange situation classifications with their observed behavior and responses to separation photos at age 6. Main et al. also compared adult attachment classifications from the AAI with infant strange situation classifications. The authors found two particularly striking results. First, Main et al. found patterned correlations between infants' strange situation behavior at 12 months and their responses to separation photos at age 6. Children classified as Secure in infancy spoke in ways that revealed the importance and emotional significance of the attachment bond as well as an ability to endure and recover from separation. For

example, one child indicated that the pictured child would, “cry...Cause she really loves mom and dad.” When asked what else the child might do, she stated, “Play a little bit” (p. 103).

Children classified as Avoidant in infancy seemed to dismiss or not understand the significance of the separation. One child stated, “Nothing!...I don’t know...I don’t know,” playing with toys in the laboratory and not answering the initial question (Main et al., 1985, p. 104). Children classified as Ambivalent in infancy discussed both the extreme clinging and anger responses that Bowlby (1973) detailed in *Separation*. One child remarked, “Chase them...Dad and mom in his new toy car...Then, he is gonna...toss a bow and arrow and shoot them” (p. 104). Lastly, children classified as disorganized in infancy tended to give bizarre and sometimes violent or disturbing answers. One child indicated, “Probably hide away...get locked up in his closet...Yeah, I was locked up in a closet” (p.104).

Main et al. (1985) found that all measures of the structure of the child’s inner world, an operationalized glimpse of his or her internal working models, were correlated with nonverbal behavior during the strange situation in infancy. Interestingly, the relations among observed behavior and inferred mental representations at age six were more often significantly correlated with security of attachment to the mother in infancy but not the father. Regarding the findings of the Main et al. and future studies of mental representation, Main (2000) concluded, “...different patterns of mother-infant interaction must have led to the development not only of *different behavior*, but also of *different representational processes*” (p. 1059).

Main et al.'s (1985) second striking finding pointed to an intergenerational component of attachment, a theme in Bowlby's trilogy, manifested as correlations among infants' Strange Situation behavior and their parents' "state of mind with respect to attachment" as classified using the AAI. The authors found that an infant's strange situation classification predicted parents' AAI classifications, and vice versa, with approximately 75% accuracy in distinguishing attachment security versus insecurity. These predictions remain accurate when the AAI is administered to parents prior to the birth of a child (van IJzendoorn, 1995). Main et al. thus found that patterns of nonverbal behavior during infancy predicted both patterns in mental representations during early childhood and parents' AAI classifications in adulthood, providing empirical evidence for Bowlby's (1973, 1980) claims on the development and functioning of internal working models across the lifespan as well as Bowlby's discussion of the intergenerational transmission of attachment patterns.

Main et al. (1985) dictated security versus insecurity in AAI transcripts initially based on the existence or lack of coherent discourse. Coherent discourse refers to internal consistency, plausibility, and collaboration in an interviewee's disclosures to the interviewer. Based on the AAI classification scheme, individuals with Secure-Autonomous attachment patterns evince a capacity to engage collaboratively and cooperatively with the interviewer and show ease of recall, and thoughtfulness as they explore their attachment histories. These individuals recognize the great importance and influence of their attachment relationships, but they also demonstrate a level of objectivity and organization as they speak. Individuals with insecure attachment patterns, on the other hand, have difficulty

maintaining coherent discourse during the interview and may also fail or refuse to collaborate or cooperate effectively with the interviewer. Dismissing individuals tend to minimize the value or influence of attachment relationships and memories, and they often report a lack of recall of attachment-related experiences. Preoccupied individuals revealed, often through lengthy or tangential discourse, that past attachment relationships and experiences continue to intrude upon their present experiences and behavior. Individuals classified as unresolved tended to become disorganized or disoriented when speaking about their pasts, and this disorganization in speech tended to occur when discussing attachment-related trauma. The classification “Unresolved” was thus utilized by Main et al. to denote a person being unresolved with respect to trauma experienced in attachment relationships earlier in life.

Main et al. (1985) concluded that a parent’s ability to coherently reflect on her past affected her ability to provide a sense of security to her child. “Security in adulthood can now be provisionally identified as the ability to integrate existing information relevant to attachment; where this integration is possible, the parent is likely to exhibit ‘sensitivity to infant signals’” (p. 99). A parent’s security may depend less on the facts or events of personal history and more on the success of his or her efforts to make coherent meaning of that history. From a position of coherence and resolution or incoherence and ambivalence or dismissal, a parent verbally and nonverbally imparts rules of behavior and communication to a child, and the child develops corresponding behavioral and communicative strategies to maintain proximity to the parent. As the child’s cognitive capacities mature, corresponding

representational and attentional strategies develop, such that the child comes to represent the self, others, and situations in a manner that likely adheres to strategies developed earlier in life and in a way that determines both what and how information, particularly interpersonal information, is attended to. Having developed out of rules communicated by a parent at a very early age, these strategies are unlikely to be relinquished because following the rules allowed the child to maintain proximity to the parent. As representational or internal working models develop, internal representations operate to maintain or preserve the strategies initially dictated by parent behavior and communication. What an individual consciously or unconsciously allows him or herself to feel, remember, and his or her manner of behavior become strongly embedded, because violating these representations and attentional nuances equates to challenging a way of being that has made physical and emotional survival possible for the child. Main thus captured the process by which internal working models develop and become resistant (though not absolutely impervious) to change.

Following the work of Main and colleagues, van IJzendoorn (1995) conducted a meta-analysis of intergenerational transmission of attachment patterns, utilizing data from 18 studies conducted in 6 countries. Van IJzendoorn found that parents' AAI classifications significantly predicted the strange situation classifications of their infants (i.e., *autonomous-secure* parent AAI classification – *secure* infant strange situation classification, and so forth). One study in the meta-analysis examined three generations and found that the attachment classifications of grandmothers significantly predicted the classifications of their adult children and the Strange

Situation classifications of their infant grandchildren.

Main (1995) suggested that secure attachment in children resulted from flexible parenting, a concept evolved from the concept of parental sensitivity discussed by Bowlby and Ainsworth. Parents classified as Secure-Autonomous using the AAI showed a wide range of behavioral and affective responses to successfully and resiliently navigate situations in their lives, both those situations that involve their children and those that do not. Their flexible and diverse behavioral and affective repertoire allows for little restriction on their attention, especially when their children are in need, allowing them to ultimately be sensitive and responsive to the nuance in signals and behaviors of their infants and children. Parents classified as Dismissing and Preoccupied, on the other hand, behave and experience and express affect in a more rigid manner. Particularly, they behave in a manner that unconsciously protects their own state of mind with respect to attachment (i.e. that maintains their internal working models of attachment). Rigid behavior and affect leads to a state of inattention or misattunement, restricting parents from attending and responding to infant signals in a consistently, accurately sensitive manner. As a result of parental inattention, misattunement, and inconsistencies, infants begin to adopt rules, as mentioned above, that mirror the rules of their parents. Avoidant infants minimize attachment behavior and maximize time exploring the nonhuman world. Preoccupied infants maximize or hyperactivate attachment behavior and minimize exploration of nonhuman and social aspects of their environments.

The work of Mary Main and her colleagues identified and addressed what is referred to as the “transmission gap” in attachment research. The transmission gap

refers to findings showing that caregiver sensitivity explain partly, but not completely, how and why internal working models of parents tend to become the working models of their children. Main's (1991) attempt to close or bridge the transmission gap was framed by two critical concepts: *metacognitive knowledge* and *metacognitive monitoring*.

Metacognitive knowledge and metacognitive monitoring are both based upon metacognition, that is, thinking about thinking, a means by which we can consciously recognize that we are in a particular state of mind. If one lacks this metacognitive capacity, he simply *is* that state of mind. In the integrative spirit of Bowlby's work, Main (1991) drew on contemporary cognitive science research on metacognition to advance attachment theory. She defined metacognitive knowledge as the ability to understand and acknowledge the "appearance—reality" distinction, to realize that our ideas and perceptions may not be valid and that others may believe things that are not true. Without the ability to recognize the flawed nature of knowledge, a person exhibits a limited desire and/or capacity to reflect on his or her experiences. Metacognitive knowledge involves (1) the acknowledgment of *representational change*, which is the idea that beliefs and feelings can change over time, and (2) *representational diversity*, which is the recognition that others may respond to a circumstance with beliefs and feelings that differs from one's own but are equally valid.

Main's (1991) second concept, metacognitive monitoring, involves a stance of self-curiosity that allows a person to be at once both inside and outside of his or her experience. We may step back from an experience and become aware that our ideas

and feelings in response to that experience may be contradictory, biased, or implausible. Metacognitive monitoring thus promotes efforts toward resolving contradictions or errors in thought. Main developed a scale to assess an individual's level of metacognitive monitoring from AAI transcripts. Scores on this scale for adult interviewees were positively associated with having children who were classified in infancy as securely attached (Main, 1991). Applying Main's metacognitive concepts to the practice of psychotherapy, Wallin (2007) indicated that the therapist's evolving metacognitive understanding of both partners in the therapeutic dyad is critical to helping a client change. This type of understanding enables what Wallin referred to as reflection rather than reflexivity, meaning that a therapist is most effective when she or he can understand that the meanings of feelings, beliefs, and wishes are complex and do not always mean what they seem to mean immediately at their "face value" (p. 41). Such a stance allows the therapist to remain mindful of the nature of transference and countertransference in the relationship and tend to a client's disclosure with empathy and curiosity.

**Peter Fonagy, mentalization, and psychotherapy.** Peter Fonagy, a clinical psychologist and psychoanalyst at University College in London, became inspired by Bowlby and attachment theory during the 1980s. At this time, he and several colleagues, receiving consultation from Bowlby and AAI training from Mary Main, developed a study to examine the intergenerational transmission of attachment. Through his work, Fonagy developed the concept of mentalization. Whereas Main's metacognitive monitoring was self-focused, mentalization had to do with recognition of the properties of the mind in general, both one's own mind and the minds of others.

Fonagy defined mentalization as “the process by which we realize that having a mind mediates our experience of the world” (Fonagy, Gergeley, Jurist, & Target, 2002, p. 3). Although this knowledge is predominantly implicit, when one explicitly thinks about states of mind, the process is known as “mentalization proper.” Fonagy explained that mentalization is based in the capacity for *reflective function*, that is, seeing oneself and others as beings with psychological depth. Reflective functioning involves understanding observed behavior, but, more importantly, it involves an understanding of underlying mental states, including the desires, beliefs, and feelings that make individuals’ behavior understandable and meaningful. Fonagy posited that reflective functioning was strongly related to capacities for insight and empathy as well as “...a key determinant of self-organization and affect regulation” (Fonagy, Gergely, & Target, 2008, p. 793). Fonagy and colleagues asserted that the assessment and facilitation of reflective functioning in clients is a critical task in psychotherapy. In line with the developmental research of numerous attachment theorists, Fonagy indicated that full development of mentalization depends on interaction with “mature and sensitive minds” (p. 793).

Fonagy’s reflective functioning scale assessed mentalizing capacity in AAI transcripts. He captured mentalizing capacity through three subscales. First, he examined an individual’s *Awareness and Nature of Mental States*, which is evinced by knowledge that understandings of ourselves and others is always incomplete. People modify or disguise mental states for numerous reasons, one of which is to minimize pain. In addition to the variability and incompleteness of mental states, the subscale also assesses an individual’s knowledge that certain psychological responses

are predictable in certain situations. Second, Fonagy examined *Explicit Effort to Identify Mental States Underlying Behavior*. Here, he rated the extent to which an individual could account for the behavior of self or others in terms of desires, beliefs, and/or feelings; an understanding that interpretations of others can be influenced by our own mental states; and realizing that feelings about a circumstance may be inconsistent with observable aspects of that circumstance. Third, Fonagy examined *Recognition of the “Developmental” Aspects of Mental States*. Fonagy rated the extent to which an individual seemed to understand that what was felt yesterday may be different than what is felt today or in the future; that parent’s behavior shapes the behavior of their children and is shaped by the behavior of their parents; and that childhood perspectives should sometimes be revised in light of adult understanding.

Fonagy, Steele, and Steele (1991) published a study on mentalization and the intergenerational transmission of attachment patterns. First, they found that a parent’s state of mind with respect to attachment, as assessed using the AAI, was a significant predictor of her or his infant’s state strange situation classification at 12 months of age. Second, they found that mothers and fathers rated as having strong reflective capacity were three to four times more likely to have children who were classified as secure than parents whose capacity for reflective functioning was weak. Third, they found that a parent’s strong reflective capacity likely aided in breaking the “cycle of disadvantage,” in which parents with adverse attachment histories raise children with insecure attachment patterns. Regarding this finding, Fonagy, Steele, and Steele (1991) examined a subsample of mothers who had experienced “severe deprivation” during childhood (e.g. due to parent mental illness, separation from

parents). All mothers in the subsample rated as having strong reflective functioning had children classified as secure. Of the mothers in the subsample who were rated as having weak reflective functioning, only 1 of 17 had a child classified as secure. Fonagy (2002) stated, “Attachment is not an end in itself; rather it exists in order to produce a representational system that has evolved, we may presume, to aid human survival” (p. 2). He suggested that mentalizing offers the evolutionary survival advantage of enabling people to understand, interpret, and predict their own behavior and the behavior of others.

Regarding mentalizing and psychotherapy, Wallin (2007) explained, “Much of the psychopathology we encounter in our patients can be seen to reflect either an inhibition of mentalizing or a failure to develop it in the first place. Correspondingly, psychotherapy can be understood as an effort to restore or kindle the patient’s capacity to mentalize” (p. 46).

A second major theoretical contribution by Peter Fonagy was his “modes of experience” scheme (as reviewed in Fonagy et al., 2008). Fonagy indicated that these modes indicate our understanding of the relationship between the internal world and external reality. There are three subjective modes: psychic equivalence, pretense, and mentalizing. Psychic equivalence dictates that one’s internal world and external world are equated. Thus, an individual in this mode does not differentiate between beliefs and facts. In this mode, there is no self, no “I” that creates and interprets experience. Rather, there is only a “me” *to* whom experience happens.

In the pretense mode, the internal world is fully disconnected from the external world. In this mode, there is no actuality, such that whatever one imagines is

believed to be real and whatever is ignored is immaterial. Examples of the pretense mode include dissociation, denial, and narcissistic grandiosity (Fonagy et al., 2008).

The mentalizing mode involves the ability to recognize that the internal world is separate from but also related to external reality. Individuals in the mentalizing mode are able to reflect on how their fantasies, thoughts, and emotions both affect and are affected by what happens in actuality (i.e. external reality). Subjective experience in this mode is deeper than in other modes allowing a person to grasp the difference between events and reactions to events. This deeper understanding allows for a greater measure of “internal freedom” than the more narrow perspectives of the other modes of experience. Typically, these modes unfold developmentally, with the mentalizing mode emerging around the age of four.

Regarding modes of experience and psychotherapy, Wallin (2007) wrote, “The patients we see in psychotherapy often have trouble extricating themselves from the modes of psychic equivalence and/or pretense. In the first case, they are bullied by feelings and thoughts that demand to be acted on because they are equated with facts. In the second, they are kept aloft by wishful thoughts, but isolated in the process from their feelings and from the people who might matter to them” (p. 47).

Fonagy et al. (2008) indicated that the development of mentalization, progressing through the various modes of experience, was highly dependent on the development of effective affect regulation. Whereas Bowlby indicated that the biological function of attachment is protection from external predators, Fonagy argued that infants also need their attachment figures for emotional survival and the management of feelings of distress with which they are initially unequipped to cope.

When experiencing felt security, a set goal of attachment behavior, infants depend on an attachment figure to help them modulate overwhelming affect. Parents provide interactive affect regulation, containing infant distress by communicating with their own affective response and with the language of their physical behavior. A soothing response shows that an attachment figure (1) understands the cause and impact of the emotional distress, (2) can both cope with and alleviate the distress, and (3) recognize that a child can infer the intentions of their own behavior. Regarding this ability to recognize the “intentional stance” of the child, Wallin (2007) wrote “...the parent’s recognizing the child as a separate being with a mind of her own, capable potentially of reading her parent’s mind as well as her own—may be the most important in maximizing the likelihood of the child’s forming a secure attachment (p. 48). In personal communication cited in Wallin (2007), Fonagy further explained “...we deny what we feel while at the same time maintaining our individuality. In effect, we become what the child needs us to be. This is the process at the core of the child’s emerging individuality. And if the caregiver is unable to do that—if the caregiver is either too much themselves (noncontingent mirroring) or too much the child (unmarked mirroring)—the child cannot develop a sense of separateness in the same kind of effective way” (p. 49-50).

When mirroring is “unmarked,” a child can feel more overwhelmed by the contagion of her distress, because becoming upset provokes negative affect in the parent. Unmarked mirroring thus reinforces the mode of psychic equivalence because one’s internal experience appears to match external experience (i.e. the experience of the parent). “Noncontingent mirroring” may result in reinforcement of the pretend

mode, because, when in distress, the child is not promoted to internalize an image of his own emotional self but rather the emotional self of the parent. So, the link between the internal and external world is severed, and children regularly exposed to such monitoring are vulnerable to narcissistic psychopathology. In narcissism, grandiosity is the replacement for the empty self.

Beyond affect regulation and the role of the parent, Fonagy also focused on the importance of reflection during play. Capturing the essence of Fonagy's argument, Wallin described, "When the child is completely absorbed in his or her own play, the worlds of imagination and reality can seem to be entirely separate. But if that play is watched by a parent, an older child, or, for that matter, a therapist, then the pretend world and the real world can start to overlap" (p. 51). So, as with affect regulation, reflection in play, which can transfer to reflective work engagement in adulthood, occurs in an intersubjective context. Wallin explained, "...the psychological, emotional, reflective self is discovered (or perhaps created) primarily as it is recognized and understood by others" (p. 51).

**Attachment in adulthood.** Although the bulk of his writing focused on attachment in infancy and childhood, Bowlby (1979) clearly emphasized the importance of attachment relationships throughout the lifespan, "from the cradle to the grave" (p. 129). Whereas Bowlby, Ainsworth, and many subsequent attachment researchers focused primarily on mother-child relationships and on children's attachment patterns, a number of researchers have applied attachment theory to adolescent and adult romantic relationships. Now, nearly 25 years since the publication of the first article on adult attachment (Hazan & Shaver, 1987), a large

and diverse literature continues to grow at the hands of numerous scholars. At the forefront of this area of work are Mario Mikulincer and Philip Shaver, social psychologists who have contributed many empirical studies on adult attachment, formulated a model of attachment dynamics in adulthood (Mikulincer & Shaver, 2003), and, in 2007 published *Attachment in Adulthood*, a comprehensive overview of theory and research on the subject. In this section, I present Mikulincer and Shaver's (2003) three-phase model of attachment functioning in adulthood, review theoretical propositions and empirical research on components of the model, and discuss implications of the model for psychotherapy and the initiation of a therapeutic relationship.

Mikulincer and Shaver's (2003) model of adult attachment comprises three main components or "modules." The first module involves monitoring and appraisal of threatening events – the process that controls the activation of a person's attachment system. Mikulincer and Shaver (2007) indicated that the monitoring and appraisal of threats and attachment system activation represent the normative (i.e. evident in all people and beginning in infancy) and evolutionarily functional features of attachment theory.

The second module involves the monitoring and appraisal of an attachment figure's availability and responsiveness – a process that generates individual differences in the sense of felt security. A child becomes more or less secure as the result of repeated experiences in which an attachment figure is available and unavailable and/or effective or ineffective in providing comfort and care. By adulthood, schematic mental representations, or internal working models, organize a

vast and diverse array of explicit and implicit memories of encounters with threats and experiences with attachment figures. Repeated experiences that enhance felt security cumulate to produce a dispositional sense of felt security, also known as a secure attachment style, that positively influences numerous aspects of psychological health. Repeated experiences that undermine felt security produce a dispositional sense of insecurity, distinguished as an insecure attachment style, that negatively influences numerous aspects of psychological health.

The third module involves the monitoring and appraisal of the likely utility or viability of seeking proximity to an attachment figure – a process that accounts for individual differences among people with insecure attachment styles. Repeated experiences in which an attachment figure is determined unavailable, unreliable, or nonresponsive result in the engagement of secondary attachment strategies. In adulthood, these strategies affect emotion regulation, behavioral regulation, and interpersonal regulation, often resulting in deficits in each of these types of self-regulation (Mikulincer & Shaver, 2007). Two major types of secondary strategies have been identified: hyperactivating attachment strategies and deactivating attachment strategies.

Hyperactivating strategies stem from experiences with caregivers who (1) are unpredictable and often respond in a manner that is “out of synch” with a child’s need; (2) are “intrusive” to the extent that the child’s self-regulation is not cultivated and autonomy is punished; (3) impart, explicitly and/or implicitly, that the child is weak or incompetent (Mikulincer & Shaver, 2007, p. 40). Hyperactivating strategies may also emerge from traumatic experiences that occurred when an individual was

separated from his or her caregiver(s). These strategies involve the up-regulation or intensification of attachment behaviors such as crying, clinging, and calling out during infancy and childhood. Although intensified behavior is sometimes effective in achieving caregiver responsiveness and relieving distress, effectiveness is often unpredictable and behavior-response patterns resemble what Skinner (1969) termed a partial reinforcement schedule. Partially reinforced behaviors are highly resistant to extinction and thus are likely to remain and consolidate over months and years. Persistent use of hyperactivating strategies constitutes the subjective experience and behavior typically associated with an anxious attachment style in adults.

Deactivating strategies stem from experiences in which emotionally or physically distant, rejecting, or hostile caregivers persistently reacted to bids for proximity by withdrawing, reacting punitively, or demanding self-reliance. Deactivating strategies involve a down-regulation of attachment system activation and functioning, such that attachment behavior is suppressed and distress is regulated or avoided by means of self-reliance. Persistent use of deactivating strategies constitutes the subjective experience and behavior typically associated with an avoidant attachment style in adulthood.

Shaver and Fraley (2008) described the functioning of Mikulincer and Shaver's (2003) three-phase model as a succession of attachment-related questions. In the first phase, the attachment system becomes activated by an individual's perception of a potential threat. Entering the second phase, the individual's experience and behavior results from how he or she, either consciously or unconsciously, answers the question, "Is an attachment figure available and likely to

be responsive to my needs?” (p. 56). If the answer is affirmative, the individual likely experiences a sense of security and engages in a number of adaptive strategies, both intrapersonal (e.g. experiencing a sense of efficacy in managing one’s own distress, problem-solving) and interpersonal (e.g. clearly conveying distress to significant others without exaggeration and engaging in effective support-seeking).

When the answer to the question above is negative and perceptions of unavailability and/or unresponsiveness arouse insecurity, individuals enter the third phase of the model. In this phase the individual “decides,” often unconsciously, whether or not to seek proximity from an attachment figure. If an individual possesses an explicit or implicit hope that proximity can be obtained, he or she engages hyperactivating strategies. If an individual possesses the implicit or explicit beliefs that proximity could not be obtained (possibly based solely on perceptions of physical or emotional unavailability of others) and may result in withdrawal, rebuke, or abuse by the caregiver, he or she engages deactivating strategies (Shaver & Fraley, 2008).

Mikulincer and Shaver’s (2003) model also includes a number of excitatory and inhibitory feedback loops that affect a person’s monitoring of threats and appraisal of an attachment figure as available or unavailable. Hyperactivating strategies involve amplified vigilance for potential threats; exaggerated expressions of fear, need, and doubt; and persistent worry over the availability, intentions, and responsiveness of an attachment figure. Deactivating strategies involve dismissal and diminishment of potential threats; suppression of fear, doubt, and need; and denial of the need for support from attachment figures.

Mikulincer and Shaver (2007) emphasized the importance of the activation and effects of primary attachment strategies in adulthood. When an adult appraises a threat and judges an attachment figure to be available and likely responsive and supportive, the primary attachment strategy is engaged. In adulthood, the primary strategy involves seeking proximity and support by (a) verbally requesting support from a physically present attachment figure, (b) enlisting mental images or memories of real or imagined positive experiences with caregivers, or (c) engaging in self-soothing routines learned through prior interactions in soothing relationships with attachment figures (e.g. use of affirmation or self-compassion, use of practical problem-solving). According to Mikulincer and Shaver, the primary attachment strategy is critical for effective emotion regulation and the maintenance of satisfying, intimate interpersonal relationships in adults.

Mikulincer and Shaver (2007) further explained that adult attachment system activation and functioning involve a progression from preconscious to conscious information processing. Threat appraisal triggers the preconscious activation of the attachment system, which results in an increased accessibility of the attachment-related mental representations that are stored in a person's associative memory network. The positive or negative nature of these representations is determined by the person's history of experiences with attachment figures. Representations, or internal working models, involve episodic memories of interactions with caregivers; thoughts, feelings, and images related to love, support, relief, and comfort or rejection, separation, helplessness, and doubt; and goals for proximity-seeking or the avoidance of proximity-seeking. Following preconscious activation and the

processing of thoughts, memories, and goals, a person may consciously think about seeking proximity to an attachment figure, develop behavioral intentions for doing so, and actually seek proximity.

The model of adult attachment formulated by Mikulincer and Shaver (2003) is based upon and entails a number of key theoretical propositions on the nature and function of attachment throughout the lifespan. Here, I present what I view as the crucial propositions of Mikulincer and Shaver's model along with empirical evidence regarding those propositions. First, Mikulincer and Shaver's model rests upon the proposition that adult attachment styles originate in an individual's experiences in interactions with attachment figures from infancy throughout adolescence. This proposition begs two important questions. First, do attachment patterns in infancy remain stable throughout childhood and into adolescence and adulthood? Second, when attachment patterns do change, what factors account for such changes?

Regarding the first question, Fraley (2002) conducted a meta-analysis of 27 studies examining attachment stability from infancy to adulthood. Fraley found a moderate mean correlation ( $r = .27$ ,  $SD = .29$ ) between Strange Situation attachment classification at age 1 and AAI attachment classifications at age 19. Fraley suggested that early attachment "prototypes," akin to internal working models developed as a result of experiences with caregivers, "...exert a moderate influence on subsequent interactions," and "...these interactions are easily incorporated into concurrent beliefs about the world" (p. 135). Regarding stability of attachment patterns in adulthood, with time lapses between 1 and 25 years, Fraley and Brumbaugh (2002) conducted a meta-analysis of 24 studies, finding a moderate mean correlation of .54, higher than

the mean correlation of .27 found in Fraley's (2002) meta-analysis of attachment stability throughout childhood and adolescence. Although Mikulincer and Shaver (2007) recognized the findings of these meta-analyses were consistent with Bowlby's (1973) idea that attachment patterns can remain stable throughout adulthood, they pointed out that the average test-retest correlation for measures of adult attachment patterns is .56, leaving ample room for and sensitivity to change during adulthood.

Regarding the second question posed above (When attachment patterns do change, what factors account for such changes?), Mikulincer and Shaver (2007) reviewed a number of studies on changes in attachment patterns during childhood and adulthood. The authors concluded that "...attachment-relevant stressful life events occurring during childhood or adolescence produce discontinuities in attachment patterns and increase the likelihood that what were once securely attached infants will be classified as insecure in the AAI" (p. 138). A number of these "life events" include maternal depression, child maltreatment and sexual or physical abuse within or outside the family during childhood and adolescence, and parental alcoholism. Mikulincer and Shaver devoted little attention to positive changes (i.e. insecure to secure) in attachment patterns throughout the lifespan and particularly in adulthood. Concluding their section on discontinuities in attachment patterns in adulthood, the authors indicated that future research should seek to examine the effects of psychotherapy and the therapeutic relationship in changing "...the organization and functioning of the attachment system" (p. 145). The authors suggested that changing attachment relationships in adulthood can change adult attachment patterns, stating, "If this were not the case, psychotherapy—including the kind conducted by Bowlby

himself—would be fruitless” (p. 145). In a subsequent section on attachment and psychotherapy, I review several studies that examined change in attachment patterns over a course of psychotherapy.

A second major proposition underlying Mikulincer and Shaver’s (2003; 2007) model of adult attachment is that the monitoring and appraisal of attachment figure availability and responsiveness and the various attachment strategies engaged thereafter (i.e. primary vs. secondary [hyperactivating or deactivating] strategies) occur to a large extent preconsciously. This proposition resonates with Bowlby’s (1980) writing on the unconscious, automated nature of defensive exclusion of attachment-related information and has been examined in a number of recent empirical studies. Mikulincer & Shaver (2007; 2008) reviewed two studies (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer, Gillath, & Shaver, 2002) that examined the preconscious activation of the attachment system and found evidence for both normative, universal processes and individual differences in attachment patterns.

Both studies (Mikulincer et al., 2000; Mikulincer et al., 2002) involved two main components. First, participants were subliminally primed with either neutral (“hat,” “table”) or threat-related words (“death,” “failure”). Second, the mental accessibility of cognitive and affective elements of the attachment system was examined through a lexical decision task or Stroop color-naming task. In the lexical decision task, participants are asked to identify as quickly as possible whether or not a string of letters on a computer screen is a word. Quicker reaction times indicate greater accessibility to mental contents related to the word displayed. In the Stroop

color-naming task, participants are asked to identify as quickly as possible the color of a word presented on a computer screen. Slower reaction times indicate heightened activation of mental representations related to the word displayed. In the Mikulincer et al. (2000) study, which utilized subliminal priming and a lexical decision task, subliminally presented threat stimuli led to quicker identification of proximity-related words (e.g. “love,” “hug”), and this effect did not extend to neutral words or positive, attachment-unrelated words in the lexical decision task. Further, increased accessibility to proximity-related words were found regardless of participant attachment style. Mikulincer et al. (2002) found that participants reacted to subliminal threats showing significantly heightened accessibility of the names of their attachment figures (these names were provided prior to beginning the studies) but not to names of close others or acquaintances who were not considered by the participants to be attachment figures. Mikulincer and Shaver (2008) discussed these findings as evidence that, “...everyone is subject to preconscious activation of the attachment system, as would be expected if such activation is a species universal, biologically-functional mental process” (p. 508).

The studies by Mikulincer and colleagues (Mikulincer et al., 2000; Mikulincer et al., 2002) also revealed individual differences in preconscious activation of the attachment system. Participants with a secure attachment style showed heightened access to proximity-related thoughts and attachment figure names only in response to threat stimuli. Participants with an anxious attachment style showed heightened access to proximity-related thoughts and attachment figure names in response to both threat and neutral stimuli. Additionally, these participants showed

increased accessibility to separation-related words than did participants with a secure attachment style. The results for individuals with an anxious attachment style provide evidence for the preconscious functioning of hyperactivating strategies, particularly vigilance and the perception of benign events as threatening. Participants with an avoidant attachment style showed accessibility patterns to attachment-related content similar to that of participants with a secure attachment style. Accessibility to separation-related words was significantly lower than that of other groups. However, when placed under an additional cognitive load (in one condition, participants engaged in a memorization task while completing the study), accessibility to separation-related words significantly increased. Unlike participants with a secure attachment style, though, avoidant participants showed decreased access to attachment figure names after the threat-prime word “separation.” The authors concluded that individuals with an avoidant attachment pattern continuously utilize preconscious defenses to avoid threat appraisal and suppress attachment system activation. Under stress, defenses collapse. In addition, decreased access to attachment figure names following the “separation” threat prime suggests that avoidant individuals have learned not to turn to attachment figures when these figures threaten to depart (Mikulincer & Shaver, 2008).

A third major proposition from Mikulincer and Shaver’s (2003) model is that adult individuals with a secure attachment style flexibly utilize primary attachment strategies to achieve a level of comfort when facing distress, whereas adults with insecure attachment styles more rigidly utilize secondary attachment strategies (i.e. hyperactivating and deactivating strategies). Further, the use of primary attachment

strategies in adulthood results in more effective emotion regulation and interpersonal functioning, whereas the use of secondary attachment strategies is often detrimental to self-regulation and deleterious to the maintenance of healthy relationships.

Regarding emotion regulation, Mikulincer and Shaver (2007) indicated, "...secure attachments help a person survive temporary bouts of negative emotion and reestablish hope, optimism, and equanimity," whereas, "...insecurity interferes with emotion regulation, social adjustment, and mental health" (p. 188). Mikulincer and Shaver explained that experiences with supportive caregivers promotes an individual's learning that emotions can be experienced and shared genuinely without risk of rebuke or abandonment. Thus, negative affect can be tolerated and effectively expressed and managed rather than rigidly suppressed, denied, or avoided.

One critical element of effective emotion-regulation is support-seeking. In a review of studies on the relationship between adult attachment style and support seeking, Mikulincer and Shaver (2008) explained that individuals with a secure attachment style were more likely to constructively and effectively seek comfort from both informal (e.g, parents, friends) and formal (e.g., teachers, counselors) sources of support than were individuals with insecure attachment styles. Moreover, individuals with secure attachment styles appear to benefit more from supportive interactions. In one study of the effects of supportive interaction conducted by Mikulincer and Florian (1997), participants were told that they would be handling a snake as part of the study. They were then provided with an emotionally supportive and an instrumentally supportive discussion with a research confederate in order to prepare them for their task. Individuals with secure attachment styles reported benefiting

from both discussions, whereas individuals with insecure attachment styles reported no benefits. Insecure-anxious participants reported that the instrumental conversation was detrimental to their coping, whereas insecure-avoidant individual reported that the emotional conversation was detrimental to their coping.

A study conducted by Feeney and Kirkpatrick (1996) examined the relationship between attachment style and physiological stress response in the presence or absence of a relationship partner. Women's stress responses (heart rate and blood pressure) to stressful events (e.g., completing a stress-inducing arithmetic task) were assessed in either the presence or the absence of participants' relationship partners. Women with a secure attachment style showed lower stress reactivity both in the presence and absence of a relationship partner when compared to women with insecure attachment styles. Interestingly, the stress responses of both avoidant and anxious women were intensified in the presence of a partner compared to responses in the absence of a partner. Somewhat similar results were found in a neuroscience study conducted by Coan, Schaefer, and Davidson (2006). Coan et al. obtained functional brain images from a sample of married women who were subjected to the threat of shock (i.e., told that they would receive a mild shock) while either holding the hand of their husbands, holding the hand of an anonymous stranger (a confederate), or not holding a hand. Physical contact from both attachment figures and strangers were related to lower stress reactivity in the brain, whereas hand-holding with attachment figures, as opposed to strangers, was related to a higher level of down-regulation of threat-responsive brain activity. Further, the authors found that while negative affect patterns in brain activity were attenuated significantly during

when women with a secure attachment style held hands with their spouses, negative affect patterns were actually significantly exacerbated (rather than attenuated) when women with an avoidant attachment style held hands with their husbands. The results of these studies provide evidence for the claim that attachment security is positively associated with effective support-seeking as a means of emotion regulation, whereas attachment insecurity is negatively associated with appropriately seeking and receiving benefit from the support of significant others. Vogel and Wei (2006), in an investigation of support-seeking and attachment anxiety, presented two divergent causal pathways. In one pathway, attachment anxiety was associated with heightened psychological distress, which led to increased support seeking. In the second pathway, attachment anxiety was associated with negative perceptions regarding the supportiveness of others', leading to decreased support seeking.

Emotion regulation and attachment have also been examined by assessing the relationships among attachment style and people's appraisal of threats and/or potential stressors as well as their coping strategies for dealing with stress.

Mikulincer and Shaver (2007) summarized findings of several studies of appraisal and explained that, across these studies, attachment security was associated with "distress-alleviating appraisals," appraising these events in less threatening ways and appraising oneself as capable of coping effectively with the event (p. 200).

Attachment anxiety, on the other hand, was associated with "distress-intensifying appraisals," appraising threats as extreme and one's ability to cope as inadequate.

The authors indicated that the relationships between attachment avoidance and threat appraisal are less consistent. Most studies reviewed by Mikulincer and Shaver

showed that avoidance was positively related to appraisal of adequate coping resources. However, attachment avoidance, unlike attachment security, was related in a number of studies to the assessment of threats as extreme and highly threatening, as well as to pessimism about the likely worsening of a stressful situation. Regarding coping strategies, Mickulincer and Shaver that individuals with a secure attachment style were more likely than those with an insecure attachment style to utilize problem-focused coping, using problem-solving strategies to work through stressful or challenging events. Individuals with an avoidant attachment style were more likely than individuals with secure or anxious attachment styles to utilize repression-based “distancing coping strategies,” through which stress is denied, attention is diverted, or an individual disengages behaviorally or cognitively from the stressor being faced (p. 202). Individuals with an anxious attachment style were more likely than others to utilize emotion-focused coping strategies, a typically maladaptive type of coping that involves wishful thinking, self-blame, and rumination. Individuals with anxious attachment styles, across several studies, tended to focus their attention on their own distress rather than on potential means of finding a solution to a problem.

Finally, in regard to attachment and emotion regulation, Mikulincer and Shaver (2007) summarized findings on emotional reactions to stressful events. Regarding emotional reactions, a number of studies examined participant reports of psychological distress, negative affect (e.g. anxiety, depression, anger), and psychological well-being during stressful events. As was found in the coping literature discussed above, attachment security was negatively associated with distress

and positively associated with well-being, whereas attachment insecurity, including anxiety, avoidance, or a combination of both, were positively associated with levels of psychological distress and negatively related to reported well-being. These findings may seem counterintuitive when considering the tendency of individuals with pronounced attachment avoidance to deny, ignore, avoid, repress, or suppress the threatening nature of stressful events and/or the psychological toll of these events. However, studies of physiological stress reactivity among individuals with an avoidant style may shed some light on how heightened distress and lower levels of well-being are experienced in the face of a stressful situation.

Mikulincer and Shaver (2007) summarized the findings from several studies showing that individuals with an avoidant attachment style who were exposed to various laboratory stressors (e.g. recalling a stressful situation, performing a difficult mathematical task, discussing relationship issues with a romantic partner) exhibited numerous expressions of heightened physiological reactivity: decreased heart rate variability (entails interruption of blood supply to parts of the heart and is a risk factor for a heart attack), increased skin conductance, increased diastolic blood pressure, and a decrease in “rate pressure product” (pulse rate multiplied by systolic blood pressure, an indicator of inability to properly supply oxygen to the heart). Thus, although individuals with an avoidant attachment style may attempt both preconsciously and consciously to block out or blunt stressful experiences, these experiences lead to heightened distress at a physiological level. Mikulincer and Shaver indicated that the opposite is the case for individuals with an anxious attachment style, who did not exhibit heightened physiological responses to stress although indicating heightened

levels of psychological distress (Maunder, Lancee, Nolan, Hunter, & Tannenbaum, 2006). Thus, although individuals with avoidant attachment styles may to some extent dissociate from experienced distress, individuals with anxious attachment styles may exaggerate their distress.

Mickulincer and Shaver (2007) examined numerous studies on the associations between attachment style and interpersonal functioning. First, the authors examined research on attachment style and interpersonal wishes and goals. Three studies (Avihou, 2006; Raz, 2002; Waldinger et al., 2003) have examined links between attachment style and interpersonal wishes using Luborsky & Crits-Christoph's (1998) Core Conflictual Relationship Themes (CCRT) method for coding narratives. In the Raz (2002) and Waldinger et al. (2003), participants attachment orientations were classified using the self-report Relationship Questionnaire (RQ) and the AAI, respectively. Both studies required participants to describe interactions with close relationship partners, and their narratives were coded using the CCRT. Both studies found that attachment avoidance was positively associated with core wishes for autonomy (e.g. to assert oneself, to maintain emotional distance). Raz (2002) found that attachment anxiety was positively associated with core wishes to be loved and accepted, whereas Waldinger et al. (2003) found no significant associations between CCRT wishes and attachment anxiety. Avihou (2006) used the CCRT to code interpersonal wishes expressed in dreams of participants recalled each morning over a 30-day period. Results showed that attachment anxiety was positively correlated to core wishes to be loved and accepted by others, whereas attachment avoidance was correlated with core wishes to assert themselves, to control and oppose

others, and to remain distant and avoid conflicts. These findings support original propositions of Bowlby (1973; 1980) and the propositions of Mikulincer and Shaver. Attachment anxiety likely entails vigilant preoccupation with the love and acceptance of others, whereas attachment avoidance likely entails discomfort with intimacy and motivation for absolute self-reliance.

Another line of studies on attachment and interpersonal functioning has examined associations between attachment style and conflict management. Mikulincer and Shaver (2007) theorized that individuals with a secure attachment style are more likely to view others as generally well-intentioned, view themselves as capable of managing conflicts with others, and likely to perceive an interpersonal conflict as a surmountable challenge rather than an overwhelming threat. Individuals with insecure attachment styles, on the other hand, likely perceive interpersonal conflict situations as more threatening and engage less effectively conflict resolution. Whereas more anxious individuals may view conflict as catastrophic and potentially entailing rejection and/or abandonment, more avoidant individuals may view conflict as impinging on their desire for autonomy by requiring expressions of care, need, or vulnerability. Findings from numerous empirical studies of conflict management support these propositions, showing that attachment security is related to lower perception of threat in interpersonal conflict, higher ratings of one's ability to manage conflict successfully, and less conflict-related distress when compared to attachment insecurity. Additionally, secure individuals are more likely than insecure individuals to escalate conflicts to the point of coercion or fighting or to leave a conflict unresolved.

Coordination of needs and behaviors in interpersonal interactions is also an important aspect of interpersonal functioning. In a recent, yet-to-be published study discussed by Mikulincer and Shaver (2007b), 40 undergraduate participants completed the ECR and were asked to engage in a problem-solving interaction (desert survival task) with another undergraduate student whom they'd not met. Participants were instructed to focus on promoting closeness and cooperation during the interaction, whereas their partners were not given these instructions. The interaction was videotaped, and undergraduate judges, who were blind to participants' ECR scores and instructions received, coded the interactions, rating participant and partner behavior. Judges were asked to mark goals that participants seemed to be pursuing during the interaction as well as the extent to which they believed the participants were effective in meeting these goals. The judges marked the goal of promoting closeness in 93% of the interactions, indicating that participants followed instructions regardless of attachment style. When compared to individuals with a secure attachment style (low avoidance and anxiety ratings), participants with higher levels of attachment anxiety and attachment anxiety, however, were rated as exhibiting less effective goal-oriented behavior, as appearing less relaxed and calm throughout the interaction, reacting to partner responses in less appropriate ways, and promoting less cooperation and closeness. Partners of individuals with pronounced anxiety and/or avoidance were rated as appearing less calm throughout the interaction, with these relationships remaining significant after partner ECR scores were controlled for. These results indicate that individuals with pronounced attachment insecurity may have difficulty coordinating goals and tasks with others, perhaps more or less

markedly in relationships with close significant others, in a way that promotes cooperation and intimacy.

When considering the empirical findings discussed above and reviewed by Mikulincer and Shaver (2007), the model of adult attachment and related theoretical propositions have important implications for psychotherapy research and practice. First, attachment patterns appear to be relatively stable throughout the lifespan, with stability significantly greater during adulthood than during childhood and adolescence. However, attachment style is not unalterable, and Mikulincer and Shaver (2007) propose that, just as suboptimal experiences with caregivers can result in attachment insecurity, so can more positive experiences with attachment figures in adulthood aid a person in attaining a secure attachment style. Psychotherapy endeavors to offer such a relationship.

Second, individuals with insecure attachment styles exhibit difficulties in effective emotion regulation and interpersonal functioning. These deficiencies likely make the initiation of therapy a difficult if not treacherous endeavor for someone experiencing pronounced attachment insecurity. The ability to regulate one's emotions and negotiate goals and tasks are both particularly important in the early stage of therapy. It appears important, then, that therapists recognize attachment insecurity early on, anticipate potential problematic patterns, and alter their interventions to best collaborate with a client in a way that does not further impair the client's self esteem and also promotes active relationship-building and the negotiation of the goals, tasks, and logistical considerations (e.g. fee amount and payment schedule, session frequency) of the therapy. Finally, it is important to note the

finding discussed above in which not only the participants with insecure attachment styles but also their partners appeared less comfortable and calm as they worked toward cooperation and closeness in a joint task. This finding suggests that therapists are perhaps susceptible to a higher level of discomfort when working with clients who exhibit pronounced insecurity. Therapists are thus likely to benefit from attending to and healthily managing such discomfort as a means of maintaining collaboration with and empathy for the client, particularly in the initial stage of therapy. In the following section, I review the literature on attachment in psychotherapy, addressing a number of the issues raised here and utilizing the existing literature to propose means by which therapists can initially engage clients with pronounced attachment insecurity and potentially prevent premature termination.

### **Attachment in Psychotherapy**

Although John Bowlby spent the bulk of his career treating clients, his theoretical work—originally developed to improve clinical treatment—were investigated and elaborated upon by academic researchers, a majority of whom were not clinicians (Wallin, 2007). During the last 10 years of his life, Bowlby devoted much of his work as a theorist to the uses of attachment theory in psychotherapy, thereby directly bringing therapy within the purview of attachment theory (Bretherton, 1992; Bowlby, 1988). Bowlby (1988) explained that the primary goal of the therapist is to enable the client to examine and reconstruct outdated, maladaptive working models of self in relation to attachment figures, “...so that he becomes less under the spell of forgotten miseries and better able to recognize companions in the present for what they are” (p. 137). Bowlby’s writing on therapy emphasized the

great difficulty faced by clients when exploring and reconsidering painful aspects of the past and present, a process rendered possible by the therapist serving as an attentive and empathic “trusted companion,” a secure base for exploration in much the same way a parent provides care and promotes a child’s autonomous exploration.

Numerous scholars followed Bowlby’s (1988) theoretical lead, developing a vast research literature on attachment and psychotherapy throughout the past 20 years that continues to grow in the present. In this section, I provide an overview of theory and empirical findings on attachment and psychotherapy. To enable the reader to most usefully understand and evaluate these findings, I begin with a brief review of the measurement of adult attachment and the two major assessment traditions—interview and self-report. I devote the remainder and majority of this section to a review of contemporary theory and research on adult attachment and psychotherapy, addressing in order therapy process concepts, including the therapeutic relationship and therapist and client in-treatment behavior, interactions between client and therapist attachment patterns, and therapy outcome.

**The measurement of adult attachment patterns.** The two predominant methods for measuring adult attachment, both of which are utilized in psychotherapy research, are interview-based assessment and self-report assessment. Research on attachment and psychotherapy has relied primarily on self-report measures, although there appears to be a growing number of studies utilizing interview-based assessment. In this section, I briefly discuss the essential features of interview and self-report measures of adult attachment.

***Interview-based assessment.*** Interview-based measures of adult attachment, such as the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984, 1985, 1996) were developed and have typically been used by researchers within the discipline of developmental psychology. The AAI is an hour-long, semistructured audiotaped interview that examines participants' early memories and relationship experiences with attachment figures, particularly experiences of separation, loss, and distress in relationships with parents. The AAI does not focus on attachment relationships in adulthood. Rather, the interview was designed and validated in terms of its ability to predict the Strange Situation classification of an adult participant's infant, with the hypothesis that an adult's discussion of attachment-related childhood memories would indicate remnants of experience that affect parenting style (Lopez, 2009). The AAI explores relationships with multiple early caregivers and is not designed to classify an interviewee as securely or insecurely attached to a particular person. Rather, the AAI indicates whether or not an individual has a secure or insecure *state of mind with respect to attachment*. Interviews are coded to determine implicit, unconscious differences in the way in which an interviewee represents and recounts early attachment relationships. Thus, AAI classifications are based on the process rather than the content of interviews, particularly the ability of an interviewee to provide a coherent narrative on regarding his or her attachment relationships.

Using the AAI, interviewees are classified into one of five groups: secure-autonomous, dismissing, enmeshed-preoccupied, unresolved-disorganized, and cannot classify. Interviewees classified as secure-autonomous demonstrate an ability to provide coherent, thoughtful, and reflective answers along with appropriate

elaborations and a collaborative stance throughout the interview. Interviewees assigned to one of the three main insecure attachment categories exhibit incoherent, ruminative, tangential, defensive, or dissociative discourse patterns when responding to AAI questions (Hesse, 2008). The AAI can also be utilized to provide a continuous coherence-of-narrative score, or classified using an alternative scoring method (Kobak, 1989) that provides continuous scores along two orthogonal dimensions: secure – anxious and hyperactivation – deactivation. The secure-anxious dimension indicates the extent to which an interviewee exhibits an autonomous or insecure and anxious state of mind, whereas the hyperactivation-deactivation dimension indicates the extent to which an interviewee tends to become overly absorbed in attachment-related concerns or deflect attention away from such concerns (Lopez, 2009).

*Self-report assessment.* Self-report measures of adult attachment were designed and have typically been utilized by researchers within the discipline of social psychology. Rather than asking about childhood relationships with attachment figures, these measures use checklists or rating scales to capture participants' perceptions of their cognitive, affective, and behavioral responses to intimacy-related issues in intimate peer relationships and romantic relationships. The goal of these measures is to capture an individual's attachment style, a consistent pattern of perceiving and interacting with significant others. The self-report method has produced numerous psychometrically sound instruments, among which the Adult Attachment Scale (AAS; Collins, 1996), the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), the Relationship Scales Questionnaire (RSQ;

Griffin & Bartholomew, 1994), the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998), and the Experiences in Close Relationships-Revised (ECR-R; Fraley, Waller, & Brennan, 2000) have been the most commonly used in psychotherapy research.

Whereas the RQ is a forced-choice, categorical measure that requires respondents to read short descriptions of attachment prototypes (Secure, Fearful, Preoccupied, Dismissing) and select the type that best describes their approach to close relationships, the AAS, RSQ, ECR, and ECR-R comprise multiple-item subscales representing various dimensions of attachment style, each item rated on a Likert response scale (Fraley & Phillips, 2009). At present, the ECR is the most widely validated and utilized measure of adult attachment, and Mickulincer and Shaver (2007) noted that its two subscales, which capture attachment avoidance and attachment anxiety, account for a majority of the variance in subscales from the other measures listed above. Mikulincer and Shaver continue to promote use of the ECR as the standard measure for self-report assessment of adult attachment style.

Addressing the categories-versus-dimensions question in adult attachment research (i.e. should attachment be conceptualized within a number of categories or within a set of underlying dimensions?), Fraley and Waller (1998) utilized a set of statistical techniques developed by Meehl and colleagues (Meehl & Yonce, 1996; Waller & Meehl, 1998) to reveal the latent structure of a domain while also rigorously testing for typological/categorical assumptions. Results of these analyses provided no evidence for a categorical measure of adult attachment. Rather, their results were consistent with a continuous distribution of individual differences in

adult attachment (Lopez, 2009). Thus, Mickulincer and Shaver (2007) suggested conceptualizing individual difference in adult attachment based on a respondent's location in the two dimensional space created by the anxiety and avoidance dimensions. Whereas the anxiety dimension primarily captures the extent to which a person detects threats to security or rejection, the avoidance dimension captures the extent to which a person is willing or unwilling to intimately engage a relationship partner as a secure base or safe haven.

**Adult attachment patterns and psychotherapy process.** A majority of empirical studies on attachment and psychotherapy focused on associations among adult attachment patterns and various components of psychotherapy process, particularly the therapeutic relationship. In this section, I review both contemporary theoretical propositions and empirical findings on the relationships among client attachment patterns and components of the therapeutic relationship as well as related empirical findings on relationships among both client and therapist attachment patterns and their in-session behavior. I organize research on the therapeutic relationship based upon Gelso and Carter's (1985; 1994) tripartite model, described below.

***Theoretical writing on attachment and the therapeutic relationship.***

Following Greenson's (1967) psychoanalytic theory on the nature of the therapeutic relationship, Gelso and Carter (1985; 1994) delineated the therapeutic relationship, regardless of the theoretical orientation of the therapist (e.g., cognitive-behavioral, humanistic, psychodynamic), as comprising three components: the working alliance, the transference-countertransference configuration, and the real relationship. Gelso

and Carter (1994) described the working alliance as the most essential component of the therapeutic relationship, defining working alliance as the alignment or collaboration between the ego or reasonable self of the client and the “therapizing” self of the therapist for the purpose of the therapeutic work. Moreover, Gelso and Carter followed Bordin’s (1979; 1994) conceptualization of the working alliance as the extent to which (1) the therapist and client agree on the goals for their work, (2) agree on the tasks through which they will meet these goals, and (3) experience an emotional bond in their work with one another.

The transference-countertransference configuration captures the nature of the client’s transference and the therapist’s countertransference in the therapeutic endeavor. Client transference involves a distorted view of the therapist—the client projects feelings, attitudes, expectations, and behaviors rooted in earlier relationships onto the therapist. Countertransference involves the therapist’s transference reactions to the client—reactions to the client that are distorted by the therapist’s earlier relationships and do not befit the current therapeutic relationship. Although transference and countertransference involve the maladaptive acting out of distortion and misperception, the working through or processing of client transference and the therapist’s understanding and management of countertransference can result in markedly beneficial results in psychotherapy (Gelso & Carter, 1994).

The real relationship in psychotherapy refers to the component of the therapeutic relationship that does not involve transference distortions and is not bound solely to the work of the therapy. Gelso and Carter (1994) explained that the real relationship comprises two defining features: genuineness and realistic

perceptions. Genuineness refers to the ability of both the client and the therapist to be their true selves in interactions with one another—authentic, honest, and open. Realistic perceptions, also described as realism, are the client and therapist’s perceptions of each other that are accurate and undistorted by transference or countertransference. Through these perceptions, the client and therapist see each other as who they really are.

As mentioned above, Bowlby (1988) viewed the therapeutic relationship critical to effective psychotherapy. In his 1988 chapter on attachment and psychotherapy, Bowlby outlined five major therapeutic tasks, one of which emphasized the importance of the therapeutic relationship as a secure attachment relationship for the client. Bowlby wrote that the therapist must work to “...provide the patient with a secure base from which he can the various unhappy and painful aspects of his life, past and present, many of which he finds it difficult or perhaps impossible to think about and reconsider without a trusted companion to provide support, encouragement, sympathy, and, on occasion, guidance” (p. 138). As a secure attachment figure for the client, Bowlby cited empathy as the therapist’s primary means of maintaining an effective relationship and an effective course of therapy, indicating that empathy involve reliability, attentiveness, and sympathetic responsiveness in sustained efforts toward seeing and feeling the world through the eyes of the client.

Farber and Metzger (2009) further addressed Bowlby’s (1988) notions on the therapeutic relationship and the therapist as a secure base. Farber and Metzger wrote that clients utilize the safety of the therapist’s office to “...discuss and attempt new

ways of being in the world,” a powerful and difficult effort in the mutative process of therapy (p. 47). Farber and Metzger indicated that the therapist does, in fact, quality as an attachment figure, describing the therapist as someone who, in some respects, is stronger and wiser than the client, who works to be an insurer of the client’s psychological survival, who is often the focus of client attachment behavior (e.g. being sought out in times of need or distress; creating a source of distress when separated from the client for prolonged periods), and who is an “object of intense affect” during the formation, disruption, maintenance, and loss of the therapeutic relationship. However, Farber and Metzger distinguished the therapeutic relationship from a child-caregiver attachment, citing financial, logistical (e.g. seeing each other at a scheduled time), and ethical boundaries as well as the therapist’s more objective and less emotionally involved stance in the client’s life than is typically found in a child-caregiver attachment relationship. The therapist, according to Farber and Metzger, also has the ability, through consistent empathy and responsiveness, to compensate for failures in availability or responsiveness made by the client’s prior and perhaps current attachment figures. Moreover, Farber and Metzger indicated that the therapists must provide more than empathy and sensitivity, possessing the ego strength to challenge the client’s misperceptions and maladaptive behaviors related to his or her internal working models.

Farber and Metzger (2009) pointed out that a secure base relationship is developed and maintained rather than simply sparked upon the initial meeting of the client and therapist. The authors presented a procession of four theoretical markers in the development of client-therapist attachment (preattachment, attachment in the

making, clear-cut attachment, goal-corrected partnership). During preattachment, the quality of the interaction between therapist and client, which involves the therapist's provision of informed consent and the client's initial disclosure of presenting problems and/or questions regarding the therapist's competence, does not yet resemble a true attachment. Emotionally, the client may be in a high level of distress or exhibit almost no affect. In either case, the therapist's presence has a modest effect on the client's ability to express and regulate emotions. During attachment in the making, the client begins to discuss issues in fuller, more detailed and affective disclosures; begins to exhibit transference reactions that tests the interpersonal safety of the therapeutic relationship; becomes more responsive to therapist interventions; and requests reassurance and relies more on the therapist as an "expert" figure. The client displays more affect during this phase, a pattern of use of the therapist for "emotional co-regulation" forms, and attending therapy becomes more promising due to evocation of affect along with soothing. In the clear-cut attachment phase, the client begins to rely on the therapist for support that only she or he can provide. The client may report negative reactions to periods of separation from the therapist, a desire to communicate with the therapist between sessions, and expression of interest in the therapist's personal life and well-being. Finally, in the goal-corrected partnership phase, the relationship becomes more collaborative and less impacted by transference tests of safety. The client and therapist maintain focused attention on presenting issues, and the client shares with emotional depth while showing increased self-sufficiency in regulating emotions.

Regarding the development of a secure-base therapeutic relationship, Farber and Metzger presented a number of empirically-founded propositions about client attachment styles and relationship dynamics with the therapist. The authors discussed preoccupied (high attachment anxiety), fearful (high attachment anxiety, high attachment avoidance), and dismissive (high attachment avoidance) styles. Farber and Metzger indicated that preoccupied clients typically take only partial advantage of the therapist as a secure base. Compared to clients with other attachment styles, these clients scored higher on measures of self-disclosure, emotional expressiveness, crying in the presence of others, and reliance on others across a number of empirical studies. However, these clients also scored lower in self-confidence and their ability to discuss relationships in a coherent manner. Farber and Metzger proposed that these clients are likely able to disclose fairly openly in therapy but may be unable to receive or take in therapist reassurance, support, or prompts to explore new ways of thinking or behaving. Preoccupied clients may express covert or over distrust of the therapist, for example worrying over the therapist's potential preference for work with other clients to the extent that the therapeutic work is impeded. Until this distrust can be effectively processed, the preoccupied client is likely to experience catharsis but not insight and struggle to move to levels of greater depth and meaning in therapy.

Farber and Metzger (2009) explained that, across several studies, fearful clients score lower than preoccupied clients on measures of self-disclosure, intimacy with others, reliance on others, and use of others as a secure base. These clients may feel a pronounced discomfort with the therapist, unable to attain felt security in the

presence of the therapist and explore issues in an open and emotional manner, let alone utilize the therapist as a secure base from which to explore maladaptive working models and consider new ways of perceiving and behaving. The fearful client's attachment to the therapist may become characterized predominantly by fears (covert and/or overt) of therapist rejection or withdrawal that significantly limits the depth of exploration in sessions.

Farber and Metzger (2009) described dismissive clients as most reluctant to come to therapy because of a characteristic inclination to remain self-reliant and not reach out to others. The authors discussed the likelihood of client externalization of problems during sessions, explaining that dismissing clients are more likely to utilize the therapist as a secure base from which to explore others' problems rather than their own. Farber and Metzger summarized the implicit message of the dismissive client to the therapist: "I don't really need you; you aren't important in my life; you could be anyone. I won't use you to work on myself, but I can use you to criticize others in my life, which is far less dangerous" (p. 61). When not focused on others, client speech about themselves may be intellectualized rather than emotional, leading the therapist to struggle to truly come to know the client and feel emotional distance in the relationship.

Farber and Metzger (2009) concluded their discussion of the therapeutic relationship by noting that most clients are able to disclose effectively in therapy. Client attachment style thus does not dictate the ability or inability to benefit from therapy but rather the necessity of the therapist's ability to tailor interventions and the way in which the secure base is established and utilized. The authors suggested that

the therapist's goal in doing so is to openly be tested by the client, remain responsive and empathic, and begin to point out client resistances to intimate disclosure and openness to change.

Tolmacz (2009) made several empirically based propositions on the relationships among attachment, transference, and countertransference. Reiterating that internal working models stem from an individual's experiences with caregivers, particularly with regard to the individual's needs and motivations and the way in which caregivers respond to their needs, Tomacz indicated that clients are prone to assimilate experiences in new relationships (e.g. the therapeutic relationship) within their existing models. Following Bowlby's (1973) writing on internal working models, Tolmacz indicated that these models emerged as the forecasts that clients make about their therapists. These forecasts, unfortunately, are based on internal working models that do not apply to the current relationship with the therapists. Clients' internal working models may promote trust in the therapist and positive self-perception as well as self-perceptions of unworthiness or unlovability and perceptions of the therapist as untrustworthy.

Tolmacz (2009) wrote that clients with a preoccupied attachment style are likely to feel uncomfortably vulnerable in their relationships with their therapists and vigilantly watchful of therapist responses to their needs. Clients with a dismissing attachment style are likely to show little interest in developing a close relationship with the therapist, show a lack of regard for the therapist, and steer away from revealing personal feelings to the therapist. Regarding countertransference, Tolmacz stated that therapist attachment style is also a likely predictor of patterns in

countertransference reactions. Whereas therapists with a secure attachment style are more likely to respond to clients in a flexible manner that best suits the in-the-moment needs of the client, therapists with insecure attachment styles are likely to intervene in either overly intensive (e.g., overly directive, inappropriate self-disclosures, shift of focus from client to self) or overly dismissive (e.g. snide, hostile remarks, blaming, withdrawal and emotional distancing) behavior and interventions.

Tolmacz (2009) explained the importance of memory in processing client transference. He noted that experiences with caregivers are stored in explicit, declarative memory and can be repressed but also explicitly recalled and reevaluated. Experiences are also stored in procedural memory, which is implicit and devoid of verbal content. Because of these attributes, procedural memory, the “how” component of memory, can never be made conscious. However, it does influence the way we behave in relationships and interpret relational events. Beyond a focus on maladaptive patterns of thoughts, feelings, and behaviors that are based on a client’s declarative memories about past or recent events, the therapist, in maintaining an empathic and responsive stance, replaces a client’s implicit, procedural models or schemas of “ways-of-being-with-another” (p. 283). This process occurs through what Tolmacz describes as moments that “undermine a client’s ordinary manner of interacting,” experiences in which the therapist behaves differently than the client has come to expect others to react. These experiences cumulatively lead to changes in implicit memory regarding relationships and do not, according to Tolmacz require the use of interpretation or specific verbal intervention by the therapist. Such positive experiences in therapy have also been referred to as “corrective emotional

experiences,” “corrective relational experiences,” and “moments of meeting.”

Tolmacz cited these moments as critical to the working through of the client’s transference and to overall effectiveness in the process of therapy.

***Empirical examinations of attachment and the therapeutic relationship.*** In this section, I present empirical data from studies of associations between attachment style and various aspects of the therapeutic relationship, describing the results of studies focusing on the working alliance, transference and countertransference, and the real relationship. Finally, I present results from studies on interactions between client and therapist attachment styles and in-session client behavior and therapist interventions. For more comprehensive reviews of the empirical literature on attachment and psychotherapy, I direct the reader to Berant and Obegi (2009), Slade (2008), Mikulincer and Shaver (2007; Chapter 14), and Daniel (2006). Here, I present the contemporary empirical findings that I consider most relevant to the present study.

*Working alliance.* To date, two meta-analyses have examined the relationship between client attachment style and quality of the working alliance in adult psychotherapy (Diener, Hilsenroth, & Weinberger, 2009; Diener & Monroe, 2011). Diener et al. (2009) reviewed and analyzed 12 studies on the relationship between self-report ratings of adult attachment style and ratings of the working alliance, finding a weighted average effect size of  $r = .17$ , 95% CI [.13, .21], which was statistically significant at  $p < .0001$ . The authors concluded that this significant albeit small effect size indicates that greater attachment security is associated with higher

ratings of the quality of the working alliance, whereas greater attachment insecurity is associated with lower ratings of the quality of the working alliance.

Diener and Monroe (2011) reviewed and analyzed 17 studies on the relationship between client attachment style and the quality of the working alliance. The authors explained that their 2011 meta-analysis was an improvement on the Diener et al. (2009) meta-analysis in several respects. First, the authors were able to update their previous review, including studies published through July of 2010. Second, the authors utilized a contemporarily more popular data analytic techniques (i.e., methods devised by Hedges & Olkin, 1985; Hedges & Vevea, 1998, versus the previously used method developed by Hunter and Schmidt, 1990). Third, the authors extended their review to examine both client and therapist self-report ratings of the working alliance. Lastly, the authors conducted moderator analyses for age, gender, ethnicity, treatment setting, treatment type, alliance measure, source of alliance measure and attachment measure. Results again showed that greater self-reported attachment security was associated with stronger working alliances, whereas greater attachment insecurity was associated with weaker working alliances, with an overall weighted effect size of  $r = .17$ , 95% CI [.10, .23]. All moderator analyses were nonsignificant ( $p$  values  $> .10$ ) with the exception of the source of the alliance measure. Client-rated strength of the working alliance exhibited a significantly larger relationship with attachment style than did therapist-rated alliance ( $Q_{\text{between}} = 3.95$ ,  $df = 1$ ,  $p = .047$ ).

The authors indicated that the overall weighted effect size fell between a small and medium effect size as determined by Cohen (1988). They compared this effect

size with the magnitude of effect sizes found in meta-analyses of the relationship between working alliance and outcome (average weighted  $r = .22$ ,  $r = .28$ , respectively, Martin, Garske, & Davis, 2000; Horvath, Del Re, Flukiger, & Symond, 2011), noting that this relationship has been referred to as "...the most robust predictor of treatment success" (Safran & Muran, 2000; p. 1). Based on their finding and this comparison, the authors strongly encouraged clinicians to pay close attention to the therapeutic alliance when working with clients with insecure attachment styles. They indicated that understanding a client's attachment style could allow a therapist to "...predict the potential for ruptures in the alliance and intervene proactively to minimize their deleterious effects while also capitalizing on the therapeutic opportunities inherent in working through them" (p. 243).

Diener and Monroe (2011) also discussed the magnitude of the effect by explaining that much of the variance in the working alliance is not accounted for by clients' attachment styles and suggesting that people with more insecure attachment certainly stand to form a positive working alliance with a therapist. The authors indicated that therapists in the original studies may in fact have been able to tailor their interventions to client attachment style. Moreover, they suggested that the unique nature of the therapeutic relationship may itself provide a novel, collaborative opportunity for clients with insecure attachment style, "...allowing [them] to diverge from their well-trodden paths in relationships. (p. 244). Regarding the higher similarity between client attachment ratings and their ratings of the working alliance when compared to therapist alliance ratings, the authors suggested that therapists maintain focus on both their own and their client's perspectives of relational patterns

and the working alliance, soliciting client thoughts and feelings about the quality of their efforts in therapy and the bond shared with the therapist.

To date, only one study has examined the relationship between client attachment style and ratings of the working alliance using the AAI. Kanninen, Salo, & Punamaki (2000) utilized a paper-and-pencil version of the AAI, which was coded such that participants were divided into the clusters *autonomous*, *dismissing*, and *preoccupied*. Participants were 36 Palestinian ex-prisoners who were clients in trauma therapy. Findings revealed no differences between the attachment groups with respect to initial working alliance ratings. However, over the full course of therapy, working alliance ratings followed a high-low-high pattern that has previously identified in empirical research (Kivlighan & Shaughnessy, 2000). The decline in working alliance ratings in the middle of therapy and the rise in ratings towards the end of therapy was significantly steeper for the preoccupied group than the secure group. The dismissing group showed a stable pattern of alliance ratings from the beginning to the middle phase of therapy, but their alliance ratings decreased towards the end of therapy. The authors suggested that the difference between preoccupied and secure clients could be explained as a tendency for preoccupied individuals to be more extreme in both negative and positive emotional reactions during treatment. They interpreted the drop in the alliance scores of the dismissive group of clients towards the end of therapy as representing a defensive dismissal of the importance of therapeutic relationship in light of the upcoming end of therapy.

*Transference/Countertransference.* To date, only three studies have empirically investigated the relationship between client attachment style and

transference in psychotherapy. Woodhouse, Schlosser, Crook, Ligiero, & Gelso (2003) compared clients ratings of their attachment to their therapists using the Client Attachment to Therapist Scale (CATS; Mallinckrodt, Gantt, & Coble, 1995) with therapist ratings of positive and negative transference using the Therapy Session Checklist – Transference Items (TSC-TI; Graff & Luborsky, 1977) after at least five sessions of therapy. Results showed that ratings of anxious attachment to the therapist were related to greater transference in general. For example, the authors noted that clients with higher ratings of anxious attachment to their therapists exhibited more suspiciousness and annoyance toward their therapists. Woodhouse et al. found no significant association between client ratings of avoidant attachment to the therapist and therapist ratings of transference. The authors interpreted this finding as evidence of a lack of emotional involvement in therapy among clients with an avoidant attachment style. Interestingly, the authors found a positive association between client ratings of secure attachment to the therapist and therapist ratings of negative transference reactions. Woodhouse et al. interpreted these findings by suggesting that a secure attachment to the therapist allowed clients to share more deeply and vulnerably about negative memories from their past, a process which led to a negative transference reaction toward the therapist.

In a study primarily aiming to examine correlates of the real relationship and discussed in more detail below, Marmarosh, Gelso, Markin, Majors, Mallery, & Choi (2009) assessed client ratings of attachment style using the ECR and therapist ratings of transference using the TSC-TI. Results showed that neither client ratings of attachment avoidance nor attachment anxiety were related to therapist ratings of

positive or negative transference. Because the authors were primarily interested in examining variables in the study as potential correlates of the real relationship and did not hypothesize about the relationship between attachment style and transference, they made no interpretation of these findings. When compared to the findings of Woodhouse et al. (2003), these findings suggest that further research is warranted to gain a better understanding of possible associations between attachment and transference.

Bradley, Heim, and Westen (2005) examined therapist-rated transference patterns in clients with personality disorders. Bradley et al. utilized the Psychotherapy Relationship Questionnaire (PRQ; Westen, 2000), a 90-item clinician-report questionnaire created to assess transference patterns in psychotherapy (Sample items: “Imagines s/he and the therapist are more similar than they really are”; “Feels, or fears, doing ‘something wrong’ in therapy.”) The purpose of the study was to complete an exploratory factor analysis of the PRQ in order to determine patterns of transference in a group of 181 clients rated by their psychotherapists. The factor analysis revealed five transference dimensions: angry/entitled, anxious/preoccupied, avoidant/counterdependent, secure/engaged, and sexualized. An unexpected finding of the study was that four of the five dimensions (all but the sexualized dimension) theoretically mapped on to attachment classifications (secure-autonomous, preoccupied, dismissing) from the AAI. The authors interpreted the similarity between these transference dimensions and the attachment classifications of the AAI by suggesting that “...the therapy relationship, as an intimate, emotionally charged, asymmetrical and typically nurturant relationship, is likely to activate many

attachment-related patterns of thought and feeling and affect regulation, motivation, and so forth” (p. 346). This interpretation, it should be noted, is highly speculative, in that therapist reports of client transference patterns were not in any way (quantitatively or qualitatively) compared to client AAI classifications.

A number of studies have examined the relationships between therapist attachment style and countertransference, with a majority of these studies focusing on countertransference related to the interaction of therapist and client attachment patterns. Dozier, Cue, and Barnett (1994) examined the work of 18 case managers with 27 clients, assessing case manager attachment style using Kobak’s (1989) Q-sort method in order to assess the extent to which case manager’s utilized deactivating versus hyperactivating attachment strategies. Case managers described their work with clients, and observers rated the depth of their interventions and their attendance to clients’ dependency needs. Depth was scored along a continuum, with practical help on one end and psychological help on the other. More deactivating case managers were found to intervene with less depth and perceive less dependency needs from their clients. More hyperactivating case managers intervened with more depth and perceived more dependency needs from their clients. The authors indicated that the case managers seemed to act in accordance with their attachment orientations, a possible indicator of perceptual distortion and the enactment of countertransference behavior with clients.

Tyrell, Dozier, and Falot (1999) utilized AAI and Q-sort methodology to assess client and therapist attachment hyperactivation and deactivation and client ratings of the working alliance using the WAI in a sample of 21 case managers seeing

54 clients. Results of the study revealed an interaction between attachment orientation and client alliance ratings, such that less deactivating case managers formed stronger working alliances with more deactivating clients than with less deactivating clients. Moreover, the authors also found a trend, although nonsignificant, showing that more hyperactivating case managers formed weaker alliances with more hyperactivating clients than with less hyperactivating clients. Findings suggest that therapists may enact countertransference behavior that is detrimental to the alliance when working with clients whose attachment style more closely matches their own.

Ligiero and Gelso (2002) examined the relationships among therapist attachment style, quality of the working alliance, and countertransference behavior (as rated by therapists' supervisors) in a sample of 50 therapists conducting long-term psychoanalytic treatment. The authors found no relationship between therapist ratings of attachment and therapist or supervisor ratings of the quality of the working alliance. In addition, therapist scores on the three insecure attachment scales of the RQ did not reflect differences in therapist countertransference behavior. The authors did, however, find a significant inverse correlation between the levels of secure attachment endorsed by therapists and therapist countertransference behavior. The authors summarized their findings by indicating that therapist attachment patterns were not, for the most part, related to countertransference behavior. They explained this lack of a significant relationship as due to the possibility that therapists do not view their clients as attachment figures. Thus, their attachment systems are not likely activated when working with a client. Although supported by their findings, this

assertion conflicts with a major proposition regarding the activation of the attachment system in response to perceived fear or threat, regardless of whether or not one is in the presence of an attachment figure. Thus, a therapist's attachment system is expected to become activated if threat is perceived during work with a client, which is often the case during difficult moments of sessions with clients.

Mohr, Gelso, & Hill (2005) examined relationships among therapist and client self-reported attachment styles using the ECR and supervisor ratings of therapist countertransference behavior using the Countertransference Behavior Measure (CBM), an assessment developed for the study using items from an existing measure of countertransference. Mohr et al. found several interesting interactions, such that the effects of therapist attachment patterns on their countertransference behavior were moderated by client attachment patterns. Therapists with a more pronounced avoidant attachment style demonstrated more hostile countertransference behaviors (e.g. criticism of the client) with clients with a more pronounced preoccupied attachment style. Therapists with more pronounced preoccupied attachment styles demonstrated more hostile countertransference with clients with a more pronounced avoidant attachment style. A similar interaction emerged for distant countertransference (e.g. the therapist seeming as if he or she is not present with the client or is "somewhere else"), such that "...the highest levels of distancing and hostile countertransference were found in dyads with a preoccupied client and an avoidant counselor" (p. 306). The authors discussed these findings as the possible result of a mismatch between the client's relational style and the therapist's emotion regulation strategies. Thus, for a therapist who exhibits more attachment avoidance

and relies more on deactivating emotion regulation strategies, working with a preoccupied client who exhibits hyperactivating behavior (e.g. intensified affect in sessions) is likely to elicit distress that manifests in countertransference behavior.

Dinger, Strack, Sachsse, and Schauenburg (2009) assessed the relationships among client interpersonal problems, therapist attachment orientation (as assessed by the AAI), and the working alliance in brief-term (12-session) inpatient psychotherapy. Although therapist attachment security was not related to alliance quality, higher therapist attachment quality was significantly associated with lower levels of alliance quality, with a significantly stronger effect when more highly preoccupied therapists worked with clients who reported higher levels of interpersonal problem severity. The highest alliance ratings were found in dyads comprised of therapists with lower preoccupied attachment ratings working with clients who reported lower interpersonal problem severity. Additionally, complementary dyads (i.e., high therapist preoccupied attachment – low client interpersonal problem severity, low therapist preoccupied attachment – high client interpersonal problem severity) exhibited the high – low – high pattern of alliance ratings (also discussed in the working alliance section above) that has documented in psychotherapy literature as befitting a successful course of therapy – client and therapist initially form a strong alliance; the alliance weakens as the client and therapist work through difficult issues and transference emerges; and the alliance once gains strength as the client and therapist repair relationship issues, achieve significant progress in their work, and end the therapy (Kivlighan & Shaughnessy, 2000).

*The real relationship.* Several studies have examined the relationship between attachment and the real relationship. These studies are important, as the real relationship has been identified as a significant, unique predictor of psychotherapy outcome. Client-therapist dyads that develop and maintain strong, positive real relationships are more likely to achieve more successful outcomes in the therapeutic endeavor (Gelso, 2011). Fuertes et al. (2007) utilized the ECR to assess therapist attachment style, the CATS to assess client attachment to therapist, and the Real Relationship Inventory-Therapist Form (RRI-T; Gelso et al., 2005) and Real Relationship Inventory-Client Form (RRI-C; Kelley et al., 2004) to assess therapist and client ratings of the quality of the real relationship. The authors found that clients' higher ratings of avoidant attachment to the therapist was significantly associated with lower therapist- and client-ratings of the real relationship. The authors found a significant positive association between clients' ratings of secure attachment to therapists and their ratings of both the quality of the real relationship and their overall progress in treatment. Therapists' self-report ratings of attachment avoidance was significantly and inversely related to client ratings of overall progress in therapy and therapist ratings of the quality of the real relationship and the working alliance. The authors concluded that attachment avoidance for both clients and therapists seemed to compromise their abilities to experience and benefit from a real relationship in psychotherapy. The authors also noted that a client's perception of secure attachment to the therapist, including perceptions of the therapist as sensitive, dependable, and appreciative of work with him/her, was likely important to both

experiencing a real relationship with the therapist and appraising progress in the therapeutic work.

Marmarosh et al. (2009) examined associations among client- and therapist-ratings of attachment style, the real relationship, transference, the working alliance, and outcome in 31 client-therapist dyads. Marmarosh et al. found that client ratings of attachment avoidance were significantly and inversely associated with their ratings of the real relationship at the third session of therapy, suggesting, in line with Fuertes et al. (2007), that higher levels of client attachment avoidance impedes a client's ability to develop and experience a real relationship with her or his psychotherapist. Contrary to their predictions, Marmarosh et al. found no significant associations among client attachment anxiety and their ratings of the real relationship. The authors suggested that no significant associations were found because clients with more pronounced attachment anxiety entered but did not complete the study. A comparison of the 17 clients who dropped out of therapy with those clients who completed revealed that dropout clients rated significantly higher levels of attachment anxiety than those who completed. This finding suggests that attachment anxiety may in fact be a predictor of the quality of the real relationship and, more importantly, that client's with more pronounced levels of attachment anxiety are at greater risk for early therapy dropout.

Moore and Gelso (2011) examined interrelations of client current attachment style (assessed with ECR) and recollections of attachment to the therapist (assessed with CATS) and real relationship with the therapist (assessed with RRI-C) in 143 undergraduate and graduate students who had participated in psychotherapy sessions

within the past three years. Moore and Gelso found that, contrary to predictions, client attachment security was not related to recollected security of client attachment to therapist, regardless of whether effects of real relationship ratings were statistically controlled. The authors maintained that client attachment security should theoretically relate to security of attachment to therapist and suggested that further research be conducted to examine how clients with various attachment styles form secure attachments to their therapists. Consistent with predictions, the authors found that client attachment security was positively associated with recollections of the quality of the real relationship in therapy. The authors concluded that a clients' overall ability to trust and be intimate in close relationships couples with their ability to form a genuine and realistic relationship with a therapist. Similar to the findings of Marmarosh et al. (2009), Moore and Gelso found that attachment avoidance, but not attachment anxiety, significantly compromised the formation of a real relationship with the therapist. Also consistent with predictions, Moore and Gelso found that recollected real relationship strength was significantly and positively associated with security of client attachment to therapist, remaining significant when client attachment style was statistically controlled. These findings suggest that client attachment style is a pre-treatment variable that is independent of client ability to form a strong real relationship and secure attachment to therapist.

It should be noted that the association between recollected client secure attachment to therapist and quality of the real relationship was quite high ( $r = .77, p = .00$ ), suggesting that these may be the same construct. Moore and Gelso (2011) encouraged further investigation of client and therapist characteristics that may

account for such a strong association. The authors held that attachment to the therapist is likely influenced by transference. The secure base bond between client and therapist allows the client to explore past prior painful attachment experiences, a process that likely evokes client transference reactions towards the therapist (Bowlby, 1988). The real relationship, on the other hand, is a component of the therapeutic relationship that does not involve the distortions of transference. The authors attributed the strong correlation to clients' difficulty in differentiating the attachment bond and the real relationship with the therapist and suggested that future research examine the real relationship using methods other than self-report.

*Client behavior and therapist interventions in therapy.* Romano, Fitzpatrick, and Janzen (2008) conducted an empirical examination of Bowlby's (1988) secure base hypothesis, which posits that a client's secure attachment to therapist, as well as client and therapist global secure attachment styles, enable in-session exploration. Participants for the study were 59 client-therapist dyads. Romano et al. measured client and therapist global attachment styles using the ECR, client attachment to therapist using the CATS, and operationalized "exploration" as client ratings of session depth using the Session Evaluation Questionnaire-Depth subscale (SEQ; Stiles & Snow, 1984). As hypothesized, client ratings of secure attachment to the therapist were significantly and positively associated with their ratings of session depth. No significant association was found between client ratings of global attachment anxiety and ratings of session depths, whereas client ratings of global attachment avoidance were negatively associated with ratings of session depth. The authors indicated that this was an expected finding, given that attachment avoidance

often involves deactivating strategies that minimize the importance of emotional experience and result in a reluctance to share intimately in relationships. The authors reported a negative association between client global attachment anxiety and session depth when the therapist reported moderate to high levels of global attachment avoidance. The authors speculated that therapists with more avoidant attachment styles attempted to diminish their own anxiety by offering less empathic responses to client distress. This speculation is supported by findings from the Mohr et al. (2005) study discussed above, in which dyads comprising a client with high attachment anxiety and a therapist with high attachment avoidance exhibited higher levels of hostile countertransference behavior.

Romano, Janzen, and Fitzpatrick (2009) examined interrelations of client and trainee therapist global attachment styles and trainee therapist interventions, using the ECR to assess attachment and a rating scale of psychodynamic interventions in 24 trainee-client dyads. Neither client nor therapist global attachment style significantly accounted for variance in therapist interventions. However, the authors found that client global attachment style moderated the relationship between therapist global attachment style and therapist directive interventions. Therapist attachment avoidance and use of directive interventions were significantly associated when client's reported a high level of attachment avoidance. The authors interpreted these findings as partial support for Bowlby's (1988) claim that both client and therapist attachment styles affect the process of psychotherapy, further noting that therapist interventions likely reflect therapist attachment patterns in conjunction with client attachment patterns.

Hardy et al. (1999) conducted a qualitative study of therapist responsiveness to client attachment style and underlying attachment themes in 10 client-identified helpful events in brief-term psychodynamic-interpersonal psychotherapy. The researchers identified client attachment style by applying classification criteria from a version of the Adult Attachment Interview (AAI: George, Kaplan, & Main, 1984) to client discourse in the 10 transcribed events. In four of the events, clients were classified as exhibiting a dismissing attachment style, and in two events, clients were classified as exhibiting a preoccupied attachment style. In the remaining four events, clients were identified to exhibit both dismissing and preoccupied attachment styles. Hardy et al. identified three themes in underlying client attachment issues across the 10 events. The first theme focused on client loss, abandonment, rejection, and being alone. The second theme focused on conflict and danger in clients' interpersonal interactions, with anger and bitterness identified as primary feelings related to the theme. The final theme involved clients' expressed need to be close to, cared for by, and seeking proximity from others. Five of the 10 events contained themes of loss, 8 of the events contained themes of interpersonal conflict and danger, and 6 of the events contained themes of proximity seeking.

Hardy et al. (1988) characterized therapist responsiveness as therapist interventions that were linked to client attachment styles and underlying attachment issues based on the extent to which they 1) promoted client attachment security, 2) worked at clients' "zone of proximal development" (i.e., promoted an optimal balance between containment and arousal of client emotions), or 3) promoted the integration of client experiences (p. 44). The authors found that therapist responsiveness

centered around three main foci. First, in 9 of the 10 events, therapists took responsibility for promoting “safety” and structure and containing client anxiety. Hardy et al. noted the significance of this pattern of therapist behavior, stating that such structure, support, and containment were contradictory to the emphasis placed on therapist emotional reciprocity and mutuality in psychodynamic-interpersonal therapy. The authors hypothesized that, from an attachment perspective, it is important that therapists provide such containment and structure early in therapy as a means of fulfilling the role of attachment figure and providing a secure base for the client (i.e., immediately responding to the attachment needs of the client). The second and third foci of therapist responsiveness both centered around what the authors termed “getting the interpersonal distance right,” which primarily involves therapist tailoring interventions to work at the client’s zone of proximal development. When clients exhibited a primary need to be understood, the therapists tended to reflect feelings. When clients exhibited a primary need to be challenged, therapists tended to interpret client material and give specific direction and/or information. These patterns of interaction appeared to vary based on client attachment style. Preoccupied clients tended to “pull” for more therapist understanding (e.g. reflection of feelings), which the authors characterized as psychodynamic-interpersonal interventions. Dismissing clients tended to pull for more therapist challenge, which the authors characterized as cognitive behavioral interventions. Both types of responses (understanding and challenge) served to aid clients in creating a coherent narrative, which the authors indicated is an essential feature of secure attachment.

In a qualitative examination of therapist behavior when working with clients with pronounced insecure attachment styles, Daly and Mallinckrodt (2009) interviewed expert therapists about how they would intervene with a client with high attachment avoidance and a client with high attachment anxiety. Therapists responded to two “stimulus vignettes,” which were two-paragraph descriptions of fictitious clients. Using statements derived from the 18-item Anxiety and Avoidance subscales of the Experiences in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998), one vignette portrayed a client with pronounced attachment anxiety and the other a client with pronounced attachment avoidance. Themes in therapist responses to these vignettes were connected through the concept of *therapeutic distance*, which the authors defined as “the level of transparency and disclosure in the psychotherapy relationship from both client and therapist, together with the immediacy, intimacy, and emotional intensity of a session” (p. 559). When discussing how they might work with the client with pronounced attachment anxiety, therapists described allowing initially for a level of therapeutic distance that they believed to be lower than ideally adaptive but that gratified the client’s needs for proximity. The therapists described making an effort over time to increase therapeutic distance, in turn encouraging the client’s achievement of more autonomy, a lowered fear of abandonment, and an increased ability to self-regulate affect. When discussing how they might work with the client with pronounced attachment avoidance, therapists described allowing initially for a level of therapeutic distance that they considered higher than ideally adaptive but that would not challenge the client’s need to deactivate her/his attachment system. Therapists described working

over time to decrease therapeutic distance, encouraging a higher level of emotional intimacy and mutuality in the therapeutic relationship and in outside relationships. The authors thus concluded that management of therapeutic distance is critical for facilitating a corrective emotional experience for clients with pronounced attachment avoidance or anxiety.

In a recent, microanalytic examination of psychotherapy dropout in a sample of 8 clients (4 who dropped out following an intake session and 4 who remained in therapy for at least 11 sessions), Huang and Hill (in preparation) examined differences between therapist interventions in an intake session with clients who dropped out versus those remained in therapy. One ancillary analysis in the Huang and Hill study that is pertinent to the present study revealed that among the dropout subsample, participants ratings of attachment anxiety prior to intake were, on average, two standard deviations above the normative, outpatient mean. Taken together with findings from Tasca et al. (2006), Berant et al. (2008), and Marmarosh et al. (2009), this finding suggests that a client's pronounced attachment insecurity, particularly attachment anxiety, may be a risk factor for psychotherapy dropout.

Huang and Hill (in preparation) focused primarily on therapist interventions during the intake session. Huang and Hill examined frequencies of 11 helping interventions (e.g., open questions, reflection of feelings, information about the process of helping) across the first, second, and last 3<sup>rd</sup> of the session. Findings revealed a number of interaction effects, showing that therapists utilized different frequencies of approval/reassurance, restatements, reflection of feelings, and information about the process of helping over 3<sup>rd</sup>s of the intake session with dropout

clients versus those who remained in therapy. Although speculative, a review of differences in these patterns seems to reveal that, when compared to their interventions with clients who remained in therapy, therapists provided more approval/reassurance and reflection of feelings and less provision of information about the process of therapy in the final 3<sup>rd</sup> of the intake session with dropout clients. Regarding approval reassurance, therapists' patterns showed a hi – low – hi pattern with dropout clients and a low – hi – low pattern with those clients who remained. Although nonsignificant, a similar trend appeared with respect to reflection of feelings. It seems as though therapist were using more exploratory and affect-related interventions with dropout clients at the beginning and end of the intake session, whereas these interventions were used more during the second 3<sup>rd</sup> of the intake session with clients who remained. From a clinical perspective, these findings make sense, as one would expect more exploratory and affect-related interventions during the middle of an intake session when a client is most likely to be disclosing about his or her presenting issues. Following the same rationale, more information provision at the outset and end of the intake session seems important in order to clarify and come to an agreement on the logistics and nature of the work (e.g., fees and payment, frequency of sessions, info about what to expect in therapy).

Speculating that dropout clients demonstrated more pronounced attachment anxiety during the intake, their ways of relating in the session may have “pulled” therapists to provide more soothing and “therapizing” interventions (e.g., reflection of feelings, approval/reassurance) and neglect to provide an appropriate amount of information about the process of helping. Although doing so may have seemed

appropriate during the intake, if the client seen did in fact demonstrate more pronounced attachment anxiety, he or she likely experienced a range of negative reactions following the session (e.g. anxiety over what would happen in therapy, uncertainty about consistency of sessions, suspicion regarding the therapist's credentials and capabilities) that may have been somewhat abated or at least initially addressed by providing information about the process of helping. It is important to note that Huang and Hill were examining therapist interventions with dropout clients versus clients who did not dropout and not based on client attachment style. My interpretations here are thus highly speculative. However, I make these interpretations based on the content of theoretical literature (e.g., Bowlby, 1988; Tolmacz, 2009) and findings from empirical studies on the in-session effects of interactions between client and therapist attachment styles (e.g., Mohr et al., 2005; Romano et al., 2008). It is possible that clients with more pronounced attachment anxiety demonstrate hyperactivated affect and impart a sense of urgency in their initial sessions, with the implicit wish and/or demand that the therapist is "...ready to provide more than is at all realistic" (Bowlby, 1988, p. 141). The therapist's responses, based in part on her or his own attachment style and in part on the client's relational style, may enact countertransference behavior and interventions that impede rather than promote client engagement in therapy.

**Adult attachment and psychotherapy outcome.** Relatively few studies in the attachment and psychotherapy literature have examined the relationship between attachment style and outcome. Because psychotherapy outcome is a more distal variable than those of interest in the present study (i.e. I am primarily concerned with

an effective “outcome” of the first few sessions of therapy rather than the outcome of an entire course of therapy), I review this work in brief. For a more comprehensive review and an excellent discussion of the appropriateness of change in adult attachment style as a measure of outcome in psychotherapy, I refer the reader to Slade’s (2008) chapter on attachment and psychotherapy process and outcome.

Levy, Ellison, Scott, & Bernecker (2011) conducted three meta-analyses on the relationship between attachment avoidance, anxiety, and security and psychotherapy outcome. Levy et al.’s sample consisted of 14 studies, comprising 19 separate therapy cohorts, with a total sample size of 1,467. Levy found a mean weighted  $r$  of .22 between attachment anxiety and outcome, showing that higher attachment anxiety predicted worse outcome in therapy. Levy et al. found a mean weighted  $r$  of .18, indicating that higher attachment security predicted more beneficial outcomes in therapy. Levy et al. found a mean weighted  $r$  of -.014 between attachment avoidance and outcome, indicating that attachment avoidance had an “overall negligible” effect on outcome in therapy (p. 200). The authors noted that the effect sizes for the associations of both attachment security and attachment anxiety with therapy outcome are in the small to moderate range, although just below the effect sizes found for associations between therapeutic alliance and outcomes. Client attachment style thus appears to contribute almost as much variance to outcome as does the alliance. Combining these findings with Diener and Monroe’s (2011) average effect size of .17 between attachment security and alliance ratings, Levy et al. posited that a client’s secure attachment style allows for the formation of a strong therapeutic alliance, through which the client and therapist collaborate toward

positive outcomes. Conversely, the authors posited that a positive therapeutic alliance may be the mechanism through which a client's level of attachment security leads to beneficial psychotherapy outcomes.

### **Observing Therapeutic Process: An Avenue for Future Attachment Research**

The sections above convey numerous important findings on the associations among client and therapist global attachment styles, components of psychotherapy process, and psychotherapy outcome. With the exception of a few studies (e.g., Hill & Huang, in preparation; Daly & Mallinckrodt, 2009), previous investigations of these associations utilized self-report measures of attachment style and self- or other-report measures of various elements of psychotherapy process at a single point in time (e.g., following the third session of therapy). Numerous attachment and psychotherapy scholars have indicated that a major focus of research and theory is an examination of how attachment patterns influence therapeutic work and how therapists may tailor their work to best engage and facilitate change in clients with differing attachment styles (Obegi & Berant, 2009; Mikulincer & Shaver, 2007; Wallin, 2007). It thus appears critical to broaden our methodological repertoire and integrate observational means of capturing psychotherapy process. Doing so will allow for an improved, more holistic understanding of what is taking place in sessions with clients who present with differing attachment styles as well as a more contextualized understanding of how therapists differentially tailor their work with these clients.

My review of the literature on observational methods for describing and capturing psychotherapy process revealed one coding system that stands out among others based upon comprehensiveness, reliability, and practicability. The

Psychotherapy Process Q-set (PQS; Jones, 1985; 2000) was developed by psychotherapy scholar Enrico E. Jones during the mid 1980s as a “...language and rating procedure for the comprehensive description, in clinically relevant terms, of the therapist-patient interaction in a form suitable for quantitative comparison and analysis” (Jones & Pulos, 1993, p. 308). Jones developed PQS items to be neutral with regard to theory of therapy so that the system can be utilized to examine a wide range of therapeutic approaches. In the development of the PQS, Jones chose a Q-sorting method as a means of promoting raters to make comparisons among items and avoid positive and negative halo effects that often result from less structured rating systems (Jones, 2000).

The PQS comprises 100 items that describe three areas of psychotherapy process: 1) client attitudes, behavior, or experience (Sample Item: Patient is anxious or tense [vs. calm and relaxed]), 2) therapist actions and attitudes (Sample Item: Therapist is sensitive to the patient’s feelings, attuned to the patient; empathic), and 3) the nature or climate of the interaction of the dyad (Sample Item: Discussion centers on cognitive themes, i.e., about ideas or belief systems). The unit of observation of the PQS is a single whole session of psychotherapy, characterized by Jones (2000) as a “natural time frame” that is of practical utility for researchers and also has intrinsic meaning for therapists and clients (p. 259).

After viewing a video recorded session of therapy (video is preferred due to access to nonverbal material), a trained rater organizes the 100 PQS items into nine categories using a computerized organization system. The nine categories range on a continuum from least characteristic (Category 1) to most characteristic (Category 9).

The number of items sorted into each category ranges from 5 at the extremes to 18 in the middle or neutral category. Thus, for every session coded, item ratings conform to a normal distribution. Decisions regarding item sorting are guided by a training manual that includes definitions of each item as well as examples intended to minimize differing interpretations of an item's meaning. Judges utilize the manual to train for reliable coding, a process which involves 10 sample videotapes and typically requires a combined training time of approximately 30 to 40 hours. Across a number of studies assessing a variety of treatment approaches, interrater reliability has been satisfactory, with Pearson product-moment correlations ranging from .83 to .89 for 2 raters and from .89 to .92 for 3 to 10 raters (Jones, Hall, & Parke, 1991).

Psychotherapy researchers have utilized the PQS for numerous purposes, including comparisons of therapeutic processes among various treatment modalities, examining the associations among elements of therapy process to outcome, and examining associations among rater-observed elements of therapy process to judges ratings of session depth and the therapeutic alliance.

Jones and Pulos (1993) utilized the PQS to compare features of psychotherapy process in psychodynamic (PD) and cognitive-behavioral therapies (CBT) as well as to examine associations among features of process to outcome quality in both modalities of therapy. The authors found both therapies to be generally effective, with moderate mean effect sizes ( $d = .58$  to  $d = .77$ ) for pre- to post-session change across a number of outcome measures. It should be noted that outcome in CBT and PD was assessed through scores from different sets of measures, with no overlap. Regarding process comparisons between PD and CBT, Jones and Pulos found that 57

of the 100 PQS items were significantly different when submitted to *t* tests.

Psychodynamic therapists were more likely to encourage client speech, identify recurrent patterns in client experience or behavior, designate the client's use of defensive techniques to disavow threatening information or emotions, point out thoughts or feelings regarded by the client as unacceptable or not clear in awareness, and promote the experience of affect. CBT therapists more often provided direct advice and guidance, suggested specific activities, and, regarding client interpersonal problems, explained the meaning of the behavior of other people in the client's life and encouraged new ways of behaving with these individuals, had a more specific focus, attended to cognitive beliefs, and avoided or suppressed clients' disturbing feelings.

Jones and Pulos (1993) conducted a factor analysis of Q-ratings for all participants, identifying four factors that together accounted for 42% of the variance. Factor 1, Psychodynamic Technique, reflected therapist technique typically associated with psychodynamic therapy (e.g., "Therapist emphasizes Patient's feelings to help him/her experience them more deeply." "Therapist point's out Patient's defensive maneuvers.") Factor 2, Cognitive-Behavioral Technique, reflected therapist techniques typically associated with cognitive-behavioral therapy (e.g., "Therapist behaves in a teacher-like (didactic) manner." "There is discussion of specific activities or tasks for Patient to attempt outside of session.") Factor 3, Patient Resistance, reflected the extent to which a client was or was not able to engage in a collaborative working alliance with the therapist (e.g., "Patient rejects (vs. accepts) Therapist's comments and observations." "Patient does not feel understood by

Therapist.”) Factor 4, Patient Negative Affect, reflected the extent to which a client expressed anxiety or other disturbing affect during session (e.g., “Patient feels sad or depressed [vs. joyous or cheerful].” “Patient feels inadequate or inferior [vs. effective and superior].”)

The authors conducted partial correlations (controlling for pretreatment functioning) between outcome scores and patient scores on each factor at sessions 1, 5, and 14. Although Psychodynamic Technique was, to the authors surprise, significantly correlated with client outcome in CBT, only a near-significant trend was found in PD therapy. Further, Cognitive-Behavioral Technique showed little or no association to outcome in CBT and a significant negative association to one of the four outcome scales in the PD treatment sample. Patient Resistance was negatively correlated with improvement in both treatment samples. Patient Negative Affect was negatively correlated with outcome on one outcome measure for CBT clients and positively associated with outcome on one measure for PD clients. Jones and Pulos concluded that therapy process in PD and CBT treatments, as coded using the PQS, appeared strikingly different. The authors further suggested that, based on the trend for PD techniques to be associated with positive outcome across treatment modalities, the common core of therapeutic process may be situated within the psychodynamic domain.

A major strength of this study was the use of a reliable observer-rated coding system, the PQS, to capture meaningful differences between two treatment modalities. The PQS, although comprised of theory-neutral items, showed the ability to identify differences in therapist techniques, client attitudes and behaviors in

therapy, and the nature and/or overall climate of the therapist-client relationship.

Major limitations of this study include the utilization of separate, disparate sets of outcome measures for the different treatment modalities. The relations found among observed process factors and outcome measures are as likely attributable to outcome measurement inconsistencies as they are to the authors' conclusion that common elements of therapeutic process fall within the psychodynamic domain.

In a study of the role of emotion in CBT and interpersonal therapy (IPT), Coombs, Coleman, and Jones (2002) used the Treatment of Depression Collaborative Research Program (TDCRP; Elkin et al., 1989) dataset to examine therapists' approaches related to clients' experience and expression of emotion. Coombs et al. conducted a principal components factor analysis of the 100 PQS items that yielded a three-factor solution with varimax rotation. The factors accounted for 35% of the shared variance, and the authors chose Q items that loaded near or above .5 and were conceptually congruous with one another. Factor 1, Collaborative Emotional Exploration, referred to the presence of client emotional catharsis, clients' ability to be introspective and insightful, and therapists' empathy, attunement to client feelings, and ability to accurately perceive their patients' experience in session (e.g., Patient is introspective, readily explores inner thoughts and feelings; Therapist conveys a sense of nonjudgmental acceptance). Factor 2, Educative/Directive Process, referred to therapists taking an active role during sessions and focusing on cognitive themes in session (e.g., Discussion centers on cognitive themes [i.e., about ideas or belief systems]). Factor 3, Patient Inhibition, referred to client shyness, embarrassment, self-consciousness, and passivity in session (e.g., Patient does not initiate topics; is

passive). Factor scales were constructed by averaging ratings for each of the items in the factor after reverse scoring negative indicator items. Alpha reliabilities were .92, .95, and .83 for Collaborative Emotional Exploration, Educative/Directive Process, and Patient Inhibition, respectively. Factor scale scores were used to examine relationships among client emotion, therapist stance, and outcome in CBT and IPT.

In addition to developing PQS scales through factor analysis, Coombs et al. (2002) created a patient Painful Affect scale by obtaining a composite score from 3 related PQS items: Q26 “Patient experiences discomforting or troublesome (painful) affect,” Q7, “Patient is anxious and tense (vs. calm and relaxed),” and Q70 “Patient struggles to control feelings or impulses.” Ratings for these items from CBT and IPT samples were correlated with an alpha level of .70. Analyses of Painful Affect ratings revealed that higher levels of client painful affect were significantly associated with poorer outcome regardless of therapy modality. In addition, no differences were found in the amount of client Painful Affect ratings between CBT and IPT. Higher levels of client painful affect were significantly associated with lower scores for Factor 1, Collaborative Emotional Exploration, and Factor 2, Educative Directive Process. The authors interpreted these findings by stating that therapists found it difficult to apply the interventions of their treatment modalities when client painful affect increased. They also noted that brief-term therapies were not likely as helpful for clients who presented with high levels of painful affect. The authors found that Factor 1 scale scores were significantly related to positive outcome in both CBT and IPT, whereas Factor 2 scale scores were not significantly related to outcome in either treatment context. Factor 3, Patient Inhibition, scale scores were significantly higher

for clients in IPT than clients in CBT and were associated with positive outcome in IPT but not CBT. The authors concluded that collaborative exploration of emotions was an important element of the therapeutic process regardless of treatment modality, and they concluded that the arousal and working through of patient inhibition was an integral process component for IPT but not CBT.

Heaton, Hill, and Edwards (1995) compared what they termed *molecular* and *molar* methods for describing and classifying therapist techniques. Molecular methods examine therapist techniques at the level of a phrase, a sentence, or a speaking turn, whereas molar methods examine techniques across a segment or entire session of psychotherapy. Heaton et al. hypothesized that similar techniques would be related across method of assessment, whereas dissimilar techniques would be unrelated. The authors coded and compared data from 23 cases of 6-session therapy using one molecular method, the Hill Counselor Verbal Response Category System (HCVRCS; Hill, 1978, 1985, 1992) and two molar methods, the PQS and the Therapeutic Techniques Scale of the Therapeutic Procedures Inventory—Revised (TPI-R; McNeilly & Howard, 1989). The authors identified items from the PQS and TPI-R that corresponded to the seven clusters of the HCVRCS (approval, directives, question, paraphrase, interpretation, confrontation, and self-disclosure) and utilized only judges' ratings of these items for data analysis.

Heaton et al. (1995) found that the directives, paraphrase, and interpretation categories derived from the two molar measures (the PQS and the TPI-R) were positively, significantly associated. The authors noted that these associations were surprisingly high ( $r = .80, .61, \text{ and } .64$ , respectively) given that the TPI-R utilizes a

Likert scale rating method, whereas the PQS utilizes a Q-sort rating method. Interestingly, none of the HCVRCS clusters was significantly correlated to corresponding PQS or TPI-R clusters. Heaton et al. proposed that molar and molecular measures of therapist technique do not measure similar process constructs. The authors indicated that one flaw of molar measures lies in their requirement of judges to make inferences based upon large chunks of data with “no firm anchors for the rating scale points” (p. 150). They cited Tversky and Kahneman’s (1974) availability and anchoring heuristics as potential threats to the validity of molar assessment. Regarding the availability heuristic, the authors wrote that “vivid or striking or particularly good examples of a technique” may bias an observer to overestimate the frequency of events within that technique class (p. 150). Regarding the anchoring heuristic, the authors suggested that judges’ decisions when using a molar system following a session may predominantly be influenced by impressions obtained at the outset of the session. They suggested that the HCVRCS, based on its attention to specific grammatical cues and smaller coding units, is likely less prone to these heuristics.

Based on their findings, Heaton et al. (1995) made a number of suggestions regarding how to choose a molar or molecular method for assessing therapist technique. The authors indicated that molar methods such as the PQS are preferred when researchers are looking for a quicker means of describing and categorizing what therapists do in sessions. Molecular methods such as the HCVRCS are preferred when researchers are seeking a better understanding of a specific technique or wish to examine the immediate, in-session impact of particular techniques. Based on their

findings and advice, the work of Heaton et al. suggests that the PQS is likely a promising method for gaining an initial, observation-based understanding of therapeutic process in the treatment of clients with differing attachment styles. Based on the current dearth of observational research in this area, a good first step seems to be gaining an understanding at the molar level of what the therapeutic process generally looks like over a course of treatment of clients with different attachment styles. Future research in this area may benefit from the use of molecular models to gain a more nuanced understanding of therapy process and the within-session interaction of specific client and therapist behaviors.

Karlsson and Kermott (2006) investigated associations among reflective-functioning, features of therapy process, and outcome in several modalities of brief psychotherapy. Reflective-functioning, a concept developed by Fonagy (see Fonagy et al., 2008) and examined historically in both attachment and psychotherapy research, is defined as the ability to be aware of the existence and nature of mental processes (e.g., thoughts, feelings, wishes, intentions) transpiring in both the self and in others. Level of reflective-functioning has been related to secure attachment relationships in childhood and a secure attachment style in adulthood. Fonagy proposed that psychotherapy facilitates positive change, including a change in deeply ingrained attachment patterns, through a secure base attachment relationship in which the therapist guides the client in exploring self and relations with others (including the therapist), in effect maturing the client's level of reflective-functioning.

In Karlsson and Kermott's (2006) study, trained judges utilized Fonagy's Reflective Functioning scale (Fonagy, Target, Steele, & Steele, 1998) to rate clients'

levels of reflective functioning at session at sessions 4 and 12 from verbatim transcripts of brief-term (12 to 20 sessions) of cognitive-behavioral (CBT) and interpersonal psychotherapies (IPT) and at sessions 1, 5, and 14 of brief-term psychodynamic therapy (BPDT). Surprisingly, the authors found that although self- and therapist-report outcome assessments showed positive outcomes in all therapy modalities, client levels of reflective functioning dropped significantly in both IPT and CBT and did not significantly change over the course of BPDT. The authors interpreted these findings as an indication that these short-term therapies were primarily supportive in nature and that improvements in reflective functioning likely occur through long-term, insight-oriented psychotherapy, a claim consistent with Fonagy's (1999; 2008) writing on the change process in psychotherapy.

In addition to assessing reflective-functioning, Karlsson and Kermott (2006) related PQS ratings to levels of reflective-functioning (RF) observed in sessions. High RF was related to PQS items that captured client engagement and commitment in the therapy, whereas low RF was related to PQS items that captured client suspiciousness of the therapist, not feeling understood by the therapist, overtly rejecting the therapist's comments and observations, and exhibiting a passive attitude by not initiating topics. No significant correlations were found among therapist attitudes and interventions and client level of RF. The authors suggested that RF is a "patient characteristic" that is neither a "relational phenomenon" nor a function of therapist attitudes and interventions in brief therapy (p. 79).

Karlsson and Kermott (2006) proposed that assessment of client RF could potentially be utilized as a determinant of whether or not a client would benefit more

from brief-term or long-term psychotherapy. A major limitation of this study, however, was that the authors did not examine the relationship between RF at the outset of therapy and client outcome. Given that each client sample achieved overall positive outcomes, it seems plausible that RF is not related to outcome in brief therapy and may not indicate whether or not a client stands to benefit from brief therapy. For the purposes of the present study, the findings from this study are important because they indicate that levels of RF were significantly related to process elements, specifically client attitudes and behavior. The study thus shows that the PQS is sensitive not only to differential process elements in different modalities of therapy but also to differential process elements in therapeutic work with clients who vary in terms of psychological functioning, in this case, level of RF.

Lingiardi, Colli, Gentile, and Tanzilli (2011) examined associations among elements of session process, the working alliance, and session depth in brief psychotherapy. Session process was rated using the PQS. Working alliance was rated using the Working Alliance Inventory—Observer Version (WAI-O; Horvath & Greenberg, 1989). Session depth was rated using the Depth scale of the Session Evaluation Questionnaire (SEQ-D; Stiles & Snow, 1984). Three groups of judges were utilized, such that each group providing ratings for a single instrument. The judges rated single audiorecorded sessions from 60 client-therapist dyads. Lingiardi et al. found a significant, positive association between observer ratings of the working alliance and session depth ( $r = .36, p < .05$ ). The authors found numerous significant positive and negative correlations among PQS items, Depth ratings, and Working Alliance ratings.

Lingiardi et al. (2011) discussed a number of themes among these associations. First, they asserted that session depth ratings were consistently correlated with therapist technique items that entailed an exploratory rather than prescriptive style of intervention. Second, they asserted that depth ratings were consistently correlated with items that alluded to the quality of the therapeutic relationship, specifically the bond dimension of the working alliance as described by Bordin (1979). These items include, “Therapist is sensitive to the patient’s feelings, attuned to the patient, empathic,” and “The patient feels understood by the therapist.” Third, the authors indicated that a number of PQS items associated to depth ratings referred to therapist interventions intended to aid the client in the exploration of affect. These items include, “Therapist emphasizes patient’s feelings in order to help him or her experience them more deeply,” and “Therapist draws attention to feelings regarded by the patient as unacceptable.” Lingiardi et al. indicated that these findings were consistent with the notion that affect-focused therapist techniques are associated with positive therapeutic outcome.

Lingiardi et al. (2011) also discussed a number of patterns in the significant associations among PQS item ratings and observer ratings of the working alliance. First, they noted that items describing client commitment to the therapeutic work were related to higher alliance ratings. These items include, “The patient is committed to the work of therapy,” and “Patient is introspective, readily explores inner thoughts and feelings.” Second, they indicated that items describing the quality of the relationship based on therapist actions (e.g., “Therapist is responsive and affectively involved.”) and based on dyadic interaction (e.g., There is (not) a

competitive quality to the interaction”). The authors also found associations among specific therapist interventions and ratings of the working alliance (e.g., “Therapist clarifies, restates, or rephrases the patient’s communications.” “Therapist identifies a recurrent theme in the patient’s experience or conduct.”) The authors thus concluded that the therapist contributions to the quality of the working alliance are both relational and technical.

In a summary of their findings, Ligiardi et al. (2011) indicated that the process elements that related both to the quality of the working alliance and the depth of session exploration conceptually overlapped with Blagys and Hilsenroth’s (2000) features of a psychodynamic intervention style (for an excellent, brief review of these features, see Shedler, 2010). One of the main strengths of the Ligiardi et al. study is the attention given to interrelations among observed process elements, observer ratings of the working alliance, and ratings of session depth. In attending to these three constructs, the authors provided some understanding of how process elements relate to the quality of the working alliance as well as to an indicator of the quality of the work being done, session depth. However, this study suffers numerous limitations. First, patterns among numerous correlations were deduced based only on the experience and opinions of the authors rather than a factor analysis of the Q-set. Second, this study suffered from a form of monomethod bias. Although separate teams of raters were utilized for each instrument, only observer ratings were analyzed. When considering such constructs as session depth and the working alliance, it seems critical to obtain ratings from therapists and clients in addition to observers. Researchers stand to benefit from examining the associations among

observer-rated process elements and both client and therapist ratings of session quality and the working alliance, as well as other components of the therapeutic relationship (e.g., the real relationship).

### **Summary and Conclusions**

The research reviewed above on attachment and psychotherapy includes a number of important limitations. First, there appears to be marked inconsistencies in the ways in which attachment style is measured. Both self-report and interview-based measures of attachment are well-validated, but, until recently, researchers have relied primarily on numerous self-report measures that each operationalize attachment style as different sets of factors and subscales. These inconsistencies make comparisons of findings, for example in meta-analyses, more complicated and perhaps less conclusive. More recently, psychotherapy researchers have begun to rely on the ECR as the standard measure of adult attachment style. Continued, consistent use of the ECR as a self-report measure of attachment style is suggested, as Mikulincer and Shaver (2007) indicated that the ECR demonstrates exceptional reliability and validity and noted that its subscales capture a majority of variance from scales of other, earlier measures (e.g., AAS, RSQ). Although, recognizing limitations of the measure, the authors promoted use of the ECR over other self-report measures. Accordingly, researchers of attachment and psychotherapy may benefit more from consistent use of the ECR, as opposed to older self-report measures, in future research while continuing to monitor and engage in efforts to develop a better self-report measure.

Second, only four studies were found that examined differences therapist interventions and the therapeutic process with clients demonstrating different attachment styles (Huang & Hill, in preparation; Daly & Mallinckrodt, 2009; Mohr, Gelso, & Hill, 2005; Hardy et al., 1999). The Daly and Mallinckrodt qualitative study utilized client vignettes to prompt therapist disclosure about their work, leaving concern as to whether or not their findings generalize to therapist attitudes and action in psychotherapy sessions. The Huang and Hill and Mohr et al. studies utilized observer ratings of the therapy process, but both were limited to observations of one initial session. It thus remains important to utilize observational methods to study the association between attachment and elements of psychotherapy process across multiple phases of treatment.

Finally, although considerable theoretical writing has been devoted to the importance of modifying the therapeutic work to best engage clients with more pronounced insecure attachment patterns (e.g. Wallin, 2007; Mikulincer & Shaver, 2007; Holmes, 2001), no studies have utilized an observer-rated, quantitative system for describing therapeutic process in clinical work with clients with different attachment patterns. A review of research on psychotherapy process coding systems reveals that Jones' (1985; 2000) PQS is a molar, practicable method for identifying differences in therapeutic process among different modalities of treatment and also for relating process elements to other important components of therapy process, including working alliance and session depth.

The present study thus utilized the PQS in an effort to better understand what the process of therapy actually looked like when therapists engage clients who initially present with varying degrees attachment anxiety or attachment avoidance.

## Chapter 3: Statement of the Problem

Findings from a large body of research on attachment and psychotherapy revealed a relatively meager quantity of empirical studies on the associations among client attachment style and elements of therapeutic process. At present, we thus possess minimal knowledge about whether and how therapists modify their interventions to promote optimal engagement and corrective collaboration with clients who present for therapy with insecure attachment styles. Among the studies that have examined client attachment in relation to therapeutic process, several findings appear particularly salient. In a qualitative study on therapist responsiveness to client attachment issues in client-identified helpful clinical events, Hardy et al. (1999) found that therapists responded to clients with preoccupied attachment styles (marked by high attachment anxiety) with more understanding and psychodynamic-oriented interventions (e.g., reflection of feelings) and to clients with dismissing attachment styles (marked by high attachment avoidance) with more challenging and cognitive-behavioral oriented interventions (e.g., cognition-based interpretations and pushes to action). In a qualitative study on experienced therapists' interventions with clients who presented with pronounced attachment anxiety or avoidance, Daly and Mallinckrodt (2009) found that therapists highlighted the importance of negotiating the amount of therapeutic distance between themselves and their clients as a means of addressing client attachment issues. Regarding client engagement, Huang and Hill (in preparation) found that clients who dropped out of therapy following an intake session rated significantly higher levels of attachment anxiety than those who

remained in therapy for at least 11 sessions. Further, Huang and Hill found that therapists' interventions across thirds of the intake session differed significantly for clients who dropped out versus those who engaged.

Although these studies contribute to our empirical understanding of the implications of client attachment style for components of therapeutic process, the studies outlined above involved a number of important limitations. First, the Huang and Hill study focused only on therapist responses in an intake session of therapy. It remains important to broaden examinations of therapeutic process to include therapist attitudes and behavior, client attitudes and behavior, and the overall climate of the therapist-client interaction. It also appears important to examine the implications of client attachment style for therapeutic process at multiple time points over a course of therapy. The Daly and Mallinckrodt study provided useful information on conceptualization of client attachment issues and therapist attitudes and behavior in various phases of a course of treatment. However, the study involved fictitious client vignettes rather than a naturalistic examination of therapy sessions. Findings thus represent therapists' prospective remarks rather than their actual work in therapy. Although Hardy et al. examined transcripts of helpful clinical events at different time points in psychotherapy, the authors' qualitative assessment of client attachment style, attachment issues, and therapist responses were limited only to these brief events and lacked the use of empirically validated methods for assessing client attachment style or rating therapist responsiveness.

In an attempt to build upon findings and address the limitations of these studies, the present study sought to examine the associations among client attachment

style and elements of psychotherapy process over completed courses of psychodynamic psychotherapy. I utilized the observer-rated Psychotherapy Process Q-set (PQS; Jones, 1985, 2000) to examine elements of therapy process at the initial, middle, and final phases of therapy. The PQS allows for quantitative analysis of observer ratings of various elements of therapy process. The instrument has demonstrated suitable reliability and validity (Jones, Hall, & Parke, 1991) and has been utilized to distinguish elements of psychotherapy process in different treatment modalities (Jones & Pulos, 1993), identify elements of psychotherapy process related to positive outcomes in psychotherapy (Ablon & Jones, 1999; Jones & Pulos, 1993), and identify associations among process elements and observer ratings of the therapeutic alliance (Price & Jones, 1998; Lingiardi et al., 2011). I utilized the PQS to examine associations among psychotherapy process elements and client attachment style, with an essential goal of understanding how therapists tailor their approaches when working with clients with different attachment styles. My first research question was:

*Research Question 1: How are therapist attitudes and interventions in the initial, middle, and final phases of psychotherapy related to client attachment anxiety and avoidance?*

A second area of interest pertains to the associations among client attachment style and ratings of the quality of the therapeutic relationship. Although some discrepancies exist among findings from studies of these associations, client self-report ratings of attachment insecurity are most often inversely associated with their self-report ratings of the quality of the therapeutic relationship. For example, a meta-

analysis published by Diener and Monroe (2011) showed that greater client attachment insecurity was associated with weaker overall ratings of the working alliance following a few sessions of therapy. In addition, Marmarosh et al. (2009) and Moore and Gelso (2011) found that client-rated attachment avoidance, but not anxiety, was inversely associated with ratings of the strength of the real relationship early in therapy. The results in these and numerous other studies indicate that client attachment style is significantly associated with the quality of the therapeutic relationship, and that associations vary according to the nature of a client's attachment style (i.e., degree of attachment avoidance and/or attachment anxiety).

Although the studies noted above, among others, have shed light on the associations among attachment style and the quality of the therapeutic relationship, researchers have invariably examined these associations using ratings of the therapeutic relationship at a single point early in therapy. Theoretical propositions and empirical findings suggest that neither the working alliance nor the real relationship are static over the duration of treatment (Gelso, 2010; Kivlighan & Shaugnessy, 2000). It thus is important to examine client factors, particularly client attachment style, as possible predictors of stability or patterns of change in these constructs. Therefore, my second and third research questions were:

*Research Question 2: How are client ratings of attachment anxiety and avoidance related to client and/or therapist post-session ratings of the quality of the working alliance over a course of psychotherapy?*

*Research Question 3: How are client ratings of attachment anxiety and avoidance related to client and/or therapist post-session ratings of the quality of the real relationship over a course of psychotherapy?*

## Chapter 4: Method

### **A Priori Power Analysis**

In order to conduct an a priori power analysis, I first searched for and located a relevant therapist-level ICC. The ICC can also be interpreted as the percent of total variability in the data that is due to nesting (Snijders & Bosker, 2012). According to deJong, Moerbeek, and Van Der Leeden (2010), the ICC depends on the outcome measure, from which values of the variance components are calculated, and these values are typically unknown in an a priori power analysis. When conducting a power analysis for multilevel modeling, it is thus necessary to base ICC estimates on values from studies in the literature using the same outcome measures. In psychotherapy research and particularly in the case of the present study, ICC estimates for many outcome measures are not present in the existing literature. For instance, the present study was the first study to my knowledge to utilize the PQS as an outcome measure in a multilevel design. In addition, previous studies utilizing multilevel modeling have typically examined client and therapist ratings of the working alliance and the real relationship as predictor rather than outcome variables (e.g., Marmarosh et al., 2009; Kivlighan & Shaughnessy, 2000). Although Sauer, Lopez, and Gormely (2003) utilized multilevel modeling to examine therapist and client attachment styles as predictors of development of the working alliance across the 1<sup>st</sup>, 4<sup>th</sup>, and 7<sup>th</sup> sessions of brief therapy, they utilized a 2-level (within-client and between-client) hierarchical data structure that does not allow for the calculation of an ICC that includes estimated therapist variance (Kenny & Hoyt, 2009). Given the lack of feasible values of variance components in the existing literature, I utilized Lutz,

Leon, Martinovich, Lyons, and Stiles (2007) examination of therapist effects in 3-level repeated-measures MLM to estimate an ICC value for power calculation in the present study. Although Lutz et al. focused on change in client symptomatology and well-being as outcome variables, the authors utilized a large sample size from a database of clients and therapists in a naturalistic setting, including 1,198 clients and 60 therapists, for the specific purpose of examining therapist effects in a 3-level longitudinal model. Using variance estimates for random effects provided in the Lutz et al. study, I calculated the ICC using the following formula provided in Snijders and Bosker (2012):

$$\hat{\rho}_1 = \frac{\varphi_0^2}{\sigma_0^2 + \tau_0^2 + \varphi_0^2}$$

The ICC was .198, indicating that approximately 20% of the total variation in client outcome was attributable to differences among therapists. Using this ICC value, I calculated the “design effect” by using the following formula presented in de Jong et al. (2010) and Boskers and Snijders (2012):

$$1 + (k - 1)ICC$$

In the formula,  $k$  denotes the number of clients per therapist. Because the present study was unbalanced in that some therapists saw only 1 client, whereas others saw 2 to 5 clients, I chose the mean value of 2.29. With an ICC of .198 and 2.29 clients per therapist, the design effect was equal to 1.26, meaning that approximately 26% more clients were needed for sufficient power than in non-nested data analysis. Although the design effect provides no information on number of therapists necessary for sufficient power, I utilized this formula because I aimed to

focus primarily on the effects of individual client attachment patterns on therapist interventions rather than on therapist differences accounting for interventions.

I next conducted with a power analysis for non-nested data using the software program G\*Power 3.1.3 (Faul, Erdfelder, Lang, & Buchner, 2009, 2007). I specified “Linear Multiple Regression: Random Model” as the statistical test, chose an effect size of .50, an alpha error probability level of .05, and a statistical power level of .80. For number of predictors, I entered 5 in order to account for the two subscales of the ECR and the three growth trends tested in analyses of the working alliance and real relationship (linear, quadratic, and log-linear). The software program indicated that a sample size of 46 clients was necessary for meeting my specified criteria. To account for the nested structure of my data, I added 26% more clients to this number as indicated by the design effect formula, resulting in a necessary sample size of 58 clients. During the design and proposal phase of the study, I hoped to obtain a sample size of 50 clients. However, complete data were available for only 41 clients and 14 therapists.

Based on my review of estimated power curves for three-level longitudinal models provided by de Jong et al. (2010), it appeared unlikely that I could achieve sufficient power with 42 clients and 14 therapists, regardless of the number of measurements per client. The power curves showed that my level of statistical power was approximately .40 for a medium effect of .50 and an alpha of .05. This low level of power is discussed in the Limitations section of the Discussion chapter.

### **Data Set**

In this study, I analyzed 41 cases conducted within a psychology department clinic that provided low-fee individual open-ended psychotherapy to community clients. Because I wanted to assess therapist attitudes and interventions at three time points representing separate phases (initial, middle, final) of the therapy process, and because I wanted to assess linear and nonlinear growth trends (e.g., quadratic, log-linear) in working alliance and real relationship ratings over the course of each case, I chose to include only those cases that had at least eight sessions past intake (some of the cases involved planned terminations and some involved dropout, but all had terminated from psychotherapy). Data were collected over a 4-year period. The 41 cases used for this study represented all of the completed cases that had met for at least eight sessions available in the clinic at the time of this study.

Number of sessions per case ranged from 8 to 106 ( $M = 29.95$ ,  $SD = 23.51$ ), with a mode of 13 sessions. Session numbers were distributed as follows. Thirteen clients completed between 8 and 15 sessions, 11 clients completed between 16 and 25 sessions, 10 clients completed between 26 and 50 sessions, 5 clients completed between 51 and 75 sessions, and 3 clients completed between 75 and 106 sessions. The distribution of session numbers was significantly, positively skewed (skew = 1.62,  $S.E. = .37$ ,  $p < .01$ ) and was significantly leptokurtic (kurtosis = 2.31,  $S.E. = .72$ ,  $p < .01$ ). More than half of clients in the study ( $N = 25$ ) completed less than the mean number of sessions and only five clients, 12% of the sample, were one or more standard deviation above the mean in terms of number of sessions completed (i.e., completed 54 or more sessions).

## **Participants**

**Clients.** Forty-one clients (19 male, 22 female) ranging from 18 to 65 years of age ( $M = 33.68$ ,  $SD = 11.86$ ) participated in the present study. Regarding race/ethnicity, 26 were Caucasian, 5 were African American, 2 were Hispanic American, 2 were multiethnic, 1 are international, and 5 identified as Other. Presenting problems described during screening included relationship concerns, career concerns, anxiety or depression, sexual orientation and coming out concerns, and sexual dysfunction concerns. No formal diagnoses were determined.

**Therapists.** Therapists were fourteen counseling psychology doctoral students (8 women, 6 men; ages 26 – 50,  $M = 31.15$ ,  $SD = 6.61$ ; 8 Caucasian, 5 Asian American, 1 African American, 1 Chilean) in their 3<sup>rd</sup> to 5<sup>th</sup> year of a counseling psychology program. Therapists were in a doctoral program that emphasized learning about multiple theoretical orientations and developing their own personal orientation. All therapists had completed at least two psychotherapy practica prior to working in the clinic, and all endorsed a psychodynamic/interpersonal orientation at least moderately. Therapists worked in the clinic from 1 to 3 years and saw from 1 to 5 clients. Therapists engaged in weekly individual supervision and biweekly group supervision with experienced, psychodynamically oriented psychotherapists (8 female, 2 male; number of years postdoctoral experience  $M = 26.89$ ,  $SD = 11.63$ ).

**Judges.** Judges were five junior- and senior-level Psychology majors and the author of this study (2 men, 4 women; ages 22 – 31,  $M = 23.8$ ,  $SD = 4.02$ ). Each undergraduate judge was required to have at least a 3.5 GPA and to have completed

three upper-level courses in psychology, one of which was an advanced-level introduction to basic helping skills course.

### **Measures**

The **Experiences in Close Relationships Scale** (ECR; Brennan, Clark, & Shaver, 1998) is a 36-item self-report assessment of adult attachment style. Items are rated on a 7-point scale, from 1 (strongly disagree) to 7 (strongly agree). The ECR was created through factor analysis of 482 items from existing measures of adult romantic attachment. These analyses revealed two major factors: attachment-related Anxiety (e.g., “I worry a fair amount about losing my partner”) and attachment-related Avoidance (e.g., “I prefer not to show a partner how I feel deep down”). The Avoidance scale (18 items;  $\alpha = .91$ ; test-retest reliability = .68 to .71) indicates the extent to which an individual is uncomfortable with and/or fearful of intimacy, whereas the Anxiety scale (18 items;  $\alpha = .91$ ; test-retest reliability = .68 to .71) indicates the extent to which an individual is preoccupied with rejection and abandonment in close relationships. The Avoidance and Anxiety scales are relatively uncorrelated ( $r = .11$ ).

Scale development of the ECR was conducted as follows. Brennan et al. (1998) utilized a hierarchical clustering procedure to derive four attachment categories (Secure, Fearful, Preoccupied, Dismissing) from the Anxiety and Avoidance scales of the ECR. They clustered 1,086 participants within these categories and utilized the categorical data, rather than dimensional data, to examine construct validity. The clustering procedure identified clusters of participant responses in the two-dimensional space created by the higher-order Avoidance and

Anxiety scales. Brennan et al. reported that the procedure revealed four distinct groups whose patterns of scores resembled Bartholomew and Horowitz's (1991) descriptions of secure, fearful, preoccupied, and dismissing attachment categories. Participants in the secure cluster scored low on both the Avoidance and Anxiety scales. Participants in the fearful cluster scored high on both the Avoidance and Anxiety scales. Participants in the preoccupied cluster scored high on the Anxiety scale but low on the Avoidance scale. Participants in the dismissing cluster scored high on the Avoidance scale and low on the Anxiety scale.

The authors compared participant attachment patterns to the theoretically related constructs of intimate touch and romantic sexuality. Analyses of the associations among ECR attachment categories and scores from a 51-item scale created by the authors to measure romantic touch revealed that, as predicted, secure and preoccupied groups scored high on using touch to express affection and low on aversion to affectionate touch, whereas fearful and dismissing groups showed a deficit in the use of touch to express affection.

In addition, ratings from secure participants revealed their significant preference compared to fearful and dismissing participants for "normative" sexual behaviors (defined as oral or manual stimulation of the participant's or partner's genitals and vaginal intercourse), as measured by a 47-item scale developed by Brennan et al. (1998). Secure and preoccupied participants were significantly more likely than other participants to endorse romantic/affectionate sexual behavior (i.e., cuddling, kissing, and gazing). Dismissing participants were the most likely to endorse "promiscuous" sexual behavior (i.e., "one-night stands").

Following Fraley and Waller's (1998) findings that dimensional (interval numbers) rather than categorical ratings of attachment are more precise, more reliable, and exhibit better statistical power, Mikulincer and Shaver (2007) indicated that they no longer promoted the use of the ECR as a categorical measure and instead recommended using the dimensional scores in correlational or regression analyses. Mikulincer and Shaver addressed the reliability of the ECR as a dimensional measure stating "the measure has been used in hundreds of studies since 1998, always with high reliability (the alpha coefficients are always near or above .90, and test-retest coefficients range between .50 and .75, depending on the time span and the nature of the sample" (p. 91). For the present study, internal consistency estimates of alpha were .93 and .90 for the Avoidance and Anxiety scales, respectively. The Avoidance and Anxiety scales were relatively uncorrelated ( $r = -.09, n.s.$ ).

The **Working Alliance Inventory-Revised Short Form** (WAI-SR; Hatcher & Gillaspay, 2006) is a 12-item shortened version of Horvath and Greenberg's original (1986) Working Alliance Inventory. The original WAI and the WAI-SR both consist of three subscales: Goals, Tasks, and Bond. Each of these subscales corresponds to one of the three components set forth by Bordin (1979; 1994) in his tripartite model of the working alliance in psychotherapy. The Goals subscale measures the extent to which the therapist and client agree upon and value the goals of the intervention. The Tasks subscale measures the extent to which the client perceives the tasks of the intervention as relevant and effective. The Bond subscale measures the extent to which the client perceives a positive attachment between her/himself and the therapist. Each WAI-SR item is a positively worded statement that corresponds to

one of the three components of the working alliance (e.g. “My therapist and I collaborate on setting goals for my therapy”). Items are scored on a 5-point likert scale from 1 (“Never”) to 5 (“Always”). Scores are computed for each of the subscales in addition to a total score that represents the overall strength of the working alliance.

Hatcher and Gillaspy (2006) utilized exploratory and confirmatory factor analysis methods to examine the factor structure of the original WAI and a short form version of the WAI (WAI-S; Tracey & Kokovotic, 1989). They administered the original 36-item WAI to two large, diverse samples and found that WAI and WAI-S items best fit a three-correlated-factors model that directly related to Bordin’s tripartite model. In addition, Hatcher and Gillaspy identified one Goal item and one Task item that “crossed over” and loaded on the other factor. Reassignment of these two items to the more appropriate scales improved factor structure. Hatcher and Gillaspy also noted that clients had difficulty discriminating between the lower 5 points of the original 7-point WAI and WAI-S likert scales, and therefore combined several of the scale points into a 5-point likert scale for the WAI-SR to improve item response properties. Using a new sample, the authors found that internal consistency estimates of alpha ranged from .85 to .90 for subscales and .91 to .92 for total scores of the WAI-SR. Total and subscale scores of the WAI-SR were significantly correlated with the WAI, with correlations ranging from .65 to .94. Hatcher and Gillaspy showed that client WAI-SR scores were more closely related to client and therapist ratings of client improvement than were WAI-S scores. The authors also showed that the WAI-SR showed greater differentiation among subscales than the

original WAI, indicating a more accurate assessment of each of the three alliance components. Overall, the WAI-SR showed an improved factor structure and superior psychometric properties in comparisons with the WAI-S and the WAI.

For the present study, internal consistency estimates of alpha for the client version of the WAI-SR were .90, .89, and .82 for the Goal, Task, and Bond subscales, respectively. Internal consistency estimates of alpha for the therapist version of the WAI-SR were .90, .96, and .87 for the Goal, Task, and Bond subscales, respectively. Internal consistency estimates of alpha for the WAI-SR total score were .93 and .94 for the client and therapist forms, respectively.

**Real Relationship Inventory-Client Short Form (RRI-CS).** For the present study, a newly constructed 12-item short form of the 24-item Real Relationship Inventory-Client Form (RRI-C; Kelley, Gelso, Fuertes, & Marmarosh, 2010) was utilized. The 12 items were chosen to meet four requirements. First, items within each subscale judged to have the least redundant wording and/or meaning were selected. Second, an even number of items was chosen for each subscale. Third, items were chosen so that both the valence (positive, negative) and the magnitude or strength of the real relationship were assessed by the measure. Fourth, items were chosen to ensure that self (i.e. items including “I” statements, other (i.e. items including “My therapist” statements), and the relationship (i.e. items including “My therapist and I” statements) were equally represented in the measure. Initial use of the short form version of the RRI-C revealed a strong correlation with the original, 24-item measure ( $r = .91, p < .01$ ).

The original RRI-C is a 24-item measure comprising two subscales (Realism and Genuineness) and a total score. Realism refers to the client's and therapist's perceptions of each other that are realistically befitting and for the most part uninfluenced by transference-countertransference relational distortions. Genuineness refers to the ability to be one's true self in psychotherapy, to be honest, open, and willing to reveal oneself in the here-and-now. The Realism scale consists of six positively-worded items (e.g. My therapist and I have a realistic perception of our relationship") and six reverse-scored items (e.g. "We do not really know each other realistically"). The Genuineness scale consists of six positively-worded items (e.g., "I was open and honest with my therapist") and six reverse-scored items (e.g., "I felt there was a significant holding back in our relationship"). The RRI-C items were developed through the work of a number of research teams and reduced to the current set of 24 using an item analysis procedure which involved selection on the basis of item contribution to internal consistency and item correlation with the total subscale score. Internal consistency was .91 for the Genuineness subscale, .90 for Realism, and .95 for the total score. Items are scored on a 5-point likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Kelley et al. (2010) utilized a sample of 187 adult clients who had completed at least eight sessions of psychotherapy for measure development and validation. A majority of the participants indicated that they were seeing psychotherapists in private practice, and the remainder of the participants indicated that they were seeing therapists in a counseling center or mental health facility. The sample was divided into two subsamples such that completed surveys from 94 of the participants were

utilized for measure development and surveys from the remaining 93 participants were utilized for validation.

Kelley et al. (2010) utilized a confirmatory factor analysis (CFA) to test the hypothesized underlying factor structure of the RRI-C. The CFA revealed that a two-factor oblique model fit participant response data significantly better than a one-factor unidimensional model. These findings indicate that although the subscales of the RRI-C are highly correlated, they represent the real relationship as comprising two distinct components (i.e., realism and genuineness) rather a single construct. Regarding convergent validity, Kelley et al. found that RRI-C scores were significantly positively correlated with a measure of client ego functioning and a measure of the working alliance and negatively correlated with a scale measuring client tendencies to hide their true feelings and modify their behavior to fit the expectations of others. Regarding discriminant validity, the RRI-C correlations with client ratings of ego strength and with therapist-rated real relationship were significantly higher than corresponding correlations from a measure of the working alliance. Thus, the authors showed evidence for the real relationship as a component of the therapeutic relationship distinct from the working alliance. Finally, the authors found that the RRI-C was not significantly related to a measure of social desirability. Test-retest reliability analyses over the course of a two to three week period indicated stability, with estimates of .87, .88, and .84 for the total, Genuineness, and Realism scores respectively.

For the present study, internal consistency estimates of alpha were .72 and .79 for the Realism and Genuineness subscales, respectively. The internal consistency estimate of alpha for the full scale was .90.

**Real Relationship Inventory-Therapist Short Form (RRI-TS).** For the present study, a 12-item short form version of the 24-item Real Relationship Inventory-Therapist Form (RRI-T; Gelso et al., 2005) was utilized. The 12 items for this version were selected following the same criteria mentioned above for the short form version of the RRI-C. Initial use of the 12-item version of the RRI-T revealed a strong overall correlation with the original version ( $r = .96, p < .01$ ).

The original RRI-T is a 24-item measure consisting of two subscales (Realism and Genuineness) and a total score. As with the RRI-C, the two subscales correspond with the elements of the real relationship defined above. The Realism scale consists of 7 positively-worded items (e.g., “My client is able to see me as a real person separate from my role as a therapist”) and 5 reverse-scored items (e.g., “My client has little caring for who I ‘truly am’”). The Genuineness scale consists of 7 positively-worded items (e.g., “My client and I are able to be genuine in our relationship”) and 5 reverse-scored items (e.g., “There is no genuinely positive connection between us”). Six of the items reflect therapists’ ratings of their own reactions, 11 items reflect their ratings of their clients’ reactions, and 7 items reflect their ratings of the client-therapist relationship. Items are rated on a 5-point likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

Gelso et al. (2005) reported that the 24-item RRI-T produced alpha coefficients of .89 for the Realism subscale, .87 for the Genuineness subscale, and .93

for the total score. A confirmatory factor analysis revealed that factor loadings for a two-factor oblique model and a single-factor model were both statistically significant. Citing a non-significant difference between models' chi square values and a very high interfactor correlation (.99) in the two-factor model, Gelso et al. retained a one-factor model and indicated that distinguishing between the Realism and Genuineness subscales was not necessary. However, the authors recommended maintaining the two subscales in future studies given that the subscales correlated differentially with other constructs (e.g., the correlation for WAI ratings with Realism ( $r = .32$ ) was significantly lower than for WAI with Genuineness ( $r = .55$ )).

Regarding construct validity, Gelso et al. (2005) found that the RRI-T correlated positively with therapist ratings of the working alliance, ratings of the depth and smoothness of sessions, and therapist ratings of client intellectual and emotional insight levels. Scores from the RRI-T were negatively correlated with therapist ratings of negative transference. Regarding discriminant validity, the RRI-T did not correlate with social desirability. In addition, Gelso et al. explained the .47 correlation between ratings of the real relationship and the working alliance as evidence that the constructs are related but distinct from one another.

For the present study, internal consistency estimates of alpha were .85 and .81 for the Realism and Genuineness subscales, respectively. The internal consistency estimate of alpha for the full scale was .90.

The **Psychotherapy Process Q-set** (PQS; Jones, 1985, 2000) is an observer-rated, quantitative system designed to describe and categorize elements of psychotherapy process. After examining an audio or video recording of a therapy

hour (i.e., a 50-minute session), judges utilize a computer software system to categorize 100 items describing psychotherapy process. The PQS is an ipsative measure in that observers independently rate the items, making rating decisions and comparisons of items only for the particular session that they have viewed. Judges are instructed to not to make judgments about how the session being rated compares to other sessions.

The PQS comprises three types of items: items describing client attitudes, behavior, and experience in session ( $n = 40$ ; e.g., Q1: “Patient verbalizes negative feelings [e.g., criticism, hostility] toward therapist [vs. makes approving remarks].”); items that reflect therapist attitudes and actions ( $n = 41$ ; e.g., Q3: “Therapist’s remarks are aimed at facilitating patient speech.”); and items that describe therapist-client interactions ( $n = 19$ ; e.g., Q39: “There is a competitive quality to the relationship.”). The 100 items are sorted into 9 categories ranging from least characteristic (Category 1) to most characteristic (Category 9), with the middle category (Category 5) used for items judged either as neutral or irrelevant for the session being rated. The number of items sorted into each category ranges from 5 at the extremes (Categories 1 and 9) to 18 at the middle or neutral category (Category 5), such that item ratings conform to a normal distribution. The Q-sort process requires judges to make multiple evaluations among items, avoids positive or negative halo effects, and decreases the influence of response sets.

According to Jones and Pulos (1993), the relatively large number of items in the PQS increases the likelihood of making a Type I error. However, Jones and Pulos suggested that due to the inherent tradeoff between levels of Type I and Type II

errors, the PQS is best suited for exploratory studies in which desired data is complex and difficult to obtain. Jones and Pulos stated that in an exploratory inquiry, patterns, consistencies, and inconsistencies recognized by trained PQS observers allow for the discovery of important phenomena in psychotherapy research. The authors indicated that minimizing Type II error rather than overprotecting against Type I error is strategic and warranted in such exploratory studies.

Jones, Hall, and Parke (1991) addressed the reliability and validity of the PQS, reporting inter-rater reliability as consistently satisfactory across a variety of studies and treatment samples, with Pearson product-moment correlations ranging from .83 to .89 for studies using 2 raters and from .89 and .92 for studies using 3 to 10 raters. Reliability analyses for individual items have provided acceptable to excellent alpha coefficients (between .50 and .95). Jones et al. examined discriminant validity by analyzing data from 10 therapists asked to use the PQS to rate a video recording of three therapy sessions, each conducted with the same client by a well-known therapist and proponent of a particular treatment modality (Albert Ellis, Fritz Perls, and Carl Rogers). Ratings of 52 PQS items differentiated rational-emotive therapy from gestalt therapy, and ratings of 38 items differentiated client-centered from gestalt therapy. Based on item ratings, the authors chose the 10 items that were rated as most and least characteristic of each treatment modality. These items were then presented to five experienced therapists who were familiar with each modality. The therapists successfully matched the sets of Q-items with the type of therapy for which they had been chosen ( $p < .001$ ). Jones et al. described this procedure as a “back translation” of the Q-set items and indicated that PQS items

discriminate among various treatment modalities as well as capture the “essences” of these modalities. Regarding predictive validity, Jones et al. explained that the PQS identified process correlates of client outcome in numerous studies utilizing a variety of outcome assessments and sampling a variety of client populations.

Ratings from the PQS have been analyzed using a variety of techniques. In early studies using the PQS, researchers typically used a regression analysis for each of the 100 items in an attempt to understand how specific process elements predicted treatment outcome (e.g., Jones, Cumming, & Horowitz, 1988) or used separate *t* tests for each of the 100 items to compare ratings of process elements between two treatment modalities (e.g., Jones & Pulos, 1993). Jones and Pulos were the first researchers to go beyond regression and *t* test analyses of all 100 PQS items by also conducting a factor analysis to identify underlying factors across both psychodynamic and cognitive-behavioral treatment modalities. The authors utilized a principal components factor analysis, which yielded 4 interpretable factors after varimax rotation. Together, these factors accounted for 42% of the variance in PQS ratings. Factor 1, Psychodynamic Technique, represented therapist attitudes and techniques typically associated with psychodynamic approaches (e.g. Therapist emphasizes patients feelings to help him/her experience them more deeply). Factor 2, Cognitive-Behavioral Technique, represented therapist attitudes and techniques commonly associated with cognitive-behavioral approaches (e.g. There is discussion of specific activities or tasks for patient to attempt outside of session). Factor 3, Patient Resistance, represented the extent to which a client was or was not able to form a working alliance with the therapist, felt committed to the therapy, and felt trusting,

understood, and helped (e.g., Patient rejects [vs. accepts] therapist's comments and observations). Factor 4, Patient Negative Affect, represented the extent to which the patient felt depressed or anxious or experienced other upsetting affect during the session (e.g., Patient is self-accusatory; expresses shame or guilt). Factor scales were constructed by averaging ratings for each of the items in the factor after reverse scoring negative indicator items. Alpha reliabilities were .89, .93, .91, and .77 for Psychodynamic Technique, Cognitive-Behavioral Technique, Patient Resistance, and Patient Negative Affect, respectively. The authors utilized these scale scores to examine the extent to which each process factor was associated with treatment outcome. Results of this study are discussed in more detail in Chapter 2.

Numerous authors have conducted factor analyses of PQS items in case study research (e.g., Katzenstein (2007); Ablon & Jones, 2005; Coombs et al., 2002; Jones, Ghannam, Nigg, and Dyer, 1993. Jones (2000) suggested that because each treatment setting involves its own unique context, it might be optimal to conduct a factor analysis of PQS ratings with each new use of the system. Factors culled and utilized for the present study are detailed in the Results chapter.

### **Procedures for Data Collection**

**Therapist recruitment and training.** Therapists were recruited via announcements in the doctoral program housing the clinic. Therapists read about interpersonal psychotherapy (Cashdan, 1988; Hill, 2009; Safran & Muran, 2000; Teyber, 2006) and then attended a 4-hour workshop each year devoted to interpersonal interventions, particularly the use of immediacy with clients. In

addition, psychodynamic/interpersonal conceptualization and intervention were emphasized during weekly individual supervision and biweekly group supervision.

**Client recruitment, screening, pre-therapy assessment, and intake.**

Clients were recruited through an internet website, local therapists, physicians, local agencies, newspapers, and word of mouth. When potential clients contacted the clinic, they were screened by phone to determine eligibility. Those who were eligible were scheduled for an intake. Eligible clients were over 18, experiencing interpersonal problems, not exhibiting or reporting psychotic symptoms, not suicidal, not currently abusing or addicted to substances, not currently in other individual psychotherapy, not more appropriate for marital or family therapy, and stabilized on psychotropic medication for at least 2 months if using it. When they arrived for the intake, clients first signed a consent form and completed the ECR. Neither therapists nor judges had access to or were aware of client ECR attachment anxiety and avoidance scores. Clients completed a number of other measures not used in the present study and then met with a therapist for an intake session. During the intake, clients were asked to explore presenting problems and history. The therapist then assessed whether the client was willing to work with him or her, be videotaped, work on relational aspects of her/his problems, and pay a fee of \$25 to \$50 per session (there was no charge for the intake). Clients and therapists were assigned code numbers for all data to protect confidentiality. Those individuals who were not eligible at any step of the process were offered referrals to other providers.

**Judge recruitment.** Judges were recruited through referrals from colleagues and through research announcements displayed on the psychology department

website. In order to be considered for a position as a judge, applicants were required to have completed at least three upper-level psychology courses, have completed an advanced-level introduction to basic helping skills course, and have achieved a GPA of 3.5 or higher. Each applicant was interviewed to determine her or his fit and motivation for the duties of the project. Three of the five recruited judges chose to enroll in and receive course credits for their work, a process that entailed logging of their weekly work hours and the completion of a brief paper on their experiences as a judge.

**Treatment.** Therapy was conducted from a psychodynamic/interpersonal perspective, although departures were made when clinically appropriate. Therapists were encouraged to establish a therapeutic relationship, conceptualize and treat presenting problems according to a psychodynamic/interpersonal framework, and to be aware of when problems arose in the relationship and address these problems as appropriate. All 45 – 60-minute weekly sessions were videotaped. No limit was placed on the number of sessions, although ten cases were terminated when therapists left the clinic for another externship or internship.

**Post-session assessment.** Following all sessions, clients completed the WAI-SR, RRI-CS, and another measure not used in this study. At set time points throughout therapy (i.e., after the third session, after every eighth session), clients completed additional measures that were not used in this study. Following all sessions, therapists completed the WAI-SR, RRI-TS, and another measure not used in this study.

**Selection of sessions for PQS coding.** For each case, video recordings and data from 3 therapy sessions were selected for coding (total number of sessions  $N = 123$ ) in an effort to capture three phases of therapy: an Initial Phase, a Middle Phase, and a Final Phase. Because client session numbers ranged from 8 to 106, sessions were chosen for each case as follows. The Initial Phase session for each case was session 2 for clients who completed 8-10 sessions and session 3 for clients who completed more than 10 sessions. The Middle Phase session was the session number before and after which an equal number of sessions fell. For clients who completed an even number of sessions, the Middle Phase session was the latter of the two sessions at the median point of treatment. The Final Phase session was 1 session prior to the final session for clients with 8-10 sessions, 2 sessions prior to the final session for clients with 11-20 sessions, and 3 sessions prior to the final session for clients with more than 20 sessions. Final phase sessions were chosen this way to ensure that the session's content was not dominated by a focus on termination, as suggested by Jones (2000) and Jones and Pulos (1993).

### **Procedures for Data Coding**

**Judge Training.** The PQS training protocol includes a training manual and the use of trainer-selected videotapes of therapy sessions that were utilized through a series of training meetings to ensure that judges achieved an acceptable level of familiarity with PQS items and reached an acceptable level of inter-rater reliability. The manual includes a brief introduction to the PQS system as well as directions for how to approach the rating of session material (e.g., "Search for *specific* evidence. Try to be as open-minded and objective as possible," p. 319). The manual includes

each PQS item along with rating instructions. A sample item description is included below:

Item 1: Patient verbalizes negative feelings (e.g., criticism, hostility) toward therapist (vs. makes approving or admiring remarks).

Place toward *characteristic* end if patient verbalizes feelings of criticism, dislike,

envy, scorn, anger, or antagonism toward therapist, e.g., patient rebukes therapist for failing to provide enough direction in the therapy.

Place toward *uncharacteristic* direction if patient expresses positive or friendly feelings about therapist, e.g., makes what appear to be complimentary remarks to therapist. (Jones, 2000, p. 321)

Training meetings took place 3 times weekly over the course of 5 weeks, each meeting lasting 2 – 2.5 hours. In the initial training session, judges were introduced to the PQS system, provided a copy of the manual, taught to use the item sorting software, and shown an illustration of PQS implementation using a sample videodisc. Following the initial training meeting, judges studied the PQS manual in an effort to gain familiarity with the items and rating procedures. During subsequent training meetings, the judges and training facilitator (the author) watched, took notes, discussed, and consensually rated several video recorded sessions of psychotherapy. Video recordings were obtained from a department-owned collection of instructional psychotherapy DVDs published by the American Psychological Association. Consensual coding involved comparing notes, discussing the events of the session,

addressing disagreements regarding ratings, and utilizing the software system to categorize items and save data.

When judges reached adequate familiarity with the PQS system as well as general agreement regarding rating decisions, the format of training sessions was altered. The next phase of training sessions involved the facilitator and coders watching a session together, completing item ratings independently, examining inter-rater reliability, and discussing rating discrepancies. Inter-rater reliability was measured using intraclass correlation coefficients (ICC) for the 10 possible pairs of judges in the group. Coding of client sessions began when judges met an acceptable level of inter-rater reliability (ICC = .70 or above) across 3 training sessions.

**Session Coding.** At the outset of the coding process, the entire group of coders met three times per week and coded one session per meeting. After coding each session, the group discussed the session and their rating decisions, but no changes were made to ratings. Between meetings, the facilitator examined inter-rater reliability. Discrepant ratings were analyzed, and items that were not reliably coded were discussed in a subsequent team meeting. Two full cases (6 sessions) were coded in the five-person format to ensure that judges consistently achieved acceptable levels of inter-rater reliability.

The remainder of the sessions were coded by independently by pairs of judges, at a rate of two to three sessions per week for each judge. Judges coded sessions alone but met weekly to code and discuss sample sessions as a team. The weekly coding meetings served to maintain reliability by minimizing judges' drift over time. Coding pairs were randomized using the Research Randomizer online

application (Urbaniak & Pious, 2011) to ensure that each judge had an equal likelihood of coding a session with each of the other judges.

As mentioned above, inter-rater reliability was assessed using ICC values. For the present study, I chose the ICC( 2,1) form of the coefficient, also known as an ICC (Agreement) model. The ICC (2,1) is based on a two-way random effects ANOVA model, in which both raters and participants are viewed as a finite sets of individuals chosen from a potentially infinite population. The ICC value represents the ratio between variance in the study attributable to rated participants and total variance, which includes variance due to participants, variance due to raters, and residual variance. Because the ICC is based on an ANOVA model, it is possible to determine whether the value differs significantly from zero. In addition, the value can be evaluated in terms of its magnitude when making a determination of whether or not raters met a particular criterion of acceptable reliability. For the present study, .60 was set as an acceptable coefficient value. This value is lower than the more traditionally utilized .70, but it was chosen because inter-rater reliability was ultimately assessed for subscales of the PQS derived from an exploratory factor analysis. An average ICC value of .78 was achieved across all sessions ( $N = 123$ ), with a range from .60 to .89. All ICC values were significant,  $p \leq .01$ . ICC values were also calculated to examine inter-rater reliability for each PQS item across all sessions. The ICC value for 1 item was non-significant (Item 19: *There is an erotic quality to the relationship*; ICC = .009,  $F = 1.02$ ,  $p = .46$ ). All other ICC values were significant at  $p \leq .01$ , and values ranged from .35 to .82. Five of the 100 PQS items had ICC values below .40, and these items were dropped from subsequent analyses.

## Chapter 5: Results

### **PQS Factor Analysis**

**Preliminary analyses.** The 46 therapist items of the Psychotherapy Q-Sort (PQS; Jones, 2000; i.e., items denoting therapist interventions and attitudes in session) were selected for an exploratory factor analysis (EFA). Prior to performing EFA, the suitability of the item pool for factor analysis was assessed. Four items were excluded due to low inter-rater reliability [ICC (1,2) value < .40]. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the remaining 42 items was .54, below the recommended minimum value of .60 (Kaiser, 1970). In an effort to improve the KMO measure of sampling adequacy and reduce the amount of error variance introduced by inconsistency among raters, an additional 21 items were excluded because their inter-rater reliability ICC values were below .60. The remaining 21 items were subjected to principal axis factoring, and the KMO measure of sampling adequacy was .55, showing a negligible improvement and remaining below the minimal recommended value of .60.

A third effort was made to improve sampling adequacy by starting over with the 42-item dataset and examining the anti-image correlation matrix. Kaiser (1970) and Norusis (1985) indicated that anti-image correlation coefficients on the diagonal of the matrix provide a measure of sampling adequacy for each item in the dataset, whereas the KMO value was developed as an index of overall sampling adequacy. Values below .50 on the diagonal indicate poor sampling adequacy for an observed item and indicate that the item should be excluded from analysis (Kaiser, 1970).

Items were excluded in a stepwise manner, removing one item at a time and then examining changes in the KMO value and anti-image diagonal values. Initially, 17 of the 42 items had anti-image diagonal values below .50. After stepwise removal of 11 items, all values on the diagonal were .50 or above. The KMO value was .68, indicating overall sampling adequacy (Kaiser, 1970). Bartlett's Test of Sphericity (Bartlett, 1951) reached statistical significance,  $\chi^2 = 1121.48$  (1,  $N = 465$ ),  $p < .001$ , further confirming the factorability of the remaining 31 items. Substantial overlap existed among the items removed using the anti-image correlation matrix and items initially removed based upon inter-rater reliability ICC values, such that 10 of the 11 items removed had ICC values below .60. Of the 31 items maintained and subjected to factor analysis, ICC values ranged from .44 to .77 ( $M = .61$ ).

**Determining the number of factors.** I determined the number of factors to extract by utilizing several criteria established as useful in identifying factor structure, including criteria based on scree plot examination and parallel analysis (Kahn, 2006; Tabachnick & Fidell, 2007). The scree plot suggested a six-factor solution, showing 6 factors above the non-horizontal line drawn through the point in the plot at which the eigenvalues appear to flatten out (as suggested by Cattell, 1966). I also conducted parallel analysis using SPSS syntax created by O'Connor (2000). Parallel analysis generates factors and corresponding eigenvalues from 100 random permutations of a dataset. Eigenvalues from the original dataset are compared to these eigenvalues, and factors with higher eigenvalues than the random eigenvalues are retained. I conducted the analysis twice – once using principle axis factoring and once using principal components analysis – because no consensus currently exists regarding which method

is superior for determining the number of factors to retain (O'Connor, 2000). Results indicated extraction of five factors when using principal-axis factoring and four factors when using principal components analysis. I then utilized principal-axis factoring to examine the four-, five-, and six-factor solutions to determine the number of factors to extract. For each analysis, I applied a Promax oblique rotation. I chose the Promax rotation given its suitability regardless of whether factors in a solution are correlated (Russell, 2002). Results indicated higher pattern and structure coefficients as well as greater correspondence between pattern and structure coefficients for the four-factor solution when compared to the five- and six-factor solutions. In addition, the four-factor solution produced factors that were conceptually more interpretable. Therefore, I chose the four-factor solution.

**Development of PQS therapist subscales.** I utilized pattern and structure coefficients (displayed in Table 1) to interpret and label factors from the four-factor solution: (a) Therapist Facilitative Attitude (demonstrating acceptance and empathy, accurate perception of the therapeutic process, and clear communication with the client); (b) Therapist Psychodynamic vs. Behavioral Interventions (positively loading items indicate the therapist deepening the client's experience of feelings, discussing the client's past, and identifying links between a client's present perceptions and feelings and her or his past experiences; negatively loading items indicate the therapist giving direct guidance or advice as well as discussing specific activities for the client to complete prior to the next session); (c) Therapist Supportive Approach (making directly supporting and affirming comments, offering reassurance to the client, and expressing personal views and opinions on topics discussed by the client);

(d) Therapist Process Comments (commenting on the client's nonverbal behavior and shifts in mood as they occur during session).

I next determined which items to retain in the subscales using criteria adapted from suggestions made by Comrey and Lee (1992). I retained items only if (a) the absolute magnitudes of their pattern and structure coefficients were at least .40 (to ensure that an item was strongly related to the construct it assessed) and (b) if the difference between the absolute magnitude of the two highest structure coefficients for each item was at least .15 (to maximize the distinctiveness of each subscale). These criteria led to exclusion of 12 items and the retention of 19 items, with each factor comprising 3 to 7 items.

Table 1

*Pattern and Structure Matrix for Exploratory Factor Analysis (PAF<sup>a</sup>) with Promax Rotation of PQS Therapist Items*

Item	Pattern Coefficients				Structure Coefficients				Communalities
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4	
3. Therapist's remarks are aimed at facilitating patient speech.	<b>.55</b>	-.12	-.16	-.13	<b>.52</b>	-.01	-.24	.00	.32
6. Therapist is sensitive to the patient's feelings, attuned to the patient; empathic.	<b>.70</b>	-.11	.29	.07	<b>.69</b>	.22	.15	.29	.57
18. Therapist conveys a sense of non-judgmental acceptance.	<b>.78</b>	.19	.07	-.06	<b>.79</b>	.33	-.10	.20	.66
28. Therapist accurately perceives the therapeutic process.	<b>.56</b>	.15	-.04	.11	<b>.63</b>	.29	-.17	.30	.43
46. Therapist communicates with patient in a clear, coherent style.	<b>.65</b>	-.16	.01	.05	<b>.63</b>	-.02	-.09	.20	.42
51. Therapist condescends to or patronizes the patient.	<b>-.43</b>	.01	.05	.20	<b>-.50</b>	-.14	.13	-.33	.29
86. Therapist acts confident or self-assured (vs. uncertain or defensive).	<b>.66</b>	-.29	-.15	.01	<b>.65</b>	-.12	-.22	.22	.51
27. Therapist gives explicit advice or guidance (vs. defers even when pressed to do so).	.03	<b>-.49</b>	.01	.01	-.08	<b>-.49</b>	.08	-.09	.24
38. There is discussion of specific activities or tasks for the patient to attempt outside of session.	-.15	<b>-.45</b>	.01	.29	-.16	<b>-.42</b>	.10	.15	.26
57. Therapist explains rationale behind his or her technique or approach to treatment, or suggests that the patient use certain techniques.	.05	<b>-.43</b>	-.03	-.07	-.06	<b>-.43</b>	.03	-.15	.19
81. Therapist emphasizes patient feelings in order to help him or her experience them more deeply.	.22	<b>.44</b>	-.09	.11	.35	<b>.52</b>	-.20	.26	.35
91. Memories or reconstructions of infancy and childhood are topics of discussion.	-.28	<b>.52</b>	-.15	.22	-.08	<b>.53</b>	-.18	.25	.38
92. Patient's feelings or perceptions are linked to situations or behavior of the past.	-.12	<b>.52</b>	-.05	-.06	-.02	<b>.49</b>	-.11	.01	.26
45. Therapist adopts supportive stance.	.01	.25	<b>.74</b>	-.08	-.10	.12	<b>.70</b>	-.03	.55
66. Therapist is directly reassuring.	.04	.10	<b>.79</b>	-.11	-.12	-.05	<b>.77</b>	-.09	.62
93. Therapist refrains from stating opinions or views of topics the patient discusses.	.18	.12	<b>-.59</b>	-.06	.29	.23	<b>-.64</b>	.02	.45
2. Therapist draws attention to patient's non-verbal behavior, e.g. body posture, gestures, tone of voice.	.11	-.06	-.09	<b>.56</b>	.24	.07	.07	<b>.57</b>	.35
79. Therapist comments on changes in patient's mood or affect that occur during the hour.	-.04	-.09	-.02	<b>.50</b>	.09	.01	.00	<b>.47</b>	.23
82. The patient's behavior during the hour is reformulated by the therapist in a way not explicitly recognized previously.	.03	.16	-.07	<b>.49</b>	.21	.28	-.10	<b>.53</b>	.32

*Note.* Factor coefficients > .40 are in boldface.

a. Principal Axis Factoring

Because removing items can change factor structure (Tabachnik & Fidell, 2007), I conducted a final EFA on the 19 items. I utilized principal-axis factoring, specified the extraction of four factors, and applied a Promax oblique rotation. The KMO value was .71 and Bartlett's Test of Sphericity reached statistical significance,  $\chi^2(1, N = 171) = 667.54, p < .001$ , indicating sampling adequacy and factorability of the 19 items. The four-factor solution accounted for 40.00% of the shared variance in the 19 items (eigenvalues for unrotated Factors 1 through 4 were 3.37, 1.63, 1.57, and 1.02, respectively). After applying a Promax oblique rotation, the solution closely resembled the four-factor solution of the original 31-item pool (i.e., the same items were associated with the same subscales when comparing the two solutions). Communalities ranged from .24 to .62 ( $M = .40$ ).

**Subscale descriptive statistics and reliability estimates.** I computed subscale scores by averaging scores from items corresponding to each subscale, reverse-scoring items when necessary. Subscale means, standard deviations, Cronbach's alpha estimates, and subscale correlations are reported in Table 2. Alpha coefficients were .81, .71, .76, and .60 for the four subscales, respectively.

Table 2

*Means, Standard Deviations, Cronbach's alpha Estimates, and Intercorrelations for PQS Subscales.*

	1	2	3	4	<i>M</i>	<i>SD</i>	$\alpha^a$
1. TFA Scale	—				7.37	0.78	.81
2. TPB Scale	-.127	—			5.42	0.80	.71
3. TSA Scale	.179	-.034	—		5.67	1.23	.76
4. TPC Scale	.243	-.001	.225	—	4.52	1.01	.60

*Note.* PQS = Psychotherapy Q-Sort (Jones, 1988); TFA = Therapist Facilitative Approach scale of the PQS; TPB = Therapist Psychodynamic versus Behavioral Intervention scale of the PQS; TSA = Therapist Supportive Approach scale of the PQS; TPC = Therapist Process Comments scale of the PQS.  
a = Cronbach's alpha estimate.

**Individual PQS item selection.** In addition to examining the subscale scores described in the previous section, I was also interested in the relationships among client attachment scores and observer ratings of individual PQS items over the course of psychotherapy. I selected individual PQS items for subsequent HLM analyses on the basis of the following two criteria. First, I selected the 74 items from the entire pool of 100 items that achieved an inter-rater reliability ICC value of .60 or above. Second, I examined Pearson product-moment  $r$  correlation coefficients between the 74 items (averaged across the three observed sessions) and client ratings of attachment anxiety and attachment avoidance. Due to small sample size ( $N = 41$ ) and the desire to be inclusive given that this was a preliminary step, I chose items for subsequent analyses whose coefficients were significant at  $p < .10$ . Table 3 shows the PQS items that met these criteria and were utilized for subsequent analyses.

Table 3

*Rank Ordering<sup>a</sup> of Correlations Among Q-Items and Client Attachment Ratings*

PQS Item	$r$ Coefficient
<i>Attachment Anxiety</i>	
59. Patient feels inadequate and inferior (vs. effective and superior).	.34**
52. Patient relies upon therapist to solve his/her problems.	.30*
96. There is discussion of scheduling of hours, or fees.	.30*
81. Therapist emphasizes patient feelings in order to help him or her experience them more deeply.	-.28*
46. Therapist communicates with patient in a clear, coherent style.	-.28*
63. Patient's interpersonal relationships are a major theme.	-.27*
94. Patient feels sad or depressed (vs. joyous or cheerful).	.27*
89. Therapist intervenes to help patient avoid or suppress disturbing ideas or feelings.	.26*
23. Dialogue has a specific focus.	.26*
<i>Attachment Avoidance</i>	
93. Therapist refrains from stating opinions or views of topics the patient discusses.	-.42***
66. Therapist is directly reassuring.	.32**
70. Patient struggles to control feelings or impulses.	.29*
45. Therapist adopts supportive stance.	.28*
50. Therapist draws attention to feelings regarded by the patient as unacceptable.	.27*

a. In absolute magnitude.

\*  $p < .10$       \*\*  $p < .05$       \*\*\*  $p < .01$

## **Data Analytic Strategy**

Table 4 presents descriptive statistics for all variables, including values for kurtosis and skew. All analyses were conducted using HLM, version 7.01 (Raudenbush, Bryk, Cheong, & Congdon, 2011), using a full maximum-likelihood approach to parameter estimation. No transformations were applied to variables prior to their entry into the HLM software, as HLM offers a Robust Standard Errors estimation that allows for meaningful interpretation of coefficients when variables do not meet assumptions of normality (Raudenbush, Bryk, Cheong, & Congdon, 2011). The attachment variables were standardized once entered into the HLM software, given evidence that grand mean centering (i.e., subtracting the mean attachment score for all clients from each client's individual score) provides more power to detect cross-level interaction effects and facilitates interpretation of findings, particularly findings regarding interactions (Snijders & Bosker, 2012; Enders & Tofighi, 2007).

A nested data structure (i.e., sessions nested within clients nested within therapists) introduced potential non-independence among observations of variables. To control for potential non-independence, growth curve modeling (or hierarchical linear modeling, HLM; Raudenbush & Bryk, 2002) was used to evaluate whether client attachment ratings predicted change in PQS scores over the course of treatment. I accounted for nesting of repeated assessment of PQS ratings in sessions (Level 1) within clients (Level 2) within therapists (Level 3). I chose a 3-level structure because all PQS scores implicated the therapist in some way (e.g., observations of therapist interventions and attitudes, observations of client reactions to the therapist). On the one hand, including a therapist level when only a small

Table 4

*Means, Standard Deviations, Kurtosis, and Skew for All Variables*

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Kurtosis	Skew
Client Attachment Anxiety	41	4.32	1.15	-0.59	-0.28
Client Attachment Avoidance	41	3.07	1.18	-1.27	0.02
TFA Scale	123	7.37	0.78	3.64	-1.63
TPB Scale	123	5.42	0.80	-0.39	-0.13
TSA Scale	123	5.67	1.23	-0.70	0.32
TPC Scale	123	4.52	1.01	0.40	0.38
Client-rated Working Alliance	1243	4.01	0.67	1.24	-1.10
Therapist-rated Working Alliance	1159	3.78	0.58	1.14	-0.73
Client-rated Real Relationship	1243	4.15	0.48	-0.05	-0.43
Therapist-rated Real Relationship	1159	3.88	0.54	1.61	-0.62

*Note.* TFA = Therapist Facilitative Approach scale of the PQS; TPB = Therapist Psychodynamic versus Behavioral Intervention scale of the PQS; TSA = Therapist Supportive Approach scale of the PQS; TPC = Therapist Process Comments scale of the PQS.

number of observations or participants exist at that level (in the present study, 14 therapists) can lower statistical power, as the most significant limitation to precise estimation in HLM is sample size at the highest level of analysis (Maas & Hox, 2005). However, excluding the therapist level and ignoring the degree of correspondence between session PQS ratings and client variability at levels of analysis belonging to the same higher level of analysis (i.e., therapist) can result in considerable estimation bias and an increased likelihood of Type 1 or Type 2 error (Goldstein, 2003).

For each dependent variable, HLM was conducted using the following four-step procedure suggested for longitudinal designs by Singer and Willett (2003). First, I analyzed the “empty” model, known more formally as a random intercept model. The empty model includes no predictor variables but includes a random intercept

component, such that clients and therapists differ with respect to the average value of the dependent variable across all time points. The empty model provided the variance components necessary to compute an intraclass correlation coefficient (ICC) for the client and therapist levels (i.e., Level 2 and Level 3). The ICC indicates the proportion of variability in the dependent variable due to client and therapist effects. In addition, the Level-2 and Level-3 variance components were evaluated with a  $\chi^2$  distribution to determine whether they accounted for a significant amount of variability at Level-1. When these  $\chi^2$  values were significant, the three-level structure was maintained. If a  $\chi^2$  value for the Level-3 variance component was not significant, a *deviance test* was used to determine whether the 3-level model provided a better fit for the data than a 2-level model. The deviance test was conducted by subtracting the deviance score ( $D_1$ ) of the 3-level empty model from the deviance score of the 2-level empty model ( $D_0$ ) and evaluating the remainder with a  $\chi^2$  distribution. The deviance score for each model is essentially a measure of the lack of fit of the model to the raw data. Thus, the poorer the fit, the higher the deviance score. If the value from the deviance test was not significant, I chose to specify a two-level rather than a three-level model.

Second, a conditional intercept model was specified in which both predictors (client attachment anxiety and attachment avoidance scores) were added to the Level-2 equation. The conditional intercept model tests whether attachment ratings predict overall variance in PQS ratings, but does not assess time. To compare and evaluate goodness-of-fit for the empty and conditional model, a deviance test was conducted by subtracting the deviance score ( $D_1$ ) of the conditional intercept model from the

deviance score of the empty model ( $D_0$ ) and evaluating the remainder with a  $\chi^2$  distribution. In addition to the deviance test, a measure of explained variance was calculated using the pseudo- $R^2$  statistic specified in Snijders and Bosker (2012). A pseudo- $R^2$  value can be calculated to measure the additional variance explained by one model compared with another (e.g., the conditional intercept model compared to the empty model). Individual coefficients were evaluated using a  $t$  test, as specified by Snijders and Bosker (2012), and effect size for individual coefficients were evaluated using a derivation of Cohen's  $d$  statistic specified in Rosenthal and Rosnow (1991).

In the third step of my analyses, I specified an unconditional linear model, in which predictor variables (i.e., client attachment ratings) were removed from the Level 2 equation and time was added as a Level-1 predictor. Because only 3 sessions for each client-therapist dyad were rated using the PQS, no nonlinear (e.g., cubic, quadratic) models were tested for PQS scores. For analyses of working alliance and real relationship ratings, I tested linear, quadratic, and log-linear trends, adding each trend parameter to the model in a stepwise manner to determine the trend of best fit. For the quadratic trend, time was centered such that each client's median session number was subtracted from the original session number (as suggested by Arnold, 1992). This type of centering results in the median session number taking a value of zero (e.g., sessions 0, 1, 2, 3, 4 become -2, -1, 0, 1, 2), improving power for analysis of the quadratic trend as well as ease of interpretation of the trend (Arnold, 1992). For the log-linear trend, I added the value of 1 to each session number, such that 1 replaced 0 for the first session of therapy. I made this transformation because a log-

linear calculation requires integers with a value of one or greater. In addition to the deviance test and pseudo- $R^2$  tests mentioned above, the variance component for time slopes was evaluated using a  $\chi^2$  distribution to determine whether or not significant variability existed among slopes. If significant variability existed, the conditional linear or nonlinear model was specified as described below in step four. Non-significant variability indicated that there likely was no variability in slopes to be predicted, making specification of the conditional linear or non-linear model unnecessary.

In the fourth step, I specified a conditional linear or nonlinear model to examine whether client attachment ratings predicted rates of change in a dependent variable (e.g., PQS score, WAI-SR score, RRI score). A deviance test (comparing the conditional linear model with the unconditional linear model) and pseudo- $R^2$  tests of explained variance (both tests comparing the conditional linear model with the unconditional linear model) were conducted as well.

For each of the dependent variables (4 PQS scales, 14 PQS items, client and therapist WAI ratings, client and therapist RRI ratings), specified models included a maximum of 5 predictor variables: one session-level variable (time), two client-level variables (client attachment anxiety and avoidance at Level 2), and two interactions between session- and client-level variables (attachment anxiety  $\times$  time and attachment avoidance  $\times$  time, both cross-level interactions). Given the relatively small sample size, I used the following approach to balance Type I and Type II error issues. The overall significance of each model was determined using the deviance test at the .05 level. When testing individual coefficients in significant models for the

4 PQS scales and ratings of the working alliance and real relationship, I controlled the Type I error rate by using a familywise error rate of .10. Because specified models included a maximum of five coefficients for fixed effects, tests on individual model coefficients were conducted at the .02 level (i.e., .10/5). For the analyses on the 14 individual PQS items, I chose not to use a familywise error rate because these were exploratory analyses; tests were conducted at the .05 level.

### **PQS Scale Results**

For each of the four PQS scales, Tables 5 through 8 display individual coefficients, standard errors, *t*-ratio values, and Cohen's *d* statistic for fixed effects for all examined models with the exception of the empty model. Statistics from the empty model are discussed in the text. In addition, Tables 5 through 8 display variance components and their corresponding  $\chi^2$  values. These tables display statistics for all examined models for each scale with the exception of the empty model.

**HLM results for the Therapist Facilitative Approach (TFA) scale.** The client-level variance component was significant,  $\tau_0^2 = .24, SE = .09, p < .001$ , ICC of  $\rho_I = .342$ . The therapist-level variance component was also significant,  $\varphi_0^2 = .15, SE = .10, p = .002$ , ICC of  $\rho_I = .214$ . These results indicated that I needed to account for Level 2 (client) and Level 3 (therapist) in my models. Table 5 displays fixed and random effects for each of the TFA models. Next, analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 16% of the variability, although the deviance test was not significant,  $\chi^2(7) = 5.43, p > .50$ , indicating that the addition of attachment ratings did not

Table 5

*Hierarchical Linear Modeling Analysis Predicting Therapist Facilitative Approach (TFA) Scale*

Model 1					Model 2					Model 3				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	7.41	0.13	57.93***	18.79	Intercept	7.44	0.17	44.93***	14.58	Intercept	7.51	0.12	65.22***	21.16
Anxiety	-0.15	0.09	-1.70	0.55	Time	-0.10	0.12	-0.81	0.26	Time × Anxiety	-0.05	0.07	-0.82	0.27
Avoidance	-0.03	0.07	-0.47	0.15						Time × Avoidance	-0.03	0.06	-0.49	0.16
Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>			
Therapist-level ( $\varphi_0^2$ )	0.11	18.52**	13	Therapist-level ( $\varphi_0^2$ )	0.29	48.19***	13	Therapist-level ( $\varphi_0^2$ )	0.11	18.05*	13			
Client-level ( $\tau_0^2$ )	0.17	11.82	40	Client-level ( $\tau_0^2$ )	0.10	44.59*	40	Client-level ( $\tau_0^2$ )	0.08	13.19	40			
Session-level ( $\sigma^2$ )	0.31			Linear slope ( $\tau_1^2$ )	0.05	42.35*	40	Linear slope ( $\tau_1^2$ )	0.03	1.95	13			
				Session-level ( $\sigma^2$ )	0.15			Session-level ( $\sigma^2$ )	0.13					

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional linear model; Model 3 = conditional linear model. For *t* tests, *df* = 38. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

significantly improve goodness-of-fit. Furthermore, individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that time (early, middle, and late sessions) accounted for an estimated 20% of the variance. The deviance test was significant,  $\chi^2(5) = 29.17, p < .001$ , indicating that the addition of time to the empty model resulted in improved model fit. However, the individual coefficient value for time was non-significant, suggesting that TFA did not significantly increase or decrease in a linear fashion over the three observations. The variance component for the time slope indicated a significant amount of variability existed at the client level,  $\chi^2(40) = 42.35, p = .042$ . Hence, I added attachment variables at Level 2 in the conditional linear model.

Results from the inclusion of attachment variables in the conditional linear model indicated that the attachment variables explained an estimated 12% of the variance. The deviance test was not significant,  $\chi^2(22, N = 123) = 22.28, p = .444$ , indicating that the addition of client attachment ratings did not improve model fit. In addition, coefficients for main effects as well as for cross-level interaction effects (time  $\times$  attachment) were not significant.. Results indicated that TFA did not show significant linear change across the three PQS observations. Furthermore, neither attachment anxiety nor avoidance predicted overall levels of TFA or changes in TFA across phases of treatment

**Results for Therapist Psychodynamic versus Behavioral Interventions (TPB) scale.** The client-level variance component was significant,  $\tau_0^2 = .24, SE = .10, p < .001$ , ICC of  $\rho_I = .364$ . The therapist-level variance component was not

significant,  $\varphi_1^2 = .04$ ,  $S.E. = .07$ ,  $p = .135$ , ICC of  $\rho_I = .07$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N = 41) = 1.31$ ,  $p = .250$ . Given the non-significant Level-3 variance component, small ICC value (.07), and non-significant  $\chi^2$  value for the deviance test, I chose to specify two-level models for TPB. Table 6 displays fixed and random effects for the TPB scale. Analyses of the two-level conditional intercept model indicated that client attachment variables together accounted for 28% of the variability, although the deviance test was not significant,  $\chi^2(1, N = 41) = 1.71$ ,  $p = .188$ , indicating that the addition of attachment ratings did not significantly improve goodness-of-fit. Furthermore, individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that time (early, middle, late sessions) accounted for an estimated 6% of the variance. The deviance test was significant,  $\chi^2(2, N = 41) = 6.93$ ,  $p = .030$ , indicating that the addition of time to the empty model resulted in improved model fit. The individual coefficient for time was not significant, suggesting that TPB did not significantly increase or decrease in a linear fashion over the three observations. The variance component for the time slope significant,  $\chi^2(40, N = 123) = 71.01$ ,  $p = .002$ , indicating that slopes varied randomly among clients. Given the significant variability of the time slope, I chose to add client attachment variables at level 2 to determine whether client attachment predicted change in TPB over time.

Results from the conditional linear model indicated that the addition of client attachment variables accounted for an additional 28% of the variability when

Table 6

*Hierarchical Linear Modeling Analysis Predicting Therapist Psychodynamic versus Behavioral Interventions (TPB) Scale*

Model 1					Model 2					Model 3				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	5.500	0.10	55.50***	17.55	Intercept	5.404	0.12	46.37***	14.66	Intercept	5.404	0.12	46.84***	14.81
Anxiety	-0.003	0.08	-0.04	0.01	Time	0.091	0.07	1.22	0.39	Time × Anxiety	-0.062	0.06	-1.04	0.33
Avoidance	-0.053	0.08	-0.63	0.20						Time × Avoidance	0.010	0.07	0.13	0.23
Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>			
Client-level ( $\tau_0^2$ )	0.28	133.09***	38	Client-level ( $\tau_0^2$ )	0.34	103.03***	38	Client-level ( $\tau_0^2$ )	0.32	100.95***	38			
Session-level ( $\sigma^2$ )	0.37			Linear slope ( $\tau_1^2$ )	0.10	71.01**	38	Linear slope ( $\tau_1^2$ )	0.09	69.33**	38			
				Session-level ( $\sigma^2$ )	0.27			Session-level ( $\sigma^2$ )	0.27					

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional linear model; Model 3 = conditional linear model. For *t* tests, *df* = 40. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

compared to the unconditional linear model. The deviance test was not significant,  $\chi^2(6, N = 41) = 8.36, p = .212$ , indicating that the addition of client attachment ratings to the linear model did not result in improved model fit. In addition, none of the individual coefficients for the fixed effects were significant.

Results indicated that therapist use of psychodynamic versus behavioral interventions did not appear to change in a linear fashion over the course of treatment. Furthermore, neither client attachment avoidance nor anxiety predicted overall TPB interventions or changes in TPB interventions across phases of treatment.

**HLM results for Therapist Supportive Approach (TSA).** The client-level variance component was significant,  $\tau_0^2 = .93, SE = .33, p < .001$ , ICC of  $\rho_I = .444$ . The therapist-level variance component was not significant,  $\varphi_1^2 = .26, SE = .28, p = .057$ , ICC of  $\rho_I = .123$ . Results from a deviance test comparing the three-level and two-level empty models were not significant,  $\chi^2(1, N = 41) = .098, p > .50$ . Given the lack of significance of the therapist-level variance component and the deviance test, I chose to specify two-level models for TSA. Table 7 displays fixed and random effects for the TSA scale. Analyses of the two-level conditional intercept model indicated that client attachment together explained an estimated 12% of the variance. The deviance test was significant,  $\chi^2(1, N = 41) = 7.36, p = .007$ , indicating that the addition of attachment ratings significantly improved model fit. The individual coefficient for attachment anxiety was not significant, whereas the individual coefficient for attachment avoidance was significant,  $t(38) = 3.18, p = .003$ .

Table 7

*Hierarchical Linear Modeling Analysis Predicting Therapist Supportive Approach (TSA) Scale*

Model 1					Model 2				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	5.39	0.18	30.77***	9.98	Intercept	5.20	0.21	25.23***	8.19
Anxiety	0.03	0.16	0.18	0.06	Time	0.19	0.11	1.76	0.56
Avoidance	0.42	0.13	3.18**	1.03					
Random effects	Variance	$\chi^2$	<i>df</i>		Random effects	Variance	$\chi^2$	<i>df</i>	
Client-level ( $\tau_0^2$ )	0.95	170.63***	38		Client-level ( $\tau_0^2$ )	1.07	105.70***	40	
Session-level ( $\sigma^2$ )	0.91				Linear slope ( $\tau_1^2$ )	0.06	47.03	40	
					Session-level ( $\sigma^2$ )				

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional linear model. For *t* tests, *df* = 38. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

Therapists of clients with higher attachment avoidance were observed to engage in more overtly supportive behavior (e.g., providing reassurance, making affirming statements) overall during treatment.

Results from the unconditional linear model indicated that time (early, middle, late sessions) for 11% of the variance. The deviance test was not significant,  $\chi^2(6, N = 41) = 4.26, p = .117$ , indicating that the addition of time to the empty model did not improve model fit. In addition, the individual coefficient for time was not significant, and the variance component for the time slope was not significant,  $\chi^2(40, N = 123) = 47.03, p = .207$ , indicating that the time slope did not vary randomly across clients.

Given the lack of random variability in the time slope, no precedent existed for adding attachment variables and specifying a conditional linear model.

Results indicated that TSA did not show significant linear change across the three PQS observations. However, when considering overall levels of TSA, results showed that therapists were more likely to intervene in a supportive manner with clients who presented for treatment with higher attachment avoidance.

**HLM results for Therapist Process Comments (TPC) scale.** The client-level variance component was significant,  $\tau_0^2 = .40, S.E. = .16, p < .001$ , ICC of  $\rho_I = .41$ . The therapist-level variance component was not significant,  $\varphi_1^2 = .001, S.E. = .08, p > .50$ , ICC of  $\rho_I = .001$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N=41) = 1.84, p = .172$ . Given the non-significance of the therapist-level variance component, the non-significance of the deviance test, and the low therapist-level ICC in the three-level model ( $\rho_I = .001$ ), I chose to specify two-level models for TPC. Table 8 displays fixed and random effects for the TPC scale. Analyses of the two-level conditional intercept model indicated that client attachment together explained an estimated 2% of the variance. The deviance test was not significant,  $\chi^2(1, N=41) = 1.20, p > .50$ , indicating that the addition of attachment ratings did not improved model fit. In addition, individual coefficients for the attachment variables were not significant.

Results from the unconditional linear model generated a negative value for explained variance, pseudo- $R^2 = -.058$ . According to Snijders and Bosker (2012), a negative pseudo- $R^2$  value may be diagnostic of misspecification of the fixed effects added to the empty model.

Table 8

*Hierarchical Linear Modeling Analysis Predicting Therapist Process Comments**(TPC) Scale*

Model 1					Model 2				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	4.516	0.12	37.80***	12.26	Intercept	4.624	0.15	31.12***	9.84
Anxiety	-.0113	0.11	-0.99	0.32	Time	-0.108	0.07	-1.45	.46
Avoidance	-.0059	0.10	-0.60	0.19					
Random effects	Variance	$\chi^2$	<i>df</i>		Random effects	Variance	$\chi^2$	<i>df</i>	
Client-level ( $\tau_0^2$ )	0.384	119.23***	38		Client-level ( $\tau_0^2$ )	0.478	75.64**	40	
Session-level ( $\sigma^2$ )	0.604				Linear slope ( $\tau_1^2$ )	0.003	31.66	40	
					Session-level ( $\sigma^2$ )	0.589			

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional linear model. For *t* tests, *df* = 38. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

For example, the added variables may have been irrelevant to the dependent variable. The authors indicated that when pseudo- $R^2$  is negative, its value denotes the fraction of explained variance at level one that *decreases* when one or more fixed effects are added to the model. Small decreases (i.e., below .05) may result from “chance fluctuations” in the data, but decreases with a value greater than .05 should be considered as the possible result of misspecification (Boskers & Snijders, 2012, p. 156). Given these propositions, the addition of time may have resulted in misspecification of the model. Perhaps the pattern of change in therapist process comments over the course of therapy was nonlinear and was incorrectly modeled here, albeit by necessity, as linear. The deviance test for the unconditional linear

model was not significant,  $\chi^2(1, N=41) = 1.69, p > .50$ , indicating no significant improvement in model fit. The individual coefficient value was not significant, and the variance component for the slope of time was not significant,  $\chi^2(40, N = 123) = 31.66, p > .50$ , indicating that the slope did not vary randomly across clients. Given the negative pseudo- $R^2$  value for explained variance and the lack significance for the random variance of the time slope, no precedent existed for adding attachment variables and specifying a conditional intercept model.

Results for TPC suggested that therapist use of process comments did not appear to change in a linear fashion over the course of therapy. Furthermore, client attachment variables did not significantly predict therapist use of TPC.

### **Client Attachment and the Working Alliance**

For client and therapist ratings of the working alliance, Table 9 and Table 10, respectively, display individual coefficients, standard errors,  $t$ -ratio values, and Cohen's  $d$  statistic for fixed effects. All examined models are presented with the exception of the empty model, as statistics from the empty model are included in the text. In addition, Tables 9 and 10 display variance components and their corresponding  $\chi^2$  values.

**Client ratings of the working alliance.** The client-level variance component was significant,  $\tau_0^2 = .37, SE = .10, p < .001$ , ICC of  $\rho_I = .722$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .0001, SE = .05, p > .50$ , ICC,  $\rho_I = .001$ . A deviance test comparing the three-level empty model and the two-level empty model was not significant,  $\chi^2(1, N = 41) = 1.84, p = .171$ .

Table 9

*Hierarchical Growth Curve Models of Client Ratings of the Working Alliance*

Model 1					Model 2					Model 3				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	3.887	0.094	41.13***	13.34	Intercept	2.994	0.180	16.68***	5.41	Intercept	2.990	0.181	16.52***	5.36
Anxiety	0.077	0.066	1.17	0.38	Time (Linear)	-0.014	0.001	-2.49*	0.81	Time (Linear) × Anxiety	0.003	0.005	0.54	0.18
Avoidance	-0.050	0.075	-0.66	0.21	Time (Quad)	0.001	0.001	1.95	0.63	Time (Linear) × Avoidance	-0.001	0.006	-0.26	0.08
					Time (Log-Linear)	0.806	0.145	5.55***	1.80	Time (Quad) × Anxiety	-0.000	0.000	-0.03	0.01
										Time (Quad) × Avoidance	0.001	0.001	1.06	0.34
										Time (Log-Linear) × Anxiety	0.060	0.112	0.53	0.17
										Time (Log-Linear) × Avoidance	-0.005	0.152	-0.04	0.01

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .00$

Table 9 (continued)

*Hierarchical Growth Curve Models of Client Ratings of the Working Alliance*

Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>
Client-level ( $\tau_0^2$ )	0.359	2778.50***	38	Client-level ( $\tau_0^2$ )	1.030	41.69***	15	Client-level ( $\tau_0^2$ )	1.034	42.20***	13
Session-level ( $\sigma^2$ )	0.142			Linear slope ( $\tau_1^2$ )	0.001	39.82**	15	Linear slope ( $\tau_1^2$ )	0.001	39.24***	13
				Quadratic slope ( $\tau_2^2$ )	0.000	39.41**	15	Quadratic slope ( $\tau_2^2$ )	0.000	39.33***	13
				Log-linear slope ( $\tau_3^2$ )	0.624	44.96***	15	Log-linear slope ( $\tau_3^2$ )	0.611	45.91***	13
				Session-level ( $\sigma^2$ )	0.076			Session-level ( $\sigma^2$ )	0.075		

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .00$ .

These results indicated that I needed to account for Level 2 (client) but not Level 3 (therapist) in my models. Hence, two-level models were specified. Analyses of the conditional intercept model indicated that the addition of client attachment ratings accounted for an estimated 2% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 2.20, p = .333$ , indicating that the addition of attachment ratings did not significantly improve model fit. Individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that the addition of a linear time parameter accounted for 6% in the variability. The deviance test was significant,  $\chi^2(3, N = 41) = 288.83, p < .001$ , indicating that the addition of the linear parameter significantly improved model fit. The individual coefficient for the linear slope of time was significant,  $b = .01, SE = .003, t(40) = 5.30, p < .001$ . Next, a quadratic parameter was added and accounted for an additional 6% in variability. The deviance test comparing the unconditional linear model with the unconditional model including both the linear and quadratic parameters was significant,  $\chi^2(6, N = 41) = 230.15, p < .001$ , indicating that the addition of the quadratic parameter improved model fit. The individual coefficient for the quadratic slope was significant,  $b = -.001, SE = .0002, t(40) = -4.401, p < .001$ . Next, a log-linear parameter was added and accounted for an additional 2% in variability. The deviance test comparing the unconditional model with the linear and quadratic parameters with the model containing all parameters (i.e., linear, quadratic, log-linear) was significant,  $\chi^2(5, N = 41) = 184.65, p < .001$ , indicating that the addition of the logarithmic parameter improved model fit. The individual coefficient for the logarithmic slope

was significant,  $b = .81$ ,  $SE = .15$ ,  $t(40) = 5.55$ ,  $p < .001$ . The variance components for the linear, quadratic, and log-linear slopes were all significant, indicating that the slopes varied randomly among clients. Thus, client attachment ratings were added at the client-level to determine whether attachment significantly predicted variance in any of the three trends of change in the ratings of the working alliance over the course of therapy.

Results from the conditional model indicated that the addition of client attachment ratings accounted for no additional percentage of the variability when compared to the unconditional model including the linear, quadratic, and log-linear trends (pseudo- $R^2 = .003$ ). However, the deviance test comparing the two models was significant,  $\chi^2(13, N = 41) = 191.11$ ,  $p < .001$ , indicating that addition of client attachment ratings improved model fit. Individual coefficients for the linear and log-linear slopes remained significant, but coefficients for the main effects of attachment anxiety and avoidance were not significant. Further, the individual coefficients for the cross-level interactions between attachment ratings and the three trend parameters (e.g., attachment anxiety  $\times$  log-linear time slope) were not significant.

Results for client ratings of the working alliance indicated that a log-linear pattern of change best fit the data. The log-linear pattern involves a steep rate of change in the initial sessions of therapy followed by a decelerated but continued positive rate of change. Results also indicated that client attachment ratings did not significantly predict overall ratings of the working alliance (i.e., client mean WAI-C ratings) or change in ratings of the working alliance over the course of treatment.

**Therapist ratings of the working alliance.** The client-level variance

component was significant,  $\tau_0^2 = .25, SE = .07, p < .001$ , ICC of  $\rho_I = .597$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .05, SE = .05, p = .064$ , ICC,  $\rho_I = .112$ . A deviance test comparing the three-level empty model and the two-level empty model was not significant,  $\chi^2(1, N = 41) = 0.89, p > .50$ . These results indicated that I needed to account for Level 2 (client) but not Level 3 (therapist) in my models. Hence, two-level models were specified. Analyses of the conditional intercept model indicated that the addition of client attachment ratings accounted for an estimated 6% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 0.20, p > .50$ , indicating that the addition of attachment ratings did not significantly improve model fit. Individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that the addition of a linear time parameter accounted for 5% in the variability. The deviance test was significant,  $\chi^2(3, N = 41) = 159.03, p < .001$ , indicating that the addition of the linear parameter significantly improved model fit. The individual coefficient for the linear slope of time was significant,  $b = .01, SE = .002, t(40) = 4.57, p < .001$ . Next, a quadratic parameter was added and accounted for an additional 5% in variability. The deviance test comparing the unconditional linear model with the unconditional model including both the linear and quadratic parameters was significant,  $\chi^2(6, N = 41) = 94.54, p < .001$ , indicating that the addition of the quadratic parameter improved model fit. The individual coefficient for the quadratic slope was significant,  $b = -.001, SE = .0002, t(40) = -4.17, p < .001$ . Next, a log-linear parameter was added and accounted for an additional 7% in variability.

Table 10  
*Hierarchical Growth Curve Models of Therapist Ratings of the Working Alliance*

Model 1					Model 2				
Fixed effects	b	SE	t	d	Fixed effects	b	SE	t	d
Intercept	3.668	0.085	42.99***	13.95	Intercept	2.958	0.147	20.10***	6.52
Anxiety	0.032	0.083	0.38	0.12	Time (Linear)	-0.017	0.005	-3.04**	0.99
Avoidance	0.014	0.084	0.16	0.05	Time (Quad)	0.003	0.002	1.29	0.42
					Time (Log-Linear)	0.679	0.133	5.12***	1.66
Random effects	Variance	$\chi^2$	df	Random effects	Variance	$\chi^2$	df		
Client-level ( $\tau_0^2$ )	0.292	2238.86***	38	Client-level ( $\tau_0^2$ )	0.643	14.51	15		
Session-level ( $\sigma^2$ )	0.120			Linear slope ( $\tau_1^2$ )	0.001	12.21	15		
				Quadratic slope ( $\tau_2^2$ )	0.001	18.30	15		
				Log-linear slope ( $\tau_3^2$ )	0.504	15.57	15		
				Session-level ( $\sigma^2$ )	0.078				

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model. Cohen's  $d$  calculated using the between-groups  $t$  test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

The deviance test comparing the unconditional model with the linear and quadratic parameters with the model containing all parameters (i.e., linear, quadratic, log-linear) was significant,  $\chi^2(5, N = 41) = 95.89, p < .001$ , indicating that the addition of the log-linear parameter improved model fit. The individual coefficient for the log-linear slope was significant,  $b = .68, SE = .13, t(40) = 5.12, p < .001$ . None of the variance components for the linear, quadratic, and log-linear slopes were

significant, indicating that the slopes did not vary randomly among clients. Thus, no precedent existed for adding client attachment ratings in a conditional growth curve model.

Results for therapist ratings of the working alliance indicated that a log-linear pattern of change best fit the data. The log-linear pattern involves a steep rate of change in the initial sessions of therapy followed by a decelerated but continued positive rate of change. Results also indicated that client attachment ratings did not significantly predict overall ratings of the working alliance (i.e., therapist mean WAI-T ratings) or change in ratings of the working alliance over the course of treatment.

### **Client Attachment and the Real Relationship**

For client and therapist ratings of the real relationship, Tables 11 and 12, respectively, display individual coefficients, standard errors, *t*-ratio values, and Cohen's *d* statistic for fixed effects. All examined models are presented with the exception of the empty model, as statistics from the empty model are included in the text. In addition, Tables 11 and 12 display variance components and their corresponding  $\chi^2$  values.

**Client ratings of the real relationship.** The client-level variance component was significant,  $\tau_0^2 = .15, SE = .04, p < .001$ , ICC of  $\rho_I = .622$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .0005, SE = .02, p > .50$ , ICC,  $\rho_I = .010$ . A deviance test comparing the three-level empty model and the two-level empty model was not significant,  $\chi^2(1, N = 41) = 7.57, p = .101$ . These results indicated that I needed to account for Level 2 (client) but not Level 3 (therapist) in my models. Hence, two-level models were specified.

Table 11

*Hierarchical Growth Curve Models of Client Ratings of the Real Relationship*

Model 1					Model 2					Model 3				
Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>	Fixed effects	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	4.081	0.060	67.64***	21.95	Intercept	3.787	0.092	40.98***	13.30	Intercept	3.749	0.086	43.83***	14.22
Anxiety	0.066	0.051	1.30	0.42	Time (Linear)	0.003	0.002	1.30	0.42	Time (Linear) × Anxiety	0.002	0.003	0.79	0.26
Avoidance	0.049	0.051	0.97	0.31	Time (Quad)	-0.000	0.000	-0.42	0.14	Time (Linear) × Avoidance	0.0003	0.002	0.15	0.05
					Time (Log-Linear)	0.297	0.070	4.23***	1.37	Time (Quad) × Anxiety	0.0001	0.0001	1.67	0.54
										Time (Quad) × Avoidance	-0.00002	0.00005	-0.34	0.11
										Time (Log-Linear) × Anxiety	-0.006	0.049	-0.12	0.04
										Time (Log-Linear) × Avoidance	0.012	0.054	0.21	0.07

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

Table 11 (continued)

*Hierarchical Growth Curve Models of Client Ratings of the Real Relationship*

Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>
Client-level ( $\tau_0^2$ )	0.145	2050.54***	38	Client-level ( $\tau_0^2$ )	0.279	43.46***	15	Client-level ( $\tau_0^2$ )	0.234	43.53***	13
Session-level ( $\sigma^2$ )	0.089			Linear slope ( $\tau_1^2$ )	0.001	47.67***	15	Linear slope ( $\tau_1^2$ )	0.0001	47.74***	13
				Quadratic slope ( $\tau_2^2$ )	0.0001	30.73*	15	Quadratic slope ( $\tau_2^2$ )	0.0001	31.10**	13
				Log-linear slope ( $\tau_3^2$ )	0.136	45.47***	15	Log-linear slope ( $\tau_3^2$ )	0.115	45.86***	13
				Session-level ( $\sigma^2$ )	0.056			Session-level ( $\sigma^2$ )	0.056		

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

Analyses of the conditional intercept model indicated that the addition of client attachment ratings accounted for an estimated 3% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 2.17, p = .423$ , indicating that the addition of attachment ratings did not significantly improve model fit. Individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that the addition of a linear time parameter accounted for 10% in the variability. The deviance test was significant,  $\chi^2(3, N = 41) = 350.79, p < .001$ , indicating that the addition of the linear parameter significantly improved model fit. The individual coefficient for the linear slope of time was significant,  $b = .014, SE = .002, t(40) = 6.36, p < .001$ . Next, a quadratic parameter was added and accounted for an additional 7% in variability. The deviance test comparing the unconditional linear model with the unconditional model including both the linear and quadratic parameters was significant,  $\chi^2(6, N = 41) = 43.56, p < .001$ , indicating that the addition of the quadratic parameter improved model fit. The individual coefficient for the quadratic slope was significant,  $b = -.0004, SE = .0001, t(40) = -2.79, p < .05$ . Next, a log-linear parameter was added and accounted for an additional 14% in variability. The deviance test comparing the unconditional model with the linear and quadratic parameters with the model containing all parameters (i.e., linear, quadratic, logarithmic) was significant,  $\chi^2(5, N = 41) = 76.34, p < .001$ , indicating that the addition of the logarithmic parameter improved model fit. The individual coefficient for the logarithmic slope was significant,  $b = .30, SE = .07, t(40) = 4.23, p < .001$ . The variance components for the linear, quadratic, and log-linear slopes were all significant, indicating that the

slopes varied randomly among clients. Thus, client attachment ratings were added at the client-level to determine whether attachment significantly predicted variance in any of the three trends of change in the ratings of the working alliance over the course of therapy.

Results from the conditional growth curve model indicated that the addition of client attachment ratings accounted for 3% of the variability. The deviance test comparing the conditional and unconditional growth curve models was not significant,  $\chi^2(8, N = 41) = 7.36, p > .50$ , indicating that addition of client attachment ratings did not improve model fit. Coefficients for the main effects of attachment anxiety and avoidance were not significant. Further, the individual coefficients for the cross-level interactions between attachment ratings and the three trend parameters (e.g., attachment anxiety  $\times$  log-linear time slope) were not significant.

Results for client ratings of the real relationship indicated that a log-linear pattern of change best fit the data. The log-linear pattern involves a steeper rate of change in the initial sessions of therapy followed by a decelerated but continued positive rate of change. Results also indicated that client attachment ratings did not significantly predict overall ratings of the real relationship (i.e., client mean RRI-C ratings) or change in ratings of the real relationship over the course of treatment.

**Therapist ratings of the real relationship.** The client-level variance component was significant,  $\tau_0^2 = .14, SE = .04, p < .001$ , ICC of  $\rho_I = .478$ . The therapist-level variance component was significant,  $\varphi_0^2 = .05, SE = .04, p = .014$ , ICC,  $\rho_I = .164$ , indicating that I needed to account for Level 2 (client) and Level 3 (therapist) in my models. Hence, three-level models were specified.

Table 12

*Hierarchical Growth Curve Models of Therapist Ratings of the Real Relationship*

Fixed effects	Model 1				Fixed effects	Model 2				Fixed effects	Model 3			
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>		<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>		<i>b</i>	<i>SE</i>	<i>t</i>	<i>d</i>
Intercept	3.769	0.089	42.60***	13.82	Intercept	3.479	0.101	34.45***	11.18	Intercept	3.512	0.103	34.13***	11.07
Anxiety	-0.069	0.061	-1.13	0.37	Time (Linear)	0.001	0.009	0.08	0.03	Time (Linear) × Anxiety	0.004	0.005	0.83	0.27
Avoidance	0.053	0.042	1.25	0.41	Time (Quad)	0.0002	0.0001	0.26	0.08	Time (Linear) × Avoidance	0.003	0.006	0.49	0.16
					Time (Log-Linear)	0.272	0.121	2.25*	0.73	Time (Quad) × Anxiety	-0.00001	0.0004	-0.02	0.01
										Time (Quad) × Avoidance	-0.001	0.001	-0.82	0.27
										Time (Log-Linear) × Anxiety	-0.101	0.122	-0.83	0.27
										Time (Log-Linear) × Avoidance	-0.087	0.143	-0.61	0.20

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

Table 12 (continued)

*Hierarchical Growth Curve Models of Therapist Ratings of the Real Relationship*

Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>	Random effects	Variance	$\chi^2$	<i>df</i>
Therapist-level ( $\phi_0^2$ )	0.052	27.54*	13	Therapist-level ( $\phi_0^2$ )	0.075	29.38**	13	Therapist-level ( $\phi_0^2$ )	0.026	27.34*	13
Client-level ( $\tau_0^2$ )	0.144	746.68***	25	Client-level ( $\tau_0^2$ )	0.123	27.17***	13	Client-level ( $\tau_0^2$ )	0.103	76.70***	26
Session-level ( $\sigma^2$ )	0.115			Linear slope ( $\tau_1^2$ )	0.001	43.37***	13	Linear slope ( $\tau_1^2$ )	0.001	85.15***	26
				Quadratic slope ( $\tau_2^2$ )	0.001	46.11***	13	Quadratic slope ( $\tau_2^2$ )	0.00001	112.31***	26
				Log-linear slope ( $\tau_3^2$ )	0.116	41.28***	13	Log-linear slope ( $\tau_3^2$ )	0.315	84.16***	26
				Session-level ( $\sigma^2$ )	0.079			Session-level ( $\sigma^2$ )	0.078		

*Note.* Model 1 = conditional intercept model; Model 2 = unconditional growth curve model; Model 3 = conditional growth curve model. Quad = Quadratic slope. Cohen's *d* calculated using the between-groups *t* test value:  $d = 2t/(\text{sqr } df)$  (Rosenthal & Rosnow, 1991).

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

Analyses of the conditional intercept model indicated that the addition of client attachment ratings accounted for an estimated 3% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 2.36, p = .313$ , indicating that the addition of attachment ratings did not significantly improve model fit. Individual coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that the addition of a linear time parameter accounted for 3% in the variability. The deviance test was significant,  $\chi^2(3, N = 41) = 128.56, p < .001$ , indicating that the addition of the linear parameter significantly improved model fit. The individual coefficient for the linear slope of time was significant,  $b = .012, SE = .004, t(26) = 2.87, p = .008$ . Next, a quadratic parameter was added and accounted for only an additional 0.3% in variability. However, the deviance test comparing the unconditional linear model with the unconditional model including both the linear and quadratic parameters was significant,  $\chi^2(4, N = 41) = 149.37, p < .001$ , indicating that the addition of the quadratic parameter improved model fit. The individual coefficient for the quadratic slope was significant,  $b = -.0008, SE = .0003, t(25) = -2.45, p = .022$ . Next, a log-linear parameter was added and accounted for an additional 2% in variability. The deviance test comparing the unconditional model containing the linear and quadratic parameters with the model containing all parameters (i.e., linear, quadratic, log-linear) was significant,  $\chi^2(5, N = 41) = 33.27, p < .001$ , indicating that the addition of the log-linear parameter improved model fit. The individual coefficient for the log-linear slope was significant,  $b = .27, SE = .07, t(13) = 2.25, p = .042$ . The variance components for the linear, quadratic, and log-linear slopes were all significant,

indicating that the slopes varied randomly among clients. Thus, client attachment ratings were added at the client-level to determine whether attachment significantly predicted variance in any of the three trends of change in the ratings of the real relationship over the course of therapy.

Results from the conditional growth curve model indicated that the addition of client attachment ratings accounted for 2% of the variability. The deviance test comparing the conditional and unconditional growth curve models was significant,  $\chi^2(8, N = 41) = 19.06, p = .015$ , indicating that addition of client attachment ratings improved model fit. Coefficients for the main effects of attachment anxiety and avoidance were not significant. Further, the individual coefficients for the cross-level interactions between attachment ratings and the three trend parameters (e.g., attachment anxiety  $\times$  log-linear time slope) were not significant.

Results for therapist ratings of the real relationship indicated that a log-linear pattern of change best fit the data. The log-linear pattern involves a steeper rate of change in the initial sessions of therapy followed by a decelerated but continued positive rate of change. Results also indicated that client attachment ratings did not significantly predict overall ratings of the real relationship (i.e., therapist mean RRI-T ratings) or change in ratings of the real relationship over the course of treatment.

### **HLM Results for Post-hoc Analyses of Individual PQS Items**

Results for items are presented below in according to the rank order of their correlations with client attachment anxiety and avoidance (as displayed in Table 3). Items 45, 46, 66, 81, and 91 were included in the four PQS subscales (displayed in Table 1) and thus were not analyzed singly using HLM. The remaining 7 items

associated with attachment anxiety are presented first, followed by the remaining 2 items associated with attachment avoidance.

**Item 59: Patient feels inadequate and inferior.** The client-level variance component was significant,  $\tau_0^2 = 1.90, S.E. = .27, p < .001$ , ICC of  $\rho_I = .436$ . The therapist-level variance component was also significant,  $\phi_0^2 = .76, S.E. = .66, p = .015$ , ICC of  $\rho_I = .174$ . These results indicated that I needed to account for Level 2 (client) and Level 3 (therapist) in my models. Next, analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 17% of the variability. The deviance test was significant,  $\chi^2(2; N = 41) = 6.68, p = .034$ , indicating that the addition of attachment ratings significantly improved model fit. The individual coefficient for attachment avoidance was not significant, whereas the coefficient for attachment anxiety was significant,  $b = .51, SE = .16, t(25) = 3.27, p = .003$ . Results indicate that clients with higher attachment anxiety were more likely to demonstrate feelings of inadequacy and inferiority in their therapy sessions.

Results from the unconditional linear model indicated that 0% of the variance was explained by the addition of time to the empty model. In addition, the deviance test was not significant,  $\chi^2(1, N = 41) = .002, p > .50$ , indicating no significant improvement in model fit. The individual coefficient for time was not significant, and the variance component for the time slope was not significant,  $\chi^2(27, N = 41) = 36.43, p = .106$ , indicating that the slope did not vary randomly across clients. Given the non-significant results for the time coefficient and the time variance component,

no precedent existed for adding attachment variables and specifying a conditional linear model.

Results indicated that client inadequacy did not show significant linear change across the three PQS observations. However, when considering overall levels of observed insecurity and inadequacy, results showed that clients with higher attachment anxiety were more likely to demonstrate feelings of inadequacy and insecurity in therapy sessions.

**Item 52: Patient relies upon therapist to solve his/her problems.** The client-level variance component was significant,  $\tau_0^2 = 1.55, SE = .45, p < .001$ , ICC of  $\rho_I = .416$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .000, SE = .23, p = .16$ , ICC of  $\rho_I = .001$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N = 41) = 1.33, p = .344$ . Thus, two-level models were specified. Analyses from the conditional intercept model indicated that the attachment variables together accounted for an estimated 2% of the variance, and the deviance test was not significant  $\chi^2(2, N = 41) = .606, p > .50$ , indicating that the addition of attachment variables did not improve model fit. Furthermore, coefficients for attachment anxiety and avoidance were not significant.

Results from the unconditional linear model indicated that time (early, middle, late session) accounted for 31% of the variance, and the deviance test was significant,  $\chi^2(2, N = 41) = 11.70, p = .003$ , indicating that the addition of time to the empty model resulted in improved model fit. The individual coefficient for time was significant,  $b = .33, SE = .14, t(40) = 2.28, p = .028$ . The variance component for time slope was not significant,  $\chi^2(40, N = 41) = 52.64, p = .087$ , indicating that the

time slope did not vary randomly among clients. Given the lack of variability in the time slope at the client level, I chose not to add client attachment variables at Level 2 in a conditional linear model.

Results indicated that client reliance on the therapist increased in a linear fashion through the sessions observed at the early, middle, and late phase of therapy. Results from the conditional intercept model indicated client attachment variables did not significantly predict overall client reliance, and the lack of variability among clients in the slope of time indicated that client attachment variables did not predict the linear increase in client reliance over the course of treatment.

**Item 96: There is discussion of scheduling of hours, or fees.** The client-level variance component was significant,  $\tau_0^2 = .14, SE = .10, p < .016$ , ICC of  $\rho_I = .156$ . The therapist-level variance component was also significant,  $\varphi_0^2 = .16, SE = .11, p = .004$ , ICC of  $\rho_I = .170$ . These results indicated that I needed to account for Level 2 (client) and Level 3 (therapist) in my models. Next, analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 11% of the variability, although the deviance test was not significant,  $\chi^2(7, N = 41) = 4.21, p > .50$ , indicating that the addition of attachment ratings did not significantly improve model fit. The individual coefficients for attachment avoidance and anxiety were not significant.

Results from the unconditional linear model indicated that time (early, middle, late session) accounted for 20% of the variance. However, the deviance test was not significant,  $\chi^2(5, N = 41) = 6.37, p = .271$ , indicating that the addition of time to the empty model did not result in improved model fit. The individual coefficient for time

slope was significant,  $b = .18$ ,  $SE = .07$ ,  $t(13) = 2.40$ ,  $p = .032$ , indicating that discussion of hours and fees increased in a linear fashion over time (i.e., over the observed early, middle, and late sessions). The variance component for the slope of time was not significant,  $\chi^2(5, N = 37) = 30.23$ ,  $p = .303$ , indicating that the slope did not vary randomly between clients. Given the non-significant findings from the addition of client attachment variables in the conditional intercept model as well as the non-significant finding for the between-client variability in the slope of time, no precedent existed for adding attachment variables at Level 2 in a conditional linear model.

Results indicated that client and therapist discussion of scheduling hours and fees increased in a linear fashion over the course of therapy, although this finding should be interpreted with caution given that adding time to the empty model did not significantly improve model fit. Client attachment style did not significantly predict discussion of these topics.

**Item 63: Patient's interpersonal relationships are a major theme.** The client-level variance component was significant,  $\tau_0^2 = .84$ ,  $SE = .47$ ,  $p = .001$ , ICC of  $\rho_I = .217$ . The therapist-level variance component was also significant,  $\varphi_0^2 = .51$ ,  $SE = .44$ ,  $p = .016$ , ICC of  $\rho_I = .132$ . These results indicated that I needed to account for Level 2 (client) and Level 3 (therapist) in my models. Next, analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 6% of the variability, and the deviance test was significant,  $\chi^2(2, N = 41) = 6.68$ ,  $p = .034$ , indicating that the addition of attachment ratings significantly improved model fit. The individual coefficient for attachment avoidance

was not significant, but the individual coefficient for attachment anxiety was significant,  $b = -.29$ ,  $SE = .16$ ,  $t(25) = -2.231$ ,  $p = .035$ .

Results from the unconditional linear model generated a negative value for explained variance, pseudo- $R^2 = -.04$ , and the deviance test was not significant,  $\chi^2(3, N = 41) = .81$ ,  $p > .50$ , indicating that adding time as a linear parameter was possibly a model misspecification. Time may not have been relevant to therapist focus on interpersonal relationships in the present sample. Alternatively, the small absolute value of pseudo- $R^2$  (i.e.,  $< .05$ ) indicated that its negative valence might have resulted from chance rather than model misspecification (Snijders & Bosker, 2012). The individual coefficient for time slope was not significant, indicating no linear change over the three observed sessions. The variance component for the slope of time was not significant,  $\chi^2(40, N = 123) = 34.36$ ,  $p > .50$ , indicating that the slope did not vary randomly among clients. Given the lack of random variability in the slope of time at the client level as well as the possibility of model misspecification due to the addition of time as an explanatory variable, no precedent existed for adding attachment variables at Level 2 in a conditional linear model.

Results indicated that focus on client interpersonal relationships did not significantly change in a linear fashion over the course of therapy. Attachment anxiety was a significant predictor of overall focus on client interpersonal relationships, such that clients with higher attachment anxiety were less likely to attend to interpersonal relationships as a major theme of their observed therapy sessions.

**Item 94: Patient feels sad or depressed (vs. joyous or cheerful).** The client-level variance component was significant,  $\tau_0^2 = 1.82, SE = .28, p < .001$ , ICC of  $\rho_I = .308$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .003, SE = .20, p = .335$ , ICC of  $\rho_I = .001$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N = 41) = 1.84, p = .171$ . Given the low therapist-level ICC value (therapist effects accounted for less than 1% of overall variance in the dependent variable), the non-significance of the therapist-level variance component, and the non-significance of a deviance test comparing model fit for the two-level and three-level empty models, I chose to specify two-level models for the present PQS item. Analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 6% of the variability, and the deviance test was not significant,  $\chi^2(3, N = 41) = 4.67, p > .196$ , indicating that the addition of attachment ratings did not significantly improve model fit. The individual coefficients for attachment avoidance and anxiety were not significant, indicating that client attachment variables did not significantly predict the overall extent to which therapists focused on client feelings during sessions.

Results from the unconditional linear model indicated that time accounted for 12% of the variance. The deviance test was not significant,  $\chi^2(4, N = 41) = 2.77, p > .50$ , indicating that the addition of time to the empty model did not result in improved model fit. The individual coefficient for time slope was not significant, indicating that therapist focus on client feelings did not increase or decrease in a linear fashion over the 3 observed sessions. The variance component for the slope of time was significant,  $\chi^2(40, N = 123) = 60.69, p = .018$ , indicating that the slope varied

randomly at the client level. Given that the slope of time varied randomly at the client level, I chose to add client attachment variables to determine whether attachment would predict a significant amount of the variance in time among clients.

Results from the conditional linear model indicated that the addition of attachment variables accounted for an increased 2% of the variability when compared to the unconditional linear model. The deviance test was not significant,  $\chi^2(4, N=41) = 6.70, p = .151$ , indicating that the conditional linear model did not provide improved model fit when compared to the unconditional linear model. Individual coefficients for main effects and cross-level interaction effects (time  $\times$  attachment anxiety; time  $\times$  attachment avoidance) were not significant.

Results indicated that client sadness did not change in a linear fashion over the course of the three observed sessions. Furthermore, client attachment ratings did not significantly predict the overall extent to which sadness was demonstrated throughout therapy or change in client levels of sadness over the course of therapy.

**Item 89: Therapist intervenes to help patient avoid or suppress disturbing ideas or feelings.** The client-level variance component was significant,  $\tau_0^2 = .52, SE = .31, p = .003$ , ICC of  $\rho_I = .207$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .14, SE = .22, p = .161$ , ICC of  $\rho_I = .056$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N=41) = 1.15, p = .283$ . Thus, two-level models were specified. Analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 5% of the variability, and the deviance test was not significant,  $\chi^2(3, N=41) = 3.44, p = .328$ , indicating that the addition of attachment

ratings did not improve model fit. The individual coefficients for attachment avoidance and anxiety were not significant.

Results from the unconditional linear model generated a negative value for explained variance, pseudo- $R^2 = -.06$ , and the deviance test was not significant,  $\chi^2(4, N = 41) = .43, p > .50$ , indicating that adding time as a linear parameter was likely a model misspecification (Snijders & Bosker, 2012). The individual coefficient for time slope was not significant. The variance component for the slope of time was not significant,  $\chi^2(40, N = 123) = 39.06, p > .50$ , indicating that the slope did not vary randomly at the client level. Given the non-significant findings from the addition of time to the empty model as well as the possibility of model misspecification, no precedent existed for adding attachment variables at Level 2 in a conditional linear model.

Results indicated that therapist use of interventions to help a client suppress disturbing material did not change in a linear fashion over the course of therapy. Furthermore, client attachment style did not predict differences in the overall amount of these interventions or linear changes in the amount of these interventions over the course of therapy.

**Item 23: Dialogue has a specific focus.** The client-level variance component was significant,  $\tau_0^2 = .94, SE = .44, p < .001$ , ICC of  $\rho_I = .304$ . The therapist-level variance component was not significant,  $\varphi_0^2 = .16, SE = .29, p = .135$ , ICC value of  $\rho_I = .052$ . The deviance test comparing the two- and three-level empty models was not significant,  $\chi^2(1, N = 41) = 1.54, p = .212$ . Given the low therapist-level ICC, the non-significance of the therapist-level variance component,

and the non-significance of the deviance test examining model fit for the two-level compared to the three-level empty model, two-level models were specified. Analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 4% of the variability, and the deviance test was not significant,  $\chi^2(1, N = 41) = 2.49, p = .110$ , indicating that the addition of attachment ratings did not improve model fit. The individual coefficients for attachment avoidance and anxiety were not significant.

Results from the unconditional linear model indicated that the addition of time explained an estimated 3% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 2.06, p = .358$ , indicating that the addition of time did not improve model fit. The individual coefficient for time slope was not significant, and the variance component for the slope of time was not significant,  $\chi^2(40, N = 123) = 46.18, p > .232$ , indicating that the slope did not vary randomly at the client level. Given the lack of random variability among clients in the slope of time, no precedent existed for adding client attachment variables at Level 2 in a conditional linear model.

Results indicated that the focus of dialogue in a session did not change in a linear fashion over the course of therapy. Furthermore, client attachment did not significantly predict the extent to which dialogue was focused in observed psychotherapy sessions.

**Item 70: Patient struggles to control feelings or impulses.** The client-level variance component was significant,  $\tau_0^2 = .47, SE = .31, p = .007$ , ICC of  $\rho_I = .172$ . The therapist-level variance component was also significant,  $\varphi_0^2 = .38, SE = .31, p < .009$ , ICC,  $\rho_I = .141$ . These results indicated that I needed to account for

Level 2 (client) and Level 3 (therapist) in my models. Next, analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 4% of the variability, and the deviance test was significant,  $\chi^2(2, N=41) = 5.85, p = .044$ , indicating that the addition of attachment ratings improved model fit. The individual coefficient for attachment anxiety was not significant, whereas the coefficient for avoidance was significant,  $b = .34, SE = .13, t(25) = 2.517, p = .019$ .

Results from the unconditional linear model generated a negative value for explained variance, pseudo- $R^2 = -.10$ , indicating that the addition of time as an explanatory variable led to model misspecification (Snijders & Bosker, 2012). The deviance test was not significant,  $\chi^2(3, N = 41) = 1.32, p > .50$ . The individual coefficient for time slope was not significant. The variance component for the slope of time was significant,  $\chi^2(27, N = 123) = 44.13, p = .02$ , indicating that the slopes varied randomly among clients. Given the non-significant findings from the addition of time to the empty model as well as the likelihood of model misspecification, no precedent existed for adding attachment variables at Level 2 in a conditional linear model.

Results indicated that client struggle to control impulses and feelings did not change in a linear fashion over the three observed sessions of therapy. Results also indicated that clients with higher attachment avoidance were more likely to struggle to control feelings and impulses during observed therapy sessions.

**Item 50: Therapist draws attention to feelings regarded by the patient as unacceptable.** The client-level variance component was significant,  $\tau_0^2 = .26, SE = .24, p = .029$ , ICC of  $\rho_I = .120$ . The therapist-level variance component was not

significant,  $\varphi_0^2 = .19, SE = .19, p = .051, ICC, \rho_I = .090$ . A deviance test comparing the three-level empty model and the two-level empty model was not significant,  $\chi^2(1, N = 41) = .299, p > .50$ . These results indicated that I needed to account for Level 2 (client) but not Level 3 (therapist) in my models. Hence, two-level models were specified. Analyses of the conditional intercept model indicated that the attachment variables together explained an estimated 5% of the variability. The deviance test was not significant,  $\chi^2(2, N = 41) = 4.71, p = .093$ , indicating that the addition of attachment ratings did not improve model fit. The individual coefficients for attachment anxiety and attachment avoidance were not significant.

Results from the unconditional model indicated that the addition of time to the empty model accounted for an estimated 16% of the variability. The deviance test was not significant,  $\chi^2(3, N = 41) = 4.29, p = .230$ , indicating that the addition of time did not significantly improve model fit. The individual coefficient for the linear slope of time was not significant. The variance component for the slope of time was significant,  $\chi^2(40, N = 123) = 63.83, p = .010$ , indicating that slopes varied randomly among clients. Given that slopes varied randomly, I chose to add attachment variables at the client level in a conditional linear model. Results from the conditional linear model indicated that the addition of client attachment variables accounted for an additional 23% of the variability compared to the unconditional linear model. The deviance test was significant,  $\chi^2(7, N = 41) = 16.97, p = .017$ , indicating that the addition of attachment variables significantly improved model fit. Individual coefficients were significant for the main effects of attachment anxiety,  $b = -.33, SE = .14, t(38) = -2.41, p = .021$ , and attachment avoidance,  $b = .42, SE = .14,$

$t(38) = 2.94, p = .006$ . The coefficients for the main effect for time slope and the cross-level interaction effects were not significant.

Results indicated that the extent to which therapists drew attention to feelings considered unacceptable by the client did not increase or decrease in a linear fashion over the course of therapy. Furthermore, client attachment ratings did not predict linear change in this therapist intervention. However, client attachment significantly predicted overall levels of this variable. For clients with higher attachment anxiety, therapists were less likely to draw attention to feelings regarded by the client as unacceptable. For client with higher attachment avoidance, therapists were more likely to draw attention to these feelings.

### **Summary of Findings**

A factor analysis of therapist items of the PQS (i.e., those items referring to therapist attitudes or interventions during psychotherapy sessions) resulted in a four-factor solution from which the following subscales were derived: Therapist Facilitative Approach (TFA), Therapist Psychodynamic versus Behavioral Interventions (TPB), Therapist Supportive Approach (TSA), and Therapist Process Comments (TPC). Results from HLM analyses of the associations among client attachment style and scores from these four subscales indicated that client ratings of attachment anxiety were not significantly related to any of the four subscales. Client ratings of attachment avoidance were significantly associated with higher overall ratings of the TSA subscale, which involves therapist use of directly supportive and reassuring interventions. Growth curve analyses indicated that none of the subscales significantly increased or decreased in a linear fashion across the initial, middle, and

final phases of therapy. Moreover, neither client attachment anxiety nor attachment avoidance ratings were associated with linear change in PQS subscale ratings over the course of therapy.

Growth curve analyses of the working alliance and the real relationship revealed that neither client attachment anxiety nor avoidance was significantly related to client or therapist ratings of the working alliance or the real relationship. Results showed a lack of significant associations among client attachment ratings and a) overall ratings of the working alliance or real relationship (i.e., the client or therapist mean scores), b) client or therapist ratings of the working alliance or real relationship following the first session of therapy (i.e., the intercept of the conditional growth models), and c) linear and nonlinear patterns of change in client and therapist ratings of the working alliance or real relationship over the course of therapy. Results from linear and nonlinear growth curve analyses indicated that a log-linear trend best fit client and therapist ratings of both the working alliance and real relationship. The log-linear trend indicates a steep rate of growth during the initial sessions of psychotherapy followed by a leveling off to a more gradual slope of growth throughout the remainder of therapy.

Results from HLM analyses of nine individual PQS items revealed significant associations among client attachment ratings and three of the items. First, higher client ratings of attachment anxiety significantly predicted lower observer ratings of the amount of discussion of the client's interpersonal relationships (PQS item 63). Second, higher client ratings of attachment anxiety predicted higher observer ratings of the extent to which clients exhibited feelings of inadequacy or inferiority (PQS

item 59). Lastly, higher client ratings of attachment avoidance predicted higher observer ratings of clients' struggle to control feelings or impulses (PQS Item 70).

## Chapter 6: Discussion

In this chapter, I discuss the findings pertaining to each of the three research questions. Then, I consider the limitations of the study, and finally discuss the implications for future research and clinical practice.

### **Client Attachment and Therapist Attitudes and Interventions**

*Research Question 1: How are therapist attitudes and interventions in the initial, middle, and final phases of psychotherapy related to client attachment anxiety and avoidance?*

Results from an exploratory factor analysis (EFA) indicated that therapist attitudes and interventions observed using the Psychotherapy Q-Set (PQS; Jones, 2000) were best organized by a four-factor solution comprising the following subscales: Therapist Facilitative Attitudes (TFA), Therapist Psychodynamic versus Behavioral Interventions (TPB), Therapist Supportive Approach (TSA), and Therapist Process Comments (TPC).

Of the 46 items on the PQS related to therapist attitudes and interventions, 19 fit into these four factors. A number of similarities and differences exist when comparing the factor structure of the present study with factor structures found in previous literature. Two previous studies have utilized factor analysis to derive subscales from PQS items. First, Jones and Pulos (1993) submitted all 100 PQS items to a factor analysis and extracted four factors that together comprised a total of 37 of the items. Their factor solution accounted for 42% of the variance in these items, whereas the factor solution from the present study accounted for a comparable 40% of the variance in the 19 included items.

Two of the factors from the Jones and Pulos (1993) study, like the factors in the present study, included only items representing therapist attitudes and interventions. Factor 1, Psychodynamic Technique, involved therapist attitudes and techniques typically associated with psychodynamic approaches (e.g., Item 81 – Therapist emphasizes Patient’s feelings to help him/her experience them more deeply). Factor 2, Cognitive-Behavioral Technique, involved therapist attitudes and techniques typically associated with cognitive-behavioral approaches (e.g., Item 38 – There is a discussion of specific activities or tasks for Patient to attempt outside of session). These two factors resemble to Factor 2 from the present study, Therapist Psychodynamic versus Behavioral Interventions (TPB), such that each positively-loaded, psychodynamic item from the TPB factor was included in Jones and Pulos’ Psychodynamic factor, and each negatively-loaded, behavioral item from the TPB factor was included in Jones and Pulos’ Cognitive-Behavioral factor. However, the factors from the Jones and Pulos study were more comprehensive compared with the TPB factor from the present study, in that they contained 10 items each, all of which had a loading value of .50 or above. The TPB factor comprised 6 items, with loading values ranging from .43 to .52.

The Jones and Pulos (1993) psychodynamic and cognitive-behavioral factors, because their respective items demonstrated higher loading values, appear to provide a better solution for assessing psychodynamic versus cognitive-behavioral techniques than the TPB scale from the present study. However, it is important to note that the sample of observed sessions for the Jones and Pulos study involved clients who received either psychodynamic or cognitive-behavioral modalities of therapy with

therapists who identified as adhering to and receiving supervision regarding only one of these modalities (i.e., psychodynamic or cognitive-behavioral). Although clinicians in the present study tend to endorse agreement with the tenets of psychodynamic and person-centered orientations compared with other orientations of therapy, they were not supervised or otherwise requested to adhere to any one modality of therapy when treating clients, as were the therapists in the Jones and Pulos study. Thus, it makes sense that items in the factor solution from the Jones and Pulos study would better represent psychodynamic and cognitive-behavioral intervention styles than would those from the factor solution of the present study.

An additional difference between the findings of Jones and Pulos and those of the present study is that the third and fourth factors from the Jones and Pulos study, Patient Resistance and Patient Negative Affect, comprised only items pertaining to client attitudes and behavior. As therapist attitudes and interventions were the focus of the present study, client-related items were not included in the original item pool for factor analysis. Future research is warranted to determine whether or not these factors can be replicated in a different clinical sample, and, if so, to investigate whether or how they relate to client and therapist factors (e.g., attachment style) as well as other elements of psychotherapy process (e.g., real relationship and working alliance).

In the most recent factor analysis of PQS items to date, Coombs, Coleman, and Jones (2002) submitted all 100 PQS items to a factor analysis and selected a three-factor solution that accounted for 35% of the shared variance of 28 of the items. Factor 2 of the solution, Educative/Directive Process, included positively loading

items that described therapists taking active control and taking on an educative and cognitively focused stance during sessions (e.g., Item 30 – Discussion centers on cognitive themes). Negatively loading items described therapist attention to clients' emotional experience (e.g., Item 81 – Therapist emphasizes patient's feelings in order to help him or her experience them more deeply).

The Coombs et al. (2002) Educative/Directive Process factor is somewhat similar to the TPB factor from the present study, in that each of the behaviorally oriented items from the TPB factor (e.g. Item 27 – Therapist gives explicit advice and guidance) were included in the Coombs et al. factor. However, the Coombs et al. factor included a higher number of behaviorally oriented items (6 items) than emotion-focused or psychodynamic items (3 items), whereas the present study included equal numbers of each item type (3 psychodynamic items and 3 behavioral items). This difference seems most likely attributable to methodological dissimilarities between the Coombs et al. study and the present study. The Coombs et al. sample of sessions involved an equal ratio of sessions of manually guided, brief-term cognitive-behavioral therapy (CBT) and sessions of manually guided, brief-term interpersonal therapy (IPT). The two psychodynamic items from the TPB scale of the present study that were not included in the Coombs et al. factor (Item 91 – Memories and reconstructions of infancy and childhood are topics of discussion; Item 92 – Patient's feelings or perceptions are linked to behavior or experiences of the past) may reflect therapists tendency in the present study to focus more on clients' past experiences given the open-term rather than brief-term span of therapy.

Factor 1 from the Coombs et al. (2002) study was labeled Collaborative Emotional Exploration and included items that referred to clients ability to be insightful about their problems in a manner that involved emotional catharsis and positive expectations about the process and outcome of their therapy (e.g., Item 97 – Patient is introspective, readily explores inner thoughts and feelings). The factor also included three items describing therapist attitudes and approaches that facilitated collaborative emotional exploration (e.g., Item 6 – Therapist is sensitive to the patient’s feelings, attuned to the patient; empathic). All three of these items were included in the Therapist Facilitative Approach (TFA) factor from the present study, suggesting further similarity between the Coombs et al. factor solution and that of the present study.

Factor 3 from the Coombs et al. (2002) study, Patient Inhibition, included only items pertaining to client attitudes and behavior that involve emotional inhibition and an overregulation of feelings. The present study, as previously mentioned, did not include client PQS items in a factor analysis and thus includes no factors comparable to Coombs et al.’s third factor.

When comparing the factor solution of the present study with those from Jones and Pulos (1993) and Coombs et al. (2002), it is important to question whether or not the present study achieved a comparatively good solution. Factor solutions from each study accounted for similar amounts of shared variance, ranging from 35% to 42%. Although comparable, these percentages are low when compared to those from the larger body of factor analysis research in the social sciences, wherein 70% of variance accounted for is considered good (Tabachnik & Fidell, 2007). An

important component of the present study was the categorization of therapist attitudes and interventions using a factor analysis of PQS items. Although the percentage of items retained and variance accounted for in conducting the factor analysis appear similar to the previous PQS factor analyses discussed above, the results of the present study should be considered with some caution given that the factor solution from the present study falls short of more optimal criteria for item loading values and percentage of variance explained discussed in relevant factor analysis literature (Tabachnik & Fidell, 2007).

Client ratings of attachment avoidance were significantly related to only one of the four PQS subscales. Higher client ratings of attachment avoidance were associated with higher ratings of the TSA subscale, which comprises three items: Item 45, “Therapist adopts a supportive stance,” involves “...approval of something the patient has done, or encouraging the patient’s self-assertion,” (p. 338), Item 66, “Therapist is directly reassuring,” involves, “...therapist attempts to directly allay patient anxieties, and/or instilling hope that matters will improve,” (p. 347), and Item 93, “Therapist is neutral,” was reverse-coded for the TSA scale, such that higher ratings for the item indicated that neutrality was uncharacteristic in an observed session. Jones described uncharacteristic ratings for this item as indicating that “...the therapist expresses opinions, or takes positions either explicitly or by implication” (p. 358). Jones (2000) associated these three items with a supportive rather than expressive, or insight-oriented, approach to psychotherapy. He also discussed the necessity of sparse and judicious use of these supportive interventions.

Therapists' more frequent use of supportive interventions may indicate an enactment of two kinds of countertransference in clinical work with clients who endorsed a more avoidant attachment style. First, Jones (2000) argued that use of directly supportive interventions, though intended as positive and compassionate remarks, "...avoid frustration and tension" in the therapeutic relationship by means of placating and reducing the "...intensity of the patient's transference by directly deflecting it" (p. 233). It is possible that therapists utilized more supportive interventions out of an inability to remain open to the pain related to attachment avoidance. Therapists may have recognized the enactment of attachment avoidance as an indicator of past and present underlying pain and reacted in a manner that did not allow clients to process such pain. Second, clients with pronounced attachment avoidance tend to devalue relationships in order to avoid the feeling of rejection (Mikulincer & Shaver, 2007). Although purely speculative, perhaps therapists felt underappreciated or inadequate and responded to client attempts to devalue or repudiate the therapeutic relationship by enacting a defensive attempt to "...rehabilitate themselves as the good therapist" through use of directly supportive interventions (Jones, 2000, p. 233).

On the other hand, perhaps therapists intuitively perceived that avoidant clients needed more support in order to more authentically and vulnerably engage in treatment. They may have been responsive to client needs, providing overt support in an effort to align with and gain the trust of clients who engaged in a distant manner or appeared suspicious of the therapist and the therapeutic endeavor. Although speculative, this interpretation is supported by Janzen, Fitzpatrick, and Blake (2006),

who found that in client-nominated alliance-building sessions in the early phase of psychotherapy, clients who endorsed higher attachment avoidance preferred supportive over interpretive or more affect-focused reflective therapist interventions.

Client ratings of attachment anxiety were not significantly related to any of the four PQS subscale ratings. Therapist interventions, as measured by the PQS subscales, did not change in a linear fashion (nonlinear trends were not assessed) over the initial, middle, and final observed sessions of therapy, and there were no interactions between attachment ratings (avoidance or anxiety) and time for any of the subscales. These findings suggest that client attachment style was not alone a sufficient predictor of therapist interventions or patterns of change in interventions over a course of treatment.

The lack of findings for changes across time for clients with different attachment styles did not replicate Daly and Mallinckrodt's (2009) findings from their qualitative study of experienced therapists' reports on their probable work with anxious and avoidant adult clients (they were presented with vignettes of fictitious clients). Therapists in the Daly and Mallinckrodt study referred to the importance of regulating the level of therapeutic distance in their work with clients over the course of therapy. When discussing work with a client with high attachment avoidance, therapists tended to report that they would allow a greater than optimal level of affective distance at the outset of therapy to gratify client use of deactivating attachment strategies. Therapists discussed the importance of gradually engaging these clients in experiencing and expressing vulnerable and painful feelings, thus narrowing distance to a more optimal level. When discussing work with a client with

high attachment anxiety, therapists reported that they would allow a closer than optimal level of distance to gratify client use of hyperactivating attachment strategies. Therapists then gradually would extend distance to a more optimal level by empathically labeling, organizing, and interpreting the patterns and functions of client intense emotions as they pertained to the therapeutic relationship and other relationships.

It is possible that findings from the present study differ from those of the Daly and Mallinckrodt (2009) study because of methodological dissimilarity. First, therapists in the Daly and Mallinckrodt study responded to two client vignettes, one created using wording from ECR Anxiety subscale items and the other from Avoidance subscale items. Therapists were selected by colleagues for having a reputation of being especially effective in working with clients with interpersonal problems. Given their area of clinical expertise, it is possible that therapist participants surmised client attachment orientation from the vignettes. Contrastingly, in the present study, neither therapists nor judges had access to or were aware of client ECR Anxiety and Avoidance subscale ratings. It may be that therapists are more likely to alter their interventions and approach when made more explicitly aware of a client's attachment style or attachment-related dynamics at the outset of therapy.

A second major difference between the two studies is that therapists in the Daly and Mallinckrodt study were interviewed on how they *would likely* conceptualize and intervene with clients, whereas therapists in the present study were

observed during the work with clients. Observing actual interventions is quite different from asking therapists how they might intervene with fictitious clients.

The finding of a predominant lack of significant associations amongst client attachment style ratings and therapist interventions from the present study replicated in part Romano et al.'s (2009) findings from their study on associations among client attachment style, therapist attachment style, and therapist interventions early in brief-term psychotherapy. In the Romano et al. study, neither client nor therapist attachment style ratings (avoidance or anxiety) were significantly associated with therapist interventions. However, Romano et al. found a significant interaction between client and therapist attachment avoidance, such that high client attachment avoidance along with high therapist attachment avoidance predicted a higher frequency of therapist directive interventions early in therapy. Perhaps therapist interventions are more strongly predicted by the interaction of client and therapist attachment styles than by client or therapist attachment styles alone. Bowlby (1988) made such an assertion, claiming that both client and therapist attachment orientations influence the therapy process. In line with this assertion, Rubino et al. (2000) found that therapists with an insecure attachment orientation responded with less empathy in their work with clients, especially when working with clients with an insecure attachment orientation. Moreover, Mohr et al. (2005) found that therapists with higher levels of attachment avoidance demonstrated more pronounced distancing and hostile countertransference behavior when working with clients who endorsed higher levels of attachment avoidance. Unfortunately, I was not able to include therapist attachment in these analyses because of the small number of therapists, but a direction

of future research is to examine therapist attitudes and interventions as they relate to both client and therapist attachment styles.

Although past and future research on client attachment and psychotherapy process stands to inform researchers and clinicians, findings from the present study bring into question the extent to which researchers and practitioners stand to benefit from directly altering their interventions and approach in therapy based solely upon initial knowledge of a client's attachment style. A number of recent texts (e.g., Brisch, 2012; Wallin, 2011; Holmes, 2001) have incorporated theoretical and empirical literature to promote specific ways of intervening based on an early assessment of client attachment style. However, as Eagle (2013) pointed out, there is no distinctive form of psychotherapy that constitutes a therapeutic approach based on attachment theory. Eagle indicated that prescribed approaches in these texts (e.g., use of self-disclosure, use of meditation and mindfulness in psychotherapy), although interesting and potentially useful, have "...little to do with attachment theory" (p. 160).

Eagle (2013) suggested that attachment theory be utilized to conceptualize and monitor a client's attachment pattern as an inconstant, unfolding, and informative component of the treatment endeavor rather than as a basis from which to formulate a specific therapeutic approach early in therapy. Slade (2008) explained that, "...attachment theory and research have the potential to *enrich* (rather than dictate) a therapist's understanding of particular patients" (p. 763). In line with Slade's comments, Eagle wrote, "...rather than constituting a new therapeutic approach or pointing to new specific interventions, attachment theory informs psychotherapy by

alerting and sensitizing the therapist to certain central aspects of the patient's life" (p. 162). Findings from the present study harmonize with these sentiments, indicating that, for the most part, therapist approaches were not predicted or dictated by client attachment style ratings.

### **Client Attachment and the Working Alliance**

*Research Question 2: How are client ratings of attachment anxiety and avoidance related to client and/or therapist post-session ratings of the quality of the working alliance over a course of therapy?*

Client ratings of attachment anxiety and attachment avoidance did not significantly predict client or therapist mean ratings of the working alliance over the course of therapy, following the first session of therapy, or patterns of change in client or therapist ratings of the working alliance over the course of therapy. Moreover, all effect sizes for associations among client attachment ratings and ratings of the working alliance were small. Thus, the findings strongly suggest that client attachment is not related to working alliance.

These findings contradict those from a majority of previous studies on the associations among client attachment ratings and the quality of the working alliance. In two meta-analyses, Deiner and colleagues (Deiner et al., 2009; Deiner & Monroe, 2011) found that client ratings of attachment insecurity were significantly and inversely related to both client and therapist ratings of the working alliance, with the average effect size from both meta-analyses of .17 falling between the small and medium magnitude classifications set forth by Cohen (1988). Deiner and Monroe

(2011) suggested that therapists should attend closely to the quality of the working alliance when working with clients who present with an insecure attachment style.

An examination of the 17 studies included in the Deiner and Monroe (2011) meta-analysis reveals a number of possible explanations for differences between their findings and those of the present study. First, only three of the 17 studies (Schiff & Levit, 2010; Marmarosh et al., 2009; Romano et al., 2008;) utilized the ECR scale to measure client attachment, whereas the others used alternate likert-scale attachment questionnaires (e.g., the Relationship Style Questionnaire; RSQ). In addition, Deiner and Monroe combined the anxiety and avoidance subscale scores to represent an overall attachment insecurity score for each study, thereby averaging the influence anxiety and avoidance on the quality of the working alliance. It is thus possible that findings from the present study differ from Deiner and Monroe's findings due to measurement inconsistencies between the group of studies included in their meta-analysis and the present study.

Two of the three studies in the Diener and Monroe meta-analysis that used the ECR found similar results. In the Romano et al. (2008) study, neither attachment anxiety nor attachment avoidance significantly predicted client or therapist ratings of the working alliance during the middle phase of brief-term therapy. Similarly, in the Schiff and Levit (2010) study, neither attachment anxiety nor avoidance was significantly associated with client ratings of the working alliance early in therapy. Marmarosh et al. (2009), on the other hand, found that following the third session of therapy client ratings of attachment avoidance were significantly inversely related to client ratings of the working alliance but not significantly related to therapist ratings

of the working alliance. Marmarosh et al. found that client ratings of attachment anxiety were not significantly related to client or therapist ratings of the working alliance. When examining the results of these three studies along with those of the present study, there does not appear to be any support that client attachment anxiety when measured by the ECR is related to working alliance and only minimal support that client attachment avoidance may be related to working alliance.

Another difference between the current study and those in the meta-analyses is that all studies included in the Deiner and Monroe (2011) meta-analysis examined working alliance ratings either at one time point usually after the third session (16 of the 17 included studies) or as an average of scores from five sessions in the middle phase of brief-term psychotherapy (Romano et al., 2009). In the present study, I examined measurements of the working alliance following every session of psychotherapy. The analyses utilized in the present study allowed for an examination of the relationships among attachment style and a) client and therapist mean ratings (i.e., the person-mean) of the working alliance over the entire course of therapy, b) ratings of the working alliance following the first session of therapy (i.e., the intercept in the conditional linear model), and c) patterns of change in alliance ratings over the course of therapy. Linear and quadratic (high-low-high) trends of alliance development were tested in the present study, but the model of best fit included a log-linear growth curve. Findings indicated that the working alliance increased at a steep rate of change during the initial phase of therapy before leveling off to a more gradual rate of growth over the remainder of the course of therapy. This finding may point to the importance of establishing a sound working alliance early in therapy as a means

of setting the stage for sustained engagement in therapeutic collaboration over the remainder of treatment. Future research involving growth curve analyses should be implemented to determine whether or not this pattern is replicated in another sample as well as to determine whether or not this pattern of change relates to patterns of change in other elements of psychotherapy process or psychotherapy outcome.

### **Client Attachment and the Real Relationship**

*Research Question 3: How are client ratings of attachment anxiety and avoidance related to client and/or therapist post-session ratings of the quality of the real relationship over a course of therapy?*

Similar to findings regarding the working alliance, client self-report ratings of attachment anxiety and avoidance did not predict mean client or therapist ratings of the real relationship over the course of therapy (i.e., the person-mean for each client), following the first session of therapy (i.e., the intercept in the conditional linear and nonlinear models), or changes over the course of therapy. The findings of the present study differ from those of Marmarosh et al. (2009) and Moore and Gelso (2011) who found that client attachment avoidance was significantly and inversely related to ratings of the real relationship. Authors of both studies suggested that higher levels of client attachment avoidance hinder a client's capacity to develop and experience a real relationship with her or his psychotherapist. Differences in findings from the present study when compared to the Marmarosh et al. (2009) and Moore and Gelso (2011) studies may be attributable to methodological dissimilarities. Whereas Marmarosh et al. assessed the real relationship after the third session of psychotherapy and Moore and Gelso (2011) assessed participant recollections of the

overall quality of the real relationship from a previously completed course of therapy, the present study assessed the real relationship following every session of therapy.

As found with ratings of the working alliance, the model of best fit for real relationship ratings of both clients and therapists had a log-linear trajectory of development. Ratings of the real relationship increased steeply early in the course of therapy before decelerating to more gradual growth over the remainder of the course of therapy. Similar to what I proposed regarding the working alliance, it appears that the early development of a sound real relationship may be the critical laying of groundwork from which the client and therapist continue to genuinely and realistically “take one another in,” a notion borrowed from Gelso and Hayes (1998), as they progress together through the therapeutic endeavor. Findings demonstrating log-linear growth curves for both real relationship and working alliance ratings suggest the importance of future research on the growth patterns of elements of the therapeutic alliance over the course of therapy as well as how these patterns relate to patterns of change in psychotherapy outcome.

As discussed in the previous section on therapist attitudes and interventions, it is possible that client attachment style predicts either client or therapist ratings of the real relationship through a mediator variable or in interaction with a moderator variable. For instance, perhaps client-therapist dyads in which both the client and therapist rate higher levels of attachment avoidance develop a poorer real relationship than dyads in which the client and therapist have complementary attachment styles (e.g. higher attachment avoidance with higher attachment anxiety). It is also possible that the relationships among client attachment style ratings and ratings of the real

relationship are mediated by therapist approaches and interventions, including the ability to manage countertransference and/or the ability to demonstrate accurate empathy in a session or over a course of sessions.

### **PQS Post-hoc Analyses**

In addition to analyzing the relationship between attachment and the four subscales derived from the factor analysis of the therapist items on the PSQ, I also utilized growth curve modeling to analyze the associations among attachment style and individual items on the PQS that were identified as being significantly correlated either to client ratings of attachment avoidance or anxiety (these items are displayed in Table 3). Five of these items were not analyzed using HLM because each was included in one of the four PQS subscales. Of the 9 items analyzed, 3 were found to be significantly associated with client attachment style, with 1 item referring to therapist and/or client focus on interpersonal relationships and the other 2 items referring to particular client attitudes or behavior.

First, higher client ratings of attachment anxiety were associated with lower observer ratings of the amount of discussion of the client's interpersonal relationships in therapy sessions (PQS item 63). This finding appears counterintuitive, given that individuals with higher attachment anxiety tend to be more expressive about and preoccupied with their interpersonal relationships. For instance, Mikulincer and Shaver (2007) indicated that higher attachment anxiety is associated with hyperactivation of the attachment system in close relationships, such that individuals with higher attachment anxiety are more likely to be preoccupied with worry over the availability, intentions, and responsiveness of close relationship partners. In addition,

hyperactivation of the attachment system often involves exaggerated expressions of fear, need, and doubt in close relationships (Mikulincer & Shaver, 2003; 2007).

Perhaps the finding of this study is spurious, and future research should be conducted to determine its replicability. Although highly speculative, one possible interpretation of this finding is that the lower extent to which focus was placed on interpersonal relationships could have been due mostly to therapists' reluctance to maintain focus on this topic. Therapists may have felt overwhelmed by the intensity and persistence of client's experience of pain in their relationships, and, in enactments of countertransference, steered the focus to a less overwhelming topic.

Second, higher client ratings of attachment anxiety were associated with higher observer ratings of the extent to which clients demonstrated feelings of inadequacy or inferiority (PQS item number 59). This finding is consistent with current theory and research on adult attachment style. Individuals with high attachment anxiety have a tendency to hyperactivate their attachment system (Mikulincer & Shaver, 2007), demonstrate pessimistic self-defeating attitudes and lower confidence in their ability to solve problems (Berant et al., 2005; Wei, Heppner, & Mallinckrodt, 2003), and focus their attention on their own vulnerability and inadequacy and elicit attention and care from others (Mikulincer et al., 2009). According to Mikulincer et al, "The hubbub and distraction generated by strident, impulsive expressions of pain, need, and anger may direct attention and energy away from a deeper problem: sensing oneself as not very substantial at all and not worthy to make *something* happen, and even if that something is unpleasant, it may feel

better than nothing – that is, better than existential isolation and worthlessness” (p. 309).

Third, higher client attachment avoidance was associated with higher observer ratings of clients’ struggle to control feeling or impulses (PQS item 70). This finding appears inconsistent with a majority of theory and research on adult attachment. Individuals with higher attachment avoidance tend to deactivate their attachment systems, a process which in large part involves suppression of affect. Avoidant individuals are often adept in suppressing painful thoughts and feelings, particularly if they pertain to relationships. However, studies have shown that when under chronic distress or when under high distress combined with high cognitive load, avoidant individuals experienced and express negative emotions. Furthermore, studies have shown that avoidant individuals, compared with secure individuals, reported lower levels of anger in response to an anger-evoking event but showed higher levels of physiological arousal (Mikulincer & Shaver, 2007). One study showed that avoidant individuals showed few negative feelings when discussing their parents as part of the AAI, but showed high levels of physiological arousal and more intense facial expressions of anger and sadness (Spangler & Zimmerman, 2009). It is thus possible that observers were able to see the discomfort that arose as clients with higher attachment avoidance struggled to control their feelings and impulses in psychotherapy sessions that may have involved discussion of evocative content.

### **Limitations**

**Limitations of the use of the PQS.** There were a number of limitations regarding use of the PQS to measure therapist interventions and attitudes. Although

the factor analysis of PQS items produced four subscales that each captured distinct and meaningful elements of therapy process, a majority of the therapist items (27 of 46) were dropped either due to poor inter-rater reliability or sampling inadequacy. Among these items exist a number of interesting themes that unfortunately were not captured by the four derived subscales. For instance, therapist use of immediacy was not assessed by any of the subscales. The associations among use of immediacy and client attachment style is of particular interest given theoretical and empirical literature on the therapist's role as an attachment figure who ideally provides a secure base for the client (Eagle, 2013; Mallinckrodt, Porter, & Kivlighan, 2005; Parish & Eagle, 2003). As part of Bowlby's (1988) writing on the therapist's role as a secure base figure, he indicated "A particular relationship that the therapist encourages the patient to examine...is the relationship between the two of them" (p. 138).

In a recent examination of immediacy events in psychodynamic/interpersonal therapy, Hill et al. (2013) found that when compared to clients with a secure attachment style, clients with a fearful attachment style, characterized by both high attachment anxiety and avoidance, tended to focus less on tasks and ruptures in the relationship and more on feelings. Moreover, higher fearful attachment style ratings were correlated with longer average event times, a greater likelihood of therapist initiation of the event, and higher overall ratings of quality by a group of judges who viewed the events. Given the theoretical propositions mentioned above and the recent findings of Hill et al., it would have been interesting to examine the associations among client attachment style and observer ratings of the prevalence of therapist use of immediacy in the present study. Two PQS items directly address immediacy (Item

98 – The therapy relationship is a focus of discussion; Item 100 – Therapist draws connections between the therapeutic relationship and other relationships), but neither was retained for analyses due to poor sampling adequacy values. Hence, a larger sample of rated sessions may have allowed for the retention of these items in a factor analysis.

A topic discussed briefly above that was not directly addressed using the PQS is the component of the therapeutic relationship termed by Gelso and Hayes (1998) as the transference-countertransference configuration. Several studies have examined relationships among client attachment style, therapist attachment style, and transference and/or countertransference (Marmarosh et al., 2009; Mohr et al., 2005; Woodhouse et al., 2003; Ligiero & Gelso, 2002; Rubino et al., 2002), with disparate findings and interpretations. Given that a number of PQS items either directly or indirectly examine client transference and therapist countertransference, the present study would potentially have benefited from the inclusion of these items in analyses. For example, Item 24, Therapist's own emotional conflicts intrude into the relationship, and Item 77, Therapist is tactless, appear to be direct indicators of countertransference, whereas Item 9, Therapist is distant, aloof (versus responsive, involved), and Item 51, Therapist condescends to or patronizes to the patient, appear suggestive of the enactment of countertransference. Similarly, Item 19, There is an erotic quality to the relationship, suggests an erotic transference pattern; Item 44, Patient rejects (vs. accepts) therapist's comments and observations, and item 39, There is a competitive quality to the relationship, suggest an aggressive transference pattern; and Item 52, Patient relies on the therapist to solve his/her problems, and

Item 78, Patient seeks therapist's approval, affection, or sympathy, suggest a dependent transference pattern. Due to sample size constraints and inadequate inter-rater reliability for a number of individual items, most items regarding client attitudes and behavior as well as items about the nature of the therapeutic relationship were not included in analyses. None of the therapist items pertaining directly to countertransference were retained for factor analysis due to sampling inadequacy or poor inter-rater reliability.

Perhaps items pertaining to transference-countertransference patterns exhibited inadequate inter-rater reliability due to the undergraduate judges' lack of exposure to and training in the theory and practice of psychotherapy. Transference-countertransference patterns often emerge subtly in sessions of psychotherapy and were likely difficult to discern by judges who possessed minimal knowledge about these dynamics. For example, it is possible that item 19 regarding the enactment of erotic transference and/or countertransference or item 24 regarding the intrusion of the therapist's emotional conflicts into the relationship were difficult to ascertain by undergraduate students given that they relied on minimal instructions from the PQS manual and were likely uninformed regarding how these dynamics might manifest in a psychotherapy session. In the future, researchers intending to utilize the PQS should consider the level of exposure to and training in psychotherapy theory and practice necessary to provide a sound foundation for learning to codes sessions accurately.

There were myriad other PQS items and possible themes among items that capture important aspects of psychotherapy process and would have been

advantageous additions to the present study's analyses. It is unfortunate that more items were not suitable for analyses.

The use of the PQS and the choice of a factor analysis for the derivation of subscales involved both strengths and drawbacks in the present study. On the one hand, meaningful and distinct patterns in therapist attitudes and interventions were derived and examined. On the other, many meaningful elements of process were unsuitable for analyses. As utilized in the present study, the PQS did not demonstrate one of its proclaimed greatest strengths, which is the 100-item measure's ability to provide a nuanced description of the process of a psychotherapy session. Future researchers may benefit from acknowledging the limitations of the present study when approaching psychotherapy research that involves a relatively small sample size. In such cases, careful consideration should be made regarding whether and how to use the PQS as a measure of psychotherapy process.

**Limitations of the use of the ECR.** Although the ECR has been credited as the widely used self-report measure of adult attachment (Mickulincer & Shaver, 2007), some evidence suggests potential advantages in the utilization a different approach to conceptualizing and classifying adult attachment, particularly use of the AAI.

In a discussion on the measurement of adult attachment patterns, Eagle (2013) presented findings on low correlations between the AAI and self-report classifications of attachment, including those gleaned from the ECR, as well as findings on robust correlations between an individual's Strange Situation classification during early childhood and his or her AAI classification during adulthood. Eagle pointed out that

the AAI likely measures a trait-like, stable attachment classification (e.g., preoccupied, dismissive) that reflects an individual's internal working model of attachment in general, or, as characterized by Main et al. (1985), one's "state of mind with respect to attachment." The ECR, on the other hand, involves a conscious evaluation of what Eagle referred to as "situationally determined" attitudes and feelings regarding present relationships (p. 58). Further, in contrast to ratings on the ECR, classifications from the AAI involve implicit representations to which individuals often do not have access. Although speculative, perhaps the affective and/or behavioral manifestations of these long-standing and implicit representations, as they emerge in the process of psychotherapy, have a more substantial bearing on therapist attitudes and interventions than ratings from self-report measures such as the ECR.

**General limitations.** One general limitation of the present study was that therapists were trainees, such that counselor experience may have played an unknown role in the present study. Hence, generalizability of findings to more or less experienced therapists is questionable, particularly given evidence that therapists of different experience levels differ in their ability to develop a sound working alliance with avoidant clients (Kivlighan et al., 1998).

Second, the wide range and the non-normal distribution of the number of sessions attended may have confounded the study's results. It is possible that initial, middle, and late sessions involve different elements of process based upon the overall duration of therapy. Thus, the therapeutic process in the median session number for a brief course of therapy (e.g., 8 sessions) may not be comparable to the process in the

median session for a longer-term course of therapy (e.g., 106 sessions). In addition, the non-normal distribution of session numbers calls into question the effect of outliers. For example, only 3 clients attended more than 75 sessions. It is possible that these three cases were outliers, and their data may have confounded analyses and interpretation of findings from the full sample.

Finally, the findings of the present study may have been negatively impacted by a lower sample size of clients and therapists than would have been optimal to achieve a desired level of statistical power and appropriately control Type II error. It may be that associations among client attachment style and elements of psychotherapy process would emerge if a larger, more diverse sample of clients and therapists were examined.

### **Implications for Research and Practice**

Although the present study primarily found non-significant associations among client attachment style and elements of psychotherapy process, continued examination of associations among client attachment style and psychotherapy process remains important, as this line of inquiry informs researchers and clinicians with a more nuanced understanding of aspects of psychotherapy process that may emerge as helpful (e.g., negotiation of therapeutic distance) or potentially harmful (e.g., enactment of countertransference) when clients demonstrate or report various attachment patterns over a course of therapy.

Given the findings from the present study and considering the words of Slade (2008) and Eagle (2013) regarding attachment theory as enriching rather than dictating clinical intervention, the question arises, How can psychotherapy research

approach the study of attachment in a manner that will offer insight into its nuanced role in the therapeutic endeavor? In my subsequent and final paragraphs, I discuss several interesting avenues for future research.

From Bowlby's (1988) seminal chapter on the pertinence of attachment theory to the practice of psychotherapy to several recent books on the topic (e.g., Eagle, 2013; Obegi & Berant, 2009), numerous scholars have suggested that psychotherapy process and outcome is influenced by the attachment patterns of both the client and the therapist. Hence, future research is indicated to examine and clarify the ways in which client and therapist attachment styles interact and influence the process of psychotherapy. In a passage about the therapeutic relationship and the process of therapy, Bowlby alluded to the interaction between client and therapist attachment styles, asserting that, "...a patient's way of construing his relationship with his therapist is not determined solely by the patient's history: it is determined no less by the way the therapist treats him. Thus the therapist must strive always to be aware of the nature of his own contribution to the relationship, which, among other influences, is likely to reflect in one way or another what he himself experienced in his own childhood" (p. 141).

Eagle (2013) discussed the possible effect of a "match" between client and therapist attachment patterns on psychotherapy process and outcome, summarizing a number of studies by suggesting the favorability of complementary rather than alike attachment style pairings (e.g., a therapist higher in attachment anxiety paired with a client higher in attachment avoidance vs. both therapist and client with similar avoidant attachment patterns). Eagle asserted that the positive effects of

complementarity are likely due to less collusion between client and therapist than that which may transpire when client and therapist share very similar patterns of attachment insecurity (e.g., ignoring or dismissing client intimacy issues when both therapist and client have a more avoidant attachment style). Several studies, including Rubino et al. (2000), Mohr et al. (2005), and Romano et al. (2009), have shown that interactions between client and therapist attachment styles, rather than client or therapist attachment ratings alone, predict therapist behavior, although findings from Mohr et al.'s (2005) examination of countertransference contradict Eagle's notions on the potential advantage of complementarity and disadvantage of similarity of client and therapist attachment patterns. Considering these findings along with findings from the present study showing that client attachment style alone did not significantly predict a majority of the examined elements of psychotherapy process, future research should examine whether and how the interaction of client and therapist attachment styles relates to therapist attitudes and interventions as well as ratings of the working alliance and the real relationship over the course of therapy.

It would also be valuable to make a methodological shift from the use of observational measures rated by judges to the use of therapists' and clients' observation and coding of their own work. Hill and colleagues developed the Therapist Intentions List (Hill & O'Grady, 1985; Hill, Helms, Tichenor, et al., 1988) tool with which therapists observing a video recording of a session of psychotherapy identify their intentions in the selection and use of each of their interventions (e.g., identify and intensify cognitions, behaviors, and feelings; instill hope; get information). Hill, Helms, Spiegel, & Tichenor (1988) developed the Client

Reactions System, a tool with which clients observing a video recording of a session identify their reactions to each therapist intervention (e.g., understood, supported, stuck, confused). Using these measures, researchers could gain insight regarding whether and how client and/or therapist attachment styles predict differences among the types of intentions therapists report and/or the types of reactions clients recall when reviewing their work. Specifically, research could examine whether attachment style predicts the extent to which client reactions relate to or match up with therapist intentions in sessions of therapy, as Hill, Helms, Tichenor, et al. (1988) found that more intentions were related to client reactions in successful cases of therapy than in unsuccessful cases.

Another fertile area for future research involves the measurement of client and therapist physiological responses. Technology for the assessment of physiological phenomena has advanced such that physiological correlates of affect and emotion regulation can now be recorded during psychotherapy sessions with minimal intrusion by equipment or setup. Numerous and increasingly affordable hardware and software formats exist for the tracking and analysis of physiological phenomena. Among these phenomena, heart rate variability appears particularly promising in the study of attachment and psychotherapy process. Heart rate variability is the beat-to-beat variation in heart rate that is regulated by the interaction of the sympathetic and parasympathetic (vagus) nerves of the autonomic nervous system. Irregular heart rate variability has been associated with negative affect, including stress and increased cortisol levels, anxiety, and anger, as well as muscle tension, gaze avoidance, affect-incoherent facial expressions, and impaired listening ability. A regular or “coherent”

pattern has been associated with more positive emotions, including compassion, appreciation, and hope, as well as social engagement, clearer communication abilities, a sense of safety and security, and affect-coherent facial expressions (Porges, 2003). Although associations among attachment style and physiological responses not yet been studied in the context of psychotherapy, numerous studies in the areas of neuroscience and developmental psychology have found evidence for physiological and behavioral correlates, including heart rate variability and facial expression, of adult attachment style as measured by ECR ratings (Mikulincer & Shaver, 2008; Maunder et al., 2006) and AAI classifications (Roisman, 2007; Roisman, Tsai, & Chang, 2004; Dozier & Kobak, 1992)

As a final note, it may be that attachment style matters more during key moments or important events in therapy rather than during treatment in general (Stiles, 2002; Elliot, 1991). When considering future directions in the study of the clinical implications of attachment style, researchers should consider examining client-, therapist-, or observer-identified important events in therapy, including rupture and repair events (Safran & Muran, 2001), immediacy events (Hill et al., 2013), or corrective relational experience (CRE) events (Hill, Castonguay, Farber, et al., 2012). Client and therapist attachment patterns may crucially influence the process and outcome of these events.

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