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UNIVERSITY OF SOUTHAMPTON

FACULTY OF MEDICINE, HEALTH AND LIFE SCIENCES

School of Psychology

Adult Attachment and Mental Representations of
Significant Others

by

Yitshak Alfasi

Thesis for the degree of Doctor of Philosophy

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ABSTRACT

FACULTY OF MEDICINE, HEALTH AND LIFE SCIENCES

SCHOOL OF PSYCHOLOGY

Doctor of Philosophy

ADULT ATTACHMENT AND MENTAL REPRESENTATIONS OF
SIGNIFICANT OTHERS

by Yitshak Alfasi

According to attachment theory, the infant shapes perceptions on self and significant others based on his or her experience with the primary caregiver. These perceptions include thoughts and beliefs regards the extent to which the self is worthy of love, and the extent to which others are reliable sources of love and protection. Thoughts and beliefs about the self are defined as working models of self, thoughts and belief about others are defined as working models of others.

To date, attachment researchers have characterized individual differences in working models predominantly in terms of valence (positive versus negative). However, there are both theoretical and empirical reasons to suggest that it may not be sufficient, and that working models also differ between individuals in terms of stability and organizational structure. Accordingly, the current thesis investigated the proposal that individual differences in attachment relates to change in working models, in specific models of significant others, in response to transient evaluative events.

Five studies examined the association between individual differences in attachment and systematic fluctuations in appraisals of significant others (romantic partners), and the psychological processes that underlie them. Study 1 showed that people with high levels of attachment anxiety hold unstable views of their romantic partners. Study 2 and Study 3 provided evidence that under threat to the ego or threat to the relationship people with high levels of attachment anxiety decrease esteem for their romantic partner. In Study 4 and Study 5 higher levels of attachment anxiety and attachment avoidance were both associated with greater ambivalence towards the romantic partner.

Overall, findings supported the proposal that working models of attachment differ not only in terms of how positively or negatively others are perceived, but also in terms of the temporal stability of these perceptions. These findings have implications for research in the domains of attachment and romantic relationships, and on romantic relationships' functioning.

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Declaration of Authorship

I, Yitshak Alfasi, declare that the thesis entitled *Adult Attachment and Mental Representations of Significant Others* and the work presented in the thesis, are both my own and have been generated by me as the result of my own original research.

I confirm that:

- This work was done wholly while in candidature for a research degree at the University of Southampton;
- Where I have consulted the published work of others, this is always clearly attributed;
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- Parts of this work have been published as:

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CHAPTER I

Adult Attachment and Mental Representations of Significant Others:

Introduction

To some extent, people differ in their general attitudes toward others. Misanthropes tend to dislike and distrust, whereas philanthropes tend to love and cherish other human beings. However, these are extremes as most people vary in their attitudes toward others – liking some and disliking others. In fact, even a person's attitude toward a specific individual can vary at different times and under different circumstances.

People's perceptions of others have been the focus of psychological research for many decades (Gilbert, 1998). Psychologists refer to sets of beliefs about others as person schemas (Fiske & Taylor, 1991). These schemas vary in terms of their valence (i.e., how positive or negative they are), but also their organizational structure (i.e., how coherent and consistent they are). The importance of the organizational structure of beliefs about others is particularly evident when focusing on close personal relationships (Showers & Kevlyn, 1999). Therefore, in the current research program I have set to identify how differences in the structure of organization of knowledge about important others in people's lives relates to systematic variations in attachment behaviour (Bowlby, 1969/1982; 1973; 1980).

Over the last half a century, theory on attachment behaviour established itself as one of the most important frameworks for research on individual differences in behaviour in close relationships. According to attachment theory, the infant's experience with the primary caregiver (e.g., the mother) shapes patterns which characterize behaviour in close relationships across the lifespan (Bowlby 1969/1982). That is, infants who experience soothing, sensitive, and responsive care-giving treatment are likely to possess *attachment security*- a sense that the world is a safe place and that others are a reliable source of protection. In contrast, infants who experience cold, insensitive, or rejecting care-giving treatment are likely to develop high levels of either *attachment anxiety*, characterized by clinging to others and fear of abandonment, or *attachment avoidance*, characterized by discomfort with interdependency and intimacy (Ainsworth, Blehar, Waters, & Wall, 1978).

One of Bowlby's most important theoretical ideas is that attachment patterns reflect innate mental representations of *self* (as worthy or unworthy of love and protection) and of *others* (as reliable or unreliable sources of care; Bowlby, 1973). Literature on behaviour in close relationships (e.g., Carnelley, Pietromonaco, & Jaffe, 1994) emphasizes the importance of these representations to the quality and stability of intimate relationships in adulthood.

Previous studies (e.g., Main, 1990; Murray, Holmes, & Griffin, 1996; Pietromonaco & Feldman-Barrett, 1997) showed that positive, stable, and coherent models of others are essential features in long-lasting, stable, and satisfying relationships. One explanation for these findings is that firmly established positive models of others are resistant to temporary setbacks which are inevitable parts of any interpersonal relationships (Hesse, 1999).

In the current chapter, I review the main theoretical principles of attachment theory and summarize the relevant empirical evidence, which have been accumulated within the domain since the theory was introduced by Bowlby in the 1960's. In addition I identify a gap in literature with respect to working-models of others and explain the rationale behind the investigation being carried forward in the current PhD program.

Attachment Theory and Research

Perhaps the most innovative breakthrough made by the classic theorists of psychology in the early 20th century is the presentation of the idea that main aspects of a person's mental world-- personality, characteristics, and behaviour - are consequences of the relationship he or she had with the main caregiver (the mother in most cases) in childhood. Most notably, Sigmund Freud's psychoanalytic theory traced various aspects of psychological dysfunctions all the way back to the early days of infancy. Freud interpreted many disturbances of mental function as expressions of conflicts rooted in early childhood that are hidden, or suppressed, in a level of the mind which he described as "subconscious."

Following in Freud's footsteps, John Bowlby, a British child psychiatrist, defined and illustrated a broad and comprehensive theory, called "Attachment Theory", on what he originally described as "the child's tie to his mother" (Bowlby, 1958). In particular, Bowlby was interested in the manner in which early childhood "maternal deprivation" affects the child's mental health -- specifically, his or her ability to establish close emotional ties with other people in the future. While working as a family clinician at a clinic in London, in the years following World War II, he began to conduct research on the impacts suffered by children who were separated from their parents. Already at this early stage of his work he had noticed what later became one of the hallmarks of attachment theory: the intergenerational transmission of emotional-deprivation. In an essay based on his workplace clinical observations Bowlby concluded as follows: "Thus it seen how children who suffer deprivation grow up to become parents deficient in the capacity to care for their children and how adults deficient in this capacity are commonly those who suffered deprivation in childhood" (Bowlby, 1951, pp. 68-69).

Although Bowlby was influenced by Freud's and his followers, such as Melanie Klein (under whom he took psychoanalytic training), he distinguished his theory from classical

psychoanalytical theories in two manners. First, unlike Freud, Bowlby, saw the infant's tight bond with his or her mother not in the context of the sexual libido, but rather as a functional behavioural-functional instinct developed through the natural-selection process of evolution because proximity to a stronger and wiser figure is likely to enhance the species' chances of survival in an unfamiliar environment. Second, whereas other psychoanalytic theorists and clinicians have dealt mainly with a person's fantasies, Bowlby emphasized actual experience, especially childhood experiences with the parents in infancy and early childhood.

The Attachment Behavioural System

Based on those two principles Bowlby (1969/1982) developed a concept which he described as the "*attachment behavioural system*". The concept of behavioural system is taken from an evolutionary perspective and refers to a biological neural programme common to all living species. A behavioural system directs behaviour in a way that increases the species' chances of survival and reproduction in conditions of unfamiliar environment. A behavioural system is activated by a relevant signal which requires its operation and terminates when the optimum situation, in which the conditions favour the species' chances of survival, has been reached (a situation commonly defined as the "*set-goal*"). Apart from attachment, other examples of behavioural systems are: caregiving, affiliation, sex, exploration, fear-approach ('fight'), and fear-escape ('flight').

The primary function of the attachment behavioural system is to ensure the survival of the newly-born infant by driving him or her to maintain proximity to an older and wiser figure (i.e., "*the attachment figure*"), specifically in times of danger. Accordingly, when a sign of threat (e.g., loud noises, darkness, presence of an unfamiliar creature) is detected within the close environment, the attachment system is activated and directs *proximity-seeking* behaviours (e.g., crying, reaching out to be cuddled) that are intended to illicit the attention of the attachment figure. In cases when the attachment figure is emotionally and physically available, sensitive to the infant's signals, and responsive consistently to his or her calls for proximity, the set-goal of the attachment system is reached and a sense of "*felt-security*" is achieved. That is, a sense of relief from the distress elevated by the threat and a perceived feeling of security and comfort which terminates the system's activation. Under a sense of felt-security a person can divert mental energy into other productive activities such as creation and exploration, with the confidence that protection and support are available if needed.

However, if the attachment figure is not responsive to the infant's proximity-seeking attempts or is not physically and emotionally available when needed, the attachment system remains activated. In such case, the infant will continue to suffer chronically from the distress

elicited by the perceived threat and will hence use either one of two *secondary strategies* of operation: *Hyperactivation* of the attachment system or *deactivation* of the attachment system. Main (1990) suggested viewing these strategies in terms of Cannon's (1939) physiological psychology theory about "fight or flight" reactions. Accordingly, a hyperactivation strategy could be viewed as a *fight* reaction, and deactivation strategy as a *flight* reaction.

The primary goal of the *hyperactivation* strategy is to get the attachment figure's attention, and make him or her to provide care and protection. An infant is likely to use a hyperactivation strategy when he or she experiences the attachment figure as not consistently and reliably vigilant to calls for proximity. This strategy involves intensified and reinforced attempts of proximity-seeking by the infant in cases when the attachment figure is not responsive to his or her signs. When the infant is reduced to use the hyperactivation strategy, he or she is prone to suffer from a chronic sense of emotional distress caused by the constant worries about whether or not the attachment figure will be available when needed.

The primary goal of the *deactivation* strategy is to avoid the distress caused by the attachment figure's unavailability. An infant is likely to use deactivation strategy if he or she has learned that calls for care and protection are unlikely to be answered regardless of effort. Hence, an infant who is reduced to the use of a deactivation strategy diverts his or her efforts to block or suppress the innate attachment need to seek proximity to the attachment figures. Instead, he or she learns to attempt to deal with threats and dangers alone in what Bowlby (1969/1982) described as "compulsive self-reliance".

Attachment in Childhood and Internal Models

These individual differences in the attachment system's activation strategies were conceptualized by Ainsworth, Blehar, Waters, and Wall (1978) as *attachment styles* following the conduction of an innovative experimental procedure. In a paradigm which they named the "*Strange Situation*", Ainsworth et al. observed infants' behaviour during several episodes of separation and reunion with their mothers, both at home and in the laboratory. Based on these observations, Ainsworth et al. distinguished between three major patterns of infant's responses to their mother's absence and return. This enables Ainsworth et al. to classify the infants into one of three categories which became known as the three *attachment styles*: "*Secure*", "*Insecure-Ambivalent*", and "*Insecure-Avoidant*".

In the "Strange Situation," an infant classified as *secure* exhibited some degree of distress in reaction to his or her mother's absence, but continued playing with the toys provided in the experimental setting and maintained interest in the environment. When the mother was back, the secure infant accepted her with visible joy, approached her with affection and responded willingly

to being held in her arms. When being observed at home, the mother of a secure infant appeared to be attentive to the infant's needs, responsive to his or her calls for proximity, and physically and emotionally available.

An infant classified as *insecure-ambivalent* exhibited signs of extreme distress in his or her mother's absence, and an ambivalent behaviour when she returned. One moment he or she seemed to cling to her and in the next moment to resist angrily her attempts to comfort him or her. When observed at home, mothers of an insecure-ambivalent infants were not consistently attentive and responsive to signs of neediness.

An infant classified as *insecure-avoidant* did not show excessive signs of distress when the mother left, and attempted to draw away from her when she returned. At home, a mother of an insecure-avoidant infant was observed to be responding unwillingly to proximity calls from the infant, and in some cases offering a stiff negative response.

Following Ainsworth et al.'s (1978) behavioural observations, Main, Kaplan, and Cassidy (1985) moved the domain into what they described as the "level of representation". Main et al. (1985) proposed that individual differences in attachment relationships relate to individual differences in "*internal working models*" which are *mental representations* of aspects of the world, self, others, and relationships that are relevant to the individual. Working models consists of memories regarding attachment-related experiences which are organized schematically in an "attempt-outcome" mode. That is, working models reflect the history of the individual attempts to seek-proximity to attachment figures, and the outcome of these attempts (i.e., the attachment figures' responses). In other words, working models are representations of the efficacy of the individual's proximity-seeking efforts, and the probability that the attachment figure will respond positively to these efforts.

In order to investigate individual differences in internal working models of attachment, Main et al. (1985) interviewed both fathers and mothers of 6-years-old children who were previously assessed (between the age of 12 and 18 months) in Ainsworth's Strange Situation. The interview protocol (AAI, Adult Attachment Interview; George, Kaplan, & Main, 1984) asked about descriptions of relationship and attachment-related early childhood events, and the manner in which the parent believes these events affected his or her adult personality.

According to their findings, parents of *secure* children were characterized by readiness of recall and ease of discussing attachment experiences. Most notably, though, according to Main et al. (1985), was the coherent manner in which parents of securely attached children described their own attachment history and its influence, and their ability to integrate both positive and negative aspects of expression and feelings. Unfavourable aspects of early relationships with parents seemed to have been reconciled and negative events were usually put into a context. For example,

Main et al. (1985) report that the mother of a secure child, who herself had been rejected by her parents, replied to a question about the nature of the relationship with her parents by laughing and asking the interviewer: "How many hours do you have? Okay, well, to start with, my mother was not cheerful, and I can tell you right now, the reason was that she over-worked".

On the other hand, the information given by parents of insecure children appeared to be poorly integrated, and negative experiences did not appear to be a part of a coherent whole. Those recollections of childhood events included inconsistencies and contradictions between specific memories and general descriptions of parents. Parents of *insecure-ambivalent* children provided descriptions which were characterized by frequent shifts between positive and negative viewpoints of their parents and noticeable irrationality. Parents of *insecure-avoidant* children provided descriptions which included an almost ideal general view of the parent on one hand, but specific memories indicating feelings of loneliness and rejection on the other hand. As an example, the authors state the case of a father of an insecure-avoidant child who described his mother as "excellent" and their relationships as "a fine relationship", but in response to more specific question recalled a situation in which he was afraid to tell her that he had broken his hand in fear of her response.

Attachment in Adulthood: Theory and Measurement

Relying on Main et al.'s (1985) revelation about the continuous role of internal attachment working models of attachment shaped in infancy on later life stages, Hazan and Shaver (1987) suggested that attachment processes are also active in adult's romantic relationships. They have used Bowlby's (1969/1982, 1973, 1980) theoretical ideas and Ainsworth et al.'s (1978) categorization of attachment styles to conceptualize romantic love as an attachment process. To demonstrate this they developed a self-report procedure which classifies adults' behavioural tendencies in romantic relationships into three attachment styles which parallels Ainsworth et al.'s (1978) typology: *Secure*, *Anxious/Ambivalent*, and *Avoidant*.

In a public-sample survey which was published in a local newspaper, responders were asked to indicate which of the following three descriptions best describes how he or she felt in romantic relationships. The experimenters wrote the three descriptions to reflect the prototypical attitude towards relationships for each of the three adult attachment styles:

Secure: "I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me."

Anxious/Ambivalent: "I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away."

Avoidant: "I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable with".

Over 1200 replies were received within a week of the publication of the survey on the newspaper. The frequency distributions of the three attachment styles reported by the newspaper's readers resembled those observed in previous studies of infants and young children (see Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983 for summary of those studies): Fifty-six percent classified themselves as secure, 19% classified themselves as anxious/ambivalent, and 25% classified themselves as avoidant. As Hazan and Shaver (1987) pointed out, these findings suggested that the responders' choice between the three alternative descriptions resulted from the same reasons that affect attachment classifications among infants and young children.

In addition, the survey also included several other questions about close relationships and attachment history which enabled a portrait of the main characteristics of the love experience for each of the three styles. Secure people's relationships tend, in general, to be happy, friendly and trusting, and last longer than those of anxious or avoidant people. Secure people are also able to accept their partners' faults, and support them regardless. They accept that passionate desire fades with time, but at times could still reach the same intensity of feelings experienced at the beginning of the relationship. Anxious/ambivalent relationships involve desire for union with the partner, emotional highs and lows, strong attraction and jealousy. Anxious/ambivalent people find it easy to fall in love and to experience strong feelings, though they rarely find what they would describe as "true love". Avoidant people's relationships contain, as well, emotional highs and lows and jealousy, but are also characterized by low levels of intimacy. They do not believe that passionate love as resembled in novels and movies truly exists, find it hard to fall in love, and are sceptical about the chances for romantic love to last over time.

Based on Main et al.'s (1985) conceptualization of internal working models of attachment, and Hazan and Shaver's (1987) notion that adults, as well as infants and young children, could be classified into attachment styles, Bartholomew and Horowitz (1991) introduced a new four-category model of adult attachment (See Figure 1) in which attachment style classifications reflect individual differences in internal working models of self and others. In their model, a person's abstract image of the self and abstract model of the other dichotomized as positive or negative to yield four combinations that describe four attachment styles.

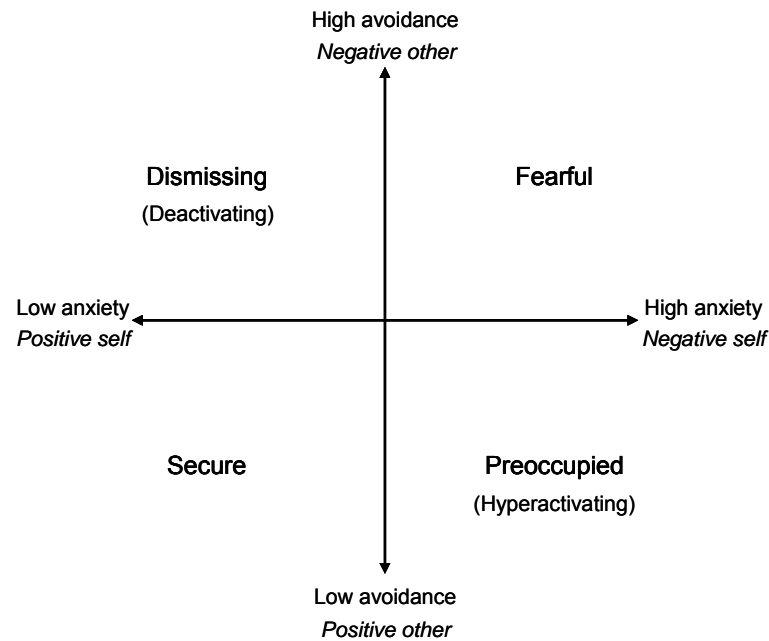


Figure 1. Bartholomew and Horowitz's (1991) four-category model of adult attachment.

A *secure* label was given to a person with a positive model of the self and positive model of the other. That is, a person who possesses a sense of self-worthiness and lovability, and a general perception that other people are accepting and responsive. The prototype secure person values intimate relationships, hold the capacity to maintain close relationships without losing personal autonomy, and demonstrates coherence and thoughtfulness while describing intimate relationships and romantic episodes.

A person with a negative model of the self and positive model of the other was labeled as *preoccupied*, which conceptually resembles Hazan and Shaver's (1987) anxious/ambivalent label. Such a person possesses a sense of unworthiness and unavailability combined with a positive evaluation of others which leads him or her to seek self acceptance by gaining the acceptance of valued others. The prototype preoccupied person is characterized by over involvement (preoccupation) with his or her close relationships, a dependence on other people's acceptance to maintain a sense of well-being, a tendency to idealize other people, extreme emotionality, and incoherent discourse about relationship-related issues.

A person who possesses positive models of the self and negative models of the other was labelled as *dismissive-avoidant*, which, corresponds in part to Hazan and Shaver's (1987) avoidant label. Such a person protects himself or herself against predicted disappointment with others by avoiding close relationships and maintaining a strong sense of independence and invulnerability. The prototypical dismissive-avoidant person downplays the importance of close relationships, restricts his or her own emotions, and emphasizes independence and self-reliance.

Finally, the *fearful-avoidant* label corresponded in part to Hazan and Shaver's (1987) avoidant label and was given to a person with negative model of the self and negative model of the other. Such a person protects himself or herself against anticipated rejection by others by avoiding close relationships. The prototypical fearful-avoidant person is characterized by a sense of personal insecurity and distrust of others. Although the fearful-avoidant and the dismissive-avoidant share in common a basic avoidance of close relationships, they differ in the sense that the fearful-avoidant needs other people's acceptance to maintain self-regard, whereas the dismissive-avoidant dismisses the others' views all together.

Despite that Hazan and Shaver's (1987) and Bartholomew and Horowitz's (1991) categorical classifications produced a great amount of research relating attachment typologies to a wide range of personality and social-psychology related factors, theoretical and methodological concerns were raised with respect to the categorical classification of attachment style. First, considering that attachment behaviour involves various complex processes that could vary across time and within relationships, the fact that two persons fall into a same attachment classification category does not necessarily mean that there are not significant differences between them. Second, categorical classification does not permit correlational analysis which may be useful to explore a greater range of individual variability, and when then the sample is not large enough to allow group comparisons. Third, in absence of a commonly accepted practical self-report measure which assesses attachment orientations, a steady stream of attachment measures emerged since Ainsworth et al. (1978) first introduced the concept of attachment style and many researchers created their own measures (e.g., Latty-Mann & Davis, 1996; Wagner & Vaux, 1994).

In order to provide researchers with a useful tool to assess adult romantic attachment styles, Brennan, Clark, and Shaver (1998) conducted factor-analyses which included 480 items and 60 subscales from all attachment measures known to that date, using an extensive sample of 1,086 university students. Their analysis yielded two higher-order factors, defined as the two attachment dimensions: *Anxiety* and *Avoidance*. These two dimensions not only had the advantage of being derived basically from every attachment self-report measure published by then, they were also analogous to the ones discovered by Ainsworth et al.'s (1978) original classification of infant attachment. That is, Ainsworth's et al.'s (1978) three attachment styles could be conceptualized as regions in two-dimensional space with the dimensions being: attachment anxiety, reflected in the Strange Situation by crying, considerable difficulties engaging in playing or other activities during the mother's absence, and angry responses upon her return; and, attachment avoidance, reflected in the Strange Situation by discomfort with closeness and dependency.

Correspondingly, in Brennan et al.'s (1998) measure, the anxiety dimension reflects fear of abandonment and anger about separations, and includes items such as "I worry about being

rejected or abandoned", and "I resist it when my relationships partner spends time away from me". The avoidance dimension reflects discomfort with intimacy and emotional suppression, and includes items such as "I prefer not to get too close to others", and "I prefer not to show others how I feel deep down". Each dimension is assessed by one of two 18-item subscales of Brennan et al.'s (1998) *Experience in Close Relationships Scale* (ECR).

Similarly to Bartholomew and Horowitz's (1991) model, Brennan et al.'s (1998) two dimensional conceptualization of adult attachment could be used to classify individuals into one of four attachment categories. Individuals who score low on both anxiety and avoidance dimensions of the ECR fall into the *Secure* category. Individuals who score high on the anxiety dimension and low on the avoidance dimension are categorized as *Preoccupied* in parallel to Bartholomew and Horowitz's (1991) and Hazan and Shaver's (1998) anxious/ambivalent category. Individuals who score high on the avoidance dimension and low on the anxiety dimension are categorized as *Dismissing* in parallel to Bartholomew and Horowitz's (1991) dismissive-avoidant category and to Hazan and Shaver's (1987) avoidant style. Finally, those who score high in both anxiety and avoidance dimensions of the ECR fall into the *Fearful* category.

Throughout this thesis I will generally summarize results in terms of secure, anxious, and avoidant styles (or patterns). Because the predominant nature of the studies I will review is correlational I will often refer to people *High on Anxiety*, and people *High on Avoidance*. The case of Fearful attachment is less likely to arise in normal samples of university students. Extremely high scores on both the anxiety and avoidance dimensions are usually common only in samples of abused children or clinical samples. Main et al.'s (1985) described this "disorganized" attachment behaviour as a consequence of maltreatment or other contributors to psychopathology (Shaver & Clark, 1994).

Interpersonal Goals and Behaviours

Attachment patterns influence goals and wishes in interpersonal relationships. That is, behaviours and attitudes towards core components of interpersonal relationships, such as closeness, dependency, and autonomy, tend to be congruent with the individual's attachment strategy (Cassidy & Kobak, 1988; Feeney & Noller, 1991). In general, secure people value closeness and intimacy in close relationships, and seem to be capable of finding the right balance between interdependency and personal autonomy. This pattern is illustrated in the following extract from a secure person's descriptions of his close relationships (in Weldinger et al., 2003):

"Um, closeness to me means being able to count on somebody but also respecting them as an individual... and not feeling entitled to own them or that they need to be there at the

time when I need them, but that somebody who can listen and understand and sort of empathize and, um, someone who really does care."

Anxious people's interpersonal goals reflect their hyperactivation strategy and include intense need for closeness and excessive fear of rejection and separation, as well as intensification of negative emotions. This following extract from an anxious female's unstructured report of her relationship with her dating partner is representative (in Feeney, 1999a):

"If they don't want to be with you..., you wonder what you've done wrong. Or you wonder why; if they don't love you any more, or if it's the end of the road. That's the hardest thing; if he doesn't want to be with me emotionally or doesn't want to be with me, there's nothing to look forward to. There's nothing at all, nothing I can do. It makes me feel quite miserable, quite alone and quiet neglected; ugly, fat, boring, uninteresting; like a nothing"

The anxious person's wish for interdependency tends to be compulsive and to overstate legitimate quest for some 'personal space' from their relationship partners. Hence, their behaviour in relationships often takes the form of neediness, clinginess, and over-dependency, which many times pushes their partners away as illustrated in the following secure male's description of his anxious partner's wish for extreme and constant closeness (in Feeney, 1999a):

"It gets annoying because things I want to do I can't do, because she can't go out. And she tends to exaggerate the situation so that I will eventually end up staying with her. She'll say she hasn't seen me for a long period of time, even though we have seen each other in that time. And she actually gets it in her head that we haven't seen each other for a long time. Even if it's been a couple of days, she'll make out that it's been six days, or a week."

In contrast, avoidant people don't value closeness in relationships, and, compatible with their deactivation strategy, their main interpersonal goals centre on a quest for autonomy and distance from others as illustrated from the following extract taken from an avoidant male's unconstructed report about his views of close relationships (in Feeney, 1999a):

"I never let anybody get really close to me. I think it's just like a self-defense mechanism that I have. I always keep, you know – there's always a thin distance that I don't let people come to me or touch me; not a physical touch, but I think, spiritual. To me this is important, my own space. To have someone invade that space that is special to me, I feel violated. I get angry, I get irritated, I get very irritated."

The manners in which attachment strategies are used and applied in interpersonal behaviour have been documented in several studies. For example, Waldinger et al. (2003) examined the association between attachment patterns (as indicated from the AAI), and relationship themes. Using the Core Conflictual Relationship Theme (CCRT; Luborsky & Crits-Christoph, 1990) method for coding open-ended relationships narratives, Waldinger et al. (2003)

found that those classified as insecure-dismissing in the AAI told stories about relationships that contained more frequent wishes for autonomy than secure and insecure-preoccupied participants. Similarly, participant's reported their dreams in open-ended narratives upon awakening for a period of 31 consecutive days (Avihou, 2006, in Mikulincer & Shaver, 2007). These dream reports were then coded using the CCRT. Attachment anxiety was associated with more signs of wishes to be loved and accepted by others in the dreams, and attachment avoidance was associated with more signs of wishes to control others, remain distant, and avoid conflicts.

Feneey (1999b) investigated the nature of distance regulation in established relationships using a qualitative method. Both members of couples who were dating for at least one year were asked to talk for 5 minutes about their partner and their relationships in general. Descriptions were tape-recorded, transcribed, and coded for issues related to distance and closeness in relationships. Attachment avoidance predicted a lower proportion of statements in the transcript related to issues of closeness-distance among male participants. Avoidant men reported needs to be self-reliant, maintain distance, and to control the emotional climate of the relationship.

Attachment anxiety predicted a higher proportion of statements in the transcript related to those issues among female participants. Moreover, independent of gender differences, for highly anxious individuals, partner's distancing tended to be seen as a sign of one's own lack of self-worth. They responded to their partners' need for 'space' by becoming argumentative or withdrawing – responses that, as Feeney (1999b) suggested, are compatible with anxious people's hyperactivation strategies as these reflect attempts to change the partner's behaviour, or to protect one's self from being hurt.

Downey and Feldman (1996) investigated the association between attachment and rejection sensitivity as measured by the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996), a measure which operationalizes rejection sensitivity as general expectations and anxiety about whether significant others will meet one's needs for acceptance or will reject them. They found both attachment anxiety and avoidance to be negatively associated with the RSQ, and that, in general, expecting rejection in relationships makes people actually feel more rejected in relationships. That is, because they are more likely than less anxious people to perceive intentional rejection in their partner's behaviour.

Baldwin and Kay (2003) further demonstrated anxious peoples' vigilance to threat of rejection using a conditioning manipulation in which participants were exposed to tones paired with presentation of either smiling-approvingly face (to resemble acceptance) or frowning-disapprovingly face (to resemble rejection). Then, they performed a lexical decision task (a task which assesses the cognitive relatedness of two concepts; Meyer & Schvaneveldt, 1971) in which rejection-related words were paired with each of the tones. Secure participants provided slower

lexical-decision reaction times to rejected-related words when they were paired with the 'rejection' tone than when they were accompanied with a neutral tone. Anxious participants, in contrast, reacted faster to rejection related words even when they were paired with the 'acceptance' tone. These findings reveal how anxious people anticipate rejection such that they create cognitive associations that represent that probability, whereas secure people are able to inhibit rejection expectations.

There is also evidence regarding the goals that avoidant people pursue in interpersonal contexts. Doi and Thelen (1993) found attachment avoidance to be associated with higher scores in their Fear of Intimacy Scale (FIS) which assesses inhibited capacity to exchange personally significant thoughts and feelings with another person. Along this line, Kaitz, Bar-Haim, Lehrer, and Grossman (2004) demonstrated avoidant peoples' discomfort with close interpersonal physical proximity. Using the stop-distance paradigm (Hayduk, 1985), in which participants rate their level of discomfort as the experimenter is moving towards them, they found that avoidant people are less tolerant of a close physical proximity with a stranger than are secure people.

Similarly, Rowe and Carnelley (2005) used a hierarchical mapping technique (Kahn & Antonucci, 1980) to demonstrate how people with different attachment styles differ in regulation of interpersonal distance. Participants were asked to place round stickers which represented persons from their "closest and/or most important relationships" onto a bull's eye diagram. They were told that the inner circle represented their core self and that the stickers representing significant others in their life could be placed anywhere in the diagram. The distance (in millimetres) of each sticker from the inner circle representing the core served as a measure of attachment hierarchies such that the smaller the distance the higher the position of that person in the attachment hierarchy. Results revealed that secure participants placed significant others closer to their core self than did avoidant participants. Once again, this finding highlights avoidant people's discomfort with closeness.

Emotion Regulation Strategies

According to Bowlby (1969/1982, 1973, 1980) attachment relationships arouse a broad array of emotions, such as love, joy, grief, anger, and despair. The different attachment styles represent the different ways in which a person copes with these emotions. In line with these theoretical ideas, research on attachment (e.g., Cassidy, 1994; Mikulincer, 1998a) investigated how individual differences in attachment relate to and influence evaluation and expression of emotions, and the experience of emotion-eliciting events.

In general, a sense of attachment security has been found to enhance healthy and flexible regulatory processing of emotions (Shaver & Mikulincer, 2002). Securely attached people are able

to direct regulatory efforts toward solving a problem that elicits negative affect rather than being paralyzed by anxiety or exaggerated distress. The proportional and balanced manner in which secure people experience emotions enables the recruitment of most available mental energy and cognitive abilities to a constructive planning of ways to resolve the situation, using what Lazarus and Folkman (1984) described as "problem-focused" coping. Moreover, secure people's sense of self-efficacy helps them to maintain an optimistic view of the situation, hold the belief that they can effectively resolve the problem, and view a problem as a challenge rather than a threat (Cassidy, 1994).

In contrast, anxious people are likely to sustain or even exaggerate emotions. For anxious infants, exaggerating negative emotional states is a way of gaining an attachment figure's attention. For them, problem-solving coping is irrelevant because it is incongruent with their hyperactivating strategy which aims at gaining the attachment figure's attention. Allowing themselves to deal with the problem and potentially solve it and relax, can put them in a danger of losing contact with the inconsistently available attachment figure (Cassidy, 1994). Accordingly, the anxious person tends to overstate the presence and seriousness of threats, express intense neediness and vulnerability, and remain in constant vigilance for internal signs of distress in what Lazarus and Folkman (1984) described as "emotion-focused coping" (Cassidy, 1994).

As for avoidant individuals, their primary efforts are to block or inhibit the experience and display of emotions as part of their deactivation strategy. During their experiences with insensitive attachment figures, they learned that acknowledgment and display of emotions can lead to rejection or even punishment (Cassidy, 1994). Consequently, avoidant people perceive expression of emotions as a sign of weakness which is incongruent with their efforts to maintain independence and self-reliance (Shaver & Mikulincer, 2002).

Interestingly, though, recent studies have revealed new findings regarding the emotional coping strategy of avoidant individuals. For instance, avoidant mothers of infants with CHD (*Congenital Heart Disease*) reported only mild stressful reactions shortly after receiving their child's diagnosis. However, a one year follow up assessment revealed a significant decrease in their mental health (Berant, Mikulincer, & Florian, 2001). Similarly, Kim (2006) found a discrepancy between avoidant people's high physiological reactivity (i.e., pulse rate, blood pressure), and self-reports of low stress reactivity. These findings suggest, then, that despite their effort to suppress distressing emotions, avoidant people do experience stress intensity, especially under extreme conditions of cognitive load.

Empirical research on attachment and emotion regulation processes has validated these theoretical claims and demonstrated how attachment orientations shape patterns of appraisal and coping with stressful events. Several studies examined the association between attachment,

emotion evaluation, coping strategies, and coping resources available for dealing with stressful events. For example, Spangler and Zimmermann (1999) assessed subjective judgments and physical arousal in response to watching emotional-related video content. Participants viewed cinema film fragments which included attachment-relevant emotional content such as separation/reunion, quarrel, comfort, and tenderness, and rated the pleasantness of each scene. In addition, their mimic responses to the emotional content was measured by recording activity of facial muscles known to be indicators of emotional expression (such as a frown and smile).

Avoidant participants reported more positive interpretations of both positive and negative film scenes than anxious and secure participants. This finding reflects avoidant people's tendency to ignore or suppress negative emotions or positively interpret negative emotions. This tendency developed as a defence mechanism to deal with the experience of continuous rejection from attachment figures. In addition, avoidant participants showed lower activity of the frown muscle, usually an indicator of negative emotions, and in general managed to hide their emotional expressions in response to film scenes. In contrast, secure participants exhibited emotional responses to the scenes in accordance with their emotional quality. Anxious participants were characterized by a lack of coherence between their subjective appraisal of the emotional content (i.e., positive and negative) and facial expression. That is, anxious people seem to have learned to control their emotional expression rather than expressing a genuine expression, presumably to match the response preferred by other from whom they desire to seek attention.

Alexander, Feeney, Hohaus, and Noller (2001) investigated attachment differences in available coping resources and coping strategies among married couples having their first child. They have found attachment avoidance to relate negatively to wives' support-seeking from husbands, and attachment anxiety to relate negatively to husbands' problem-focused coping and positively to wives' emotion-focused coping. In addition, anxious husbands reported parenting as being more stressful than did other husbands. Overall, these findings demonstrate how attachment insecurities relate to coping with stressful events. First, avoidant people do not seek support from others as this is incongruent with their strategy to minimize emotional involvement with them and to strive for self-reliance. Second, anxious people appraise stressful events in a severe manner, thus diverting most of their efforts to deal with the elicited distress, or rather dwell on the negative emotions, rather than engaging in problem-solving activities.

Florian, Mikulincer, and Bucholtz (1995) examined the association between attachment and self-reports of the perception of and search for social support. Secure people tended to view significant others as providing relatively high levels of support, as well as a tendency to actively seek such support. Avoidant and anxious people reported low levels of available instrumental and emotional support as well as a low tendency to seek them.

In a recent study (Mikulincer, Shaver, Sapir-Lavid, & Avihou-Kanza, 2009), participants' descriptions of dreams were coded for social support content. Analysis revealed that both attachment anxiety and avoidance were negatively associated with signs of support availability in reported distress dreams. Additionally, attachment avoidance was negatively associated with signs of active support seeking, and Attachment anxiety was negatively associated with signs of distress relief as result of receiving support, in reported dreams.

In a different study (Rholes, Simpson, & Orina, 1999), dating couples were observed during spontaneous interaction shortly after the female partner was told she would engage in an anxiety-provoking activity. This observation revealed that avoidant men experienced anger during the stress period, especially when their partners were more distressed or seek more support from them. Avoidant women also experienced anger, particularly when they were highly distressed and receive little support, or encounter anger, from their partners.

A 2-part study (Campbell, Simpson, Boldry, & Kashy, 2005) investigated the association between attachment and perceptions of relationship conflict. First, dating partners completed diaries for 14 days in which they reported the most notable conflict they had with their partner on each particular day, as well as completing measures of relationship satisfaction, closeness, and overall perceptions of the relationship. On the second part, the same couples were invited to the laboratory and were videotaped discussing a major problem that occurred during the diary study period. Results revealed that more anxious individuals perceive greater daily relationship conflict, even more than their partners perceive, and believe that the conflicts are more significant to the current and future quality of the relationship. In addition, while discussing major relationship conflict with their partner, more anxious people observed greater signs of distress.

In another study, Simpson, Rholes, and Phillips (1996) examined anger reactions during conflicts with a romantic partner. They asked dating couples to identify an unresolved problem in their relationship, to discuss it, and try to resolve it. They found that anxious people displayed greater distress during this interaction, and reported greater anger and hostility towards their partner afterwards.

Mikulincer (1998b) asked participants to recall an episode in which they "felt intense anger towards another person", and found that secure people endorse in a more constructive goals (e.g., maintaining the relationship), enact more adaptive responses (e.g., bring about a change for the anger instigator's own good), and experience more positive affect during anger episodes than do insecure people. When presented with hypothetical anger-eliciting scenarios which involved interpersonal interactions with romantic partners, secure participants showed anger responses and attributed anger hostilities only when there were clear signs of the partner's hostility, whereas anxious people reacted in this manner even when the signs of the partner's hostility were

ambiguous. Avoidant people showed dissociated patterns of anger and arousal. Although they attributed hostile intent even when they were presented with a nonhostile scene, they did not report feeling anger even when being presented with a clearly hostile scene.

Guerrero (1998) assessed the relation between attachment and jealousy using self-report measures and found that anxious individuals experience more jealous-related worries and suspicion, and engage in more surveillance behaviour, than do avoidant and secure people. On the other hand, avoidant people felt less jealousy-related fear than do anxious and secure people, and less jealousy-related sadness than do anxious people.

The associations between attachment patterns and reactions to romantic relationship dissolution were studied in a survey of more than 5,000 Internet respondents (Davis, Shaver, & Vernon 2003). Attachment anxiety was found to be associated with greater preoccupation with the lost partner, greater perseveration over the loss, more extreme physical and emotional distress, exaggerated attempts to re-establish the relationship, partner-related sexual motivation, angry and vengeful behaviour, interference with exploratory activities, dysfunctional coping strategies, and disordered resolution. Avoidant individuals were unlikely to seek support from others, even during this painful period, and anxious people reacted with intense rumination of the painful experience and preoccupation which interfered with their school or work activities. Both anxiety and avoidance were associated with the use of alcohol or drugs as means to evade the experienced emotional distress.

Similarly, Sbarra (2006) recorded daily emotion data for a period of 4 weeks, from a sample of young adults who recently experienced the dissolution of a serious romantic relationship, and found attachment security predicted faster sadness recovery and anger recovery, and acceptance of relationship termination.

Working Models: Mental Representations of Self and Others

Mental representations are the cognitive mechanisms by which attachment orientations are carried forward from infancy and early childhood into adulthood. In attachment terminology those are often referred to as *internal working-models*. The concept of working models was first introduced by Bowlby (1969/1982) as he came to explain how the experience with the primary care-giving figure produces attachment styles.

Bowlby's basic idea was that the 'lessons' from those experiences are learned and stored in the human mind in the form of schemas. There are two kinds of these schemas: One is defined as *working-models of the self* and contains information on how he or she is acceptable or unacceptable in the eyes of his or her attachment figures. The other is defined as *working-models of others* and contains information of who his or her attachment figures are, where they may be

found, and how they may be expected to respond when being called upon in times of need (Bowlby, 1973).

As a person grows-up working models develop into a well organized structure of representations about others, himself or herself, and the relations between himself or herself and others. In adulthood, working models operate as mechanisms which filter relevant information about self and others, interpret this information in the context of whether or not it promotes one's attachment goals, and influence accordingly thoughts and behaviours (Main, Kaplan, & Cassidy, 1985).

Working models of self. Bowlby (1973) argued that relationships with attachment figures answer the question of "*whether or not the self is judged to be the sort of person towards whom anyone, and the attachment figure in particular, is likely to respond in a helpful way*" (p. 204). In other words, interactions with the caregiver in infancy and early childhood facilitate the person's fundamental appraisals of his or her lovability and value for others in close relationships. These appraisals are defined as *working models of self*.

According to Bowlby (1973), interactions with available, sensitive and responsive attachment figure, enable the child to develop positive working models of self. Because they are being valued, unconditionally loved, and regarded as special by caring significant-others, secure children view themselves as worthy and competent. This strong sense of self-worth then develops quickly among the growing child, thus promoting positive and confidence-building interactions with his or her peers which confirm and strengthen his or her positive views of self. Accordingly, the adult secure person holds a strong sense of personal value and mastery, including an appropriate sense of pride in oneself that remains stable even when inevitable setbacks and hardship occur during life (Bylsma, Cozzarelli, & Sumer, 1997).

An important process by which sense of self-worthiness is sustained and carried forward from relationships with attachment figures in childhood to later stages of life is *identification*: including representations of supportive attachment figures in one's image of self (Mikulincer & Shaver, 2004). During interactions with sensitive and supportive attachment figures, the person unconsciously internalizes the figure's characteristics (such as goodness, wisdom, and strength) and incorporates them into his or her own self-concept. Moreover, Mikulincer and Shaver (2004) further proposed that incorporation of the attachment figure's positive qualities into the self-concept makes secure people treat themselves in the manner in which they were treated by those figures. That is, in a compassionate, soothing, encouraging way, without the need to use defence mechanisms such as over self-criticism and maladaptive perfectionism.

In contrast, anxious people's experience with inconsistently available, responsive, and sensitive attachment figures, results in doubts about self-worth and self-efficacy, and overreliance

on the approval of others (Pietromonaco & Barrett, 1997). During interactions with frustrating, disapproving, and sometimes rejecting figures, anxious people incorporate degrading and disapproving messages into the self-concept which provokes self-criticism, feelings of worthlessness, and helplessness (Mikulincer & Shaver, 2004). Along this line, in a study examining the association between attachment and self-esteem across 53 countries using the Rosenberg Self-Esteem Scale (1965), Schmitt and Allik (2005) found attachment anxiety to be negatively correlated with self-esteem in 49 out of the 53 countries, thus, confirming the theoretical notion that anxious people hold negative working-models of others.

For avoidant people it is essential to maintain positive self-regard as part of their deactivation strategy. Despite suffering from interactions with a rejecting attachment figure, they use defence mechanisms to prevent degrading messages being incorporated into their self-concept (Bartholomew & Horowitz, 1991). Such mechanisms includes esteem-inflating positive self-views, and denial and suppression of negative information about self (Mikulincer, 1995).

However, despite these theoretical claims, empirical evidence has not consistently supported the notion that avoidant people hold positive working models of self. For example, Schmitt and Allik (2005) found a negative association between attachment avoidance and self-esteem in 18 out of the 53 countries they sampled. Similarly, Pietromonaco and Feldman-Barrett (1997) failed to find differences in self-appraisals between dismissing-avoidant people and other attachment groups when examining evaluations of self following everyday interactions. Two studies (Mallinicrodt & Wei, 2005; Wei, Russell, & Zakalik, 2005) found negative correlation between attachment avoidance dimension in the ECR (Brennan, Clark, & Shaver, 1998) and sense of self-competence. In an attempt to explain this mixed pattern of findings, Mikulincer and Shaver (2007) suggested that it might be the case that the defence mechanisms applied by avoidant people are not always successful in preventing self-doubts from being incorporated into the self-concept.

Working models of others. In addition to its role in establishing a sense of self value, the nature of the attachment figure's care-giving treatment creates for the child an impression of, in Bowlby's words (1973), "*whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection*" (p. 204). That is, working models of others are shaped around the anticipated level of response from the attachment figure to the child's proximity-seeking attempts. Accordingly, later on in the life-span, these models generate predictions about responses of close others in times of need, and those of romantic partners in intimate relationships.

According to Bowlby (1973), a person's attachment style is bound with individual differences in working-models of others. Securely attached children are most likely to experience

parents who are accepting, responsive, and caring attachment figures, and as a result to establish positive working models of others, acknowledging them as reliable sources for love and protection. As a consequence, the secure adult tend to hold positive beliefs about his or her romantic partners' traits and intentions, and is likely to adopt a forgiving stance towards others even in times of conflict.

Anxious people's models of others are best described as ambivalent. Although the anxious child may experience negative interactions with inconsistently available and insensitive attachment figures in childhood, he or she continues to preserve a degree of hope that by intensifying the proximity-seeking attempts the attachment figure will eventually provide the support and care they long for. Similarly, anxious adult's working-models of others contain beliefs that others are potential sources of love and protection alongside fears of rejection and abandonment, vigilance and hyper-sensitivity to signs of unavailability or rejection from their partners (Mikulincer & Shaver, 2007; Pietromonaco & Barrett, 1997).

As for avoidants, their working models of others are predominantly negative. As a result of their experience with insensitive and, at times, rejecting attachment figures, avoidant people developed working models of others which contain suspicion and overt hostility towards others. As part of their deactivation strategy, avoidant people divert attention from any attachment-related information. Therefore, even if positive information about their attachment figures exists, it is unlikely to be integrated into their schema of others, which helps them to preserve their negative models even in the presence of disconfirming evidence (Mikulincer & Shaver, 2007)

Interestingly, though, Hesse (1999) proposed that avoidant people's tendency to decline the value of their attachment figures (i.e., partners, parents) can backfire on them as an evidence of a negative trait (as presumably they can only attract an undesirable person). To avoid this trap, avoidant people usually tend to hold an idealized model of at least one important figure in their lives. This is consistent with Main et al.'s (1985) findings regarding avoidant young adults' tendency to idealize their paternal figures in spite of an inability to recall many positive interactions with them.

Research within the attachment domain has in general validated these theoretical ideas. A wide range of empirical studies (e.g., Feeney & Noller, 1991; Hazan & Shaver, 1987; Levy, Blatt, & Shaver, 1998) has found associations between attachment security and positive recollections of parents as caring, loving, and accepting. On the other hand, attachment avoidance, and attachment anxiety in most cases, were found to be related to negative paternal representations (Carnelley, Pietromonaco, & Jaffe, 1994; Collins & Read, 1990; Luke, Maio, & Carnelley, 2004).

Interestingly, though, Shaver and Mikulincer (2004) found attachment avoidance to be related to a pattern of parental idealization. When asked to name traits or qualities that best describe their relationship with their mothers in childhood, participants high on attachment avoidance generated adjectives relatively high in positivity to describe those relationships. However, when asked to retrieve memories that exemplified those adjectives, participants high on avoidance provided less positive memories. These findings fit Hesse's (1999) definition of idealization as a discrepancy between the positivity of traits individuals choose to describe their childhood experience with parents and the positivity of memory for those experiences. These findings also are consistent with Main et al.'s (1985) findings for insecure-avoidant interviewees in the Adult Attachment Interview. Mikulincer and Shaver (2004) suggested that this pattern of findings could imply that avoidant people use idealization as a defence mechanism that allows them to suppress distressing memories about their childhood experiences.

Individual differences in attachment were also found to be associated with appraisals of romantic partners, and with perceptions of, and reactions to, their behaviour. There is extensive evidence (e.g., Baldwin, Fehr, Keedian, Siedel, Thomson, 1993; Bartholomew & Horowitz, 1991; Collins & Feeney, 2000; Hazan & Shaver, 1987) that secure attachment is linked with positive perceptions of romantic partners, whereas insecure attachment predicts a lack of esteem (Luke, Maio, & Carnelley 2004), negative views (Collins & Feeney, 2000; Feeney & Noller, 1991; Simpson, Rholes, & Philips, 1996), and low respect for romantic partners (Frei & Shaver, 2002).

Collins (1996) demonstrated how insecure attachment predicts negative models of romantic partners. When presenting participants with hypothetical scenarios of negative behaviour by a partner (e.g., "Your partner didn't comfort you when you were feeling down") she found that anxious individuals attributed such behaviour to the partner's bad intentions, negative traits, and lack of love.

Similarly, Collins and Feeney (2004) asked participants to perform a stress inducing task (giving a speech that would be videotaped and evaluated) and gave them beforehand a low in-support note, ostensibly from their romantic partner. Their results revealed that both anxious and avoidant participants appraised the note more negatively, rated a prior behavioural interaction with their partner as having been less supportive, and performed significantly worse at their task compared with secure participants.

Negative working-models of others were also found to enhance relationship conflicts. In a diary study (Campbell, Simpson, Boldry, & Kashy, 2005) dating couples were asked to document their conflict interactions during a 14-day period. Results revealed that more anxiously attached individuals perceived more conflict with their dating partners and reported a tendency for conflicts to escalate in severity.

Numerous studies have shown that insecurely attached people have an instinctive automatic negative bias towards others. Meyer, Pilkonis, and Beevers (2004) found insecure attachment to be associated with negative appraisals of others' facial expressions. When shown photographs of people with an "emotionally neutral" facial expression, participants high on attachment anxiety and/or avoidance reported fewer positive and more negative traits and feelings than did secure participants. Along this line, Zayas and Shoda (2005) found attachment anxiety and avoidance to predict strong automatic associations between attachment figures (i.e., mother, partner) and negative personal attributes (e.g., untrustworthy).

Insecure individuals' negative approach towards others can further extend beyond the relational context. Mikulincer and Shaver (2001) found that insecure individuals perceive their own social group (in-group) as better than other groups (out-groups), especially in the context of rivalry or hostility, and are likely to adopt a hostile and prejudiced approach towards outgroup members. Luke, Maio, and Carnelley (2004) revealed that attachment insecurity predicts negative views of humanity in general.

Organizational Structure of Working-Models

Research on working-models of attachment has emphasized not only the importance of holding positive models of attachment figures, but also of having coherent ones (Main, Kaplan, & Cassidy, 1985). A coherent model is defined as a mental representation that allows the integration of positive and negative aspects of the other person and of experiences in the relationship. Coherent models are important for psychological well-being and relationship quality because they are more resistant to temporary threats such as conflicts and negative interpersonal feedback (Hesse, 1999).

Bowlby (1973) claimed that incoherent models are prone to develop in part because the insecure child faces discrepancies between what he or she is told and what he or she experiences. That is, parents may tell their child how much he or she is important and loved by them, while the subjective experience of the child could be one of rejection and inadequate care. Alternatively, a parent verbally might assert that the child can make her or his own decision, but then may retaliate or sulk passive-aggressively if the child's decision is not to the parent's liking.

Relying on the AAI protocol (George, Kaplan, & Main, 1984), Main (1991) has been able to observe individual differences in reflections of childhood experiences with parents. According to her analysis of the AAI responses, *securely attached* adults have clear memories of childhood, can reflect objectively about the past, and can balance positive and negative aspects of their childhood experience. In contrast, the childhood memories of *anxiously attached* adults are rambling, with "unexplained oscillations of viewpoint," and an inability to remain focused on a

given theme (Main, 1991, p. 144). The childhood memories of *avoidantly attached* adults are unusually succinct, but also inconsistent; they might, for example, assert that "my mother was wonderful" and then mention a cold neglectful episode.

Mikulincer and Shaver (2007) extended the notion that insecure persons hold incoherent working models of childhood attachment figures to consider incoherent models of adult romantic partners. They argued that the hyperactivating strategies adopted by anxiously attached people lead to mental representations of relationship partners that contain negative elements, but that evaluative connotation does not capture the essence of the resulting representation. Instead, the mental representations of anxious individuals are best conceptualized in terms of ambivalence and evaluative complexity. The negative aspects result from the anxious person's fear of abandonment and rejection which leads to a tendency to be excessively vigilant for signs (real or imagined) of the partner's unresponsiveness and unavailability. Concurrently, however, the anxious person intensely desires proximity, intimacy, and union with the partner; these positive views of the partner and pleasure with the relationship conflict with the negative fears (and signs of) abandonment. Thus, the working model of other cannot be uniformly negative, but is instead complex and ambiguous.

Mikulincer and Shaver (2007) further argued that the deactivating strategies adopted by attachment avoidant people lead to mental representations of romantic partners that are predominantly negative, but also are inconsistent and incoherent. The negative appraisals result from a globally unfavourable view of people combined with the defensive projection of their own negative traits and emotions onto the relationship partner. However, avoidant people also have a tendency to idealize certain attachment figures and aspects of their relationship partners which contributes to confused and uncertain beliefs.

Initial empirical work on model coherence is evident in Levy, Blatt, and Shaver's (1998) examination of the content and structure of people's descriptions of their parents. Securely attached participants' descriptions of their parents were characterized predominantly by differentiation, elaboration, benevolence, and nonpunitiveness. In contrast, descriptions of people high on avoidance were less conceptually complex and included more attributions of punitiveness and malevolent parental behaviour. Descriptions of people high on attachment anxiety also were low in complexity and were characterized by ambivalence as they described their parents as both punitive and benevolent in their care-giving.

With respect to adult romantic relationships, Fishtien, Pietromonaco, and Feldman-Barrett (1999) examined the association between attachment and complexity of descriptions. Interestingly, they found that people high on attachment anxiety tended to view their relationships more positively and provided more complex descriptions of their relationships following a

conflict. These findings provide further evidence to support the claim that attachment anxiety is related to inconsistent views about relationships and relationship partners.

Several studies (e.g., Davila & Cobb, 2003; Steiner-Pappalardo & Gurung, 2002) showed that insecurely attached individuals holds poorly developed, low-in-complexity, undifferentiated, and confused models of others. In addition, they tend not to take other people's emotions and concerns into account and hence to be less sensitive and responsive to other's needs and to misinterpret social situations (Calabrese, Farber, & Westen, 2005). They are also more likely than others to be judgmental towards other people, as Zhang and Hazan (2002) demonstrated in their study of person perception. They found that anxious people need less evidence than secures to confirm both positive and negative perceptions of others and to disconfirm negative ones. In contrast, avoidant people need a relatively high degree of evidence to confirm positive perceptions or to disconfirm negative ones.

The Current Research Program

As reviewed throughout this chapter, previous theoretical and empirical work (e.g., Bartholomew & Horowitz, 1991) has related individual differences in attachment patterns with people's perceptions of the self and significant others. These perceptions are labeled working models of attachment, which are defined as beliefs and expectations about the lovability and worthiness of the self (working model of self) and the availability, supportiveness, and intentions of attachment figures (working model of others; Bowlby, 1973). It is well established in the literature that these working models influence reactions and behaviours toward romantic partners (Collins, 1996; Collins & Feeney, 2004).

To date, attachment researchers have characterized individual differences in working models predominantly in terms of their content and valence (e.g., Bartholomew & Horowitz, 1991). However, there are both theoretical and empirical reasons to suggest that it may not be sufficient to characterize working models of attachment solely in terms of the valence with which the self and close others are perceived. A growing number of studies (e.g., Feeney, 2002; Young & Achitelli, 1998) provide preliminary evidence suggesting that the nature of insecure individuals' models of others is not necessarily either positive or negative, as it contains patterns of instability and frequent fluctuations between optimism and negativity. These new findings brought Mikulincer and Shaver (2007) to "call into question the wisdom of conceptualizing anxious individuals as having a positive model of others" (p. 177).

In light of this theoretical and empirical gap, the main goal of this PhD research program is to explore and define systematic fluctuations in appraisals of close others, and the psychological processes which underlie them. For that, I begin in the 1st Study by exploring patterns of

instability in evaluation of romantic partners by participants currently involved in relationships. The aim of this study is to examine whether insecurely attached peoples' models of others are either positive or negative, as suggested by Bartholomew and Horowitz's model (1991), or rather changeable according to transient events. The aims of Study 2 and Study 3 are to examine possible causes of instability in working-models of others, and whether different factors are responsible separately for instability in models of others for people with high levels of attachment anxiety and for people with high levels of attachment avoidance. Finally, in Study 4 and Study 5 automatic activation methods will be applied to investigate subconscious effects on working-models of others, and possible variations between implicit and explicit models.

Overall, findings from this research would be able to expand current knowledge on attachment models by focusing not only on their valence but on several other features, such as stability, clarity, and usage of defence mechanisms. A wide range of research evidence (e.g., Carnelley, Pietromonaco, & Jaffe, 1994; Mickelson, Kessler, & Shaver, 1997) suggests a link between romantic relationship satisfaction and well-being, and points to difficulties in the romantic domain as the major reason for seeking counselling among young adults. By understanding the mechanisms by which individuals can develop and maintain clear, stable and positive views of their partners over time the current and proposed research can help to improve romantic relationship functioning and well-being.

CHAPTER II

Attachment Differences and Stability in Mental Representations of Romantic Partners (Study 1)

As reviewed in Chapter 1, previous theoretical and empirical work has related individual differences in attachment strategies with people's perceptions of the self and significant others (e.g., Bartholomew & Horowitz, 1991). These perceptions are labelled working models of attachment, which are defined as beliefs and expectations about the lovability and worthiness of the self (working model of self) and the availability, supportiveness, and intentions of attachment figures (working model of others; Bowlby, 1973). Previous empirical work on attachment behaviour showed how these models determine reaction and behaviour towards romantic partners in adulthood (e.g., Collins, 1996; Collins & Feeney, 2004), and affect various domains of intimate relationships such as satisfaction, stability, and conflict resolution (e.g., Mikulincer, 1998b; Murray et al., 1996).

To date, attachment researchers have characterized individual differences in working models predominantly in terms of their content and valence based on Bartholomew and Horowitz's (1991) model. This model consists of two continuous orthogonal dimensions, termed anxiety and avoidance in correspondence with the attachment strategies, which respectively reflect the predominant valence (positive versus negative) of working models of self and working models of others. According to this model, people who occupy the region in which attachment anxiety and avoidance are both high hold *negative models of self and others*; those who occupy the region in which anxiety is low and avoidance is high hold *positive models of self* and *negative models of others*; those who occupy the region in which anxiety is high and avoidance is low hold *negative models of self* and *positive models of others*; and those who occupy the region in which attachment anxiety and avoidance are both low hold *positive models of self and others*.

Following the introduction of this model, a considerable amount of research has related domains of interpersonal behaviour to individual differences in attachment patterns. However, there are both theoretical and empirical reasons to suggest that it may not be sufficient to characterize working models of attachment solely in terms of the valence with which the self and close others are perceived. According to attachment theorists, individual differences in attachment patterns reflect differences in childhood experiences with the primary caregiver (e.g., Ainsworth et al., 1978). Securely attached people benefit from having experienced accepting, responsive, and sensitive care-giving which helps them to establish positive working models of others. As these positive models are generalized onto romantic relationships in adulthood, securely attached people

hold positive beliefs about their partners' traits and intentions and rely on their partners as sources of love and comfort (Hazan & Shaver, 1987). Adults with high levels of attachment avoidance tend to have experienced more rejection and neglect during childhood; as a consequence, their models of others are predominantly negative (e.g., Collins & Read, 1990).

In contrast, adults with high levels of attachment anxiety tend to have experienced inconsistent care-giving during childhood from attachment figures prone toward overprotection, interference, and intrusiveness. Despite this negative history, people who are high in attachment anxiety still want attachment figures to provide them with support and care, and they perceive relationship partners as potentially stronger and wiser figures who may be maneuvered into providing this support (Bartholomew & Horowitz, 1991). From a theoretical standpoint, then, high attachment anxiety should be associated with working models of others that contain contradictions and tensions, rather than being uniformly positive or negative.

The literature also contains a considerable amount of empirical evidence that attachment anxiety is associated with an orientation toward the partner and the relationship that is sensitive to transient evaluative events. For example, Collins (1996) found that insecurity predicted negative reactions to a partner's transgression (e.g., "Your partner didn't comfort you when you were feeling down"). Insecure participants (high in anxiety and/or avoidance) attributed the behaviour to the partner's bad intentions, negative traits, and lack of love. Importantly, those high in anxiety (but not those high in avoidance) also experienced emotional distress as a result of their partner's behaviour. High attachment anxiety, then, was related to a more intense negative reaction to a single event.

Likewise, Simpson et al. (1996) examined reactions to an unresolved relationship problem among dating couples and found that anxiously attached people's appraisals of their partner were more negative after confronting a major obstacle than after confronting a minor one. Interestingly, high attachment anxiety is not associated exclusively with more negative evaluations of the partner following interpersonal conflict. Pietromonaco and Feldman-Barrett (1997) found that high attachment anxiety predicted more positive evaluations of the partner following high-conflict interpersonal interactions.

There is also evidence that attachment anxiety is associated with changes in evaluation of the partner over time. For example, Young and Acitelli (1998) found that anxiously attached married people held more negative perceptions of their partners compared to anxiously attached people in dating relationships. Along this line, Feeney (2002) reported that individuals with an anxious attachment style became more reactive to their partners' negative behaviours and less happy with their marriages as the length of the marriage increased.

Finally, there is evidence that attachment anxiety is associated with variability over time in appraisals of the relationship as a whole (Campbell et al., 2005). In this diary study, higher attachment anxiety predicted higher relationship conflict that increased in severity over time and was associated with less relationship satisfaction. The findings also demonstrated that high attachment anxiety was related to more positive evaluations of partner's supportive behaviour and the impact of this support on the ultimate survival of the relationship. Thus, attachment anxiety appears to be linked to appraisals of the partner and the relationship that are sensitive to situational factors.

Self-Esteem Stability

The claim that the various aspects of person's perceptions are not fully captured by examining only the valence level has already been raised in research within the domain of self-evaluations. Several studies (e.g., Seery, Blaskovich, Weisbuch, & Vick, 2004) have found that individuals with high self-esteem use self-protective mechanisms to preserve and enhance their positive sense of self-worth in face of negative feedback. As noted by Kernis (2005), these findings contradict the conception that possessing high self-esteem should entail the ability to face these adversities without the need to use self-protective mechanisms. One explanation for this contradiction is the existence of what Rosenberg (1986) and others (e.g., Kernis, Cornell, Sun, Berry, & Harlow, 1993) have defined as *unstable* or *fragile* self-esteem. That is, a sense of self-worth which is reflective to momentary ego-related evaluative events which can occur in everyday life.

In accordance, *self-esteem stability* was defined as the extent to which people experience short-term fluctuations in their contextually based current feelings of self-worth (Kernis et al., 1993). Unstable self-esteem reflects feelings of self-worth that are vulnerable to self-relevant events such as interpersonal rejection or poor performance. People who possess unstable self-esteem are thought to be highly responsive to such transient events. In contrast, people who possess stable or secure self-esteem are less affected by transient evaluative events, either positive or negative, and tend to preserve the same level of self-esteem even under changing circumstances and within different contexts.

In demonstration of this, Greenier et al. (1999) asked participants to record positive and negative daily events for a period of two weeks, and found that these events had greater effect on feelings of self-worth for people with unstable self-esteem than for people with stable self-esteem. In a different study, Kernis, Grannemann, and Barclay (1989) found association between self-esteem stability and dispositional tendencies to experience anger and hostility. They found that people with high, though unstable, self-esteem observed greater propensity to experience anger and to act with hostility than those with stable self-esteem. As the authors suggested, these

findings reflect that people with fragile sense of self-worthiness may appear confident but in fact they are highly sensitive to negative evaluative feedback, thus react in self-protective behaviors, such as anger, that deny the legitimacy of the perceived feedback.

Several studies (e.g., Butler, Hokanson, & Flynn, 1994; Kernis, Grannemann, & Mathis, 1991) have shown that individuals with unstable self-esteem are in greater risk of developing depressive symptoms following stressful life events. Apparently, dysfunctional attitudes applied by those with unstable self-esteem, such as reliance on others' acceptance as the predominant source of self-worth or a perfectionist need to succeed all the times, are better predictors of depressive symptoms than simple low self-esteem. Seery et al. (2004) demonstrated how people with unstable self-esteem are prone to hold implicit self-doubts. By adopting the theoretical framework of the biopsychosocial model of challenge and threat (Blascovich & Tomaka, 1996), they found that those with unstable self-esteem exhibit cardiovascular reaction that is interpreted as threat reaction in response to negative feedback.

This pattern of sensitivity to transient events also has been demonstrated recently in relation to attachment strategies. Foster, Kernis, and Goldman (2007) asked participants to complete a measure of self-esteem twice daily for 1 week and found a link between attachment anxiety and fluctuations in appraisals of self. In explaining this finding, Foster et al. (2007) suggested that attachment anxiety, which involves vigilance to interpersonal signals, is associated with high responsiveness to momentary evaluative events. They further argued that anxious people's intimate relationships are "rollercoaster-like" experiences which promote an unstable sense of self-esteem, whereas the harmonious nature of secure people's relationships helps them to maintain a stable view of self. Further supporting this argument, it has been found that when a specific relationship permits a person to feel and act authentically and express the true self freely (as in a securely attached relationship), there is greater stability in self-representation (Diehl, Jacobs, & Hastings, 2006). Furthermore, consistent with Mikulincer and Shaver's (2005) theoretical claim that attachment security alleviates the effect of transient negative events on self-evaluation, Carnelley, Israel, and Brennan (2007) found that those high in attachment anxiety reported feeling less competent after having received negative feedback from a partner.

Study Overview and Hypotheses

As described in theory and identified by the supportive empirical work, people who are high in attachment anxiety have working models of the self and others that contain inconsistencies and contradictions. Despite that, no previous research has directly examined whether attachment insecurity is associated with unstable evaluations of the relationship partner. In order to examine this possibility, the present study investigates the link between adult attachment patterns and

stability and change in evaluations of romantic partners (defined herein as *partner-esteem*).

Anxiously attached individuals, in particular, have been found to be reactive to transient evaluative events in their relationships (e.g., Simpson et al., 1996), and vigilant to their partner's feedback and reactions (e.g., Collins, 1996). Therefore, I predict that attachment anxiety will be associated with instability in partner-esteem over time (Hypothesis 1).

However, I do not expect the same pattern for those high in attachment avoidance. First of all, the empirical evidence (e.g., Foster et al., 2007) indicates that high avoidance is not associated with the same reactivity (positive or negative) to transient events that is observed among high attachment anxiety individuals. Furthermore, from a theoretical perspective, avoidant people rely on the self as the primary source of emotional security. Hence, emotional involvement with others can interfere with this strategy of self reliance, leading high avoidant individuals to underemphasize the importance of close relationships and the influence of a partner's behaviour and feedback (Brennan & Bosson, 1998). As these persons are less responsive to relationships and relationship partners, it is unlikely that their appraisals of their partners will change sporadically. Thus, I predict that attachment avoidance will not be associated with instability in partner-esteem (Hypothesis 2).

In addition, I include in the current investigation two factors which, based on previous theory and research within the domain, are possible mediators of any association between attachment differences and stability in models of others:

(a) *Clarity of model*. Previous studies (e.g., Davila & Cobb, 2003; Steiner-Pappalardo & Gurung, 2002) suggest that individuals high on attachment anxiety hold poorly developed, low-in-complexity, undifferentiated, and confused models of others. Accordingly, I predict that such models are likely to be affected by transient evaluative events which occur during romantic relationships and, hence, mediate the link between attachment anxiety and stability in model of romantic partner (Hypothesis 3).

(b) *Emotion-regulation*. Research on attachment (e.g., Cassidy & Kobak, 1988) has previously related emotion regulation strategies with the different attachment strategies (i.e., anxiety or avoidance) in which the individual behave in his or her close relationships. Accordingly, I predict that difficulties with the regulation of emotions can interfere with attempts to maintain a realistic and balanced model of others in the face of temporary setbacks and, hence, mediate the link between attachment anxiety and stability in model of romantic partner (Hypothesis 4).

Method

Participants

A total of 120 participants originally signed up for participation in this study; out of them, 116 (84% Female, M age = 19.9) who completed the study to its full are included in this report (four participants either did not complete any follow-up assessments or completed only the first few). Participants were psychology undergraduate students from the University of Southampton who took part in the study in exchange for course credits. All participants were involved in a romantic relationship at the time when taking part in the study (M relationship length = 21.1 months) as this was a specified criteria.

Procedure

The study was divided into two stages; at the first stage, participants attended a laboratory session in groups of 2-4. They were informed prior to taking part that the study was about goals and expectations about close interpersonal relationships, and were given a consent form which they were invited to sign. Once they provided consent, they were given a pencil and paper questionnaire pack and were told to work through it in the order in which it was presented at their own pace. The questionnaire pack included relevant demographic information and measures of adult attachment, partner-esteem, significant-other clarity, and difficulties in emotion regulation. On completion participants were given instructions about the second stage of the study.

At the second stage, participants completed the partner-esteem measure each Wednesday, Friday, and Monday during the subsequent 3 weeks. Email reminders were sent to participants on the days they were scheduled to complete a measure. Participants were asked to return the three assessments at the end of each week. Each participant completed a total of nine assessments of partner-esteem, an amount consistent with previous studies testing state self-esteem stability (e.g., Foster et al., 2007). On returning the last assessments, participants were fully debriefed and thanked for taking part.

Materials and Descriptive Statistics

Adult Attachment. Attachment dimensions were assessed by the *Experience in Close Relationship* measure (ECR; Brennan et al., 1998) which assesses attachment tendencies within adult romantic relationships. Participants are instructed to think about their experiences across all previous romantic relationships. Two 18-item subscales assess anxiety (e.g., “I worry about being abandoned”; $M = 3.41$, $SD = .98$) and avoidance (e.g., “I prefer not to show a partner how I feel deep down”; $M = 2.19$, $SD = .77$). Items are rated on a scale from 1 (strongly disagree) to 7

(strongly agree). Evidence for the strong reliability and construct validity of the ECR has been provided in numerous studies (see Mikulincer & Shaver, 2003, for a review). Internal consistency coefficients of both subscales in the current sample as measured by Chronbach's Alpha were; anxiety $\alpha = .91$, avoidance $\alpha = .93$.

Partner-Esteem was assessed by the *Esteem of Significant-Other* measure (Esteem-SO; Gurung, Sarason, & Sarason, 2001) which is a revision of Rosenberg's (1965) Self-Esteem Scale. The original 10 items were rewritten to measure perceptions of one's romantic partner. *Trait partner-esteem* level ($\alpha = .87$, $M = 4.60$, $SD = .51$) was assessed in the first stage of the study and was based on participants' ratings of how they generally feel about their romantic partner (e.g., "I feel that my partner is a person of worth, at least on an equal plane with others"). Items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree) and a mean score was computed such that *higher scores* indicate *higher esteem* for one's partner.

On the follow-up assessments, participants completed the Esteem-SO, but were instructed to rate how they felt "at the moment" in order to tap into the *state level of partner-esteem*. The total partner-esteem score was calculated for each of the nine time points, and *stability of partner-esteem* ($M = 1.78$, $SD = 1.54$) was computed as the within-participant standard deviation of the partner-esteem scores across the nine time points. Therefore, *higher standard deviations* indicated *lower stability* (or *greater instability*) in state partner-esteem.

Significant-Other Clarity. Was assessed by the *Significant-Other Clarity Scale* (SOC; Gurung et al., 2001) which is a revision of Campbell et al.'s (1996) Self-Clarity Scale. The original 12 items were modified to tap into personal attitudes regarding the current romantic partner. This measure examines the extent to which an individual's mental representations of close others are clearly and confidently defined (e.g., "My beliefs about my partner often conflict with one another"). Items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree) and were coded such that *higher scores* indicate *greater clarity* of model of partner ($\alpha = .91$, $M = 3.98$, $SD = .79$).

Difficulties in Emotion Regulation. Were assessed by The *Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004) which assesses difficulties to regulate negative affect during times of distress. Participants are instructed to indicate how often each of the 36 items applies to themselves on a scale from 1 (almost never) to 5 (almost always). Items were coded such that *higher scores* indicate *greater difficulties* with regulating emotions.

The DERS is composed of six subscales: *Non-acceptance* ($\alpha = .87$, $M = 2.13$, $SD = .80$) - A tendency to have negative emotions in response to one's own distress (e.g., When I'm upset I feel guilty for feeling this way); *Goal* ($\alpha = .89$, $M = 3.07$, $SD = .95$) - Difficulties in concentrating and accomplishing tasks when experiencing negative emotions (e.g., When I'm upset I have

difficulties getting work done); *Impulse* ($\alpha = .90$, $M = 2.01$, $SD = .83$) - Difficulties remaining in control of one's behaviour when experiencing negative emotions (e.g., When I'm upset, I become out of control); *Awareness* ($\alpha = .68$, $M = 2.17$, $SD = .54$) - A tendency to attend to and acknowledge emotions (e.g., I pay attention to how I feel); *Strategy* ($\alpha = .89$, $M = 2.09$, $SD = .79$) - The belief that there is no existing strategy to regulate one's negative emotions (e.g., When I'm upset I believe that there is nothing I can do to make myself feel better); and *Emotional Clarity* ($\alpha = .83$, $M = 2.07$, $SD = .65$) - The extent to which an individual is clear about the emotions that he or she experiences (e.g., I have difficulties making sense out of my feelings).

Results

The Association between Attachment Dimensions and Partner-Esteem Stability

To test hypothesis 1 that attachment anxiety will be associated with instability in partner-esteem over time, I computed the zero-order correlation between attachment anxiety and stability of partner-esteem. Supporting my prediction, attachment anxiety correlated positively with the score computed from the within-participant standard deviation of the partner-esteem scores across the nine time points (i.e., partner-esteem instability; $r = .36$, $p < .001$).

To test hypothesis 2 that attachment avoidance will not be associated with instability in partner-esteem, I computed the zero-order correlation between attachment avoidance and stability of partner-esteem. In contrast to my prediction, attachment avoidance correlated positively with partner-esteem instability ($r = .26$, $p < .001$).

Attachment anxiety and attachment avoidance were significantly correlated ($r = .23$, $p < .05$) in the current sample. Therefore, I examined whether the associations between the attachment dimensions and stability of partner-esteem stability were independent of one another. Partner-esteem instability was regressed onto attachment anxiety and attachment avoidance in Step 1 of a multiple regression analysis (see Table 1), and their interaction term was added in Step 2. The effects of anxiety and avoidance remained significant when the two dimensions were entered simultaneously in the model at Step 1. In addition, these effects remained significant when the interaction term (which was not significant) was added. Thus, the effects of attachment anxiety and attachment avoidance on partner-esteem instability were independent of one another.

Table 1

Multiple Regression Predicting Partner-Esteem Instability from Attachment Dimensions

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|-----------|-----------|----------|--------------|---------|
| Step 1 | 2, 113 | 9.83** | .16** | |
| Anxiety | | | | .31** |
| Avoidance | | | | .19* |
| Step 2 | 3, 112 | 6.55** | .00 | |
| Anxiety | | | | .30** |
| Avoidance | | | | .19* |
| Anx X Avo | | | | .03 |

Notes. Anx = Anxiety, Avo = Avoidance; * $p < .05$, ** $p < .001$

Trait partner-esteem level was significantly related to partner-esteem instability ($r = -.39, p < .001$). To determine whether the associations between attachment anxiety and attachment avoidance with partner-esteem instability were independent of trait partner-esteem level, partner-esteem instability was regressed onto the attachment dimensions (at Step 1; see Table 2) and trait partner-esteem (at Step 2). The effect of anxiety on partner-esteem instability remained significant after entering trait partner-esteem. A Sobel test indicated that trait partner-esteem was not a significant mediator of the association between attachment anxiety and partner-esteem instability ($Z = 1.34, p = .18$). In contrast, the effect of avoidance became non-significant after entering trait partner-esteem level. A Sobel test indicated that trait partner-esteem significantly mediated the association between avoidance and partner-esteem instability, ($Z = 1.99, p < .05$).¹

¹ The mean level of state partner-esteem across the nine time points also was correlated with state partner-esteem instability ($r = -.62, p < .001$). Importantly, the association between attachment anxiety and partner-esteem instability remained significant when this mean level was statistically controlled ($p = .03$), whereas the association between attachment avoidance and partner-esteem stability did not ($p = .39$). Thus, these findings replicated the patterns we observed when controlling for initial level of partner-esteem (see Baird, Le, & Lucas, 2006).

Table 2

Multiple Regression Predicting Partner-Esteem Instability from Attachment Dimensions and Trait Partner-Esteem

| | Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------|-------------------|-----------|----------|--------------|---------|
| Step 1 | | 2, 113 | 9.29** | .16** | |
| | Anxiety | | | | .31** |
| | Avoidance | | | | .19* |
| Step 2 | | 3, 112 | 8.23** | .04* | |
| | Anxiety | | | | .27** |
| | Avoidance | | | | .10 |
| | Trait Par.-Esteem | | | | -.22* |

Notes. Par.-Esteem = Partner-Esteem; * $p < .05$, ** $p < .001$

Does Significant-Other Clarity Mediates the Association Between Attachment and Partner-Esteem Instability?

To test hypothesis 3 that significant-other clarity will mediate the association between attachment and stability of partner-esteem, multiple regression analysis was conducted (see Table 3). Partner-esteem instability was regressed onto attachment dimensions (at step 1) and significant-other clarity (at step 2). The regression did not yield significant effect of significant-other clarity on partner-esteem instability when entered simultaneously with attachment dimensions. Thus, not providing support for my hypothesis.

Table 3

Multiple Regression Predicting Partner-Esteem Instability from Attachment Dimensions and Significant-Other Clarity.

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|------------|-----------|----------|--------------|---------|
| Step 1 | 2, 113 | 9.29** | .16** | |
| Anxiety | | | | .31** |
| Avoidance | | | | .19* |
| Step 2 | 3, 112 | 6.64** | .00 | |
| Anxiety | | | | .29** |
| Avoidance | | | | .16 |
| SO-Clarity | | | | -.06 |

Notes. SO = Significant-Other; * $p < .05$, ** $p < .001$

Do Difficulties in Emotion-Regulation Mediate the Association between Attachment and Partner-Esteem Instability?

To test hypothesis 4 that difficulties in emotion-regulation would mediate the association between attachment insecurities (i.e., anxiety and avoidance) and stability of partner-esteem, further regression analyses were conducted. First, in order to determine the best candidates for mediation, partner-esteem instability was regressed onto all 6 DERS subscales in a step-wise regression. Results revealed that out of the 6 subscales, emotional-clarity, and strategy, were the two strongest predictors of partner-esteem instability ($\beta = .19, p < .04$, and $\beta = .25, p < .01$ respectively).

Next, partner-esteem instability was regressed onto attachment dimensions (at step 1), and emotional-clarity (at step 2). Results revealed that emotional-clarity partially mediated the effect of attachment anxiety on partner-esteem instability. After entering emotional-clarity into the model, the effect of attachment anxiety remained significant ($p < .01$) but the level of the coefficient for attachment anxiety dropped from $\beta = .37$, to $\beta = .31$ when emotional clarity ($\beta = .19, p < .05$) was entered into the model. A Sobel test revealed a marginally significant mediation effect ($Z = 1.74, p < .10$).

Finally, partner-esteem instability was regressed onto attachment dimensions (at step 1), and strategy (at step 2). The regression results revealed that strategy partially mediated the effect of attachment avoidance on partner-esteem instability. After entering strategy into the model, the effect of attachment avoidance remained significant ($p < .05$) but the coefficient for attachment

avoidance dropped from $\beta = .26$, to $\beta = .20$, when strategy ($\beta = .20, p < .05$) was entered into the model. A Sobel test for mediation again revealed a marginally significant effect ($Z = 1.65, p < .10$).

Discussion

The results of this study support my claim that attachment anxiety is related to unstable evaluations of close others. Specifically, attachment anxiety predicted instability in state partner-esteem. This finding suggests that people with high levels of attachment anxiety hold working models of others which contribute to a pattern of frequent fluctuation in appraisals of romantic partners.

As previous research has demonstrated, anxiously attached people's working models of others are characterized by vigilance toward transient evaluative events, such as negative feedback, interpersonal conflict, and partner transgressions (e.g., Collins, 1996; Pietromonaco & Feldman-Barrett, 1997; Simpson et al., 1996). As a result, anxiously attached people experience frequent fluctuations in their esteem for their partners (as demonstrated in the current study). The current and related previous findings are consistent with my argument that it is not theoretically sufficient to conceptualize anxious individuals as having (stable) positive or negative evaluations of others.

Previous research has demonstrated that people high in attachment anxiety have less of a capacity to regulate their emotional experience and expression (Cassidy, 1994). As suggested by Gratz and Roemer (2004), this reflects the inability to regulate negative affect during emotion-eliciting events. The nature of intimate relationships is highly likely to hold high emotional demands. Thus, lack of capacity to meet these demands could result in defensive actions, such as idealisation and devaluation (Adler, 1984) – a pattern similar to the frequent shift between increases and decreases in the level of evaluation of the relationship partner observed in the current study. In the current study, emotional-clarity was found to be a significant mediator of the association between attachment anxiety and instability in model of romantic partner. Difficulties with respect to emotional-clarity reflect problems with identifying and making sense of one's emotions (Gratz & Roemer, 2004). As lack of emotional-clarity appears to be involved in anxious people's difficulty with maintaining a stable model of their partner, it may be reasonable to infer that one who finds it difficult to come to terms with his or her own feelings finds the same difficulty to come to terms with the strengths and weaknesses of his or her partner.

Apart from emotional-clarity (which partially mediated the effect of attachment anxiety on partner-esteem stability), and strategy (which partially mediated the effect of attachment avoidance), the other four DERS subscales did not significantly mediated the association between attachment and instability in esteem for romantic partner. These findings may be explained in terms of the content of each of the DERS subscales – First, the factors that relate to the association between attachment and partner esteem stability: The emotional-clarity subscale assesses the extent to which one is confused and ambivalent about one's own feelings (e.g., "I have difficulty making sense out of my feelings"). Difficulties from such kind could relate to anxious people's confused and ambivalent feelings towards others, which explain the role of emotional-clarity in the association between attachment anxiety and partner-esteem stability. Similarly, the strategy subscale assesses the extent to which one is desperate about one's situation, feels that it will continue for long time, and that there isn't much he or she can do to change it (e.g., "When I'm upset, I believe that I will remain that way for a long time"; "When I'm upset, I believe that there is nothing I can do to make myself feel better"). These sorts of feelings could relate to avoidant peoples' desperation from the possibility that others will provide them with love and security as reflected in their strategy to avoid intimate relationships all together, which explains the role of strategy in the association between attachment avoidance and partner-esteem stability.

In contrast, the other four subscales of the DERS may be related to attachment strategies, but their content doesn't seem to be related to a potential causal explanation for the association between attachment and partner-esteem stability. Specifically, the non-acceptance subscale assesses the extent to which one is feeling ashamed or guilty because he or she is upset (e.g., "When I'm upset, I feel ashamed with myself for feeling that way"); *Goal* examines the extent to which one is having difficulties concentrating or getting things done when he or she is upset (e.g., "When I'm upset, I have difficulty thinking about anything else"); *Impulse* examines the extent to which one experience his or her emotions as overwhelming and out of control when he or she is upset (e.g., "When I'm upset, I feel out of control"); And *Awareness* examines the extent to which one is attentive and acknowledge his or her feelings when he or she is upset (e.g., reverse item: "When I'm upset, I take time to figure out what I'm really feeling").

With respect to the association between attachment anxiety and partner esteem stability, the current findings parallel and extend recent work by Foster et al. (2007) who found that attachment anxiety predicted instability in state self-esteem. They suggested that anxiously attached people's intimate relationships have a "rollercoaster-like" nature as a result of this fragile and unstable sense of self-worth. Sociometric theories (e.g., Leary & Baumeister, 2000)

suggest that state self-esteem is responsive to feelings of acceptance and rejection. Given that anxiously attached people tend to be hypervigilant to signs of rejection from others, it is not surprising that their sense of self-esteem fluctuates accordingly. Results from the current study demonstrate that a similar pattern emerges for evaluations of the relationship partner. Thus, there is an intense sensitivity to the dynamics of the romantic relationship among persons high in attachment anxiety. Apparently, this sensitivity contributes not only to patterns of instability in working models of self, but also to patterns of instability in working models of others.

Interestingly, I also found a correlation between attachment avoidance and instability in partner-esteem. Initially, I predicted that attachment avoidance would not relate to stability of esteem for romantic partner. This prediction was based on characteristics of attachment avoidance, which include distance from intimate relationships, low evaluation of others, low emotional disclosure, and extreme self-reliance. One who is not responsive to relationships and relationship partners, I presumed, is unlikely to show a pattern of change in appraisals of them as there is no trigger for this. Despite that the correlation between attachment avoidance and instability in partner-esteem seem to contradict this prediction, it should be noted that this correlation was fully mediated by trait (and mean) levels of partner-esteem. Therefore, the apparent link between avoidance and unstable partner-esteem could be a by-product of an overall more negative evaluation of the partner.

From the perspectives of secure individuals, it appears that the harmonious nature of secure attachment relationships contributes to the maintenance of a positive, stable, and coherent model of partner, one which is more likely to integrate the different aspects of the other's personality and to put into perspective the highs and lows that are experienced in every relationship (e.g., Mikulincer & Arad, 1999).

Finally, I began by expressing a concern that a conceptualization of attachment models that focuses primarily upon their content and valence (Bartholomew & Horowitz, 1991) may not fully capture the dynamic nature of these models. Results from the current study support the notion that working models do not seem to be well defined solely in terms of the valence with which the self and close others are evaluated. This has important implications for how researchers conceptualize the relationship between attachment patterns and working models, as well as how working models themselves are conceptualized. At this point, the next step in my investigation on working models of significant-others is to attempt to identify the mechanisms which account for the association between attachment and instability in esteem for romantic partners, and whether different mechanisms account for the association between attachment anxiety and instability in models of others, and attachment avoidance and instability in models of others.

CHAPTER III

Attachment Differences and Predictors of Change in Esteem for Romantic Partners (Studies 2 and 3)

The aim of Study 1 was to investigate the association between attachment orientations and stability in working models of others. My hypotheses were that people high on attachment anxiety, but not people high on attachment avoidance, hold evaluations of their romantic partners that are low in temporal stability. The results confirmed my first prediction for anxiously attached people, as attachment anxiety predicted fluctuations in evaluations of the romantic partner over time. Interestingly though, attachment avoidance was also found to be associated with instability in evaluations of the romantic partner over time.² Thus, the aim of the two studies I review in the current chapter was to identify the processes which underlie this pattern of instability in evaluations of the romantic partner for people high on attachment anxiety, and for people high on attachment avoidance.

My stand point in the current investigations is that different factors are responsible for change in working-models of others for people high on attachment anxiety and people high on attachment avoidance. Previous research (e.g., Bartz & Lydon, 2006; Maio, Fincham, & Lycett, 2000) has shown that attachment anxiety is associated with an ambivalent approach towards others, one which heavily relies upon the anxious individual's perception of them as being a reliable or unreliable source of physical and emotional security. As for attachment avoidance, research (e.g., Cassidy & Kobak, 1988; Mikulincer, 1998a) has demonstrated how this strategy is related to downplaying the importance of close relationships and excessive reliance on self as sole source of security. Accordingly, in the current studies I examine these distinct components of both attachment insecurities and how they contribute to the pattern of instability in evaluations of the romantic partner over time that been observed in Study 1.

² As detailed in the results section of Chapter 2, the association between attachment avoidance and partner-esteem instability became non-significant when trait partner-esteem level was statistically controlled. However, there was still considerable amount of variance left to be explained in the correlation between attachment avoidance and partner-esteem instability which led me to include consideration of the effects of attachment avoidance on instability, in addition to the effects of attachment anxiety. Further, people high on avoidance tend to hold firm defences of their ego which may explain why in real-life situations the association between attachment avoidance and partner-esteem instability was not independent of partner-esteem level; however, this could prove to be different under controlled experimental manipulation as used in the current studies.

Predictors of Change for People High on Attachment Anxiety: Ambivalence Approach

Anxiously attached people are likely to have suffered from an inconsistent and unpredictable care-giving treatment by their attachment figures, and as a result they have little confidence that attachment figures will always be available and dependable. Through their eyes, the world is seen as unpredictable because attachment figures could prove to be a reliable source of love and protection on one occasion, but rejecting on another (Bowlby, 1973). As a consequence, anxiously attached people develop two main mechanisms intended to enhance their chances of successful proximity seeking to attachment figures. One is hyperactivation of the attachment system and the other is hypervigilance to signs of attachment figure's unavailability.

Hyperactivation of the attachment system includes intensified calls for proximity in order to capture the attachment figure's attention. In childhood these calls take the form of non-verbal behaviours such as crying (Bowlby 1969/1982), whereas in adulthood anxiously attached people often exaggerate their vulnerability and dependency and tend to present themselves in degrading, childish and excessively needy ways (Cassidy & Berlin, 1994).

Hypervigilance is an intense sensitivity to any clue of rejection from attachment figures with an attempt to avoid the expected pain, prevent it, or at least prepare for it as much as possible. Accordingly, anxiously attached adults are overly attentive to their partner's feelings and emotions toward them and tend to exaggerate even slight signs of rejection and lack of love (Mikulincer & Shaver, 2003).

In sum, anxiously attached people are ambivalent between fear for rejection and yearning for intimacy, and as result are characterised by an ambiguous approach towards attachment figures. This ambivalence was originally documented among children classified in the anxious-ambivalent category by Ainsworth et al. (1978). Those children demonstrated confused and hesitant reactions upon reunion with their parents in the Strange-Situation paradigm. Similarly, Maio, Fincham, and Lycett (2000) found that children (age 12 to 14) who reported ambivalence toward their parents were less securely attached in their relationships with other people than were those who reported more coherent attitudes about their parents.

Likewise, anxiously attached adults hold ambivalent thoughts and feelings about their romantic partners. This was demonstrated by Bar-On (2005) as participants were exposed to a set of positive and negative attachment-related words (e.g., "hug", "rejection") and asked to pull a lever (approach response) or push it away (distant approach) immediately after they recognize the word on the computer screen. Ambivalence scores were computed as the ratio between reaction times of approach and avoidance responses. Results revealed that participants high on attachment

anxiety displayed greater ambivalence towards both positive and negative attachment-related words than participants low in attachment anxiety.

Along this line, Bartz and Lydon (2006) demonstrated anxiously attached people's ambivalence in relation to others in their study on interdependence dilemmas. Participants were offered an opportunity to follow communal norms (giving help or a favor that did not require a response in kind, thus reflecting genuine concern for the welfare of the other) while interacting with an attractive, opposite-sex colleague in the laboratory. As predicted, anxiously attached participants willingly conformed to these norms to indicate their desire for closeness. However, when faced with a similar communal response from the colleague (which could be interpreted as an expression of interest in them), anxiously attached participants reported feelings of social-anxiety and decreased their level of performance in a cognitive task.

Simpson, Ickes, and Grich (1999) illustrated anxiously attached people's hypervigilance to signs of rejection as they manipulated a relationship-threatening scenario. Participants were asked to rate the attractiveness of a photo of an opposite-sex highly attractive figure (professional model) in the presence of their romantic-partners, discuss it with him or her, and later infer his or her feelings (the partner's) during this situation. Participants with high levels of attachment anxiety were found to be more accurate than others in inferring their partners' thoughts and feelings. They also reported to have experienced greater threat and distress than others in response to the task, and a decline in the perceived closeness of their relationships. Moreover, participants with high levels of attachment anxiety were significantly more likely than others to break-up with their partners during the subsequent four months. These findings demonstrate how anxiously attached people's fear of rejection can become a self-fulfilling prophecy as they can be too aware of their partner's thoughts and emotions, which can increase their own anxiety and create a negative escalation in their relationships.

In sum, it appears that the anxiously attached person suffers from lack of capacity to handle the emotional requirements of intimate relationships. Yet, his or her desire for intimacy is experienced very strongly. As a result, once involved in an intimate relationship, the anxiously attached person tend to shift frequently between positive and negative evaluation of his or her relationship partner in accordance to his or her perception of the partner's commitment to the relationship and affection towards him or her.

Predictors of Change for People High on Avoidance: Compulsive Self-Reliance

Like anxiously attached people, avoidant people have experienced insensitive caregiving treatment by their attachment figures. However, whereas the anxiously attached person has retained a certain degree of optimism about the possibility that attachment figures could still prove to be a source of support and comfort, the avoidant person has abandoned this route.

As part of their deactivation strategy, avoidant people try to suppress attachment-related thoughts and feelings, and look to avoid emotional involvement with others (Cassidy & Kobak, 1988). For the avoidant person, intimacy, and any other emotionally charged interactions with others, is experienced as interdependency which is incongruent with his or her strategy to preserve the self as a sole source of security. Moreover, such an involvement may cause him or her to experience intrusive memories of his or her traumatized childhood attachment experience which he or she is desperate to restrain (Bowlby, 1980).

In order to fill the gap left by the absence of attachment security, instead of relying on others avoidant people turn to their own selves as a source of security and develop adaptation strategies that are based on compulsive self-reliance. Avoidant people defensively inflate their perceptions of self-worth in order to achieve a sense of invulnerability, create semblance, or façade, of self-esteem and self-efficacy, and engage frequently in defensive self-enhancement (Mikulincer, 1998a).

To maintain their defensive sense of self-worth, avoidant people invest effort to hide any signs of weakness, suppress negative self-aspects and memories of past failures, deny mistakes, and generally focus on traits and feelings compatible with self-sufficiency. Accordingly, avoidant people heighten, and even exaggerate, their talents and achievements - in some cases even to an extent of fantasies of perfection and power, and avoid challenging situations which would possibly threaten their defensive pretentiousness (Mikulincer & Shaver, 2003).

Empirical research has supported these theoretical claims about the nature of avoidant people's defensive ego-reliance. For example, Gjerde, Onishi, and Carlson (2004) found that avoidant people's descriptions of their traits were more favourable than descriptions provided by trained observers. Mikulincer (1995) found that avoidant people have quick access to positive, but not to negative, self-attributes as measured by the cognitive accessibility of self-relevant traits in a Stroop colour-naming task.

Other studies demonstrated avoidant peoples' need for a strong and positive sense of self by their reaction to ego-threatening events. Hart, Shaver, and Goldenberg (2005) asked participants to think about an attachment-related threat (separation from a close relationship partner) or a neutral topic (watching TV), they found that avoidant people appraised themselves

more positively following the threatening manipulation as compared with the neutral manipulation. Similarly, Mikulincer (1998) found that avoidant people describe themselves more positively following a distress arousal (i.e., after receiving negative feedback), and when self-views are linked with a sense of self-reliance (i.e., when received a message emphasizing that a positive self-view is a sign of self-reliant person).

It is not only by enhancing their self-worth that avoidant people attempt to preserve a sense of positive self upon which they can rely. Psychodynamic theorists (e.g., Freud, 1915/1957; Klein, 1940) were the first to introduce the term "Projection" in order to describe a process in which aspects of one's own self are experienced as existing in others. There are two forms of psychological projection: *projective identification* and *defensive projection*. The first intends to create a sense of similarity with others by projecting onto them parts of the actual self and is driven by a desire to enhance emotional ties with others. In contrast, the second process intends to create a sense of dissimilarity with others by projecting onto them unwanted aspects of the self. This mechanism is driven by the desire to maintain or enhance positive self-views by avoiding the awareness about one's negative characteristics and instead perceiving them in others.

Mikulincer and Horesh (1999) borrowed this psychodynamic concept to shed light on the defensive nature of avoidant persons' strategy. They argued that avoidant people tend to project their negative traits onto others instead of perceiving them in themselves. According to them, whenever avoidant persons feel a threat to their self-value (e.g., when experiencing failure) they tend to project the negative traits that are responsible for this failure (e.g., low intelligence, incompetence) onto others as a way to separate them (the negative traits) from their (avoidant's) self-representation and protect their ego. They conclude by claiming that avoidant people's perceptions of others are constructed around defensive projection which serves their attempts to maintain positive self-views. Hence, they actively avoid the recognition of their own faults, and instead tend to see those faults in others – a process which increases self-other dissimilarity and therefore also fits well with their strategy to maintain interpersonal distance.

Study 2

Overview and Hypotheses

As detailed above, previous research has highlighted the differences in mental processes that construct views of others between individuals high in attachment anxiety, and individuals high in attachment avoidance. In sum, individuals high in attachment anxiety possess an ambivalent approach towards others as a result of their uncertainty about other's intentions and availability, whereas people high in attachment avoidance do not perceive others as a source of

protection all together and instead rely on enhanced self-views. Based upon this theoretical position and the empirical evidence outlined above, my hypotheses in the current study centre on the notion that different and separate mental processes underlie instability in working models of significant-others for individuals high in attachment anxiety, and for individuals high in attachment avoidance.

In order to investigate which process underlies instability in working models of others for anxious people, and which process underlies instability in working models of others for avoidant people, a procedure adopted from Birnbaum, Svitelman, Bar-Shalom, and Porat's (2008) was used. In their investigation on the effect of relationship-related and ego-related threats on the content of sexual fantasies, Birnbaum et al. (2008) manipulated relationship-related threat by asking participants to imagine a scenario in which their partner reveals his or her intentions to leave them, and manipulated ego-related threat by asking participants to imagine a scenario in which they had just failed in an important exam.

The hypersensitive nature of attachment-anxious people's response to rejection cues, and their excessive worries of abandonment, leads me to hypothesise that under relationship-related threat they will decrease esteem for their romantic partner (Hypothesis 1). I do not, however, make this prediction for the case of avoidant people. Because they intentionally try to avoid relationship-related thoughts I predict that a relationship-related threat will not have an effect on them (Hypothesis 2).

An ego-related threat is intended to affect the person's self-views, and is thought to activate the process of defensive projections (Mikulincer & Horesh, 1999). A core part of avoidant people's deactivating strategy is to maintain strong and positive sense of self by defending their ego and projecting negative traits onto others. Thus, I predict that ego-related threat will result in decrease in esteem for romantic partners for people high in attachment avoidance (Hypothesis 3). As for people high in attachment anxiety, because they have not been found to engage in similar ego-defence mechanisms I predict that an ego-threat will not result in an effect on their esteem for the romantic partner (Hypothesis 4).

Method

Participants

Participants ($N = 124$, 86% Female, M age = 20.10) were psychology undergraduate students from the University of Southampton who took part in the study in exchange for course credits. All participants were involved in a romantic relationship at the time when taking part in the study (M relationship length = 24.6 months) as this was a specified criteria.

Procedure

Participants attended a laboratory session in groups of 4-6. They were informed prior to taking part that the study was about goals and expectations about close interpersonal relationships, and involved completing several questionnaires and a short imagination task. Before they began, they were given a consent form which they were invited to sign. Once they provided consent, they were given the questionnaire pack and were told to work through it in the order in which it was presented at their own pace.

The first part of the questionnaire included relevant demographic items and a measure of adult attachment. In the second part participants read a hypothetical scenario and were asked to imagine themselves in the situation and respond by writing down any thoughts, feelings, and emotions they experienced. Following Birnbaum et al. (2008) participants were randomly given one of three scenarios:

- a. "Your partner, whom you have been dating for a long time and feel very attached to, is considering leaving you." (Relationship-threat)
- b. "You have just found out that you have failed an important exam that you have been studying for, for a very long time." (Ego-threat)
- c. "Your partner is going to buy groceries at the supermarket." (Neutral/Control)

Following this task, participants completed the 6-item manipulation check which asked them to indicate the followings:

1. To what extent is this scenario clear for you?
2. How difficult was it for you to imagine yourself in this situation?
3. To what extent is this scenario realistic in your view?
4. In general, to what extent do you find this situation threatening?
5. To what extent is this situation threatening your relationship with your partner?
6. To what extent is this scenario threatening your self-esteem?

The final part of the questionnaire contained a measure of partner-esteem and measures of state self-esteem and state attachment, which were included in order to examine the effect of the manipulation on related concepts. Specifically, I wanted to examine whether self-competence was affected by the ego-threat condition and whether attachment security was affected by the relationship-threat condition. On completion, participants were fully debriefed and thanked for taking part.

Materials and Descriptive Statistics

Adult Attachment. Attachment dimensions, anxiety ($M = 3.44$, $SD = 1.06$), and avoidance ($M = 2.51$, $SD = 1.11$), were assessed with Brennan et al.'s (1998) ECR, as in Study 1. Reliability scores in the current sample for both subscales as measured by Cronbach's Alpha were: Anxiety $\alpha = .92$, and Avoidance $\alpha = .93$. Consistent with the orthogonal nature of the dimensions (as stated by Brennan et al.'s, 1998), they were not significantly correlated in the current sample ($r = .16$, ns).

Partner-Esteem. Esteem for the romantic-partner was assessed with Gurung et al.'s (2001) Esteem of Significant Other, as in Study 1. This time items were rated on a scale from 1 (strongly disagree) to 7 (strongly agree); ($\alpha = .86$, $M = 6.19$, $SD = .79$).

State Self-Esteem. Was assessed by a revised version of the *Self-Liking/Competence Scale* (SLCS-R; Tafarodi & Swann, 2001). The SLCS-R assesses global self-liking (e.g., "I am comfortable with myself") and self-competence (e.g., "I perform well at many things") on 16-item scale. Items are rated on a scale from 1 (strongly disagree) to 7 (strongly agree). In the current study, a short six items version of this measure was used, and instructions were rephrased so that participants rated how they feel about themselves "at the moment." The reliability score for this scale in the current sample as measured by Cronbach's Alpha was $\alpha = .89$. Means and standard deviations for this scale at each condition are reported in the results section.

State Attachment. The *State Adult Attachment Measure* (SAAM; Gillath, Nofle, Hart, & Stockdale, 2009) assesses the current activated schema of attachment. The SAAM consists of three subscales parallel to Hazan and Shaver's (1987) three attachment styles; anxiety (e.g., "I wish someone would tell me they really love me"), avoidance (e.g., "The idea of being close to someone makes me nervous"), and secure (e.g., "I really feel loved right now"). Participants are instructed to response how they feel "right now" on a scale from 1 (strongly disagree) to 7 (strongly agree). Reliability scores in the current sample for the three subscales as measured by Cronbach's Alpha were: Anxiety $\alpha = .80$; Avoidance $\alpha = .82$; and Secure $\alpha = .87$. Means and standard deviations for each subscale at each condition are reported in the results section.

Results

Manipulation Checks

A one-way ANOVA was conducted to analyse the experimental effects of the three conditions on the six manipulation check items (see Table 4). Results showed that overall each manipulation check item differed significantly across the three conditions. Post hoc analysis using the *Scheffe* adjustment later revealed significant differences for each of the manipulation check items (see Table 4).

Participants in the ego-threat condition rated the scenario more threatening in general than participants in both the relationship-threat condition and the control condition. Participants in the relationship-threat condition rated the scenario less threatening in general than participants in the ego-threat condition, though more threatening in general than participants in the control condition.

Participants in the relationship-threat condition rated the scenario more threatening to their relationship than participants in both the ego-threat condition and the control condition. Participants in the ego-threat condition rated the scenario less threatening to their relationship than participants in the relationship-threat condition, though more threatening to their relationship than participants in the control condition.

Participants in the ego-threat condition rated the scenario more threatening to their ego than participants in both the relationship-threat condition and the control condition. Participants in the relationship-threat condition rated the scenario less threatening to their ego than participants in the ego-threat condition, though more threatening to their ego than participants in the control condition.

Table 4

Means and Standard Deviations for the Manipulation Check Items at each Condition

| Manipulation Check | <i>F</i> (2, 120) | Condition | | | | | |
|---------------------------|-------------------|---------------------|------|-------------------|------|-------------------|------|
| | | Relationship-threat | | Ego-threat | | Control | |
| | | M | SD | M | SD | M | SD |
| 1) Clarity of Scenario | 4.60* | 4.83 _a | 1.58 | 5.73 _b | 1.29 | 4.80 _a | 1.83 |
| 2) Difficult to Imagine | 4.93* | 3.83 _a | 1.97 | 2.56 _b | 1.63 | 3.08 _c | 1.95 |
| 3) Realistic | 16.54** | 3.55 _a | 2.01 | 4.78 _b | 1.65 | 5.68 _c | 1.29 |
| 4) Threatening | 78.44** | 4.21 _a | 1.77 | 5.17 _b | 1.66 | 1.25 _c | .71 |
| 5) Threat to Relationship | 19.34** | 3.31 _a | 1.94 | 2.02 _b | 1.65 | 1.20 _c | .79 |
| 6) Threat to Ego | 77.05** | 4.17 _a | 1.83 | 5.63 _b | 1.65 | 1.35 _c | 1.14 |

Notes: * $p < .05$, ** $p < .001$; Means with different subscripts differ significantly at: $p < .01$.

Attachment Dimensions and Threat Effects on Partner-Esteem

Multiple regression analysis (see Table 5) was conducted to examine my predictions that under threat to the relationship participants high in attachment anxiety will decrease esteem for their romantic partner (Hypothesis 1) but not participants high in attachment avoidance (Hypothesis 2), and that under threat to the ego participants high in attachment avoidance will decrease esteem for their romantic partner (Hypothesis 3) but not participants high in attachment anxiety (Hypothesis 4).

Firstly, centred predictors were calculated for attachment anxiety and attachment avoidance. Next, two dummy-coded variables were created to represent the threat conditions. The first dummy variable compared the relationship-threat condition (coded 1) to the other two (each coded 0). The second dummy variable compared the ego-threat condition (coded 1) to the other two (each coded 0). Finally, terms were created for each of the four interactions between the attachment dimensions (anxiety and avoidance) and threat conditions (relationship-threat and ego-threat) which allowed two-way interactions to be entered into a hierarchical regression at Step 2.

At Step 1, partner-esteem was regressed onto both attachment dimensions and the threat-manipulation conditions. Results revealed significant main effects for attachment anxiety, attachment avoidance, and the ego-threat condition. The interactions terms were added to the regression at Step 2. Results revealed a significant interaction effect for the ego-threat condition X attachment anxiety.

Table 5

Multiple Regression Predicting Partner-Esteem Scores from Attachment Dimensions and Experimental Conditions

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------------------|-----------|----------|--------------|---------|
| Step 1 | 4, 119 | 12.68** | .28** | |
| Anxiety | | | | -.33** |
| Avoidance | | | | -.32** |
| Rel.-Threat | | | | -.13 |
| Ego-Threat | | | | -.18* |
| Step 2 | 8, 115 | 8.73** | .03 | |
| Anxiety | | | | -.10 |
| Avoidance | | | | -.29* |
| Rel.-Threat | | | | -.14 |
| Ego-Threat | | | | -.18* |
| Anx. X Rel.-Threat | | | | -.11 |
| Anx. X Ego-Threat | | | | -.26* |
| Avo. X Rel.-Threat | | | | -.02 |
| Avo. X Ego-Threat | | | | -.05 |

Notes: Anx.= Anxiety, Avo.= Avoidance, Rel.-Threat = Relationship-threat;

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

Following Aiken and West (1991) these interactions terms were probed by simple slopes regression analyses. Figure 2 displays predicted values of partner-esteem within each condition at one standard deviation above and below the mean for attachment anxiety. Consistent with hypothesis 1, in the relationship-threat condition higher attachment anxiety was associated with lower scores of partner-esteem ($\beta = -.29, p < .05$). In contrast to hypothesis 4, higher attachment anxiety was also associated with lower scores of partner-esteem in the ego-threat condition ($\beta = -.51, p < .001$). In the control condition, attachment anxiety was not associated with scores of partner-esteem ($\beta = -.09, ns$).

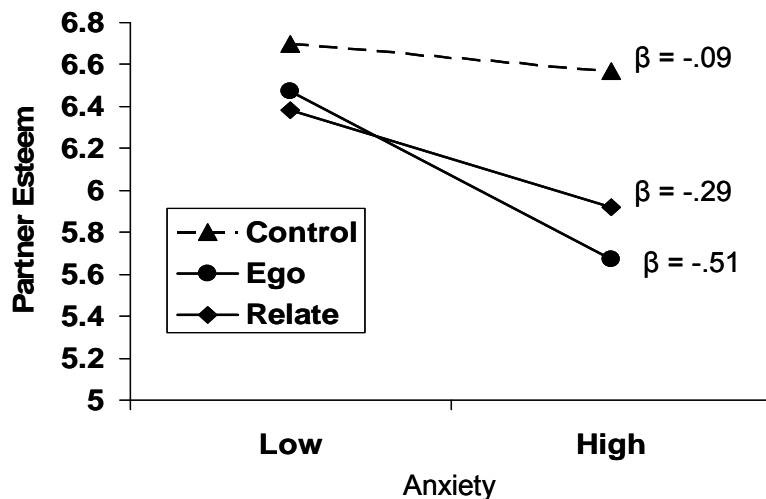


Figure 2. Association between attachment anxiety and partner-esteem scores within each threat condition.

The predictions regarding the effects of attachment avoidance and threat manipulations on partner-esteem (Hypotheses 2 and 3) were not supported by the data from the current sample. There was a consistent negative association between attachment avoidance and partner-esteem that did not vary from the control condition as a function of either ego-threat or relationship-threat.

Threat Effects on Related Domains

Another way to check the effect of the manipulation was to examine the effect it had on the domains which were manipulated. A one-way ANOVA was conducted to analyse the experimental effects between the three conditions on state self-esteem, and state-attachment dimensions (see Table 6). A significant difference was found between the conditions in state attachment-anxiety. Post hoc analysis using *Scheffe* later revealed that scores of state-attachment anxiety in the ego-threat condition were significantly higher than in the other two conditions.

Table 6

Means and Standard Deviations for State Measures at each Condition

| Measure | <i>F</i> (2, 121) | Condition | | | | | |
|----------------------|-------------------|---------------------|------|-------------------|------|-------------------|------|
| | | Relationship-threat | | Ego-threat | | Control | |
| | | M | SD | M | SD | M | SD |
| State Self-Esteem | 0.17 | 5.19 | 1.05 | 5.15 | 1.19 | 5.29 | 1.11 |
| State Att. Anxiety | 4.69* | 3.85 _a | 1.08 | 4.27 _b | 1.27 | 3.45 _a | 1.29 |
| State Att. Avoidance | 1.02 | 2.27 | 1.13 | 2.16 | 1.22 | 1.91 | 1.12 |
| State Att. Security | 0.21 | 5.85 | .88 | 5.96 | .82 | 5.97 | 1.09 |

Notes: Att.= Attachment; Means with different subscripts differ significantly at $p < .05$; * $p < .05$

Conclusions

As intended, Study 2 provided some evidence regarding the processes which underlie change in partner-esteem for insecurely attached people. Somewhat inconsistent with my hypotheses, results from this study suggest that a threat to the ego may be the dominant factor responsible for decreases in partner-esteem for anxious people. First, attachment anxiety was associated with lower partner-esteem scores in the ego-threat condition. Second, despite that higher attachment anxiety was also associated with lower partner-esteem scores in the relationship-threat condition, the interaction term for attachment anxiety X relationship-threat condition was not significant and therefore does not allow the interpretation that relationship threat is responsible for decreases in esteem for partner for anxious people. The current study did not, however, provide evidence to support the prediction regarding avoidant people, as attachment avoidance did not interact with the ego-threat condition or with the relationship-threat condition when predicting partner-esteem.

Manipulation checks revealed that participants in the ego-threat condition found the scenario clearer, less difficult to imagine, more realistic, and more threatening in general, than did participants in the relationship-threat condition. Participants in the ego-threat condition also reported higher levels of state-attachment anxiety following the priming manipulation than participants in the other two conditions. Taken together these findings indicate that the ego-threat manipulation, independent of trait attachment level, affected partner-esteem but that the relationship-threat manipulation did not. To address this issue in Study 3 several amendments were made to the relationship-threat condition.

Study 3

Overview and Hypotheses

My a priori prediction for Study 2 was that anxiously attached people will decrease esteem for their romantic partner under relationship-related threat condition. However, results revealed that the scenario created to manipulate relationship-threat did not have an effect on partner-esteem in general and, in accordance, did not affect those participants high in attachment anxiety. Instead, high in anxiety participants decreased esteem for their romantic partner under the ego-related threat condition.

Results of the manipulation check items provided some information why the relationship-threat manipulation did not affect partner-esteem. First, the relationship-threat scenario was described by participants as the least realistic out of the three scenarios. Additionally, the mean response for the item "To what extent was this scenario threatening to your relationship with your partner?" was relatively moderate ($M = 3.31$, on a 1 to 7 scale), especially when compared with the mean response for the item "To what extent was this scenario threatening to your self-esteem?" among participants at the ego-threat condition ($M = 5.63$).

It appears, then, that participants found it difficult to imagine a scenario in which their partner unexpectedly leaves them. It also could be that the nature of sample influenced the results. University students find the scenario of failing an exam more realistic and vivid. In order to address these limitations, in Study 3 a more direct and, presumably, relationship-related threatening scenario was used (i.e., the "Betrayal" condition):

"Imagine that you have just found out that your partner, whom you have been dating for a long time and feel very attached to, is involved in a serious, emotional, and passionate romantic affair with another attractive man/woman".

Additionally, in Study 3 I also wanted to explore the unexpected finding of Study 2 that people high in attachment anxiety decrease esteem for their romantic partner under ego-related threat. Specifically, I intended to investigate whether priming a scenario in which the romantic partner's love and commitment were questioned affected esteem for the partner because it threatened the relationship as initially intended, or whether because it actually imposed a threat to the ego. Thus, a new condition was added (i.e., the "Separation" condition) in which a threat that does not involve doubts about the partner's love and commitment imposed on the future of the relationship:

"Imagine that you have been offered a scholarship for a four year post-graduate program in the United States. After consulting with your partner you both have decided that this is too

good an opportunity to miss. You have not "officially" broken up, however there is mutual understanding that after you leave you'll both be free to date other people".

Consistent with the rationale guiding the first hypothesis in Study 2, I predict that participants high in attachment anxiety will show a decrease in esteem for their romantic partners in response to the threat manipulated at the separation condition (Hypothesis 1). Based on the results of Study 2 I predict that participants high in attachment anxiety will show a decrease in esteem for their romantic partners in response to threat manipulated at the betrayal condition (Hypothesis 2), as well as in response to an ego-related threat (Hypothesis 3). Consistent with the rationale guiding the second and third hypotheses in Study 2 I predict the participants high in attachment avoidance will show a decrease in esteem for their romantic partner in response to the threat manipulated at the betrayal condition (Hypothesis 4), as well as in response to an ego-related threat (Hypothesis 5).

Method

Participants

Participants ($N = 108$, 77% Female, M age = 20.17) were psychology undergraduate students from the University of Southampton who took part in the study in exchange for course credits. All participants were involved in a romantic relationship at the time when taking part in the study (M relationship length = 20.00 months) as this was a specified criteria.

Procedure

The procedure of the current study was identical to that of Study 2 except several amendments to the imagination task: The relationship-threat condition was omitted, and the separation condition and betrayal condition were added. The scenarios in the ego-threat condition (named "Failure" in the current study for sake of coherence), and in the neutral/control conditions were identical to the scenarios at the corresponding conditions in Study 2. Following the imagination task participants completed the 6-item manipulation check as in Study 2, as well as measure of partner-esteem. Upon completion participants were fully debriefed and thanked for taking part.

Materials and Descriptive Statistics

Adult Attachment. Attachment dimensions, anxiety ($\alpha = .89$, $M = 3.47$, $SD = .90$), and avoidance ($\alpha = .95$, $M = 2.21$, $SD = .93$) were assessed with Brennan et al.'s (1998) ECR, as in the

previous studies. Consistent with the orthogonal nature of the dimensions, they were not significantly correlated in the current sample ($r = .16$, ns).

Partner-Esteem. Was assessed by a modified version of Gurung et al.'s (2001) *Significant-Other Concept Questionnaire* (SOC-Q). This more extensive measure of the valence of the partner concept (relative to the measure used in Study 2) allows assessing partner-esteem using a broad array of specific traits and attributes, rather than global evaluations of the partner. The modified version of the SOC-Q contains 10 positive (e.g., “reliable” and “enjoys talking to people”), and 10 negative (e.g., “often depressed” and “critical of others”) words and phrases. Participants rated how accurately each of the words and phrases describes their current romantic partner on a 1 (very inaccurate) to 7 (very accurate) scale. Internal consistencies and descriptive statistics for the two subscales in the current sample were as follows: Positive: $\alpha = .74$, $M = 5.65$, $SD = .70$; Negative: $\alpha = .88$, $M = 2.71$, $SD = 1.09$.

Results

Manipulation Checks

A one-way ANOVA was conducted to analyse the experimental effects between of the four conditions using six manipulation check items (see Table 7). Results revealed that apart from item one, all the other manipulation check items differed significantly across the four conditions. Post-hoc analysis using *Scheffe* later revealed significant differences for each of the manipulation check items in relation to each condition (see Table 7). Participants in the betrayal, separation, and failure conditions rated the corresponding scenarios as more threatening in general than participants in the control condition.

Participants in the betrayal, separation, and failure conditions rated the corresponding scenarios as more threatening to their romantic relationship than participants in the control condition. Participants in the betrayal and separation conditions rated the corresponding scenarios as more threatening to their romantic relationship than participants in the failure condition.

Participants in the betrayal, separation, and failure conditions rated the corresponding scenarios as more threatening to the ego than participants in the control condition. Participants in the failure condition rated the scenario more threatening to their ego than participants in the betrayal and separation conditions.

Table 7

Means and Standard Deviations for the Manipulation Check Items at each Condition

| Manipulation Check | $F_{(3, 102)}$ | Condition | | | | | | | |
|------------------------------|----------------|-----------|------|------------|------|---------|------|---------|------|
| | | Betrayal | | Separation | | Failure | | Control | |
| | | M | SD | M | SD | M | SD | M | SD |
| 1) Clarity of Scenario | .58 | 4.92 | 1.75 | 5.46 | 1.59 | 5.34 | 1.49 | 5.12 | 1.69 |
| 2) Difficult to Imagine | 3.06* | 3.92a | 1.87 | 3.75 | 2.02 | 3.23 | 1.65 | 2.51b | 1.73 |
| 3) Realistic | 3.17* | 4.07 | 1.68 | 3.53a | 2.23 | 4.30 | 1.73 | 5.12b | 1.83 |
| 4) Threatening | 27.54** | 4.66a | 1.77 | 4.46a | 2.15 | 4.88a | 1.30 | 1.32b | .85 |
| 5) Threat to Relationship | 18.68** | 3.74a | 2.24 | 4.64a | 2.14 | 2.19b | 1.05 | 1.40c | 1.08 |
| 6) Threat to Ego | 34.79** | 4.55a | 1.88 | 3.71a | 2.08 | 5.80b | .93 | 1.44c | .91 |

Notes: Means with different subscripts differ significantly at $p < .05$; * $p < .05$, ** $p < .001$

Attachment Dimensions and Threat Effects on Partner-Esteem

Multiple regression analyses was conducted to examine my predictions that in response to the threats manipulated at the "separation" condition (Hypothesis 1), and at the betrayal (Hypothesis 2) and the "failure" condition (Hypothesis 3), participants high in attachment anxiety will show a decrease in esteem for their romantic partner; as well as my predictions that participants high in attachment avoidance will show decreased esteem for their romantic partner in response to the threat manipulation in the "betrayal" condition (Hypothesis 4), and at the "failure" condition (Hypothesis 5).

Centred predictors were calculated for attachment anxiety and attachment avoidance, and three dummy-coded variables were created to represent the experimental conditions. The first dummy variable compared the "betrayal" condition (coded 1) to the other three (each coded 0), the second dummy variable compared the "separation" condition (coded 1) to the other three (each coded 0), and the third dummy variable compared the "failure" condition (coded 1) to the other three (each coded 0). Next, terms were created for each of the six interactions between attachment dimensions (anxiety, avoidance) and threat conditions ("betrayal", "separation", and "failure") which allowed two-way interactions to be entered into the hierarchical regression at Step 2.

Firstly, positive partner-esteem was regressed onto both attachment dimensions and the experimental conditions at step 1, and their interaction terms at step 2. Results revealed significant

main effects for attachment avoidance ($\beta = -.23, p < .05$). No other main effects were significant. When the interactions terms were added to the regression at Step 2, results revealed a significant interaction effect for the "separation" condition X attachment anxiety ($\beta = -.34, p < .05$). No other interaction effect was significant.

Regressions examining the source of this interaction (Aiken & West, 1991) revealed that at the "separation" condition attachment anxiety was associated with the positive dimension of the partner-esteem scale ($\beta = -.47, p < .001$) such that higher attachment anxiety predicted lower positive partner-esteem (see Figure 3).

Next, negative partner-esteem was regressed onto both attachment dimensions and the experimental conditions at step 1, and their interaction terms at step 2. Results revealed significant main effect for attachment avoidance ($\beta = .36, p < .001$). No other main effects or interaction were significant.

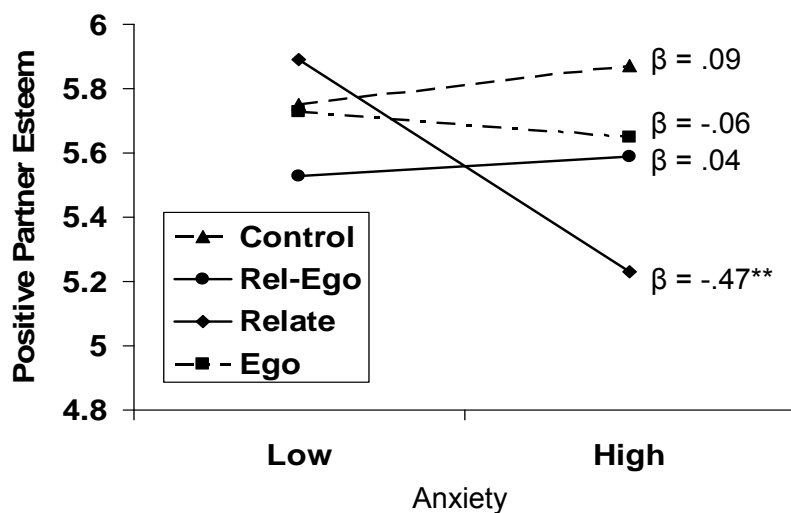


Figure 3. Association between attachment anxiety and positive partner-esteem within each condition; Rel-Ego = "betrayal" condition, Relate = "separation" condition, Ego = "failure" condition; ** $p < .001$.

Conclusions

Results of Study 3 provide evidence that the intention to impose different kinds of threats by the use of a "betrayal" versus a "separation" scenario was successful. Participants in the "betrayal" condition found the scenario more threatening to their ego ($M = 4.55$) than to their relationships ($M = 3.74$). Participants in the "separation" condition found the scenario more threatening to their relationships ($M = 4.64$) than to their ego ($M = 3.71$).

Accordingly, Study 3 was able to provide evidence in support of my original prediction from Study 2 (that I have replicated in Hypothesis 1 in Study 3) regarding the factor which affects partner-esteem for anxiously attached people. In the "separation" condition, attachment anxiety was negatively associated with positive partner-esteem. That is, as predicted, participants high in attachment anxiety decreased esteem for their romantic partner under threat to the relationship.

However, the predictions regarding the effects of threat to the ego were not supported as the finding from Study 2 was not replicated. Attachment anxiety was not associated with partner-esteem in either the "betrayal" or "failure" condition.

As in Study 2 there was a consistent negative association between attachment avoidance and partner-esteem (i.e., attachment avoidance predicted lower positive and higher negative partner-esteem) that did not vary from the control condition as a function of either of the "betrayal", "separation", or "failure" conditions.

Discussion

The aim of the studies reviewed in the current chapter was to investigate the processes which underlie changes in partner-esteem for insecurely attached people. Overall, results showed that people high in attachment anxiety decrease esteem for their romantic partner in response to a perceived threat. My hypothesis was that a relationship-related threat will be the specific kind of threat responsible for this pattern. However, results of Study 2 did not support this hypothesis as the threat manipulated at the relationship-threat condition did not affect partner-esteem of participants high in attachment anxiety (nor of participants high in attachment avoidance).

One possible explanation why the relationship-threat condition in Study 2 did not hold an effect on partner-esteem is that the scenario wasn't realistic, or threatening, in the eyes of the participants. Additionally, in Study 2 a threat to the ego was found to hold an effect on partner-esteem for participants high in attachment anxiety. Thus, in Study 3 I omitted the relationship-threat condition and added two new conditions. The "betrayal" condition included a scenario which was intended to address the issue of relevance and strength of manipulation. The "separation" condition included a scenario which was intended to ensure that possible effect would be due to the threat to the relationship and not due to the threat to the ego.

Indeed, participants high in attachment anxiety showed a decrease in esteem for the romantic partner in response to the manipulation in the "separation" condition. This finding suggests that when anxious people's fears about the physical and emotional availability of an attachment figure, as imposed by the scenario that they will have to leave him or her partner behind and move to another country, they decrease their value for the partner. Given that anxiously attached people usually carry a history with inconsistent attachment figures, a possibility of separating from a romantic partner is an experience likely to generate their negative feelings towards childhood attachment figures onto their current one. Decreasing esteem for the romantic partner in response to a threat of imminent relationship dissolution could also be perceived as a defensive reaction. Separation is an especially painful experience for the anxious person, and with an attempt to soften the pain they downplay the value of the partner to put losing him or her into a perspective.

As mentioned, an unpredicted finding emerged in Study 2. Participants high in attachment anxiety showed a decrease in esteem for their romantic partners in response to an ego threatening scenario. This finding implies that the components of threat to the sense of self-worthiness and self-competence as manipulated by the ego-threat scenario contribute to devaluing of the partner. Moreover, participants in the relationship-threat condition rated this scenario as more threatening to their self-esteem than to their relationship. Interestingly, then, these patterns of findings could

suggest that the component in potential rejection that disturb the anxious person is not necessarily the idea of losing the partner, but rather the damage to their ego that results from such an experience. Alternatively, this finding could also be seen in line with Mikulincer and Horesh (1999) findings regarding the use of projective-identification among anxiously attached individuals. It is a possibility that as part of their attempt to create resemblance with others, when anxious people experience a decrease in self-worth, they respectively decrease the value of others such that it will match their own.

As for those individuals high on attachment avoidance, the current studies did not provide supportive evidence for my prediction that an ego-threat will result in them decreasing their esteem for the romantic partner. One explanation for that could be the nature of avoidant peoples' deactivation strategy. People high in attachment avoidance are highly protective of their self-esteem and tend to rely on the self as sole source of protection (Bowlby, 1980; Mikulincer, 1998). One could assume, then, that such an important component of their personality would be well protected at a subconscious level by firm defence mechanisms so it would require, for instance, a less direct manipulation than used in the current studies to be threatened. Therefore, subsequent studies in this research programme would seek to use a stronger manipulation such as subliminal priming of ego-related thoughts.

Interestingly, participants at the ego-threat condition in Study 2 scored higher on the state attachment anxiety measure than participants in the other two conditions. When taking into account the fact that this measure included items such as "I really need to feel loved right now", and "Right now I really need someone's emotional support" this finding could imply that threat to the ego activates the attachment system, hence increasing the need for closeness and support from others. Mikulincer and Shaver (2003) argued that the attachment system is being activated when a potential threat is being perceived, and claimed that this could also include an attachment-unrelated threat (such as ego-threat as in the current case).

Moreover, Birnbaum et al. (2008) found that in response to an ego-related threat anxiously attached people increased their desire for intimacy as well as their desire to please the romantic partner, and perceived the partner as less alienated and more affectionate. When combined with the results of Study 2 it appears, then, that anxiously attached individuals experience the urge for intense intimacy (both emotionally and sexually) with their romantic partner when their sense of self-worthiness is threatened. In other words, doubts about the self increase anxious peoples' vulnerability, and heighten their desire for connectedness with others.

In sum, results from the current studies give an important insight into the processes that underlie change in working-models of others for insecurely attached people. It provided evidence that under a perceived threat anxiously attached people decrease their esteem for their romantic

partner. However, inconsistencies between the results of Study 2 and Study 3 still leave open the question of which specific kind of threat is responsible for this pattern, as well as the question regarding the factors which relate to change in partner-esteem for avoidant people. Thus, additional studies were conducted using different method of threat manipulations. These studies are reviewed in Chapter 4.

CHAPTER IV

Attachment Differences and Subliminal Prime Effects on Explicit and Implicit

Esteem of Others (Studies 4 and 5)

So far in the current thesis I have managed to establish that insecurely attached people's working-models of others are prone to change in response to transient events. More specifically, that anxiously attached people's esteem for their romantic partner decreases in response to a perceived threat. However, the previous studies did not provide conclusive evidence to determine whether it is an ego-related threat or a relationship-related threat that is responsible for that decrease in the case of anxious people, nor do these studies unveil the reasons for a similar decrease in the case of avoidant people. Accordingly, in the following chapter I review two studies designed to address these unresolved issues.

The first (Study 4) is an experiment in which ego-threat and relationship-threat were manipulated by an alternative method to the one used in the previous studies. Studies 2 and 3 primed participants at awareness level, as participants were asked to imagine a hypothetical scenario. Previous research (e.g., Murphy & Zajonc, 1993) has shown that mere exposure to a stimulus outside of awareness level (i.e., at subconscious level) can produce effects on thoughts and behaviours. One of the main reasons I raised in the previous chapter as possible explanations of why the relationship-threat manipulation did not produce an effect on partner-esteem for people high in attachment anxiety (Study 2), and for why threats in general did not produce an effect on partner-esteem for people high in attachment avoidance, was the operation of defence mechanisms.

The aim of avoidant people's deactivation strategy is to block or inhibit unwanted content from reaching the level of awareness. Such content usually includes relational related thoughts and memories, and other material that may contradict their perception of self as strong and potent. These blocking efforts are carried out by defence mechanisms, mainly suppression or repression. The purpose of these mechanisms is to repress and keep the unwanted content outside of awareness - in what is defined in psychodynamic terms as the subconscious or unconscious. Subliminal priming can bypass these mechanisms as it operates below the level of consciousness. Thus, when stimuli are presented subconsciously the defence mechanisms cannot detect the content of the stimuli and therefore do not block it. Because under subliminal priming conditions the primed content can freely influence subconscious processes, it can affect consequent perceptions and behaviours.

Supporting evidence for this argument comes from research (e.g., Mikulincer, Birnbaum, Woddis, & Nachmias, 2000) on avoidant people's behaviour under cognitive load. Under such conditions, when there are not sufficient mental resources to block or inhibit unwanted material (i.e., the defence mechanisms are not effective), avoidant people emit behaviour which resembles that of anxiously attached people -- that is, increased distress and high levels of anxiety in face of attachment related threats and unfavoured self-relevant information. Thus, in Study 4 I applied subliminal priming method to bypass defence mechanisms and allow observation of possible effects of threats on partner-esteem.

The second study (Study 5) is an experiment in which a boost, rather than a threat, to felt security was manipulated by subliminally priming the secure-base schema. Studies 2 and 3 (and Study 4 which I will review in the current chapter) examined the effects of threats on esteem for the romantic partners which were predicted to produce a decrease in partner-esteem for insecurely attached people. Study 1 provided evidence that insecurely attached people hold unstable evaluations of their romantic partners. Instability could reflect increases as well decreases in these evaluations. Thus, Study 5 examined possible factors that are thought to increase esteem for romantic partners.

Finally, an important innovation in the current studies was that the effects of these manipulations were examined not only on explicit partner-esteem as been done so far in the previous studies, but also on implicit partner-esteem. Research on self-esteem (e.g., Hetts & Pelham, 2001) has shown that people hold both explicit and implicit evaluations of self which are not always consistent with one another. Studies 4 and 5 were set to examine whether that is also the case regarding evaluations of significant-others.

Subliminal Priming

The possibility that exposure to a stimulus outside of conscious awareness can affect thoughts and behaviours which are thought to be experienced as consciously controlled was first triggered by Sigmund Freud's innovative ideas about the existence of an unaware module in the human mind. According to Freud, this part (termed "subconscious") provides motivation for many thoughts and behaviours one can assume are a result of rational decision making and carefully processed information.

Freud's idea followed the logic of the evolutionary perspective. In order to manoeuvre successfully through a rapidly changing environment and survive, human beings are required many times to react as quickly as possible to a perceived stimulus. As sensibly argued by Ruys and Stapel (2008): "You are more likely to live longer if you immediately stop moving at the sight of growing grizzly bear and do not need full awareness for such a response to be instigated".

Literature in the domain of cognitive-priming (e.g., Higgins, Rholes, & Jones, 1977; Srull & Wyer, 1980) has previously shown that early exposure to relevant information activates cognitive categories which influence subsequent evaluations, thoughts, and behaviours. Zajonc (1980) claimed that such affective reactions can be elicited even by a minimal stimulus input. This suggests that simple affective characteristics of stimuli, such as good versus bad or positive versus negative, are processed even without cognitive recognition. Additionally, affective reactions to stimuli presented outside of awareness are thought to be more immediate and less controlled than judgments made in response to information processed consciously in the cognitive schema.

Research on affective priming provided different kinds of evidences to suggest that outside-of-awareness exposure can affect emotions and judgments. For instance, Murphy and Zajonc (1993) showed that subliminal exposure to emotionally-related stimuli can affect evaluations of neutral stimuli. In their study on liking ratings of previously unfamiliar Chinese ideographs, they found that participants who were subliminally exposed to affective content (i.e., faces expressing emotions) rated the ideographs more favorably than participants who were exposed to emotionally bland content (i.e., large and small shapes), or even than participants who were exposed to the same affective content, but at an explicit level (long enough so they could have recognized the content). Similarly, Banse (1999) showed that subliminal priming of names or faces of significant-others (i.e., romantic partners or close friends) led to higher liking ratings of natural Chinese ideographs than priming neutral stimuli.

Bargh and Pietromonaco (1982) provided evidence that automatic activation of a social category outside of awareness increases the category's accessibility, and affects judgments and impressions of other people. Participants were exposed to words, either related or unrelated to hostility, and asked to rate a stimulus person on a trait scale which included two dimensions, one related to hostility and one unrelated. They found that the higher the number of hostile words a participant was exposed to, the more negative were his or her impression of the stimulus person, both on hostility related and unrelated traits (though rating of related traits were more extremely negative). Along this line, Baldwin (1994) looked at the effect of subliminal-priming of significant-others' names on self-esteem, and found that priming names of accepting significant others led to more positive self-evaluations and mood responses compared to subliminal priming of names of critical significant-others.

Pierce and Lydon (1998) examined the association between subliminal-priming of relational schemas and responses to stressful events. Female participants were subliminally exposed to either positive relationship-related words (e.g., loving, caring,) or negative relationship-related words (e.g., rejecting, hurtful), before being asked to imagine a situation in which they have learned they have unexpectedly got pregnant. Result showed that subliminal-

priming of words related to positive interpersonal expectations increased reports of seeking emotional support and decreased the use of self-denigrating coping strategies. On the other hand, subliminal-priming of words related to negative interpersonal behaviour decreased reports of positive affect and tended to impede growth-oriented coping.

Several studies examined the effect of contextual subliminal-priming on related behavioural and performance. For example, Conley and Hardin (2002) found that new acquaintances get along better during a cooperative task after subliminal exposure to an issue they assume they agree about than after exposure to an issue they disagree about. Similarly, Levy (1996) has shown that people perform better on memory tasks after subliminal exposure to words related to wisdom than after being exposed to words related to senility. Other research (Bargh, Chen, & Burrows, 1996) provided evidence that people act more interpersonally hostile after subliminal exposure to black faces than after subliminal exposure to white faces.

In a different kind of study the effect of subliminal-exposure to sexual stimuli on sexual arousal was examined (Gillath, Mikulincer, Birnbaum, & Shaver, 2007). Participants were asked to rate the extent to which they were sexually aroused while watching pictures of nude individuals from the opposite sex after being subliminally exposed to either a sexual prime (a picture of a nude person from the opposite sex) or a neutral prime (an abstract art work). Results revealed that, whereas men reacted to subliminal-prime of sexual stimuli with no notable increase in sexual arousal, women reported a decrease in sexual arousal. In explanation of these findings the authors suggested that the prime might have led to unconscious automatic activation of negative thoughts and feelings of threat or danger, or that the women in the study interpreted their sexual arousal as some uncomfortable or negative from some reason. Additionally, results of this study showed that, for both men and women, subliminal sexual prime led to higher accessibility of sex-related thoughts compared with subliminal neutral prime.

Lowery, Eisenberger, Hardin, and Sinclair (2007) extended these findings as they provided evidence to show that context relevant subliminal-priming can have an effect on long term behaviour. In their study on academic performance, undergraduate students were subliminally primed with words either related to intelligence (e.g., smart, bright, clever), or unrelated to intelligence (e.g., smoke, tale, garden), before taking an actual course exam several days later. Indeed, they found that participants who were subliminally primed with intelligence-related words at the experimental session performed better on the actual course exam than participants who were primed with neutral words.

Subliminal Priming Methods in Research on Attachment

A growing number of studies use subliminal-priming techniques to investigate various aspects of behaviour and its association with other personality traits. For example, Mikulincer, Hirschberger, Nachmias, and Gillath (2001) examined the effect of subliminal priming of the secure-base schema on the accessibility of positive affect. Participants were subliminally primed with an image that represents the basic components of the secure base schemata (i.e., the receipt of caring and comfort from an attachment figure) - a Picasso sketch of a mother cuddling her baby and looking into his eyes. According to their findings, subliminal priming of the sketch led to higher positive evaluation of the natural stimuli (Chinese ideographs) than did subliminal priming of natural picture (random black polygon) or no picture. These findings were replicated with different subliminal primes (such as: young couple kissing and hugging each other, old couple sitting close and comfortable with each other, and names of attachment figures), and when the prime was presented in a stressful context (i.e., when threat words such as "Failure" and "Death" were subliminally presented immediately before each prime). Interestingly, those effects were weakened with the intervention of conscious awareness, suggesting that conscious awareness may prevent the spread of positive affect in the memory network.

In a different study, Mikulincer et al. (2000) used subliminal priming technique to examine the effect of stress on the accessibility of attachment-related thoughts. Participants performed a lexical decision task in which they were asked to decide whether a letter string which appeared on a computer screen is a word (e.g., *listened*), or a non-word (e.g., *lisrened*). In manipulating the stress condition, the word "Failure" appeared subliminally before each letter string. Results showed that participants had higher accessibility (as indicated by faster response times to letter strings which consisted of proximity related words such as closeness, love, and hug) to proximity related thoughts after subliminal stress-inducing-word prime than after a neutral-word prime, even that they could have not recognize and consciously process these words. Along this line, Mikulincer, Gillath, and Shaver (2002) have found that subliminal priming of a threat-related word ("Failure") heightened the accessibility of names of attachment figures (as indicated, as well, by higher response times in lexical decision task).

Gillath et al. (2006) examined the effect of subliminal priming names of attachment figures on automatic activation of attachment-related goals, such as self-disclosure and support seeking - two behaviours associated with gaining proximity to an attachment figure. They found that subliminally priming names of persons whom participants defined as attachment figures increases self-reports of the tendency to self-disclose to a previously unknown person. In addition, they found that insecure participants were relatively quick to identify attachment-security related

words in a lexical decision task after being subliminally primed with name of a person to whom they felt securely attached to, than after being primed with name of a person whom they were not attached to.

Subliminally priming attachment security was also found to affect compassion and altruistic behaviour. In Mikulincer, Shaver, Gillath, and Nitzberg's (2005) study, participants performed a lexical-decision task in which they were subliminally primed with name of attachment-security providing figure, then watched another ostensible person (a young woman that was actually appearing on a videotape) while she performed a series of aversive tasks (e.g., having to pet a large live tarantula in an open-topped glass tank) in a nearby room, before asked about their feelings while watching her and whether they would be willing to replace her in subsequent tasks. Results showed that participants who were subliminally primed with the name of a security-providing figure reported higher levels of compassion toward the woman and were more likely to agree to take over the remaining aversive tasks than were participants who were primed with the name of a person they did not identify as a security-providing figure.

Overall, these findings demonstrate that subliminal priming could work not only in a "semantic-specifics" route; that is, when a specific theme is activated by priming of a semantic-related context (for example, stress-related prime primes stress thoughts, and attachment-related prime primes attachment thoughts); but also when the prime is an irrelevant context to the activated semantic-theme (e.g., failing an exam primes attachment thoughts).

Implicit Esteem of Others

According to attachment theory working-models of self and others are not only a set of *conscious* thoughts and beliefs, but also of *unconscious* ones (Bowlby, 1982). In accordance, many aspects of attachment working-models are thought to involve automatic processes (Mikulincer & Shaver, 2003). Traditionally, research on attachment has focused on people's explicit models of self and others. However, looking at the implicit level of these models can provide useful insight into the relation between attachment and evaluations of self and others as both are thought to involve automatic processes and to operate, to certain extent, at subconscious level.

To date, research on implicit social cognition has primarily focused on implicit evaluation of self. It has been argued that people hold unconscious evaluations of self, defined as *Implicit Self-Esteem* (Greenwald & Banaji, 1995; Hetts & Pelham, 2001). Validation for this concept comes from the domain of developmental psychology in which research has shown that self-evaluations develop very early in the developmental process. Children, even at the early age of 5 months, show preference for positive feedback and signs of acceptance (Fernald, 1993; Swann &

Schroeder, 1995). In similar to working-models of attachment, these evaluations serve as mental-representations. That is, an internalized structure of knowledge about the self, which filters subsequent relevant information and effects thoughts, judgments, and behaviours in later life (Paulhus, 1993).

One relevant theoretical framework to understand the concept of implicit self-esteem and its discrepancy with the concept of explicit self-esteem is Epstein's (1990) Cognitive-Experiential Self Theory (CEST). According to this theory, people experience and respond to the world in two levels: rational and experiential. These two levels are two distinctive ways of adapting to reality. The rational system operates primarily on the conscious level, requiring deliberate effort and the use of language, and is more "duty" than "passion" driven. The experiential system is predominantly motivated by affect, operates primarily on unconscious level and process information holistically, rapidly, and effortlessly. Accordingly, Epstein and Morling (1995) argued that explicit self-esteem process operate at the rational system level, whereas implicit self-esteem processes operate at the experiential system level.

Implicit self-esteem and explicit self-esteem are distinct constructs that were found to be only weakly correlated (Bosson, Swann, & Pennebaker, 2000; Pelham & Hetts, 1999). Implicit self-evaluations are more automatic, unconscious, unintentional, efficient, and uncontrollable than explicit self-evaluations (Bargh, 1994). They are thought to be more positive than explicit self-evaluations as they involve primal self-enhancement processes, whereas explicit self-evaluations involve more complex cognitive processes (such as comparison with pre-existing knowledge about the self) that may attenuate them (Swann & Schroeder, 1995). Implicit self-evaluations are habitual and automatic which enables them to affect uncontrolled responses or ones which do not appear to be related to self-evaluations and people put less effort trying to control them (Wilson & Brekke, 1994). They are more difficult to access through conscious introspection than are explicit self-evaluations that are more accessible for direct self-reporting (Wilson, Lindsey, & Schooler, 2000).

Evidence that implicit self-evaluations are inaccessible to introspection and can only be observed indirectly was gained from research that shows that people tend to positively evaluate self-associated stimuli such as name letters and personal belongings (e.g., Beggan, 1992; Nuttin, 1985). Evidence that implicit evaluations of self operates outside of awareness was gained from research that shows that such tendency of preference occur with no evident trigger for self-evaluative process, and when the self-reflection process is absent (e.g., Greenwald & Banaji, 1995; Nuttin, 1987)

Using the concept of preference to self-associated stimuli, DeHart, Pelham, and Tennen (2006) found relevant associations between parenting style and implicit self-esteem. Participants

who recalled having had more nurturing and caring parents reported higher implicit self-esteem than participants who recalled having had more controlling and less warm parents, and participants who recalled their parents as overprotective reported lower implicit self-esteem than participants who recalled their parents as more trusting and enabling.

Interestingly, different aspects of parenting were related differentially to explicit self-esteem and to implicit self-esteem. Parental over-protectiveness, for example, was related to low implicit self-esteem but was not related to explicit self-esteem. As the authors (i.e., DeHart et al. 2006) suggested, these findings could imply that implicit self-esteem may reflect more genuinely early childhood disturbances than explicit self-esteem. Early childhood experiences can be reattributed in later life to repair the sense of self-worthiness, which may be reflected in positive explicit self-esteem. However, implicit self-esteem is less protective of the self and can reflect those early problematic experiences.

Dewitte, De Houwer, and Buysse (2008) used the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) to look at potential associations between attachment orientations and implicit self-evaluations. The IAT is a categorization task that measures the strength of automatic associations between a target concept and an attribute. Strong automatic association between a target concept and an attribute implies that activation of the target concept automatically activates the attribute. They found that attachment anxiety was associated with lower implicit relational self-esteem (the extent to which ones value the self as worthy or unworthy of love in relation to a specific figure), and higher implicit relational anxiety (fear of abandonment).

Despite the growing interest in implicit self-evaluations, to date only a few studies have investigated implicit evaluations of others. DeHart, Pelham, and Murray (2004) assessed whether people's implicit evaluations of significant-others (i.e., romantic partners, close friends) are affected by their own self-esteem and feelings about the relationship. Participants with low self-esteem reported more positive implicit evaluations of their romantic partners when they were satisfied with the relationships, and more positive implicit evaluations of close friends when they felt more close to them. These results were observed even when explicit evaluations of the romantic partners or close friends were controlled suggesting that implicit esteem of others is independent of explicit esteem of others, as is the case with explicit self-esteem.

Zayas and Shoda (2005) provided some evidence for an association between attachment orientations and automatic evaluations of others. Using the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) they found that self-reported attachment anxiety and avoidance relates to automatic associations between names of attachment figures (i.e., romantic partner or mother) and negative personality traits (e.g., unpleasant). These findings imply that at

least some of insecurely attached people's negative attitudes towards others exist at an implicit level and could be activated automatically.

Study 4

Overview and Hypotheses

As reviewed above, a growing number of studies (e.g., Gillath et al. 2006; Mikulincer et al. 2001) provide evidence that subliminal priming can affect various cognitions and behaviours as a function of variation in levels of attachment anxiety and attachment avoidance. Accordingly, the aim of the current study is to investigate the effects of subliminally primed relationship-related and ego-related threats on insecurely attached peoples' explicit and implicit esteem for their romantic partners. Explicit esteem for the romantic partner was investigated using self-report measure as in the previous studies, implicit esteem for the romantic partner was investigated using the name-letter task (described below) that is thought to tap into implicit evaluations of close others (DeHart et al. 2004).

Studies 2 and 3 provided evidence that anxiously attached people decrease esteem for their romantic-partners in response to explicitly primed threats. In Study 2 higher attachment anxiety was associated with lower partner-esteem when participants were primed with an ego-related threat ("you failed an important exam"). In Study 3 higher attachment anxiety was associated with lower evaluations of the partner's positive traits when participants were primed with a relationship-related threat ("you are leaving the country for a long period without you partner").

In order to clarify whether it is an ego-related threat, a relationship-related threat, or both, that result in anxious people decreasing esteem for their romantic-partners both relationship-related threat and ego related threat were subliminally primed in the current study. Adopting Mikulincer et al.'s (2002) procedure, participants performed a lexical-decision task (Meyer & Schvaneveldt, 1971) in which strings of letters appeared in a computer screen in-front of them and they had to decide as quickly as possible whether they were words or a nonwords. At each trail, immediately before the string of letters appeared, a threat-related word was presented outside of awareness (for 15-ms). To manipulate relationship-related threat the word "*Breakup*" was presented, to manipulate ego-related threat the word "*Failure*" was presented, and in order to have a control manipulation participants in that condition were presented with the word "*Bicycle*". This priming technique has been previously found to activate relevant associative thoughts to the primed word, and to affect subsequent judgments even without conscious recognition of the word (e.g., Baldwin & Holmes, 1987; Bargh & Pietromonaco, 1982; Mikulincer et al. 2002).

Based on the rationale guiding my predictions in Studies 2 and 3, according to which the hypersensitive nature of anxiously attached people to any relationship-related information and their heightened fear of rejection is likely to produce a negative effect on partner-esteem in response to relationship-related threat, I predict that participants high in attachment anxiety will observe a decrease in explicit and implicit partner-esteem in response to subliminally-primed relationship-threat (Hypotheses 1a and 1b). However, because of the discrepancy in the results of Study 2 and Study 3 concerning the effect of an ego-related threat, I do not make a prediction regarding the effect of subliminally primed ego-related threat on high in attachment anxiety participants' esteem for their romantic-partners and leave it as an open question to be resolved by the current investigation.

Studies 2 and 3 did not provide evidence regarding the conditions which affect change in esteem for the romantic partner for avoidant people. In both studies relationship-related and ego-related explicitly primed threats did not produce an effect on partner-esteem for participants high in attachment avoidance. Subliminal priming is thought to affect unconscious processes and to provide access to unaware cognitions. A core part of avoidant people's deactivation strategy is the suppression of attachment-related thoughts and self-related threats in order to maintain a high sense of self-value. By using this subliminal-priming method in the current investigation I seek to gain access to this suppressed content and produce an effect on avoidant people's evaluations of others. Specifically, I predict that participants high in attachment avoidance will show decreases in explicit and implicit partner-esteem in response to a subliminally-primed ego-threat (Hypotheses 2a and 2b). As for the possible effect of subliminally-primed relationship-threat, avoidant people tend to suppress relational thoughts therefore one would not expect relationship-related content to affect them. However, as argued above subliminal priming is thought to affect suppressed content. Therefore, I do not make a prediction regarding the effect of subliminally primed relationship-related threat on high in attachment avoidance participants' esteem for their romantic-partners and leave it as an open question to be resolved by the current investigation.

The computer-based nature of the current study also enabled the investigation of the effects of subliminally primed threats and attachment dimensions on ambivalence towards the romantic partner. Following Gilath et al. (2006), reaction times (RT's) of responses to the partner-esteem measure served as indicators of participant's ambivalence towards their romantic partner. Stable and clear views of the partner might accelerate responses, whereas conflicted views about the partner might slow responses. Finally, additional measures were included to examine the construct validity of the manipulations. State-attachment measure was used in order to validate the effect of the relationship-threat condition; explicit and implicit measures of self-esteem were used in order to validate the effect of the ego-threat condition.

Method

Participants

Participants were psychology undergraduate students from the University of Southampton ($N = 127$, 85% Female, M age = 20.28) who took part in the study in exchange for course credits. All participants were involved in a romantic relationship at the time when taking part in the study (M relationship length = 19.91 months) as this was a specified criteria.

Procedure

Participants entered the laboratory in groups of 2-6 and were seated in separated cubicles in front of a computer. The entire study was programmed using MediaLab 2008 and DirectRT 2008 research software (Empirsoft Corporation, New York, NY). A CRT monitor was used for display of stimuli using a 90Hz refresh rate which is adequate for prime presentation. First, participants provided relevant demographic information, and completed a measure of adult attachment.

Next, participants received instructions about a lexical-decision task they were going to take. This task is based on a procedure developed by Meyer and Schvaneveldt (1971) in which participants read a string of letters and try to identify, as quickly as possible, whether it is a word (e.g., "BALLOON") or a nonword (e.g., "BFQDLNP") (see Neeley, 1991 for review). The words in the lexical decision task were neutral (for full list see Appendix D) and did not contain affect-related, relationship-related or any other evaluative content to minimize the chance that these words themselves will operate as primes. Each trial of the lexical-decision task began with a 500-ms presentation of an X in the middle of the screen, which served as focal point. Then, a prime word was presented for 15-ms, and was masked forwardly and backwardly by a pattern of XXXX which was presented for 25-ms each time (i.e., before and after the prime word). The prime words were: "Breakup"- which served as relationship-threat condition; "Failure"- which served as an ego-threat condition; and a neutral word, "Bicycle", which served as a control condition. Immediately after the backward mask, one of the 30 letter strings was presented in a random order, and participants had to indicate whether it is a word or a nonword by pressing the appropriately labelled key on the keyboard. Each trial followed the other immediately.

Following the lexical decision task participants completed on-screen measures of explicit partner-esteem, implicit evaluations of self and partner, self competence, and state attachment. Upon completion, participants were fully debriefed and thanked for taking part.

On completion of the study participants were asked whether they had recognized any lexical content in the flash that appeared. None of the participants reported to have recognized anything else rather than a string of X's.

Materials and Descriptive Statistics

Adult Attachment. Attachment dimensions, anxiety ($\alpha = .90$, $M = 3.56$, $SD = .90$), and avoidance ($\alpha = .95$, $M = 2.27$, $SD = .93$), were assessed with Brennan et al.'s (1998) ECR as in the previous studies. The two dimensions were weakly correlated in the current sample ($r = .22$, $p < .05$).

Partner-Esteem. Explicit evaluation of the romantic partner was assessed with Gurung's et al. (2001) Esteem of Significant-Other (Esteem-SO) as in the previous studies ($\alpha = .88$, $M = 6.11$, $SD = .88$).

Implicit Esteem of Self and Partner. As measures of their implicit self-esteem and implicit esteem for their partner participants were asked to rate their preferences for each of the 26 letters of the alphabet using a 9-point scale (1 = dislike very much, 9 = like very much). Scores were computed based on the degree to which participants rated their own initials letters, and their partners' initials letters, more favorably than the other letters in the alphabet, and more favorably than did participants whose own initials or whose partner's initials did not include those letters. One-sample t -tests revealed name letter effects for both self, $M = 1.38$, $SD = 1.37$, $t(126) = 11.40$, $p < .001$, and romantic partner, $M = 0.95$, $SD = 1.48$, $t(126) = 7.25$, $p < .001$. Thus, participants rated their own and partners' initials approximately 1 point higher than they rated the other letters in the alphabet (and controlling for how people in general rated their initials relative to the other letters in the alphabet).

Although there were significant name letter effects for both self and partner, the letter effect for own initials was significantly higher than the letter effect for partner initials, $t(126) = 2.70$, $p = .008$. Self and partner name letter effects were positively correlated, $r(125) = .22$, $p = .015$.

State Self-Esteem. Explicit state evaluation of self was assessed with a revised version of Tafariodi and Swann's (2001) Self-Liking/Competence Scale (SLCS-R) as in the previous studies ($\alpha = .87$, $M = 5.17$, $SD = 1.06$).

State Attachment. Current attachment feelings were assessed with Gillath et al.'s (2009) SAAM, as in the previous studies. In the current study only the anxiety and avoidance subscales were used (anxiety: $\alpha = .86$, $M = 3.88$, $SD = 1.34$; avoidance: $\alpha = .84$, $M = 2.25$, $SD = .99$).

Results

Attachment and Subliminal Prime Effects on Explicit Partner-Esteem

Multiple regression analysis (see Table 8) was conducted to examine my predictions that participants high in attachment anxiety will show decreases in explicit partner-esteem in response to subliminally-primed relationship-threat (Hypothesis 1a), and that participants high in attachment avoidance will observe decrease in explicit partner-esteem in response to subliminally-primed ego-threat (Hypotheses 2a).

First, centred predictors were calculated for attachment anxiety and attachment avoidance. Then, two dummy-coded variables were created to represent the threat conditions. The first dummy variable compared the relationship-threat condition (the word "Breakup", coded 1) to the other two (each coded 0). The second dummy variable compared the ego-threat condition (the word "Failure", coded 1) to the other two (each coded 0). Finally, terms were created for each of the four interactions between the attachment dimensions (anxiety and avoidance) and prime conditions (relationship-threat and ego-threat) which allowed two-way interactions to be entered into the regression at Step 2.

At Step 1, explicit partner-esteem was regressed upon both attachment dimensions and the priming conditions. Results revealed significant main effects for attachment anxiety and attachment avoidance, but not for either of the priming conditions. At Step 2, the interaction terms between the attachment dimensions and the priming conditions were added to the model. The main effects for attachment anxiety and attachment avoidance remained significant. However, none of the interactions between the attachment dimensions and the priming conditions were significant in this model.

Table 8

Multiple Regression Predicting Explicit Partner-Esteem Scores from Attachment Dimensions and Priming Condition

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------------------|-----------|----------|--------------|---------|
| Step 1 | 4, 119 | 8.30** | .22** | |
| Anxiety | | | | -.25** |
| Avoidance | | | | -.34** |
| Rel.-Threat | | | | .08 |
| Ego-Threat | | | | .03 |
| Step 2 | 8, 115 | 4.12** | .005 | |
| Anxiety | | | | -.31* |
| Avoidance | | | | -.30* |
| Rel.-Threat | | | | .09 |
| Ego-Threat | | | | .03 |
| Anx. X Rel.-Threat | | | | .06 |
| Anx. X Ego-Threat | | | | .05 |
| Avo. X Rel.-Threat | | | | -.01 |
| Avo. X Ego-Threat | | | | -.07 |

Notes: Anx.= Anxiety, Avo.= Avoidance, Rel.-Threat = Relationship-threat;

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

Attachment and Subliminal Primes Effects on Implicit Partner-Esteem

Multiple regression analysis (see Table 9) was conducted to examine my predictions that participants high in attachment anxiety will observe decrease in implicit partner-esteem in response to subliminally-primed relationship-threat (Hypothesis 1b), and that participants high in attachment avoidance will observe decrease in implicit partner-esteem in response to subliminally-primed ego-threat (Hypotheses 2b). At Step 1 preference for partner's initials score was regressed upon attachment dimensions and two dummy-coded variables which represented the priming conditions. At Step 2 the interactions terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed significant main effects for attachment avoidance and relationship-threat condition, but neither for attachment anxiety nor ego-threat condition. When the interaction terms were added to the model at Step 2, the main effect of relationship-threat condition remained significant, but not the effect of attachment avoidance. None of the interactions between the attachment dimensions and the priming conditions were significant in this model.

Table 9

Multiple Regression Predicting Implicit Partner-Esteem Scores from Attachment Dimensions and Priming Condition

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------------------|-----------|----------|--------------|---------|
| Step 1 | 4, 122 | 2.64* | .08* | |
| Anxiety | | | | .08 |
| Avoidance | | | | -.18* |
| Rel.-Threat | | | | .22* |
| Ego-Threat | | | | .10 |
| Step 2 | 8, 118 | 1.56 | .016 | |
| Anxiety | | | | -.02 |
| Avoidance | | | | -.05 |
| Rel.-Threat | | | | .24* |
| Ego-Threat | | | | .10 |
| Anx. X Rel.-Threat | | | | .06 |
| Anx. X Ego-Threat | | | | .12 |
| Avo. X Rel.-Threat | | | | -.13 |
| Avo. X Ego-Threat | | | | -.11 |

Notes: Anx.= Anxiety, Avo.= Avoidance, Rel.-Threat = Relationship-threat;

* $p < .05$

Attachment and Subliminal Primes Effects on Ambivalence towards Partner

Multiple regression analysis (see Table 10) was conducted to examine the effects of attachment dimensions and subliminally primed threats on ambivalence towards the romantic partner. At Step 1, reaction times (RT's) of responses to the partner-esteem measure were regressed upon attachment dimensions and two dummy-coded variables which represented the priming conditions. At Step 2 the interactions terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed significant main effects for attachment anxiety and attachment avoidance, and marginally significant effect ($p = .092$) for relationship-threat condition. When the interactions terms were added to the model at Step 2, a marginally significant effect ($p = .089$) for the ego-threat X attachment avoidance interaction emerged.

Regressions examining the source of this interaction (Aiken & West, 1991; see Figure 4) revealed that in the ego-threat condition higher attachment avoidance predicted greater partner-esteem ambivalence. In the relationship-threat condition the effect of attachment avoidance on

partner-esteem ambivalence was marginally significant ($p = .058$), and there was no effect of avoidance on ambivalence in the control condition.

A Few steps were taken in order to control for individual baseline reaction times -- that is, the individual's baseline speed of information processing. First, raw reaction times were standardized as Z-scores. Second, individual baseline speed was computed as mean reaction times to demographic questions regarding age and gender - questions that were not connected theoretically or thematically to the target concept of interest. These measures were regressed upon attachment dimensions and two dummy-coded variables which represented the priming conditions. None of the effects were significant, thus implying that the effects found when these variables were regressed upon partner-esteem RT's were due to the specific content of the partner-esteem scale. Third, the original regression analysis (i.e., partner-esteem RT's upon attachment and primes) was re-conducted controlling for individual's baseline RT's (i.e., RT's to demographic questions), and yielded the same significant effects. Thus, implying that the effects of attachment dimensions and priming conditions on partner-esteem RT's is independent of the possible effects of individual's baseline reaction times.

Table 10

Multiple Regression Predicting Ambivalence towards Partner from Attachment Dimensions and Priming Condition

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------------------|-----------|----------|--------------|---------|
| Step 1 | 4, 117 | 6.47* | .18* | |
| Anxiety | | | | .27* |
| Avoidance | | | | .24* |
| Rel.-Threat | | | | -.16† |
| Ego-Threat | | | | -.12 |
| Step 2 | 8, 113 | 3.70* | .03 | |
| Anxiety | | | | .26† |
| Avoidance | | | | .08 |
| Rel.-Threat | | | | -.18† |
| Ego-Threat | | | | -.11 |
| Anx. X Rel.-Threat | | | | .05 |
| Anx. X Ego-Threat | | | | -.04 |
| Avo. X Rel.-Threat | | | | .11 |
| Avo. X Ego-Threat | | | | .19* |

Notes: Anx.= Anxiety, Avo.= Avoidance, Rel.-Threat = Relationship-threat;

* $p < .01$, † $p < .10$.

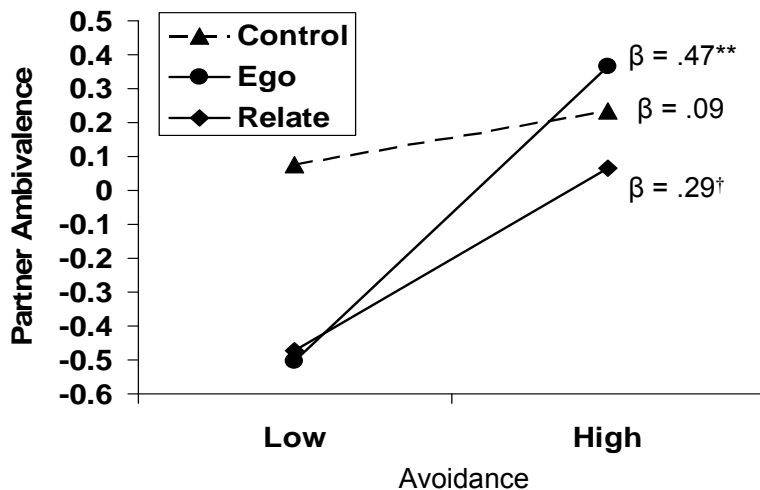


Figure 4. Association between attachment avoidance and ambivalence towards partner within each subliminally-primed threat condition; Partner-ambivalence scores are standardised Z scores; Relate = Relationship; ** $p < .001$, † $p < .06$.

Attachment and Subliminal Prime Effects on Self Evaluations

Multiple regression analyses were conducted to examine the effects of attachment dimensions and subliminally primed threats on explicit state self-esteem and implicit self-esteem. First, multiple regression analysis was conducted to examine the effects of attachment dimensions and subliminally primed threats on explicit state self-esteem. At step 1, explicit state self-esteem was regressed upon attachment dimensions and two dummy-coded variables which represented the priming condition. At Step 2, the interaction terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed significant main effects for attachment anxiety ($\beta = -.29$, $p < .001$), and attachment avoidance ($\beta = -.36$, $p < .001$), though neither effects for the priming conditions nor the interactions.

Next, multiple regression analysis was conducted to examine the effects of attachment dimensions and subliminally primed threats on implicit self-esteem. At step 1, implicit self-esteem was regressed upon attachment dimensions and two dummy-coded variables which represented the priming condition. At Step 2, the interactions terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed a significant main effect for the relationship-threat condition ($\beta = .20$, $p < .05$), but not for the ego-threat condition, attachment dimensions, or any of the interaction terms.

Attachment and Subliminal Primes Effects on State Attachment

Multiple regression analyses were conducted to examine the effects of trait attachment dimensions and subliminally primed threats on state attachment. First, multiple regression

analysis (see Table 11) was conducted to examine the effects of trait attachment dimensions and subliminally primed threats on state attachment anxiety. At step 1, state attachment anxiety was regressed upon trait attachment dimensions and two dummy-coded variables which represented the priming condition. At Step 2, the interactions terms between trait attachment dimensions and the priming conditions were added to the regression.

Results revealed significant main effects for trait attachment anxiety, the relationship threat condition, and the ego threat condition. When the interaction terms were added to the regression at Step 2, all three main effects from Step 1 remained significant and significant interaction effect for trait attachment anxiety X ego-threat condition emerged. Regressions examining the source of this interaction (Aiken & West, 1991; see Figure 5) revealed that higher *trait* attachment anxiety predicted higher *state* anxiety in all conditions, but that this association was attenuated in the ego-threat condition.

Next, multiple regression analysis was conducted to examine the effects of trait attachment dimensions and subliminally primed threats on state attachment avoidance. At step 1, state attachment avoidance was regressed upon trait attachment dimensions and two dummy-coded variables which represented the priming condition. At Step 2 the interactions terms between trait attachment dimensions and the priming conditions were added to the regression.

Results revealed significant main effect for trait attachment avoidance ($\beta = .66, p < .001$), though neither effects for trait attachment anxiety, the priming conditions, nor the interaction terms.

Table 11

Multiple Regression Predicting State-Attachment-Anxiety Scores from Trait Attachment Dimensions and Priming Condition

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------------------|-----------|----------|--------------|---------|
| Step 1 | 4, 122 | 21.65** | .41** | |
| Anxiety | | | | .54** |
| Avoidance | | | | .07 |
| Rel.-Threat | | | | .27** |
| Ego-Threat | | | | .16* |
| Step 2 | 8, 118 | 12.01** | .03 | |
| Anxiety | | | | .62** |
| Avoidance | | | | .13 |
| Rel.-Threat | | | | .26** |
| Ego-Threat | | | | .17* |
| Anx. X Rel.-Threat | | | | .03 |
| Anx. X Ego-Threat | | | | -.18* |
| Avo. X Rel.-Threat | | | | -.11 |
| Avo. X Ego-Threat | | | | -.08 |

Notes: Anx.= Anxiety, Avo.= Avoidance, Rel.-Threat = Relationship-threat;

* $p < .05$, ** $P < .001$.

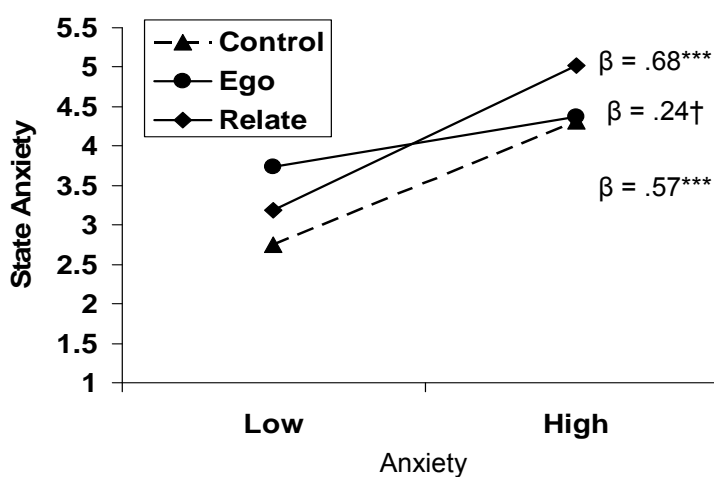


Figure 5. Association between trait attachment anxiety and state attachment anxiety within each subliminally-primed threat condition; 'Anxiety' = Trait attachment anxiety, 'Relate' = Relationship; ** $p < .001$, † $p < .10$.

Conclusions

Results of the current study revealed a consistent negative association between attachment dimensions and explicit partner-esteem that did not vary from the control condition as a function of either subliminally primed threats. Thus, my predictions regarding the effects of subliminally primed threats on insecurely attached people's explicit esteem for their romantic partners did not gain support from the current findings. However, results regarding the effects of attachment dimensions and subliminally primed threats on implicit partner-esteem did provide some theoretically valuable new information.

First, higher attachment avoidance predicted lower implicit partner-esteem independent of the priming condition. This finding adds to existing knowledge about the nature of avoidant people's mental representations of significant-others. It provides evidence that avoidant people's negative approach towards others operates at subconscious level and could be evoked automatically even in response to an ostensibly unrelated stimulus (as was the case in the name-letter preference task when participants were unaware that affectively they are indicating their esteem for their partners).

Second, subliminally-primed relationship-threat increased participants' implicit esteem for their romantic partner regardless of their attachment orientation. This finding implies that evoking a relationship-related threat at a subconscious level elevates automatic evaluations of the romantic partner. It provides evidence to support the theoretical claim that threat activates the attachment system as indicated by participant's more favourable views of their romantic partners.

Other important theoretical contributions came from results of the examination of effects of attachment dimensions and subliminally primed threats on ambivalence towards the romantic partner. First, Higher attachment anxiety and higher attachment avoidance were both associated with greater ambivalence towards the romantic partner. These findings provide additional support for previous findings (e.g., Main, 1991) which suggest that insecurely attached people tend to have less clear and more incoherent working-models of others.

Second, results of this examination also revealed a trend effect of subliminally-primed relationship-threat on ambivalence towards the partner. Although this effect did not reach statistical significance ($p = .092$) it points in a direction that subliminally primed relationship-threat reduces ambivalence towards partner (as indicated by faster RT's to items on the explicit partner-esteem measure). Once again, this finding support the theoretical claim that threat activates the attachment system as indicated by the less ambivalent manner in which romantic partners were evaluated.

Third, higher attachment avoidance was associated with greater ambivalence towards the partner under a subliminally-primed ego-threat condition. That is, when threat to the ego was perceived subconsciously, avoidant participants were more ambivalent in their views of their romantic partner. This finding could suggest that under threat to the ego which is not suppressed by their defences, avoidant people perceive others in a less predominantly negative and more complex manner.

The measures that were included to examine the construct validity of the manipulations provided additional findings. Subliminally-primed relationship-threat increased implicit self-esteem independent of attachment orientation. This finding may suggest that in response to subconscious relationship-related threat people automatically boost their self appraisals. Subliminally primed relationship-threat and ego-threat both increased state attachment-anxiety independent of trait attachment scores. Though, for those participants high on attachment anxiety this effect was attenuated when ego-threat was subliminally primed.

Study 5

Overview and Hypotheses

Previously in the current thesis I reported three experimental studies (i.e., Studies 2, 3, and 4) designed to examine the effects of explicitly and subliminally primed threats on insecurely attached peoples' esteem for their romantic partners. These experiments provided important information regarding factors that effects decrease in partner-esteem, in specific for anxiously attached people. These studies were not designed to, and did not, yield information regarding factors that yield increases in partner-esteem. Thus, in Study 5 the effect of activating attachment security representations (i.e., priming the secure base schema) was examined. Research on attachment (e.g., Bartz & Lydon, 2004; Carnelley & Rowe, 2007; Rowe & Carnelley, 2003) has demonstrated that primes of attachment security lead to positive affective reactions.

Adopting Mikulincer et al. (2001) procedure, in the current study attachment security representations were activated by subliminally priming the secure base schema. As in Study 4, participants performed a lexical decision task which served as the platform for the priming manipulation. Before each trial (in the experimental condition) the secure base schema was primed by subliminal presentation of a picture that illustrates this schema. The picture was a Pablo Picasso sketch of a mother holding her baby. According to Mikulincer et al. (2001) this picture depicted the core component of the secure base schema: The receipt of caring and comfort from attachment figure (the mother).

In Mikulincer et al. (2001), priming Picasso's picture led to more positive evaluation of neutral stimuli (Chinese ideographs) than did the subliminal priming of neutral or no pictures. Importantly, this effect was independent of variations in attachment orientations. Based on these findings, as well as the other findings in the literature that suggests that priming secure base schema induces positive affective reactions regardless of trait attachment pattern, I predict that subliminally priming secure base will lead to an increase in explicit (Hypothesis 1) and implicit (Hypothesis 2) partner-esteem regardless of variations in attachment dimensions.

Method

Participants

Participants were psychology undergraduate students from the University of Southampton ($N = 116$, 86% Female, M age = 20.28) who took part in the study in exchange for course credits. All participants were involved in a romantic relationship at the time when taking part in the study (M relationship length = 20.28 months) as this was a specified criteria.

Procedure

The procedure was identical to this of Study 4, except that this time participants were subliminally primed with pictures of Pablo Picasso drawings. In the lexical decision task, one of two pictures was embedded for 15-ms in a video of rain dots which was presented for 500-ms at the beginning of each trial. Participants were informed that for technical reason this rapid video will appear at the beginning of each trial and were instructed to ignore it. The secure base prime was a picture of Picasso's drawing of a mother holding and looking at her baby (see Appendix D). The neutral picture was a picture of a different Picasso drawing consisted of random polygons (see Appendix D).

Materials and Descriptive Statistics

Adult Attachment. Attachment dimensions, anxiety ($\alpha = .90$, $M = 3.56$, $SD = .90$), and avoidance ($\alpha = .95$, $M = 2.27$, $SD = .93$), were assessed with Brennan et al.'s (1998) ECR, as in the previous studies. The two dimensions were weakly correlated in the current sample ($r = .22$, $p < .05$).

Partner-Esteem. Explicit evaluation of the romantic partner was assessed with Gurung et al.'s (2001) Esteem of Significant-Other ($\alpha = .89$, $M = 6.16$, $SD = .82$).

Implicit Esteem of Self and Partner. As measures of their implicit self-esteem and implicit esteem for their romantic partner participants preformed the same name-letter preference task as

in Study 4. One-sample t -tests revealed name letter effects for both self, $M = 1.42$, $SD = 1.44$, $t(113) = 10.51$, $p < .001$, and romantic partner, $M = 0.55$, $SD = 1.51$, $t(113) = 3.56$, $p < .001$.

Although there were significant name letter effects for both self and partner, the letter effect for own initials was significantly higher than the letter effect for partner initials, $t(113) = 5.44$, $p = .008$. Self and partner name letter effects were positively correlated, $r(112) = .32$, $p < .001$.

State Self-Esteem. Explicit current evaluation of self was assessed with a revised version of Tafarodi and Swann's (2001) Self-Liking/Competence Scale-Revised as in the previous studies ($\alpha = .87$, $M = 4.99$, $SD = 1.21$).

State Attachment. Current attachment feelings were assessed with Gillath et al.'s (2009) State Adult-Attachment Measure as in the previous studies. In the current study only the anxiety and avoidance subscales were used (anxiety: $\alpha = .88$, $M = 4.01$, $SD = 1.33$; avoidance: $\alpha = .86$, $M = 2.57$, $SD = 1.20$).

Results

Attachment and Subliminally-Primed Secure Base Effects on Explicit Partner-Esteem

Multiple regression analysis was conducted (see Table 12) to examine my prediction that subliminally priming secure base will lead to an increase in explicit partner-esteem regardless of variations in trait attachment dimensions (Hypothesis 1). First, centred predictors were calculated for attachment anxiety and attachment avoidance. Then, dummy-coded variable was created to represent the two subliminal-prime conditions. The variable compared the secure-base condition (the picture of mother holding baby; coded 1) to the control condition (polygons picture; coded 0). Finally, terms were created for each of the interactions between the attachment dimensions (anxiety and avoidance) and subliminal-prime condition (secure-base versus control) which allowed two-way interactions to be entered into the regression at Step 2.

At Step 1, explicit partner-esteem was regressed upon both attachment dimensions and the priming condition. Results revealed significant main effects for attachment avoidance and marginally significant effect for attachment anxiety ($p = .078$), but not for the priming manipulation. When the interactions terms were added to the model at Step 2, the main effect of attachment avoidance remained significant but none of the interactions effects were significant.

Table 12

Multiple Regression Predicting Explicit Partner-Esteem Scores from Attachment Dimensions and Secure-Base Prime

| | Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------|-------------------|-----------|----------|--------------|---------|
| Step 1 | | 3, 110 | 8.83** | .19** | |
| | Anxiety | | | | -.15† |
| | Avoidance | | | | -.37** |
| | Secure-Base Prime | | | | .01 |
| Step 2 | | 5, 108 | 5.56** | .01 | |
| | Anxiety | | | | -.17 |
| | Avoidance | | | | -.29* |
| | Secure-Base Prime | | | | .01 |
| | Anx. X Prime | | | | .02 |
| | Avo. X Prime | | | | -.13 |

Notes: Anx.= Anxiety, Avo.=Avoidance; † $p < .08$, * $p < .05$, ** $p < .001$.

Attachment and Subliminally-Primed Secure Base Effects on Implicit Partner-Esteem

Multiple regression analysis was conducted (see Table 13) to examine my prediction that subliminally priming secure base will lead to an increase in implicit partner-esteem regardless of variations in trait attachment dimensions (Hypothesis 2). Implicit partner-esteem was regressed upon attachment dimensions and a dummy-coded variable representing the two priming conditions at Step 1, and their interaction terms at Step 2. Results revealed a marginally significant main effect for attachment avoidance ($p = .060$), but not for attachment anxiety, the priming manipulation, or the interaction terms.

Table 13

Multiple Regression Predicting Implicit Partner-Esteem Scores from Attachment Dimensions and Secure-Base Prime

| | Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|--------|-------------------|-----------|-------------------|------------------|-------------------|
| Step 1 | | 3, 110 | 2.83 [†] | .06 [†] | |
| | Anxiety | | | | .12 |
| | Avoidance | | | | -.18 [†] |
| | Secure-Base Prime | | | | .14 |
| Step 2 | | 5, 108 | 1.84 | .02 | |
| | Anxiety | | | | .04 |
| | Avoidance | | | | -.08 |
| | Secure-Base Prime | | | | .13 |
| | Anx. X Prime | | | | .10 |
| | Avo. X Prime | | | | -.15 |

Notes: Anx.= Anxiety, Avo.=Avoidance; [†] $p < .08$.

Attachment and Subliminally-Primed Secure Base Effects on Ambivalence towards Partner

Multiple regression analysis was conducted (see Table 14) to examine the effects of attachment dimensions and subliminally-primed secure base on participants' ambivalence towards their romantic partners. At Step 1, reaction times (RT's) of responses to the partner-esteem measure were regressed upon attachment dimensions and a dummy-coded variable which represented the priming conditions. At Step 2 the interaction terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed a marginally significant main effect for attachment avoidance ($p = .090$) and a significant main effect for the priming manipulation. Interestingly, the main effect for attachment anxiety was not significant at Step 1, but when the interaction terms were added at Step 2 it becomes marginally significant ($p = .058$). Other than that, none of the interactions between attachment dimensions and the priming conditions were significant.

Table 14

Multiple Regression Predicting Ambivalence towards Partner from Attachment Dimensions and Secure-Base Prime

| Predictor | <i>df</i> | <i>F</i> | ΔR^2 | β |
|-------------------|-----------|----------|--------------|---------|
| Step 1 | 3, 109 | 4.10** | .10** | |
| Anxiety | | | | .14 |
| Avoidance | | | | .16† |
| Secure-Base Prime | | | | -.19* |
| Step 2 | 5, 107 | 2.72* | .01 | |
| Anxiety | | | | .22† |
| Avoidance | | | | .13 |
| Secure-Base Prime | | | | -.20* |
| Anx. X Prime | | | | -.13 |
| Avo. X Prime | | | | .02 |

Notes: Anx.= Anxiety, Avo.=Avoidance; † $p < .10$, * $p < .05$, ** $p < .01$.

Attachment and Subliminally-Primed Secure Base Effects on Self Evaluations

Multiple regression analyses were conducted to examine the effects of attachment dimensions and subliminally primed secure base on explicit state self-esteem and implicit self-esteem. First, multiple regression analysis was conducted to examine the effects of attachment dimensions and subliminally primed secure base on explicit state self-esteem. At step 1, explicit state self-esteem was regressed upon attachment dimensions and a dummy-coded variable which represented the priming conditions. At Step 2, the interactions terms between the attachment dimensions and the priming conditions were added to the regression.

Results revealed main effects for attachment anxiety ($\beta = -.27, p < .01$) attachment avoidance ($\beta = -.24, p < .01$), and for the attachment anxiety X prime interaction ($\beta = -.31, p < .01$). Regressions examining the source of this interaction (Aiken & West, 1991; see Figure 7) revealed that in the secure-base-primed condition, attachment anxiety was negatively associated with explicit state self-esteem ($\beta = -.59, p < .001$) such that higher attachment anxiety predicted lower explicit state self-esteem.

Next, implicit self-esteem was regressed upon attachment dimensions and dummy-coded variable which represented the priming conditions at Step 1, and their interactions terms at Step 2. Results did not reveal any significant main effect or significant interaction effect.

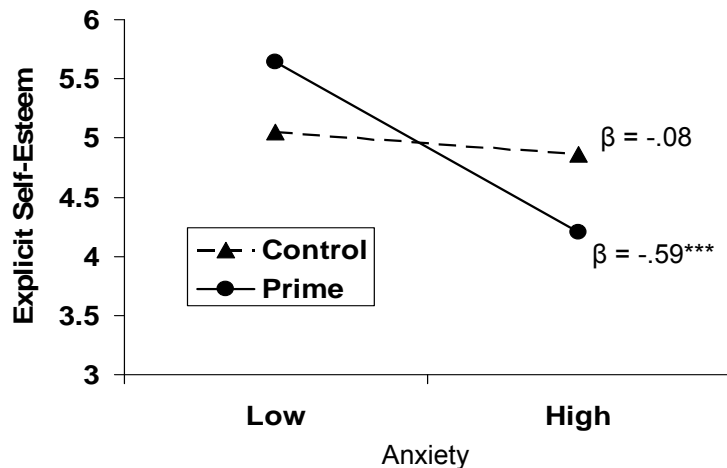


Figure 6. Association between attachment anxiety and explicit self-esteem within each priming condition; $**p < .001$.

Attachment and Subliminally-Primed Secure Base Effects on State Attachment

Multiple regression analyses were conducted to examine the effects of trait attachment dimensions and subliminally primed secure base on state attachment. First, state attachment anxiety was regressed upon attachment dimensions and a dummy-coded variable representing the priming conditions at Step 1, and their interaction terms at Step 2. Results revealed significant main effects for trait attachment anxiety ($\beta = .44, p < .001$), and secure base prime ($\beta = -.17, p < .05$). None of the interactions effects was significant.

Next, state attachment avoidance was regressed upon attachment dimensions, and a dummy-coded variable representing the priming conditions at Step 1, and their interaction terms at Step 2. Results revealed significant main effects for trait attachment anxiety ($\beta = .23, p < .01$), and trait attachment avoidance ($\beta = .43, p < .001$). Neither the effect of the priming manipulation, nor the effects of the interactions, was significant.

Conclusions

Results from Study 5 did not confirm my hypotheses regarding the effects of subliminally-primed secure base on explicit and implicit partner esteem. However, they did provide some important additional information on the association between attachment and mental representations of romantic partners.

First, the current study was able to replicate the association between attachment avoidance and implicit esteem for the romantic partner found in Study 4. Higher attachment avoidance was again associated with lower implicit partner-esteem. This finding strengthens the

argument that avoidant peoples' negative representations of others exists also at subconscious level and could be activated automatically.

Second, attachment avoidance and attachment anxiety were both associated with ambivalence towards the romantic partner. Despite that in the current study these effects were marginally significant they were in the same directions as the significant effects found in Study 4. Importantly, priming a secure base decreased ambivalence towards the romantic partner regardless of trait attachment orientation. This provides additional support for the claim that attachment insecurity relates to an inconsistent and ambiguous approach towards others, whereas attachment security promotes a more coherent view.

Third, attachment anxiety was negatively associated with explicit state self-esteem in the secure-based-primed condition. Priming secure base increased self-esteem of participants low on attachment anxiety and decreased self-esteem of participants high on attachment anxiety. Whereas the fact that priming secure base was associated with more positive self evaluations for secure (i.e., low in attachment anxiety) people is consistent with previous findings regard the positive effect of secure base, the fact the priming secure base was associated with more negative self evaluations for anxiously attached people is intriguing. It could be that priming secure base activated relationship related thoughts which for anxiously attached people are associated in the memory network with negative experiences of the self (e.g., rejection).

Finally, priming secure base reduced state attachment anxiety regardless of trait attachment orientations. This finding provides additional support for the notion that the secure base schema could be activated automatically, and additional evidence for the positive affective nature of the secure base schema.

Discussion

In the current chapter I reviewed two studies conducted to clarify and expand findings reported in chapter three (Studies 2 and 3) regarding the processes that underlie change in partner-esteem of insecurely attached people. Study 2 provided evidence that anxiously attached people decrease esteem for their romantic partner under ego-related perceived threat, Study 3 provided evidence that a same pattern occurs under relationship-related perceived threat. Applying subliminal-priming techniques, in Study 4 both ego-related and relationship-related threat were manipulated using a different method to the one used in Studies 2 and 3. However, these manipulations did not yield effects on explicit partner-esteem. Possible explanations for this are discussed hereinafter.

First, previous research (e.g., Mikulincer et al. 2001) that applied mere exposure techniques has in most cases examined its effect on target stimuli by relatively simple liking ratings (e.g.,

liking of Chinese ideographs), whereas in Study 4 the effect was examined by a multi-item questionnaire (Esteem-SO; Gurung et al., 2001). Completing such a measure requires more complex cognitive processes and carefully considered thinking than does indicating liking of fairly simple stimuli. It is possible, then, that subliminal-priming effects are more likely to be observed in primary and automatic responses than in higher-level responses.

Second, in Study 4 the word "Breakup" was primed to induce relationship-related threat. Given that it was presented at below awareness level, and therefore could only have a general and non-specific effect, it might have not activated strongly enough the relevant content in the memory network as first expected. It is possible that using the word "Rejection", for example, would have had a stronger effect, at least in the case of those participants high on attachment anxiety. In similar, the word "Failure" might have not been specific enough and perhaps priming the word "Exam" would have been more stress-inducing prime in the current case at which participants were university students.

Nevertheless, findings from Studies 4 and 5 did provide some important new information about the processes related to mental representations of others, as well as of self. In both studies, (in Study 5 the effect was marginal) attachment avoidance was negatively associated with implicit partner-esteem. These findings imply that highly avoidant people's negative beliefs about others are also apparent at below conscious level. Previous research on implicit self-esteem (e.g., DeHart et al., 2006) argued that such beliefs are indications of early childhood experience because this knowledge is less affected by cognitive reconstruction of events' meanings that occur in later stages of life in order to come to terms with painful childhood experiences. Following the same rationale, findings from the current studies provide indirect empirical support for the theoretical claim that avoidant people's negative working-models of others result from their experience with the primary caregiver.

Additionally, presenting the word "Breakup" at below conscious level (Study 4) increased implicit partner-esteem scores regardless of attachment orientation. Interpretation of this finding depends on which thoughts are assumed to have been activated. If the word "Breakup" automatically activated general relationship-related thoughts, including thoughts about the participants' current romantic partners, then this finding implies their general positive evaluations of their current partners. Whereas, it is possible that the word "Breakup" activated specific thoughts about breakups, specifically breakups from past romantic partners. In that case, this finding might suggest that automatic activation of thoughts about a past romantic partner enhance positive appraisal of the current romantic partner.

Attachment anxiety and attachment avoidance both predicted greater ambivalence towards the romantic partner (in Study 4; in Study 5 the effect was marginal). These findings are

consistent with findings from Study 1 that people high on attachment anxiety and people high on attachment avoidance hold unstable working-models of others. Such unstable models could reflect the sort of ambivalent approach that was found in the current studies. These findings are also consistent with previous findings (e.g., Main, 1991) that suggest that insecurely attached people hold low-in-clarity, incoherent, and conflict models of others.

Interestingly, subliminally priming the word "breakup" (Study 4, marginally significant), as well subliminally priming the secure-base schema (Study 5), reduced ambivalence towards the romantic partner. These findings could indicate that when the attachment system is activated and people seek to gain proximity to significant-others there is less room for doubts and conflicting views. With regards to the effect of subliminally priming the secure-base schema, although it did not directly affect partner-esteem the fact that it reduced ambivalence towards the partner does suggest that activating the secure-base schema induces more balanced and less confused views of significant-others, which also are likely to be more positive.

In addition to the main variables of interest, additional measures (i.e., self-esteem and state attachment) were included to examine the manipulation's effects on related domains. In both studies, attachment anxiety and attachment avoidance were negatively associated with explicit self-esteem. Whereas, attachment anxiety has been previously widely associated with low self-esteem (e.g., Bartholomew & Horowitz, 1991; Pietromonaco & Feldman-Barrett, 1997), the findings regarding attachment are somewhat inconsistent with the theoretical principle that avoidant people tend to preserve a positive evaluation of self as part of their deactivation strategy. However, previous studies (e.g., Gentzler & Kerns, 2004) did find attachment avoidance to be negatively correlated with self-esteem. In fact, in a study across 53 countries, assessing the associations between attachment dimensions and self-esteem, Schmitt and Allik (2005) found significant negative correlation between attachment avoidance and self-esteem in 18 countries out of the 53. It appears, then, that despite avoidant people's attempts to preserve a strong sense of self-worthiness and high self-value their sense of self is still somehow fragile.

Study 5 yielded an interaction effect between attachment anxiety and the subliminally-primed secure-base on explicit self-esteem. Priming secure-base increased self-esteem scores for participants *low* on attachment anxiety, but decreased it for those *high* on attachment anxiety. Whereas the positive association between activating the secure-base schemata and self-esteem fits in line with the positive-affect-inducing nature of the secure-base concept, the fact that priming secure-base decreased self-evaluations of highly anxious people is somewhat intriguing. One would expect that the positive effect of a sense of felt-security would counter the negative effect of anxiously attached people's doubts about their self-value. However, this finding suggests otherwise so it is possible, then, that even just activating a relationship-related chain of memories

heightened anxiously people's insecurity about the self. In addition, subliminally priming the word "Breakup" increased participant's implicit self-esteem (independent of their attachment orientations). This finding could be interpreted as a defensive automatic reaction to the threat by boosting evaluation of the ego.

Finally, subliminally primed threat-related words increased state-attachment anxiety, and subliminally primed secure base decreased state attachment anxiety, independent of attachment orientations. These findings validate the respective effect of both manipulations – the negative effect of subliminally priming negatively-associated words such as "Breakup" and "Failure", and the general positive affect of felt security. Interestingly, whereas for participants *low on trait* attachment anxiety subliminally priming the word "Failure" predicted *higher state* attachment anxiety than in the other conditions, for participants *high on trait* attachment anxiety subliminally priming the word "Breakup" predicted *higher state* attachment anxiety than in the other conditions. This pattern implies that for low anxious people ego-related worries promote proximity seeking tendencies, whilst for high anxious people it is relationship-related worries that promote such tendencies.

In sum, despite not confirming the main a-priori hypotheses, results from the two studies reported in this chapter did provide valuable information regarding working models of attachment. First, that avoidant people hold negative working models of others not only explicitly but also at an implicit level. Second, that activating the relational context in the memory network, even outside of awareness level, promotes proximity-seeking tendencies such as increased esteem for the partner and reduced ambivalence towards him or her. Third, that activating the secure-base schema further boosts secure people's positive self-evaluation, and further diminishes anxious people's low self-value. And fourth, that mere exposure to threat-related content or to attachment-related content has an affect-related effect.

In order to confirm the specific effects of subliminal priming on esteem for romantic partners and to investigate whether these effects differ as a result of variations in attachment orientations, future studies may need to adopt different measures as outcome variables. For example, partner-esteem could be measured by the accessibility of thoughts related to the partner (e.g., RT's of positive and negative partner traits in a lexical decision task; e.g., Mikulincer, Shaver, Bar-On, & Ein-Dor, 2010). Further directions for future studies as well as additional implications of the current findings are discussed in Chapter 5.

CHAPTER V

Adult Attachment and Mental Representations of Significant Others:

General Discussion

The aim of the present research program was to explore the nature of insecurely attached people's mental representations of significant others. Five studies were conducted to investigate various characteristics of these representations. Across these studies, attachment anxiety and attachment avoidance were negatively associated with various measure of esteem for romantic partners. Despite both having low esteem for others, results of these studies suggest that anxiously attached people and avoidant people differ in the nature of their working models of others. Whereas avoidant people seem to have relatively firm negative models of others, anxiously attached peoples' models of others seem to be to situation-dependent. In the current chapter, I will discuss these differences as well as other implication of the present research.

Anxiously Attached People's Models of Others

In Study 1 attachment anxiety negatively correlated with stability in esteem for romantic partners across time. Higher levels of attachment anxiety predicted greater fluctuations in appraisals of romantic partners across nine different time-points during a three-week period. Studies 2 and 3 followed up this finding with an attempt to understand the reason behind this pattern of instability. That is, the circumstances under which anxiously attached peoples' esteem for the romantic partners are most likely to change.

Study 2 revealed that under conditions that impose threat to the sense of self-worthiness anxious people decrease their esteem for their partners. It also revealed a similar pattern under a condition of threat to the relationship. However, while the association between anxiety and partner-esteem was statistically significant in the relationship threat condition (based on Aiken and West's, 1991, simple-slopes regression model) it was not significantly different from the association in the control condition (hence, this interaction was not significant). In Study 3 a revised relationship-threat manipulation was used in order to clarify the findings of Study 2. The results of this study showed that anxious people decrease their esteem for their partner under a condition which imposed an imagined threat to the future of their relationship with their partner.

One way to make sense of this pattern of results is to look at the different kind of measures of partner evaluations used in each of the studies. In Study 2 a revised version of Rosenberg's (1965) Self-Esteem Scale was used to measure partner-esteem. The scale was revised by rewriting the original items to measure the participant's rating of the worth of his or her partner and

included items such as "I feel that my partner is a person of worth, at least on an equal plane with others", "My partner is able to do things as well as most other people", and "At times I think my partner is no good at all" (reversed item). In general, then, this scale seems to examine one's global beliefs about his or her partner's competence.

In Study 3 a revised version of Sarason et al.'s (1991) Self-Concept Questionnaire was used to measure partner-esteem. In this case, the original measure was adapted to tap into working models of the significant-other and has two main factors, representing positive and negative attributes. In Study 3, attachment anxiety affected the positive subscale which includes attributes such as, "Kind", "Affectionate", and "Dependable". Participants were instructed to rate how accurately these words and phrases describe their romantic partners. Examining these attributes it appears that they tap into social and relational characteristics.

Considering the specific constructs each measure seems to tap may shed light on the patterns of the results across Studies 2 and 3 and allow a more coherent understanding of the findings from these studies. In Study 2 attachment anxiety was negatively associated with scores on the revised Rosenberg's (1965) scale under the ego-threat condition. That is, under a threat to their own sense of self-worth, anxiously attached people perceived their partner's global worth as more negative. In Study 3 attachment anxiety was negatively associated with scores of the positive subscale of the revised Sarason et al.'s (1991) Self-Concept Questionnaire under the separation condition. That is, when anxiously attached people had to imagine a situation in which they have to separate from their partner, they did not attribute positive interpersonally related traits to their partners.

Taken together, these patterns suggest that the manner in which anxiously attached people perceive significant others is closely related to their current state of mind. That is, when the anxious person holds doubts about himself or herself and feels like he or she is to some extent incompetent, they tend to view other persons close to them in a similar manner. Likewise, when the anxious person downplays the importance of interpersonal traits in himself or herself he or she is doing the same thing in his or her evaluations of close others.

Avoidant People's Model of Others

Whereas anxiously attached people's models of others seem to be fragile and prone to change in accordance with the individual's current state of mind, avoidant people's models of others appear to be firm and fairly resistant to change. In Study 1 attachment avoidance was negatively associated with trait partner-esteem, and in addition with stability in state partner-esteem, however this latter effect did not hold when controlling for trait partner-esteem. This finding implies that avoidant individuals hold relatively stable negative models of significant

others and any short-term fluctuation are, by and large, by-products of their general negative models.

Support for this interpretation comes from Study 2 and 3 findings. Whereas attachment anxiety was associated with changes in partner evaluation as a function of the experimental conditions, attachment avoidance consistently was associated with negative evaluations of the partner (lower partner-esteem in Study 2, and less positive and more negative attributes to describe the partner in Study 3). In other words, the association between attachment avoidance and partner evaluation was independent of the experimental condition in both studies. This gives additional evidence for the rigidity of avoidant people's negative orientation towards others, in comparison with the more flexible and situational-dependent approach of anxiously attached people.

Perhaps, though, the clearest evidence for this pattern comes from findings from Studies 4 and 5. Those studies included an implicit measure of models of others in addition to the previously used explicit self-report measure of partner-esteem. This implicit measure was based on the name-latter preference task (Nuttin, 1995; 1987) and has been previously considered as an indication of one's appraisals of the self. In Studies 4 and 5 I used the name-latter preference task to investigate attachment-based individual differences in implicit evaluations of romantic partners. In both studies, attachment avoidance was negatively associated with this measure of implicit evaluations of the romantic partner. That is, highly avoidant people not only hold explicit negative models of significant others, but they also appear not to hold an implicit positive models of significant others. The lack of positive bias in their implicit models of romantic partners suggests a rooted, core, and well established negative approach towards close others which potentially leads all the way back to their neglecting childhood experience with their primary caregivers and original attachment figures.

Attachment and Coherence of Working Models

In addition to the emphasis on patterns of stability and change in working models of others and the processes that underlie them, the present research provided some information about other aspects of working models' organizational structure. In Study 4 participants high on attachment anxiety and participants high on attachment avoidance demonstrated an ambivalent attitude towards their romantic-partners (as indicated by higher RT's in completing the partner-esteem measure), in Study 5 subliminal priming secure base decreased ambivalence towards partner (as indicated by lower RT's in completing the partner-esteem measure). These findings heighten insecure people's difficulties to integrate different aspects of the other personality into a coherent

view on him or her, as well as the role that sense of felt security holds in secure people's ability to do so.

Interestingly, Study 4 also shows that implicit threat to the ego increases ambivalence towards partner for high avoidant persons. This finding could suggest that avoidant people's ambivalence towards others does not relate directly to the other person's behaviour or current events in the relationships, but rather to a more innate reason involved with avoidant people's deactivation strategy. Meaning that, when their defenses are overcome avoidant people are less reluctant to confront their actual feelings towards their partner and the predominant automatic negative affect is more influential. In that sense, ambivalence for high avoidant people might mean more complexity rather than more conflict.

From an attachment perspective, achieving coherence of mind with respect to romantic partners is a core component of the process of establishing secure and stable relationships. Failing to do so often implies a lack of capacity to meet the emotional requirements of adult relationships. Thus, anxious people's relationships are usually characterized by instability and intensity.

This tendency is oft oft-observed among persons diagnosed with borderline personality disorder (BPD). Attachment researchers (e.g., Brennan & Shaver, 1998) have pointed out the common structure and similarities in the etiology of attachment anxiety in BPD. Literature on BPD (e.g., Adler, 1984) argues that, for BPD individuals, intimate relationships generate high levels of anxiety that result in reactions such as idealisation or devaluation of the romantic partner. Such defence mechanisms are often accompanied by another mechanism named *splitting* in which a person fails to integrate good and bad images of self and others, and hence perceive them as either all good or all bad (Kernberg, 1975). The function of this defence mechanism is to prevent the anxiety from spreading into consciousness. Recalling Bowlby's ideas on attachment, Kernberg (1975) argued that these defence mechanisms develop during early childhood and result from interaction with parental figures. In the same vein, Robbins (1989) suggested that splitting results from the ambivalence caused by the inability to establish a nurturing relationship with a caretaking figure.

Maintaining a coherent model of the other without the need to use defense mechanisms can help to maintain current relationships, and also contribute to the process of healing from past attachment injuries. Siegel (1999) claimed that, in some cases, achieving coherence of mind with respect to current attachment relationships (i.e., with romantic partners) reflects an earned ability to serve as a sensitive and attuned caregiver for one's own children even in the face of a problematic attachment history. As Siegel (1999) suggested, this can help parents to break the trans-generational passage of attachment insecurity. In the case of romantic relationships, achieving coherence of mind may enable insecure individuals to establish emotionally stable

relationships with their partners in adulthood, despite not having such experience with their attachment figures in childhood.

Although the main investigation of the current research was related to mental-representations of others, some of the studies also included various measures of self-esteem which provided some interesting and valuable information regarding the association between attachment and working models of self. In Studies 2, 4, and 5, attachment anxiety and attachment avoidance were both negatively associated with state self-esteem independent of the experimental conditions. Similarly, in Study 3 attachment anxiety and attachment avoidance both predicted lower attribution of positive traits to self and higher attribution of negative traits to self (once again, independent of the experimental conditions).

Whereas the association between attachment anxiety and negative sense of self-worth is well documented, both in theory and in empirical examinations (e.g., Bartholomew & Horwitz, 1991), findings regarding avoidant people's models of self are less consistent. In several studies (e.g., Brennan & Morns, 1997) attachment avoidance was associated with positive self-esteem, though other studies (e.g., Gentzler & Kerns, 2004) provided some evidence to suggest that avoidant people possess a negative sense of self-worth. Closer examination of Study 3 findings provides some insight that may help to reconcile these seemingly contradictory findings. Specifically, I examined the correlations between the attachment dimensions and the attributions included in the Self-Concept scale used in Study 3 and found a certain pattern: Whereas attachment anxiety correlated negatively with attributions such as "Stand up for my rights", "Assertive", and "A leader", attachment avoidance correlated negatively with items such as "Sociable", "Kind", and "Affectionate".

Thus, it appears that anxious people's negative models of self are related more to doubts about their competence, whereas avoidant people's negative models of self (when indicated) are related to low agreeableness. This notion is consistent with the nature of anxious and avoidant people's corresponding attachment strategies. Anxious people's low self-esteem results from worries about their lovability and ability to attract others. In contrast, avoidant people are not concerned with the possibility of gaining love and support from others and therefore it seems that their negative appraisal of self actually refers to the social-self. Additional support for this line of thought can be brought from research on narcissism. Campbell, Rudich, and Sedikides (2002) found that narcissists perceive themselves as better than average on traits reflecting an agentic orientation (e.g., status, intelligence) but not on those reflecting a communal orientation (e.g., kindness, morality).

Another relevant finding comes from Study 5 in which subliminal priming a secure base increased self-esteem for people with low levels of attachment anxiety, and decreased self-esteem

for people with high levels of attachment anxiety. This finding, as noted in the discussion for Chapter 4, implies that when the relational context is heightened it activates associative memories of relationships that for anxious people are predominantly negative, hence damaging their self-evaluation. Moreover, in the context of the current interpretation, it may be reasonable to suggest again that anxious people's negative self-esteem is rooted in their fear of being unable to gain love and attention from others. That is, as when they were subliminally primed with a picture of a mother holding a baby they felt more negative about themselves, which suggests that priming this context heightens their low-efficacy in obtaining a similar care from their own attachment figures.

State Attachment

Apart from the investigation on working models, some of the studies also provided interesting information about the relatively new concept of state-attachment (Gillath et al. 2009). Both explicit and implicit priming of threats increased state attachment-anxiety. In Study 2, participants who were primed with an ego-related threat (i.e., failing an important exam) reported higher levels of state attachment-anxiety than did participants who were primed with relationship-related threat or a neutral scenario regardless of trait attachment orientations. Similarly, in Study 4 participants who were subliminally primed with the word "Breakup" or the word "Failure" reported higher levels of state attachment-anxiety than participants who were primed with the neutral word (i.e., "Bicycle") regardless of trait attachment orientations.

The State Adult Attachment Measure (SAAM) instructs participants to indicate how much they agree or disagree with statements that reflect current feelings. The anxiety subscale of the SAAM includes statements such as "Right now I wish someone would tell me they really love me", "I feel a strong need to be unconditionally loved right now", and "Right now I really need someone's emotional support". These sorts of statements reflect people's doubts about whether or not they are loved by others and prime them to seek for reassurance. Accordingly, the findings from Studies 2 and 4 indicate that a perceived threat, both consciously or subconsciously, evokes attachment-related anxiety and puts people in a state of mind that resembles that of the trait attachment anxious person. Whereas for securely attached people this is expected to be a temporary state of mind in reaction to the threat, anxiously attached people suffer from this preoccupation chronically.

Additional evidence for the difference between people low on trait attachment anxiety and people high on trait attachment anxiety comes from Study 4. Participants with low trait attachment anxiety showed the highest state attachment-anxiety scores in response to subliminal priming of the word "Failure". In contrast, participants with high trait attachment anxiety showed the highest state attachment-anxiety scores in response to subliminal priming of the word

"Breakup". This demonstrates once again the preoccupation of anxiously attached people with relationship problems, whilst securely attached people are more concerned with daily problems such as their academic performance. Findings from Study 5 strengthen this interpretation. Participants who were subliminally primed with a picture of a mother holding her baby (which resembles the components of the secure-base schema) reported lower state attachment-anxiety than participants who were primed with a picture of random polygons. This implies that a sense of attachment security reduces preoccupation with proximity-seeking thoughts and attenuates doubts about one's lovability.

Final Remarks

After reviewing the main findings from the five studies conducted in the current research program and discussing their implications, I will draw-up some general overall conclusions. The current research advances existing knowledge regarding the association between individual differences in attachment orientations and mental representations of significant-others by providing useful insights into the manner in which these representations are formed, react, and change in accordance with changing circumstances.

At this stage I believe that one important insight in particular is gained from the current research. This relates to the distinction between the nature of anxiously attached people's models of others and avoidant people's models of others. To date, the literature in the attachment domain has mainly claimed that anxiously attached people hold positive models of others - a conclusion drawn up from their desire to seek proximity to others, and that avoidant people hold negative models of others - a conclusion drawn up from their strategy to minimize emotional involvement with others and to avoid close and intimate interactions.

The current research provides evidence that anxious people's models of others are better described as unstable or ambivalent. That is, anxious people do hold positive models of others as result of the desire to seek proximity to others. However, this positive stance is fragile and can be undermined when they experience doubts about the other person, or rather of themselves. On the other hand, avoidant people appear to have more firm models of others that are predominantly negative. This negative stance seems to be core part of their strategy to minimize emotional involvement with others and to rely on the self. Accordingly, these negative views of others are relatively stable, resistant to change even in face of new circumstances, exist at implicit as well explicit level, and can be evoked automatically.

Future research should seek to investigate the association between attachment anxiety and ambivalence towards attachment figures more directly. For example, in a recent work Mikulincer et al. (2010) examined attitudinal ambivalence towards relational closeness adopting Chen and

Bargh's (1999) approach–avoidance task. Participants were presented with a set of words related to interpersonal closeness (e.g., hug, trust, intimacy) and interpersonal distance (e.g., lonely, separated, rejected) and were asked either to pull a lever back toward themselves (which was interpreted as an approach response) or push the lever forward and away from themselves (which was interpreted as an avoidance response) when they encoded the meaning of a word. Ambivalence scores increased as both approach and avoidance responses became faster. Results showed a significant association between attachment anxiety and relational ambivalence.

Another task for future research is to clarify more specifically the reasons for change in esteem for romantic partner and its association with individual differences in attachment. As suggested in earlier chapters of this thesis this could be achieved by using alternative measures of partner-esteem. Another possibility is to link appraisals of partner with daily events - either related or unrelated to the relationship.

A limitation of the studies in the current research programme is that potential confounding variables, such as depression, anxiety and neuroticism, were not measured. Despite that those concepts are closely related to the variables I investigated in the current studies, especially attachment anxiety, most attachment studies do not usually control for these variables in their analyses. Indeed, it is possible that some of these variables involve in the association between attachment and models of others. However, negative affect and temperament disturbances are integral parts of attachment insecurities, thus to control them statistically was not necessarily theoretically valid.

Finally, I believe that the importance of the present research lays in its ability to demonstrate that working-models of attachment are not constant unchanging categories, but rather dynamic processes. Accordingly, research on working models of attachment, in my view, should consider alternative models of conceptualizing these models rather than as positive versus negative (e.g., Bartholomew & Horowitz, 1991) and view them in terms of dynamic processes. Clinicians as well may find this approach to the manner in which insecurely attached people view others useful in their work. They could, for example, instead of investing much of the therapeutic effort into changing the schema one may have on other people, work on the process that creates and perpetuates those schemas (such as fear of rejection from others or worries about self-worthiness).

Indeed, it was John Bowlby himself who chose to define the views one creates about the world with the term *working* models - *Working* in the sense of active and dynamic.

APPENDICES

Appendix A: Materials for Study 1

Consent Form for Research Participants

Information Sheet

I am *Itsek Alfasi* a PhD student at the School of Psychology in the University of Southampton. I am requesting your participation in a study regarding different attitudes towards relationships. This will involve completing several questionnaires for approximately 25 minutes. Then you will independently complete a short questionnaire three times a week for a period of three weeks (detailed instructions will be given at the end of this session). Personal information will not be released to or viewed by anyone other than researchers involved in this project. Results of this study will not include your name or any other identifying details. Your participation is voluntary and you may withdraw your participation at any time. A debriefing statement will be supplied at the end of the study period.

Sincerely,

Itsek Alfasi

Statement of Consent

I _____ have read the above informed consent form.

[participant's name]

I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefit to myself. I understand that data collected as part of this research project will be treated confidentially, and that published results of this research project will maintain my confidentiality. In signing this consent form, I am not waiving my legal claims, rights, or remedies. A copy of this consent form will be offered to me.

I give consent to participate in the above study. Yes No

Signature _____

Name _____ Date _____

I understand that if I have questions about my rights as a participant in this research, or if I feel that I have been placed at risk, I can contact the Chair of the Ethics Committee:

School of Psychology, University of Southampton,

Southampton, SO17 1BJ

U.K.

Phone: (023) 8059 3995.

Demographic Information:

1. Gender [*Male / Female*]
2. Age _____
3. Sexual orientation [*Gay Lesbian Bisexual Heterosexual*]
4. Are you currently in a romantic relationship? Yes _____ No _____
5. If *yes*, how long have you been involved with your current partner? [years and months]

6. If *yes*, how would you describe your relationship currently? (tick all that apply)

Married _____

Engaged _____

Cohabiting/Living with partner _____

Dating one person exclusively in a committed relationship _____

Dating one person casually _____

Dating multiple persons _____

7. Do you have any children? Yes _____ No _____

8. If *yes* how many? _____

9. How many times in total have you ever been in a romantic relationship (*including* any current relationship)? _____

10. What is or was the length of your *longest* romantic relationship so far? [years, months]

Experience in Close Relationship (Brennan et al., 1998)

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

| | | | | | | |
|-------------------|---|---------------|---|---|----------------|---|
| Disagree Strongly | | Neutral/Mixed | | | Agree Strongly | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- ___ 1. I prefer not to show a partner how I feel deep down.
- ___ 2. I worry about being abandoned.
- ___ 3. I am very comfortable being close to romantic partners.
- ___ 4. I worry a lot about my relationships.
- ___ 5. Just when my partner starts to get close to me I find myself pulling away.
- ___ 6. I worry that romantic partners won't care about me as much as I care about them.
- ___ 7. I get uncomfortable when a romantic partner wants to be very close.
- ___ 8. I worry a fair amount about losing my partner.
- ___ 9. I don't feel comfortable opening up to romantic partners.
- ___ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
- ___ 11. I want to get close to my partner, but I keep pulling back.
- ___ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
- ___ 13. I am nervous when partners get too close to me.
- ___ 14. I worry about being alone.
- ___ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
- ___ 16. My desire to be very close sometimes scares people away.
- ___ 17. I try to avoid getting too close to my partner.
- ___ 18. I need a lot of reassurance that I am loved by my partner.
- ___ 19. I find it relatively easy to get close to my partner.
- ___ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
- ___ 21. I find it difficult to allow myself to depend on romantic partners.
- ___ 22. I do not often worry about being abandoned.
- ___ 23. I prefer not to be too close to romantic partners.
- ___ 24. If I can't get my partner to show interest in me, I get upset or angry.

- ____ 25. I tell my partner just about everything.
- ____ 26. I find that my partner(s) don't want to get as close as I would like.
- ____ 27. I usually discuss my problems and concerns with my partner.
- ____ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
- ____ 29. I feel comfortable depending on romantic partners.
- ____ 30. I get frustrated when my partner is not around as much as I would like.
- ____ 31. I don't mind asking romantic partners for comfort, advice, or help.
- ____ 32. I get frustrated if romantic partners are not available when I need them.
- ____ 33. It helps to turn to my romantic partner in times of need.
- ____ 34. When romantic partners disapprove of me, I feel really bad about myself.
- ____ 35. I turn to my partner for many things, including comfort and reassurance.
- ____ 36. I resent it when my partner spends time away from me.

Significant Other Clarity Scale (Gurung et al., 2001)

Please think about your romantic partner and respond to the following questions by writing your answer in the space provided using the scale below.

1 - Strongly Disagree 2 3 4 5 - Strongly Agree

- _____ 1. My beliefs about my partner often conflict with one another.
- _____ 2. On one day I might have one opinion of him/her and on another day I might have a different opinion.
- _____ 3. I spend a lot of time wondering what kind of person he/she really is.
- _____ 4. Sometimes I feel that he/she is not really the person he/she appears to be.
- _____ 5. When I think about the kind of person he/she has been in the past, I'm not sure what he/she was really like.
- _____ 6. I seldom experience conflict between the different aspects of his/her personality.
- _____ 7. Sometimes I think I know other people better than I know him/her.
- _____ 8. My beliefs about him/her seem to change very frequently.
- _____ 9. If I were asked to describe his/her personality, my description might end up differing daily.
- _____ 10. Even if I wanted to, I don't think I could tell someone what he/she is really like.
- _____ 11. In general, I have a clear sense of who he/she is and what he/she is like.
- _____ 12. It is often hard for me to make up my mind concerning him/her because I don't really know what he/she wants.

Esteem of Significant Other (Gurung, et al., 2001).

Please think about your romantic partner and indicate your agreement or disagreement with the following statements by marking the response that most closely approximates your opinion.

1 - Strongly Disagree 2 3 4 5 - Strongly Agree

- _____ 1. I feel that my partner is a person of worth, at least on an equal plane with others.
- _____ 2. I feel that my partner has a number of good qualities.
- _____ 3. All in all, I am inclined to feel that my partner is a failure.
- _____ 4. My partner is able to do things as well as most other people.
- _____ 5. I feel my partner does not have much to be proud of.
- _____ 6. I take a positive attitude toward my partner.
- _____ 7. On the whole, I am satisfied with my partner.
- _____ 8. I wish I could have more respect for my partner.
- _____ 9. I certainly feel my partner is useless at times.
- _____ 10. At times I think my partner is no good at all.

Difficulties in Emotion Regulation Scale (Grazt & Roemer, 2004)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item:

1-----2-----3-----4-----5
 almost never sometimes about half the time most of the time almost always

- _____ 1) I am clear about my feelings.
- _____ 2) I pay attention to how I feel.
- _____ 3) I experience my emotions as overwhelming and out of control.
- _____ 4) I have no idea how I am feeling.
- _____ 5) I have difficulty making sense out of my feelings.
- _____ 6) I am attentive to my feelings.
- _____ 7) I know exactly how I am feeling.
- _____ 8) I care about what I am feeling.
- _____ 9) I am confused about how I feel.
- _____ 10) When I'm upset, I acknowledge my emotions.
- _____ 11) When I'm upset, I become angry with myself for feeling that way.
- _____ 12) When I'm upset, I become embarrassed for feeling that way.
- _____ 13) When I'm upset, I have difficulty getting work done.
- _____ 14) When I'm upset, I become out of control.
- _____ 15) When I'm upset, I believe that I will remain that way for a long time.
- _____ 16) When I'm upset, I believe that I'll end up feeling very depressed.
- _____ 17) When I'm upset, I believe that my feelings are valid and important.
- _____ 18) When I'm upset, I have difficulty focusing on other things.
- _____ 19) When I'm upset, I feel out of control.
- _____ 20) When I'm upset, I can still get things done.
- _____ 21) When I'm upset, I feel ashamed with myself for feeling that way.
- _____ 22) When I'm upset, I know that I can find a way to eventually feel better.
- _____ 23) When I'm upset, I feel like I am weak.
- _____ 24) When I'm upset, I feel like I can remain in control of my behaviours.
- _____ 25) When I'm upset, I feel guilty for feeling that way.
- _____ 26) When I'm upset, I have difficulty concentrating.
- _____ 27) When I'm upset, I have difficulty controlling my behaviours.

- _____ 28) When I'm upset, I believe that there is nothing I can do to make myself feel better.
- _____ 29) When I'm upset, I become irritated with myself for feeling that way.
- _____ 30) When I'm upset, I start to feel very bad about myself.
- _____ 31) When I'm upset, I believe that wallowing in it is all I can do.
- _____ 32) When I'm upset, I lose control over my behaviours.
- _____ 33) When I'm upset, I have difficulty thinking about anything else.
- _____ 34) When I'm upset, I take time to figure out what I'm really feeling.
- _____ 35) When I'm upset, it takes me a long time to feel better.
- _____ 36) When I'm upset, my emotions feel overwhelming.

Follow-up partner-esteem assessments:

Dear participant,

Enclosed are **week 1** assessments.

Please complete one assessment on each of the following days: Wednesday, Friday, and Sunday.

Then, please return the envelope with the complete questionnaires to the collection point at the I-zone, marked as: *Attitudes in relationships- Weekly assessments*.

Many Thanks!

Student ID _____

Please think about your romantic partner and indicate your agreement or disagreement with the following statements at this moment by marking the response that most closely approximates your opinion.

1 - Strongly Disagree 2 3 4 5 - Strongly Agree

- _____ 1. At the moment I feel that he/she is a person of worth, at least on an equal plane with others.
- _____ 2. At the moment I feel that he/she doesn't have enough good qualities.
- _____ 3. At the moment I feel that he/she is somehow a failure.
- _____ 4. At the moment I feel that he/she is able to do things as well as most other people.
- _____ 5. At the moment I feel that he/she has much to be proud of.
- _____ 6. At the moment I take a negative attitude toward him/her.
- _____ 7. At the moment I am very satisfied with him/her.
- _____ 8. At the moment I wish I could have more respect for him/her.
- _____ 9. At the moment I feel that he/she is somehow useless.
- _____ 10. At the moment I feel that he/she is somehow no good at all.

Debriefing Statement

The aim of this research was to obtain your thoughts about other people you feel close to. This research is drawn from attachment theory, a perspective that emphasises the influence of early relationships with caregivers on our thoughts about others (Bowlby, 1969/1982). Your data will help our understanding of how attachment security can influence one's views of other people. Once again, results of this study will not include your name or any other identifying characteristics. You may have a copy of this summary if you wish and a summary of the research findings once the project is completed.

For further reading on the topic refer to:

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226-244.

Collins, N. L., & Feeney, B. C. (2004). Working Models of Attachment Shape Perceptions of Social Support: Evidence From Experimental and Observational Studies. *Journal of Personality and Social Psychology*, 87, 363-383.

For any further questions please contact me, Itsek Alfasi, at ya206@soton.ac.uk

Thank you for your participation in this research.

Signature _____

Name _____ Date _____

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee,
School of Psychology, University of Southampton,
Southampton, SO17 1BJ
U.K.
Phone: (023) 8059 3995.

Appendix B: Materials for Study 2:

Experience in Close Relationship (Brennan et al., 1998)

See Appendix A

Esteem of Significant Other (Gurung et al., 2001)

See Appendix A

Relationship-Threat Condition

You will now be presented with a situation taken from everyday life and which can occur in a relationship. Think about your current romantic relationship, read the passage, and try to imagine your partner and yourself in this situation. After reading the text you'll be asked to give detailed answers to questions regarding the feelings and thoughts that the text raises in you. Hence, try to be aware of them.

Imagine that your partner, whom you have been dating for a long time and feel very attached to, is considering leaving you.

Please describe in detail what is going on in the situation. Try, as much as you can, to get into the experience and relive the situation in your imagination. Detail the thoughts, feelings, and emotions that have been raised in you in regards to the situation.

Ego-Threat Condition

You will now be presented with a situation taken from everyday life. Think about your current romantic relationship, read the passage, and try to imagine your partner and yourself in this situation. After reading the text you'll be asked to give detailed answers to questions regarding the feelings and thoughts that the text raises in you. Hence, try to be aware of them.

Imagine that you just found out that you have failed an important exam that you have been studying for, for a long time.

Please describe in detail what is going on in the situation. Try, as much as you can, to get into the experience and relive the situation in your imagination. Detail the thoughts, feelings, and emotions that have been raised in you in regards to the situation.

Control/Neutral Condition

You will now be presented with a situation taken from everyday life and which can occur in a relationship. Think about your current romantic relationship, read the passage, and try to imagine your partner and yourself in this situation. After reading the text you'll be asked to give detailed answers to questions regarding the feelings and thoughts that the text raises in you. Hence, try to be aware of them.

Imagine that your partner is going to buy groceries at the supermarket.

Please describe in detail what is going on in the situation. Try, as much as you can, to get into the experience and relive the situation in your imagination. Detail the thoughts, feelings, and emotions that have been raised in you in regards to the situation.

Please answer the following questions, using the following rating scale:

| | | | | | | |
|------------|---|---------------|---|---|-----------|---|
| Not at all | | Neutral/Mixed | | | Very Much | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- ___ 1. To what extent is this scenario clear for you?
- ___ 2. How difficult was it for you to imagine yourself in this situation?
- ___ 3. To what extent is this scenario realistic in your view?
- ___ 4. In general, to what extent do you find this situation threatening?
- ___ 5. To what extent is this situation threatening your relationship with your partner?
- ___ 6. To what extent is this scenario threatening your self-esteem?

State Adult Attachment Measure (Gillath et al., 2007)

The following statements concern how you feel right now. Please respond to each statement by indicating how much you agree or disagree with it as it reflects your current feelings. Please write in the space provided the number that best indicates how you feel at the moment, using the following rating scale:

| Disagree Strongly | | Neutral/Mixed | | | Agree Strongly | |
|-------------------|---|---------------|---|---|----------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Right now...

- ___ 1. I wish someone would tell me they really love me.
- ___ 2. I would be uncomfortable having a good friend or a relationship partner close to me.
- ___ 3. I feel alone and yet don't feel like getting close to others.
- ___ 4. I feel loved.
- ___ 5. I wish someone close could see me now.
- ___ 6. If something went wrong right now I feel like I could depend on someone.
- ___ 7. I feel like others care about me.
- ___ 8. I feel a strong need to be unconditionally loved right now.
- ___ 9. I'm afraid someone will want to get too close to me.
- ___ 10. If someone tried to get close to me, I would try to keep my distance.
- ___ 11. I feel relaxed knowing that close others are there for me right now.
- ___ 12. I really need to feel loved right now.
- ___ 13. I feel like I have someone to rely on.
- ___ 14. I want to share my feelings with someone.
- ___ 15. I feel like I am loved by others but I really don't care.
- ___ 16. The idea of being close to someone makes me nervous.
- ___ 17. I want to talk with someone who cares for me about things that are worrying me.
- ___ 18. I feel secure and close to other people.
- ___ 19. I really need someone's emotional support.
- ___ 20. I feel I can trust the people who are close to me.
- ___ 21. I have mixed feelings about being close to other people.

Self-liking/Self-competence scale (Tafarodi & Swann, 2001)

The following statements concern how you feel right now. Please respond to each statement by indicating how much you agree or disagree with it as it reflects your current feelings. Please write in the space provided the number that best indicates how you feel at the moment, using the following rating scale:

| Disagree Strongly | | Neutral/Mixed | | | Agree Strongly | |
|-------------------|---|---------------|---|---|----------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Right now...

- _____ 1. I feel comfortable with myself.
- _____ 2. I feel highly effective at the things I do.
- _____ 3. I have a negative attitude toward myself.
- _____ 4. I feel able to accomplish what I try for.
- _____ 5. I feel secure in my sense of self-worth.
- _____ 6. I feel I am failing to fulfill my goals.

Appendix C: Materials for Study 3

Experience in Close Relationship (Brennan et al., 1998)

See Appendix A

Failure (Ego-Threat) Condition; Control/Neutral Condition

See Appendix B

Separation Condition

You will now be presented with a situation taken from everyday life and which can occur in a relationship. Think about your current romantic relationship, read the passage, and try to imagine your partner and yourself in this situation. After reading the text you'll be asked to give detailed answers to questions regarding the feelings and thoughts that the text raises in you. Hence, try to be aware of them.

Imagine that you have been offered a scholarship for a four year post-graduate program in the United States. After consulting with your partner you both have decided that this is too good an opportunity to miss. You have not "officially" broken up, however there is mutual understanding that after you'll leave you'll both be free to date other people.

Please describe in detail what is going on in the situation. Try, as much as you can, to get into the experience and relive the situation in your imagination. Detail the thoughts, feelings, and emotions that have been raised in you in regards to the situation.

Betrayal Condition

You will now be presented with a situation taken from everyday life and which can occur in a relationship. Think about your current romantic relationship, read the passage, and try to imagine your partner and yourself in this situation. After reading the text you'll be asked to give detailed answers to questions regarding the feelings and thoughts that the text raises in you. Hence, try to be aware of them.

Imagine that you have just found out that your partner, whom you have been dating for a long time and feel very attached to, is involved in a serious, emotional, and passionate romantic affair with another attractive man/woman.

Please describe in detail what is going on in the situation. Try, as much as you can, to get into the experience and relive the situation in your imagination. Detail the thoughts, feelings, and emotions that have been raised in you in regards to the situation.

Significant-Other Concept Questionnaire (Gurung et al., 2001)

Please rate how accurately each of these words and phrases describes your romantic partner using the scale below.

Very inaccurate - 1 2 3 4 5 6 7 - Very accurate

- _____ 1. Reliable.
- _____ 2. Often depressed.
- _____ 3. Often angry.
- _____ 4. Anxious and worried.
- _____ 5. Sociable
- _____ 6. Often gloomy.
- _____ 7. Frightened.
- _____ 8. A leader.
- _____ 9. Enjoys talking to people.
- _____ 10. Often feels blue.
- _____ 11. Demanding.
- _____ 12. Stands up for his/her rights.
- _____ 13. Assertive.
- _____ 14. Touchy and temperamental.
- _____ 15. Kind.
- _____ 16. Encourages others.
- _____ 17. Affectionate.
- _____ 18. Impatient with other's mistakes.
- _____ 19. Critical of others.
- _____ 20. Dependable.

Appendix D: Materials for Studies 4 and 5

Experience in Close Relationship (Brennan et al., 1998)

See Appendix A

Esteem of Significant Other (Gurung, et al., 2001)

See Appendix A

State Adult Attachment Measure (Gillath et al., 2007)

See Appendix B

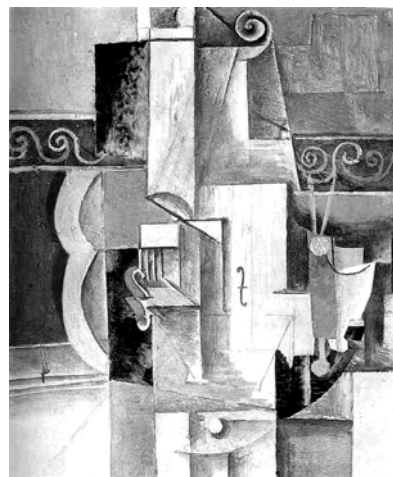
Self-liking/Self-competence scale (Tafarodi & Swann, 2001)

See Appendix B

Secure-Base Prime



Neutral Prime



List of words for the lexical decision task

KQHYTR
LYBPF
PNLDQFB
PDHKB
HPKQTB
GUHDCVW
LTPK
HTNFSB
TPBFL
PYLFCT
TYHQ
FPBYL
BFQDLNP
BKHDP
FBTQKP
WUCDH
KNIGHT
LEVEL
PENDING
POINT
HARKEN
GESTURE
LIPS
HASTEN
TABLE
PALLET
TIME
FABLE
BALLOON
BATHE
FASTEN
WATCH

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