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Adult Attachment and the Maintenance of Self-Views

by

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ABSTRACT

FACULTY OF MEDICINE, HEALTH AND LIFE SCIENCES

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Attachment theory states that early caregiving experiences shape strategies for regulating affect, which influence functioning throughout the lifespan. Whereas secure attachment fosters ability to regulate positive self-worth internally, insecure attachment impedes the development of this internal resource. This thesis examined the novel proposal that for insecure individuals, regulation of self-esteem is contingent on fulfilment of affect-regulation goals. Specifically, individuals with high attachment anxiety depend on interpersonal approval and affection, whereas those with high avoidance, although they defensively deny attachment needs, depend on validating their agency and self-reliance.

Four studies examined the influence of attachment patterns on self-esteem regulation. Study 1 showed that for insecure compared to secure individuals, global self-esteem was more closely connected to specific interpersonal or agentic self-views. Study 2 and 3 examined feedback-seeking patterns. Secure individuals were more open to, and chose, positive over negative feedback. High-anxious individuals pursued interpersonal feedback but chose negative feedback when it was offered. Dismissing individuals (high avoidance, low anxiety) sought positive hypothetical feedback about self-reliance but negative feedback across all domains when it was offered.

Study 4 examined day-to-day self-esteem regulation using daily diaries. High-anxious individuals exhibited the most fluctuation in self-esteem as a function of daily rejection and positive partner feedback, and reacted negatively to negative interpersonal feedback. High-avoidant individuals did not self-enhance by taking on board positive competence feedback. Instead, they exhibited the least boost to self-esteem after positive interpersonal feedback but lower self-esteem after daily rejection.

Overall, findings supported high-anxious individuals' reliance on interpersonal sources for self-esteem regulation. High-avoidant individuals' reliance on agentic sources was inconsistently supported, but their vulnerability to acceptance and rejection implies incomplete defences. These findings have implications for relationship functioning, work performance, and vulnerability to depression. Attachment theory provides a valuable framework for understanding individual differences in self-esteem regulation.

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Each to each a looking glass
Reflects the other that doth pass

(Cooley, 1902, p. 152)

A man has as many social selves as there are individuals who recognize him and carry an image of him in their mind. To wound any one of these his images is to wound him. . . . The most peculiar social self which one is apt to have is in the mind of the person one is in love with. The good or bad fortunes of this self cause the most intense elation and dejection.

(James, 1890, p. 294)

In the working model of the self that anyone builds a key feature is his notion of how acceptable or unacceptable he himself is in the eyes of his attachment figures.

(Bowlby, 1973, p. 203)

CHAPTER I

Adult Attachment and the Maintenance of Self-Views: Introduction

The self develops and thrives in a relational context. This notion has long been recognised in psychology; symbolic interactionists in the early 20th century first emphasised the role of other people and relationships in the development of self-knowledge (Cooley, 1902; Mead, 1934). More recently, social-cognitive theories have incorporated concepts such as relational schemas (Baldwin, 1992), relational selves (Andersen & Chen, 2002), and self-expansion by including significant others in the self (Aron, Aron, Tudor, & Nelson, 1991). Authors have even conceptualised the self as primarily interpersonal (Leary, Tambor, Terdal, & Downs, 1995; Tice & Baumeister, 2001) and have dedicated volumes to the connection and interplay between the self and relationships (e.g., Sedikides & Brewer, 2001; Vohs & Finkel, 2006). Attachment theory (Bowlby, 1969, 1973, 1980) offers a context for the development of the relational self by proposing dynamic processes by which individual differences in self-structure and self-esteem regulation may develop. Thus, attachment provides a valuable framework for understanding self-related processes. One aspect of the self that has been less thoroughly examined from a relational or attachment perspective, however, is the maintenance and regulation of self-views and self-esteem based on feedback from different sources in the environment. This is the focus of the present thesis. In this chapter, I review theory and research relating to adult attachment, self-esteem regulation, and the interplay between the two areas, develop novel ideas and predictions, and conclude with an overview of four studies designed to examine these ideas and test these predictions. Better understanding of the links between attachment and self-esteem regulation processes will contribute significantly to the fields of both adult attachment and self-view maintenance.

Attachment Theory and Research

Normative Attachment Processes: Behavioural Systems and Mental Representations

According to attachment theory (Bowlby, 1969, 1973, 1980), infants' fundamental needs for attachment and exploration underlie the operation of two complementary behavioural systems, which evolved in human history to maintain proximity to caregivers and ensure protection and survival. In conditions of felt security,

when no threat is present, the exploration system motivates the infant to explore the environment, learning and developing skills, mastery, and independence. In conditions of felt threat or danger, the attachment system is activated. This elicits feelings of distress and motivates the infant to display attachment behaviours (e.g., crying) and seek proximity to a primary caregiver or *attachment figure* (Bretherton, 1985; Sroufe & Waters, 1977). Under normative conditions, attachment behaviours in turn activate the caregiver's caregiving system (George & Solomon, 1999) and thus prompt the caregiver to protect the infant, terminating attachment behaviours. Thus, the *functions* of the attachment system are to ensure protection and survival and to use a primary caregiver as a secure base for exploration. The *set-goal* of the attachment system, when activated, is felt security and affect-regulation, with proximity-seeking being a primary way of attaining this goal (Bowlby, 1969; Sroufe & Waters, 1977).

As the infant develops more sophisticated cognitive capacities, s/he builds mental representations (*internal working models*) of the world around him/her, including the self, significant others, and relationships (Bowlby, 1973; Bretherton, 1985; Collins, Guichard, Ford, & Feeney, 2004; Collins & Read, 1994; Main, Kaplan, & Cassidy, 1985). Working models are stored as schemas, which contain relationship-relevant memories, beliefs, expectations, goals, and goal-directed strategies (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993; Collins et al., 2004). Thus, they serve to help an infant make sense of the world, predict future interactions, and guide behaviour, including strategies to attain the attachment set-goal of felt security. Because working models develop through interactions with the world, they reflect the social reality that a particular infant experiences, so differ in content and structure across individuals. At first, they represent specific interactions with the primary caregiver. However, over time they become more abstract and, like schemas, are used to guide perception and behaviour in new situations (Collins et al., 2004).

Based on Bowlby's (1979) assertion that "attachment behaviour is held to characterize human beings from the cradle to the grave" (p. 129), and on the fact that schemas are relatively pervasive and stable over time (Baldwin, 1992; Markus, 1977), researchers have extended the principles of attachment theory and working models to understand relationships in adulthood. Hazan and Zeifman (1999) review evidence that adult romantic relationships fulfil the functions of attachment relationships (i.e., proximity maintenance, separation distress, safe haven, and secure base behaviours). The idea that the attachment system operates in adulthood and romantic pair bonds is also supported by evidence that primed threat activates attachment concepts and mental

representations of attachment figures in adulthood (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer, Gillath, & Shaver, 2002).

Individual Differences in Attachment Processes: Development of Primary and Secondary Attachment Strategies

Despite the normative complementary function of the attachment and exploration behavioural systems, experience creates individual differences in their operation. When caregiving is not consistently sensitive and responsive to attachment behaviours, the attachment system adapts and develops behavioural strategies that will best ensure protection of the infant. These particular experiences and strategies also influence the infant's internal working models (Main et al., 1985). Ainsworth, Blehar, Waters, and Wall (1978) first documented three attachment styles in infants undergoing separation and reunion with their mother in the Strange Situation procedure. More recently, Shaver and Mikulincer (2002; see also Mikulincer & Shaver, 2003; Mikulincer, Shaver, & Pereg, 2003) delineated a dynamic systems model to describe individual differences in the operation of the attachment system and how they may come about.

According to Shaver and Mikulincer's (2002) model, the strategies an infant adopts to attain felt security and protection depend on two decisions prompted by attachment-system activation in times of threat. First, the infant must first assess whether the attachment figure is available and responsive. If so, the normative cycle of infant's proximity-seeking, parental caregiving, infant's felt security, and infant's attachment-behaviour termination is engaged. The infant can then resume exploring the environment, confident of protection in times of threat. Over time, if this normative cycle is consistently engaged, the infant continues to use these *security-based strategies* for regulating affect (Mikulincer et al., 2003). S/he builds positive working models of the self as worthy of love and the attachment figure as trustworthy and available (Main et al., 1985). In a "broaden and build" process (Fredrickson, 2001), the internalised attachment figure becomes an inner resource that can partly fulfil safe haven and secure base functions (Shaver & Mikulincer, 2002). Increasingly, the individual can use the internal figure to regulate affect and rely less on physical proximity. Security-based strategies are characteristic of secure attachment (Ainsworth et al., 1978).

However, sometimes attachment-system activation results in perceptions of the attachment figure as unavailable. In this context, an infant experiences insecurity and distress and engages *secondary* strategies for regulating affect and attachment behaviours (Main, 1981; Mikulincer et al., 2003). Shaver and Mikulincer (2002) propose that the

infant must decide whether or not proximity-seeking (the primary goal of attachment behaviours) is a viable option. Depending on one's caregiving history and answer to this question, one of two secondary strategies may develop.

Some infants see proximity-seeking as an option despite the caregiver being unavailable. This may happen if the caregiver is inconsistently responsive (because proximity-seeking is sometimes rewarded), or intrusive or abusive (because this hinders the infant's sense of self-efficacy, so perceived risk of being alone outweighs the risk of approaching the attachment figure) (Mikulincer et al., 2003). In this case, the infant engages attachment behaviours and seeks proximity but feels distress and fear when the behaviour is unrewarded. The optimal strategy for protection, then, is to display attachment behaviours persistently, stay close to the caregiver, and monitor the environment for threat. These *hyperactivating strategies* result in chronic activation of the attachment system (Cassidy & Kobak, 1988). Over time, these strategies lead to increased vigilance to cues of threat or abandonment, increased fear and anxiety, and inhibited exploration (Shaver & Mikulincer, 2002). The set-goal of the attachment system becomes closeness to others (physical, emotional, and symbolic), and the individual builds a working model of the self as ineffective and unworthy of love (Main et al., 1985). Hyperactivating strategies are characteristic of anxious-ambivalent attachment (Ainsworth et al., 1978).

Finally, some infants perceive proximity-seeking as not viable at all. This may happen if the caregiver consistently ignores, rejects, punishes, or discourages attachment behaviours (Mikulincer et al., 2003). The optimal strategy for protection, then, is to inhibit displays of emotion and other attachment behaviours, distance oneself from the rejecting caregiver, focus on exploration, and prevent distress by excluding cues of threat and rejection from awareness. These *deactivating strategies* result in chronic deactivation of the attachment system (Cassidy & Kobak, 1988). Over time, these strategies lead to decreased processing of cues of threat or rejection, suppression of emotions, and increased exploration (Shaver & Mikulincer, 2002). The set-goal of the attachment system becomes defensive distance from others and relationships (physical, emotional, and symbolic), and the individual builds a working model of others as unreliable and untrustworthy (Collins & Read, 1994). Deactivating strategies are characteristic of avoidant attachment (Ainsworth et al., 1978).

In summary, over time, individuals develop chronic tendencies to rely to different extents on security-based, hyperactivating, or deactivating strategies to regulate negative affect. Accordingly, individuals differ in the tendency to monitor the environment for

threat or rejection, experience or suppress attachment-related affect, approach or avoid intimacy, and approach or avoid exploration. These strategies are also manifested in internal working models of the self, others, and relationships, which, as schemas, are thought to be relatively stable over time (Bowlby, 1973). Only a few studies (e.g., Sroufe, Egeland, Carlson, & Collins, 2005; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000) have directly assessed stability of attachment patterns from infancy to adulthood. In a meta-analysis, Fraley (2002) argued that the evidence is consistent with models that tend towards stability and adjust but are not overwritten by new experiences. Correspondingly, Shaver and Mikulincer (2002) proposed that relative deactivation or hyperactivation of the attachment system underlies many observable individual differences in experience and behaviour throughout the lifespan. Over the past 30 years, a great deal of research has been dedicated to examining these differences in adulthood.

Individual Differences in Adult Attachment

Hazan and Shaver's (1987) seminal research showed that Ainsworth et al.'s (1978) infant taxonomy can be used to classify adult relationships as either secure, anxious-ambivalent, or avoidant. Similarly, George, Kaplan, and Main's (1984) Adult Attachment Interview (AAI) classifies most adults as autonomous (i.e., secure), preoccupied (i.e., hyperactivating), or dismissing (i.e., deactivating) based on narrative accounts of childhood attachment experiences. More recent evidence suggests that individual differences in adult attachment are underlain by two continuous orthogonal dimensions, termed *anxiety about abandonment* and *avoidance of intimacy* (Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998; Griffin & Bartholomew, 1994). These dimensions may respectively reflect the relative use of hyperactivating and deactivating strategies, and also the predominant valence of internal working models of self and others (Bartholomew & Horowitz, 1991). In research conducted in the social/personality tradition, the dimensions are typically measured using self-report instruments (e.g., Brennan et al., 1998).

An individual's combination of anxiety and avoidance levels defines his/her attachment style or pattern (Bartholomew & Horowitz, 1991; see Figure 1). *Secure* attachment occupies a region where anxiety and avoidance are low, and is characterised by security-based strategies. *Preoccupied* attachment is underlain by high anxiety and low avoidance, and reflects chronic use of hyperactivating strategies. *Dismissing* attachment is underlain by high avoidance and low anxiety, and reflects chronic use of deactivating strategies. *Fearful* attachment is underlain by high anxiety and high

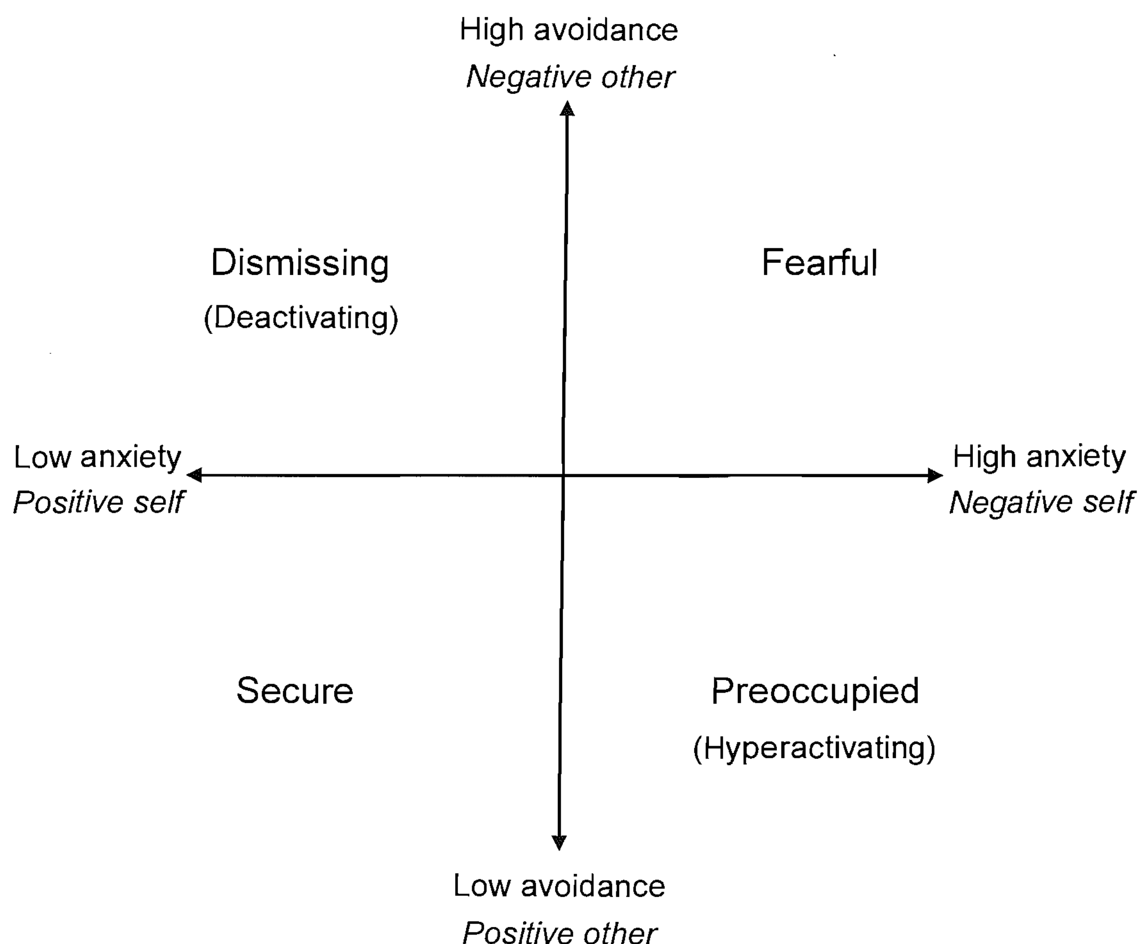

Figure 1. Adult attachment dimensions and pattern labels. Adapted from Bartholomew and Horowitz (1991). Dimension labels in italics refer to the valence of internal working models of the self or others. Pattern labels in parentheses refer to the predominant affect-regulation strategies hypothesised to underlie the attachment pattern.

avoidance; fearful individuals shy away from intimacy due to fear of rejection. The role played by hyperactivation or deactivation in fearful attachment is unclear: some authors suggest that fearful individuals attempt to use deactivating strategies but are unsuccessful; others argue that they possess a *disorganised* attachment system derived from incoherence over whether proximity-seeking is a viable option or not (Main & Solomon, 1990; Shaver & Mikulincer, 2002; Simpson & Rholes, 2002). A third possibility is that anxiety/hyperactivation and avoidance/deactivation reflect different processes in the attachment system. Consistent with this idea, researchers (Crowell, Fraley, & Shaver, 1999; Fraley & Shaver, 2000) have proposed that attachment anxiety corresponds to threshold for detecting threat or experience of affect, whereas avoidance corresponds to regulation of attachment behaviour (see Chapter 6 for further discussion).

The four styles are frequently used for descriptive purposes in research. In this thesis I will refer to the labels where useful, while recognising that dimensions more accurately characterise individual differences (Fraley & Waller, 1998). Although attachment strategies and models originally develop in the context of caregiver-infant relationships, attachment patterns in adulthood have been conceptualised as broader patterns of personality and functioning that influence far-reaching domains of life other than interdependent relationships.

Evidence for the Operation of Secondary Attachment Strategies

There is substantial evidence that adult attachment patterns have pervasive implications for intrapersonal and interpersonal functioning (for extensive reviews, see Shaver & Mikulincer, 2002; Mikulincer & Shaver, 2006). Research has also identified many facets of the operation of hyperactivating and deactivating strategies. In particular, whereas secure individuals acknowledge and recognise positive and negative emotion, activate the attachment system in times of threat, can rely on internal resources to deal with threat but seek support when helpful, and are motivated by context-appropriate goals, those with higher attachment anxiety and/or avoidance lack the same level of resilience, openness, and flexibility (Mikulincer & Shaver, 2003, 2004). The emotional, cognitive, and motivational components of secondary strategies have implications for the present research and warrant attention.

Attachment anxiety and the operation of hyperactivating strategies. The dimension of attachment anxiety reflects the extent to which an individual relies on hyperactivating strategies for regulating affect (Shaver & Mikulincer, 2002) and possesses a negative working model of the self (Bartholomew & Horowitz, 1991). Evidence corroborates the notion that high-anxious individuals' attachment system is chronically activated and hypervigilant to cues of threat and rejection. Cognitively, anxious individuals' mental representations of attachment worries and attachment figures are chronically accessible in neutral, threatening, or positive contexts (DeWitte, De Houwer, Buysse, & Koster, 2007; Mikulincer et al., 2000; Mikulincer, Gillath, et al., 2002). Individuals with high, compared to low, anxiety are more sensitive to the onset and offset of emotional facial expressions (Fraley, Niedenthal, Marks, Brumbaugh, & Vicary, 2006) and individuals classified as preoccupied on the AAI are hypervigilant to the presence and content of pictures of social interactions and emotional faces (Maier et al., 2005). Moreover, high-anxious individuals are unable to suppress negative attachment-related thoughts (Baldwin & Kay, 2003; Fraley & Shaver, 1997; Mikulincer,

Dolev, & Shaver, 2004) and engage in ruminative worry over negative attachment experiences (Mikulincer, 1998a). Attachment anxiety is also associated with rejection-sensitivity, the tendency to over-detect and over-react to signals of rejection (Downey & Feldman, 1996).

Hyperactivating strategies have consequences for emotional experience, and in particular heightened attachment-related affect. For example, compared to secure individuals, highly anxious individuals show more distress regarding separation in infancy (Ainsworth et al., 1978) and during the AAI (Dozier & Kobak, 1992; Kobak & Sceery, 1988). High-anxious adults also report intense, intent emotions (Searle & Meara, 1999), and cannot suppress negative affect when recalling emotional memories or relationships (Mikulincer & Orbach, 1995; Rowe & Carnelley, 2003). Physiologically, attachment anxiety correlates with increased heart rate and blood pressure during everyday interactions with friends (Gallo & Matthews, 2006) and low *vagal tone*, an index of successful emotion regulation (Diamond & Hicks, 2005). It is also positively associated with neuroticism, a personality dimension reflecting emotional instability (Shaver & Brennan, 1992).

Research also supports anxious individuals' set-goal of constant closeness, suggesting that many of their behavioural patterns are motivated by desire for intimacy and connection to others. High-anxious individuals show internal concerns with approval and closeness on projective tests (Magai, Hunziker, Mesias, & Culver, 2000) and alter their reported self-views in order to gain support and affection (Mikulincer, 1998b). Under threat, they even try to connect to others cognitively or symbolically by perceiving others as more similar to the self, partly by projecting their own traits onto others (Mikulincer & Horesh, 1999; Mikulincer, Orbach, & Iavnieli, 1998). In romantic relationships, those with high, compared to low anxiety place more importance on a partner fulfilling their attachment needs (Collins, Ford, Guichard, & Allard, 2006), endorse interaction goals of wanting approval from a partner (Pietromonaco & Feldman Barrett, 2006), and report a high need for intimacy which causes relationship issues (J. Feeney, 1999a; J. Feeney & Noller, 1991). Whereas secure individuals focus on attachment motives (e.g., comfort, acceptance) in attachment-relevant interactions, high-anxious individuals also emphasise attachment motives in task-focused groups, affiliative interactions, or after positive mood induction (Mikulincer & Selinger, 2001; Rom & Mikulincer, 2003). These chronic motives drive behaviour such as seeking excessive reassurance from others (Brennan & Carnelley, 1999; Davila, 2001; Shaver, Schachner, & Mikulincer, 2005).

Attachment avoidance and the operation of deactivating strategies. The dimension of avoidance reflects the extent to which an individual relies on deactivating strategies for regulating affect (Shaver & Mikulincer, 2002) and has a negative working model of others (Bartholomew & Horowitz, 1991). Bowlby (1980) described deactivation as "the defensive exclusion . . . of sensory inflow of any and every kind that might activate attachment behaviour and feeling" (p. 70). Indeed, research suggests that defensive cognitive strategies are extremely pervasive, especially in response to threat (Edelstein & Shaver, 2004; Fraley, Davis, & Shaver, 1998). Individuals with high avoidance react to primed threat by suppressing, not activating attachment-related mental representations (Mikulincer et al., 2000; Mikulincer, Gillath, et al., 2002) and emphasising positive, not negative self-views (Mikulincer, 1998b; Mikulincer et al., 2004). Moreover, they are able to suppress negative thoughts (Fraley & Shaver, 1997) and recall of attachment-related information and memories (Edelstein, 2006; Kobak & Sceery, 1988; Miller & Noirot, 1999). Fraley, Garner, and Shaver (2000) found that high-avoidant individuals' recall deficit for an attachment-related story was immediately visible and did not increase over time. Fraley et al. suggested that they use preemptive defences, such as attention, to avoid encoding threatening information (see also Fraley & Brumbaugh, 2007), although this result could also indicate that postemptive defence (e.g., suppression) is immediately operational. Avoidant individuals also suppress feeling and expressing emotion (Mikulincer & Orbach, 1995; Searle & Meara, 1999).

Research also supports avoidant individuals' set-goal of distance from others and relationships, suggesting that many of their behavioural patterns are motivated by desire for separation and "compulsive self-reliance" (Bowlby, 1973). They use distancing strategies to cope with stressful life events and do not seek social support (Mikulincer & Florian, 1998; Simpson, Rholes, & Nelligan, 1992). Mikulincer (1998b) showed that high-avoidant individuals' inflation of self-views after threat was eliminated if told that a balanced self-view was a sign of self-reliance, suggesting a goal of self-reliance. They are also more likely than low-avoidant individuals to self-enhance after attachment threat by inflating independent, rather than interdependent, self-views (Hart, Shaver, & Goldenberg, 2005). Moreover, desire for cognitive or symbolic distance is shown by findings that individuals with high, compared to low, avoidance perceive relationship partners as further from their "core self" (Rowe & Carnelley, 2005), judge themselves to be more different from ingroup members, especially after negative mood induction (Mikulincer et al., 1998), and project their own unwanted traits onto others (Mikulincer & Horesh, 1999). In relationships and interactions with close others, high-avoidant,

especially dismissing, individuals deny the importance of attachment needs (Collins et al., 2006; Mikulincer & Salinger, 2001), and dismissing men report needs for self-reliance, distance, and control which cause relationship issues (J. Feeney, 1999a). Even in task-focused groups—an attachment-unrelated context—high avoidance predicts goals for distance and self-reliance (Rom & Mikulincer, 2003).

Despite high-avoidant individuals' practised defences, research suggests that they retain an underlying insecurity. For example, Mikulincer, Florian, and Tolmacz (1990) found that avoidant individuals do not consciously report fear of personal death, but they score as high in below-conscious death anxiety as anxious-ambivalent individuals. They also reveal inner conflict themes in projective tests (Magai et al., 2000). When their defences are compromised, high-avoidant individuals' responses to attachment threat often resemble hyperactivating patterns. Although dismissing adults do not generally report feeling anxious, they show physiological arousal when talking about separation experiences in the AAI (Dozier & Kobak, 1992) and during high-conflict social interactions (Gallo & Matthews, 2006). Under cognitive load, avoidant adults show high accessibility to proximity worries when primed with attachment threat (Mikulincer et al., 2000) and can no longer suppress separation thoughts or negative self-traits (Mikulincer et al., 2004). In addition, dismissing attachment, assessed using self-report or the AAI, has been linked to greater perceptual vigilance to social and emotional cues compared to secure attachment. This includes perceiving more negative facial expressions (Magai et al., 2000), lower threshold for identifying social and emotional pictures (Maier et al., 2005), and continuing to detect a morphing emotional facial expression for longer than secure individuals (Niedenthal, Brauer, Robin, & Innes-Ker, 2002, though see Fraley et al., 2006, for an alternative interpretation). Finally, Maier et al. (2004) found that after repeated subliminal rejection priming, dismissing attachment on the AAI was associated with lower cognitive accessibility of positive self- and other-evaluations. Taken together, these results are consistent with the suggestion that deactivating defences operate as an effortful response to initial *vigilance* to emotional cues, similar to that inherent in a hyperactivated attachment system. Further research is necessary to examine these ideas, but it may be that dismissing adults process signs of threat efficiently in order to activate defence mechanisms, with the defences requiring cognitive resources and thus being ineffective under stress or cognitive load.

Consequences of Attachment Strategies for Intrapersonal and Interpersonal Functioning in Adulthood

Although secondary attachment strategies may be adaptive in the context in which they develop, adults characterised by high attachment anxiety and/or avoidance often experience less-than-optimal outcomes in adulthood. In particular, they experience a variety of problems in the arenas of mental health, close relationships, and work compared to more secure individuals.

Consequences for mental health. Bowlby (1973, 1980) originally conceived attachment as closely entwined with vulnerability to psychopathology. According to Mikulincer and Shaver (2004), a secure attachment history enables an individual to use the self (i.e., internalised positive models of self and attachment figures) as a resource for dealing with life problems, yet to seek support when needed. Consistent with this view, secure attachment has been linked to positive mental health, whereas insecurity has been linked to mental health problems (for reviews, see Dozier, Stovall, & Albus, 1999; Mikulincer & Shaver, 2006). In particular, high attachment anxiety, reflecting its link to poor emotion regulation and fear of rejection, has been related to anxiety disorders, depression in clinical and non-clinical samples, and histrionic, dependent, or borderline personality disorders (e.g., Bartholomew, Kwong, & Hart, 2001; Carnelley, Pietromonaco, & Jaffe, 1994; Cole-Detke & Kobak, 1996; Cooper, Shaver, & Collins, 1998; Mickelson, Kessler, & Shaver, 1997; Roberts, Gotlib, & Kassel, 1996; Zuroff & Fitzpatrick, 1995). Attachment avoidance, reflecting its link to avoidance of affect and intimacy, has been related to depression, bipolar disorder, eating disorders, and avoidant or schizoid personality disorders (e.g., Bartholomew et al., 2001; Cole-Detke & Kobak, 1996; Cooper et al., 1998; Mickelson et al., 1997). Insecure, compared to secure, individuals also engage in more risky behaviours to regulate affect, such as substance abuse or promiscuous sex (e.g., Bogaert & Sadava, 2002; Brennan & Shaver, 1995; Cooper, Albino, Orcutt, & Williams, 2004; Mickelson et al., 1997). Whereas anxious individuals engage in these behaviours to regulate overwhelming distress and anxious ruminations, avoidant individuals may do so to avoid emotions and (in the case of promiscuous sex) emotional intimacy (Mikulincer & Shaver, 2006). Together, these findings suggest that fearful individuals (who are high in both) are likely to experience the most clinical and behavioural problems: a suggestion supported in research (Brennan & Shaver, 1998; Simpson & Rholes, 2002).

Consequences for close relationships. A vast body of research documents that, overall, insecure attachment strategies are associated with less positivity in close relationships, especially romantic relationships, than is attachment security (see J. Feeney, 1999b; Mikulincer, Florian, Cowan, & Cowan, 2002, for reviews). The close relationships of high-anxious individuals tend to be fraught with insecurity, jealousy, and conflict (Campbell, Simpson, Boldry, & Kashy, 2005; Collins & Read, 1990; Hazan & Shaver, 1987; Levy & Davis, 1988; Simpson, Rholes, & Phillips, 1996). Those of high-avoidant individuals tend to be low in satisfaction, commitment, and trust (Collins & Read, 1990; Levy & Davis, 1988), and avoidant individuals are less likely to show caregiving or support when their partner needs it (B. Feeney & Collins, 2001; Simpson et al., 1992). In addition, other people rate them as hostile (Kobak & Sceery, 1988; Onishi, Gjerde, & Block, 2001). In general, the relationships of insecure individuals are more likely to break up than those of secure individuals (Kirkpatrick & Hazan, 1994), and the *partners* of highly anxious and/or avoidant individuals tend to report low relationship satisfaction (Kane et al., 2007; Mikulincer, Florian, et al., 2002). Research also links individual differences in adult attachment to the operation of the caregiving system (e.g., Collins, Guichard, Ford, & Feeney, 2006) and the sexual mating system (e.g., Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006; Gillath & Schachner, 2006).

Consequences for exploration and work. In adulthood, work and leisure are outlets for the exploration system (Elliot & Reis, 2003). As reviewed above, attachment security facilitates use of a (real or symbolic) attachment figure as a secure base for confident exploration, whereas hyperactivating strategies inhibit the exploration system due to attachment worries and low self-efficacy, and deactivating strategies rely on exploration and self-reliance to regulate affect. Supporting these patterns, secure individuals possess balanced, positive attitudes and approach motives in work and leisure (Elliot & Reis, 2003; Hazan & Shaver, 1990). Conversely, high-anxious individuals imbue work with concerns about relationships, acceptance, and rejection, which impairs work functioning and performance (Aspelmeier & Kerns, 2003; Hazan & Shaver, 1990; Rom & Mikulincer, 2003). They also avoid thrill-seeking activities but use leisure to fulfil needs for intimacy, approval, and affect regulation (Carnelley & Ruscher, 2000). Whereas secure individuals carry positive experiences from home to work and vice versa, preoccupied individuals experience spillover of problems between domains (H. Sumer & Knight, 2001). Individuals with high, compared to low, anxiety also report less interest in environmental or intellectual exploration (J. Green & Campbell, 2000) and more avoidance-focused achievement motives, mediated by perceived threat and concerns

about evaluation (Elliot & Reis, 2003). Thus, hyperactivating strategies interfere with an individual's ability to function effectively in work and leisure settings. In contrast, individuals with high, compared to low, avoidance direct more importance and energy to work than relationships and use work or leisure to avoid social interaction (Carnelley & Ruscher, 2000; Hazan & Shaver, 1990). They also report less interest in social but not intellectual exploration (J. Green & Campbell, 2000) and keep their work and home lives segregated, preventing interpersonal problems from affecting work (H. Sumer & Knight, 2001). However, exploration in deactivating strategies is defensive: it focuses on distancing from rejection and lacks an internalised secure base. Supporting this notion, avoidant infants explore with rigidity and disinterest (Ainsworth et al., 1978). Similarly, adults with high, compared to low, avoidance evince less approach motivation and more passive fear of failure in achievement settings (Elliot & Reis, 2003), lower work satisfaction (Hazan & Shaver, 1990), and may avoid some types of novelty (Aspelmeier & Kerns, 2003). In a work context, Rom and Mikulincer (2003) found that high-avoidant individuals in task-focused groups reported more negative group-focused views and emotions, and performed worse in tasks than low-avoidant individuals. Thus, deactivating strategies focus on self-reliance at the expense of other relevant goals, ironically hindering success in exploratory contexts.

Summary

An individual's history of experiences with primary caregivers leads him/her to develop particular emotional, cognitive, and behavioural strategies to regulate affect. The individual's internal working models of the self and others store his/her attachment-related beliefs, memories, goals, and strategies in the form of schemas (Collins et al., 2004), and although sensitive to change, are relatively stable (Bowlby, 1973; Fraley, 2002). The adoption of secure, hyperactivating, or deactivating strategies can therefore be self-maintaining because schemas guide interpretation and behaviour in new situations. Consistent with this view, individual differences in emotional, cognitive, and behavioural tendencies in adulthood fit with the operation of the same three basic strategies.

Generally speaking, individuals who rely most on security-based strategies demonstrate the most adaptive patterns of functioning. Those with higher attachment anxiety, who rely more on hyperactivating strategies, demonstrate problems centred on their hypervigilance to threat, inability to regulate overwhelming emotions, and chronic need for intimacy and acceptance. Those with higher attachment avoidance, who rely

more on deactivating strategies, demonstrate problems centred on their defensive avoidance of feelings, thoughts, and situations related to attachment or rejection, and subsequent drive to maintain self-reliance at all costs. Individuals with high attachment anxiety and avoidance (i.e., fearful individuals) are vulnerable to a combination of both sets of problems, and are torn between desire for intimacy to regulate their affect and fear that intimacy will result in rejection. Although the implications of secondary attachment strategies are widespread, in this thesis I focus on their implications for the maintenance and regulation of the self-concept.

Attachment Differences in the Self-Concept and Sources of Self-Esteem

Attachment and the Self-Concept

Caregiving experiences lead a person to develop views of the self as loveable and competent or as unlovable and ineffective. Mikulincer and Shaver (2004) suggest that the construction of secure individuals' self-views is an important resource that enables them to cope with stress and adversity. Thus, better understanding of the self-system associated with different attachment strategies may help us to understand the maintenance of attachment differences in functioning. Congruent with the link between hyperactivating strategies and a negative self-model, high attachment anxiety is consistently associated with low self-esteem, negative self-views, and high accessibility of negative traits (Bartholomew & Horowitz, 1991; Brennan & Morris, 1997; Bylsma, Cozzarelli, & Sumer, 1997; Collins & Read, 1990; Cozzarelli, Hoekstra, & Bylsma, 2000; Luke, Maio, & Carnelley, 2004; Mikulincer et al., 2004). High attachment avoidance has also been linked to low self-esteem and well-being (e.g., Collins & Read, 1990; Cooper et al., 1998). However, Hazan and Shaver's (1987) often-used three-category model of attachment styles confounds anxiety with avoidance, because the "avoidant" category describes and taps fearful more than dismissing avoidance (Bartholomew & Horowitz, 1991; Brennan, Shaver, & Tobey, 1991). Moreover, adults who class themselves as dismissing report equally high self-esteem as secure individuals (Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). Thus, one positive consequence of successful deactivating strategies may be a positive view of the self.

Research suggests that attachment strategies influence not only the valence, but also the structure of the self-concept. In particular, the self-views of individuals with high, compared to low, anxiety are less stable (Brandt & Vonk, 2005; Foster, Kernis, &

Goldman, 2007) and more malleable in response to manipulations that make valenced self-related information salient (Broemer & Blumle, 2003) or to primed attachment threat (Mikulincer, 1998b). In addition, highly anxious individuals' self-structures are poorly integrated and have low self-complexity (Mikulincer, 1995), do not assimilate good and bad images of the self (Lopez, 2001), have relatively fragmented cognitive concepts of the self and relationships (Kim, 2005), and are associated with strong emotions that spread readily (Mikulincer & Orbach, 1995).

As reviewed above, individuals with higher attachment anxiety are more likely to suffer from depression (e.g., Carnelley et al., 1994), a disorder characterised by negative self-beliefs and dysfunctional cognitions (Beck, 1967, 1976). Research has implicated facets of the self in insecure individuals' vulnerability to depression. In particular, the associations between attachment anxiety and poor emotional functioning or depression may be mediated by negative or fragile self-views (Kim, 2005; Roberts et al., 1996), need for reassurance from others (Shaver et al., 2005), low capacity for self-reinforcement (Wei, Mallinckrodt, Larson, & Zakalik, 2005), and emotional flooding or over-reactivity (Wei, Vogel, Ku, & Zakalik, 2005). Zuroff and Fitzpatrick (1995) found that attachment anxiety correlated with the personality dimensions of *sociotropy* (Beck, 1983) and *dependency* (Blatt, 1990), which reflect emotional investment or dependence on others and are linked to depression (though see Davila, 2001, for evidence that attachment anxiety is uniquely related to depression controlling for sociotropy and excessive reassurance-seeking). It seems that within hyperactivating strategies, dependence on others for affect-regulation and protection becomes manifested in one's self-concept, which in turn increases vulnerability to depression. The self-concept vulnerability within deactivating strategies is less clear-cut. Avoidant individuals' susceptibility to affective disorders may be explained by dimensions such as emotional "cut-off", perfectionism, self-criticism, and the personality dimension of *autonomy* (investment in retaining independence; Blatt, 1990), reflecting a negative consequence of their drive for self-reliance (Wei, Mallinckrodt, Russell, & Abraham, 2004; Wei, Vogel, et al., 2005; Zuroff & Fitzpatrick, 1995). However, Wei, Mallinckrodt, et al. (2005) found that the link between avoidance and depressive symptoms was mediated by low capacity for self-reinforcement, suggesting that their self-reliance is not only not healthy, but is also not always effective.

The continued presence of attachment differences in self-representations in adulthood suggests that attachment models play a part in the ongoing maintenance of self-esteem and self-views. Specifically, I propose that the attachment strategies

developed by individuals with different caregiving histories may lead their self-esteem regulation[1] processes to differ in three central ways: (a) the extent to which they rely on internal versus external sources to maintain and regulate self-esteem; (b) the specific sources on which their self-esteem is contingent; and (c) the extent to which they exhibit tendencies to enhance and protect self-esteem.

Attachment and Internal versus External Self-Esteem Regulation

Attachment working models may predict whether an individual is able to maintain positive feelings of self-worth internally, or whether they rely upon external sources to do so. These ideas relate to the distinction between *contingent* and *true* self-esteem (Deci & Ryan, 1995), or between *fragile* and *stable* self-esteem (Kernis & Goldman, 2003), which vary independently of self-esteem level. Deci and Ryan assert that true self-esteem is based on a solid sense of self developed in a context fulfilling the basic needs for autonomy, relatedness, and competence, whereas contingent self-esteem depends on meeting high standards or expectations and developed in a context where approval or love was conditional on others' standards (although, to my knowledge, this assertion has not been tested empirically). More contingent, versus true, self-esteem is related to self-esteem instability, extrinsic rather than intrinsic motivation, reactivity to self-relevant events, and higher aggression (Deci & Ryan, 1995; Kernis & Goldman, 2003). This view explains how two people who report high self-esteem can nonetheless differ in self-esteem regulation processes: someone with high but fragile self-esteem needs to maintain feelings of worth by constantly proving themselves and striving toward their standards (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000). Ryan and Deci (2004) liken contingent self-esteem to a verb, more than a noun, reflecting this dynamic, cyclical nature. Contingent self-esteem may have negative consequences. Crocker and Park (2004) argue that pursuing self-esteem can subsume normative motivation to fulfil fundamental needs and capacity to self-regulate. Similarly, Crocker and Wolfe (2001) argue that external *contingencies of self-worth*, combined with negative life events, result in variable levels of self-esteem and contribute to depression

[1] By *self-esteem regulation*, throughout this thesis, I refer to the regulation, including enhancement and maintenance, of feelings and evaluations relating to the self (Tesser, Crepaz, Collins, Cornell, & Beach, 2000). This term diverges from *self-regulation*, which refers to the capacity to override impulses and behavioural habits (Baumeister, Heatherton, & Tice, 1994; Gailliot, Plant, Butz, & Baumeister, 2007). The two concepts overlap, however, in proposing that regulation (of self-related affect or self-controlled behaviour) is motivated and goal-directed, whether toward attachment-related affect-regulation goals (Mikulincer et al., 2003) or toward reduction in discrepancies between current state or behaviour and standards (Carver & Scheier, 1982).

in the long term. In support of this notion, Kernis et al. (1998) found that unstable self-esteem, combined with daily hassles, resulted in greater increase in depressive symptoms over four weeks, but low level of self-esteem did not. More directly, Butler, Hokansen, and Flynn (1994) showed that *self-esteem lability*, or reactivity to daily events, was concurrently and prospectively associated with symptoms of depression. Thus, contingent self-esteem is associated with vulnerability to poorer outcomes.

In this view, attachment security may be one context that facilitates the development of true self-esteem. That is, an internalised secure base and self-representation serves as a resource for secure individuals, allowing them to self-organise and self-regulate internal states and processes (Lopez & Brennan, 2000; Mikulincer & Shaver, 2004). This resource accounts for secure, compared to highly anxious or avoidant, individuals' relatively stable self-esteem levels (Foster et al., 2007) and greater reported capacity for self-reinforcement (defined as "abilities to encourage, support, and value themselves"; Wei, Mallinckrodt, et al., 2005, p. 371). In addition, studies by Park, Crocker, and Mickelson (2004) and Brandt and Vonk (2005) found that secure individuals report relatively non-contingent self-esteem, whereas high-anxious individuals report highly contingent self-esteem. This contingency is compatible with the absence of a secure base underlying high attachment anxiety. Thus, their self-esteem is more dependent on continual validation and is likely to be buffeted and dented more easily than that of secure individuals.

In contrast, dismissing individuals report positive self-views (Bartholomew & Horowitz, 1991) and report that their self-esteem is independent of external input (Park et al., 2004). In Foster et al.'s (2007) study, relative endorsement of the dismissing prototype was unrelated to self-esteem stability across eight time-points. However, dismissing individuals' self-processes have not been thoroughly examined from a self-esteem regulation perspective. As reviewed above, deactivating attachment strategies are designed to enhance self-reliance as a defensive way to protect the self from underlying fear of rejection. High-avoidant individuals lack an internalised secure base and thus the resource available to secure individuals. Moreover, recent evidence suggests that under severe stress, cognitive load, or preattentive assessment, these strategies reveal insecurity and vigilance for threat (e.g., Magai et al., 2000; Mikulincer et al., 2000, 2004). Thus, it is unclear whether the self-esteem of dismissing individuals is truly internally regulated. Dismissing individuals could instead possess Deci and Ryan's (1995) notion of high contingent self-esteem. An important line of enquiry is to tease apart dismissing individuals' self-reports from their underlying self-related processes.

Sources of Self-Esteem as Part of Attachment Strategies

Evidence suggests that individual differences in attachment history and corresponding strategies may be manifested in the construction of self-views. Whereas secure individuals possess an internalised resource based on a history of consistently responsive care, which allows them to self-regulate their affect, behaviour, and feelings of self-worth, insecure individuals do not. How, then, do dismissing individuals, who rely on deactivating attachment strategies, maintain high self-esteem? And what are the mechanisms that maintain high-anxious individuals' low self-esteem? One possibility is that the development of secondary attachment strategies leads self-esteem to be invested in, or wrapped up in, the fulfilment of affect-regulation goals. That is, contingent self-esteem can be dependent on different sources or different areas of life. Crocker, Luhtanen, Cooper, and Bouvrette (2003) made a distinction between internal contingencies (e.g., moral virtue) and external contingencies (e.g., others' approval), which require validation from other people or external sources. The potential link between attachment and sources of self-esteem has been explicated by Brennan and Morris (1997) and Swann (1996) (see also Park et al., 2004). I summarise and elaborate where relevant below, grounding this proposal more fully than has been done previously in the context of the development of affect regulation strategies.

Secure or normative sources of self-esteem. The normative source of a positive self-model is gradually internalised love from a caregiver, as evidenced by securely attached individuals. This idea is also reflected in related social psychological concepts. For example, in a theory derived from Cooley's (1902) concept of the looking-glass self, Leary and colleagues (Leary & Downs, 1995; Leary et al., 1995) have proposed that self-esteem functions as a *sociometer*: a gauge for social acceptance developed in evolutionary history when group acceptance was a priority for survival. This view suggests that signals of social inclusion or exclusion cause temporary fluctuations in self-esteem, but also that trait self-esteem partly reflects chronic perceptions of social acceptance and can become "functionally autonomous" over time (for empirical support, see Leary, Haupt, Strausser, & Chokel, 1998; Leary et al., 1995). In addition, Kohut's (1971, 1977) theorising about the self proposed that other people can serve *self-object* functions by aiding the development and regulation of positive self-views. Kohut claimed that self-object needs are strongest in infancy, and that individuals then learn to self-regulate, although they retain a weak need for help with self-esteem regulation throughout the lifespan (see also Banai, Mikulincer, & Shaver, 2005). Finally, theories of

social support emphasise the important role of esteem-enhancing support, in which significant others support an individual in ways that boost self-esteem (e.g., Heller, Swindle, & Dusenbury, 1986). Together, these diverse writings suggest that even in normative adult lives, self-esteem can be influenced by other people, but all agree that a healthy and mature adult can, for the most part, maintain a sense of self-worth through inner self-regulatory resources. However, the attachment strategies developed by insecure individuals, who lack this inner resource, may include secondary strategies for regulating self-worth.

High-anxious sources of self-esteem. Hyperactivating strategies motivate an infant to persistently seek approval, love, and intimacy from an inconsistent caregiver; they also prevent the infant from exploring and developing a sense of effectiveness. Therefore, interpersonal approval and acceptance continue to serve as the main source of high-anxious individuals' self-worth. Because their attachment system is chronically activated, however, leading to hypervigilance to signals of rejection, no level of acceptance, approval, or intimacy is ever perceived to be enough. The idea that acceptance and self-worth are interconnected for anxious individuals is also suggested by Crittenden (1997), who noted that some anxious-ambivalent children portray themselves as helpless in order to gain affection and protection from their unreliable caregiver. A parallel phenomenon in adulthood is suggested by Mikulincer's (1998b; Mikulincer et al., 1998) finding that attachment threat leads to more negative self-reported self-views among high-anxious individuals, but that this effect is eliminated if they are led to believe that balanced self-views are more likely to gain support. As a combination of these factors, then, high-anxious individuals experience an unstable sense of worth which may be boosted temporarily by fleeting feelings of acceptance but is crushed again when those feelings wane or new signs of rejection or abandonment are (frequently) perceived.

The self-esteem instability of high, compared to low-anxious individuals (Foster et al., 2007) is consistent with this suggestion, as is their endorsement of goals for approval and acceptance in relationships (e.g., Pietromonaco & Feldman Barrett, 2006). Pietromonaco and Feldman Barrett suggest that highly anxious individuals are more likely than low-anxious individuals to use their romantic partner as a self-object to help regulate feelings about the self. Indeed, Banai et al. (2005) found that attachment anxiety correlated positively with self-reported needs for others to serve functions of twinship (i.e., intimacy) and mirroring (i.e., positive attention). Likewise, Leary and Downs (1995) speculate that a history of inconsistency regarding acceptance and rejection might lead to an "improperly calibrated" (p. 138) or unstable sociometer, thus leading a

person's self-esteem to be unstable and oversensitive to interpersonal cues. Preliminary experimental evidence supports the greater effect of social cues and interpersonal feedback for individuals with high, compared to low, attachment anxiety. Srivastava and Beer (2005) found that over a series of weekly meetings with a task-focused group, individuals with high, but not low, attachment anxiety modified perceptions of their own likeability to match the other group members' perceptions of them. In a more direct assessment, Carnelley, Israel, and Brennan (2007) gave one member of a romantic couple positive or negative false feedback about his/her competence in a helping task, which ostensibly came from his/her partner. After negative false feedback, individuals with high, compared to low, attachment anxiety reported more negative self-views. These results are consistent with the proposal that high-anxious individuals' self-esteem depends more than low-anxious individuals' on others' evaluations: in Leary and Downs' (1995) terminology, their sociometer may be more sensitised to cues of acceptance and rejection. The need for constant, unequivocal approval and affection may (at least partly) account for highly anxious individuals' low self-esteem (Crocker & Wolfe, 2001).

High-avoidant sources of self-esteem. Deactivating strategies motivate an infant to maintain distance from a rejecting caregiver, suppress negative affect, and focus on self-reliant exploration. By deactivating the attachment system and minimising needs for intimacy, the individual disengages feelings of self-worth from interpersonal acceptance and rejection. Instead, he or she develops a sense of agency through exploration and thus learns to derive self-esteem from successful and independent manipulation of the environment. Because deactivating strategies operate to defend against underlying insecurity, however, and are not backed up by a secure base, it is possible that the individual's self-worth requires constant proof or demonstration of (i.e., is contingent on) agency and self-reliance.

Preliminary support for this overall proposal is provided indirectly by findings that highly avoidant adults engage in everyday exploration, consider work to be more important than relationships to life satisfaction (Carnelley & Ruscher, 2000; Hazan & Shaver, 1990), report equally high perceptions of agency as secure individuals (Collins & Read, 1990), and prefer to engage in a non-social information search task than a social interaction (Mikulincer, 1997). They also endorse motives for self-reliance across many domains of life (e.g., J. Feeney, 1999a; Rom & Mikulincer, 2003). Edelstein and Shaver (2004) argued that the motivation to perceive self-other separation, and to view the self as more positive than others, might aid high-avoidant individuals in maintaining perceived self-reliance and thus positive self-views (Mikulincer, 1998b; Mikulincer &

Horesh, 1999; Mikulincer et al., 1998). Avoidance also correlates positively with denial of self-object needs (Banai et al., 2005). Overall, these findings are consistent with the proposal that high-avoidant individuals' self-esteem is based on competence and self-reliance. However, no research has directly tested whether success or failure of these goals affects self-esteem more for those with high versus low avoidance. In sociometer theory terms, it is unclear whether high-avoidant individuals have developed a "stuck" sociometer that is consistently high and no longer sensitive to feedback (Leary & Downs, 1995), or whether their sociometer is "attuned" to cues of agency instead of acceptance (Anthony, Holmes, & Wood, 2007).

Fearful sources of self-esteem? The place of fearful individuals (high in anxiety and avoidance) in this framework is currently unclear. As reviewed earlier, no empirical evidence has yet distinguished between opposing explanations of fearful attachment as (a) unsuccessful use of deactivating strategies or (b) incoherent disorganised use of both or neither strategy (Simpson & Rholes, 2002). Thus, fearful individuals might rely on interpersonal sources of self-esteem, agentic sources of self-esteem, or both. In Srivastava and Beer's (2005) and Carnelley et al.'s (2007) studies, all effects were driven by attachment anxiety, suggesting that fearful individuals were as influenced by others' evaluations as were preoccupied individuals. Unfortunately, the series of studies examining motivated change in self-views, either after threat or to gain approval or self-reliance (Mikulincer, 1998b; Mikulincer et al., 1998), assessed attachment using Hazan and Shaver's (1987) three categories, of which fearful individuals tend to endorse both avoidant and anxious-ambivalent (Brennan et al., 1991). Thus, it is not possible to tell whether highly fearful individuals are motivated by the contradictory goals of approval, self-reliance, or both. Understanding of the self-view maintenance processes associated with fearful attachment might provide further clues as to their place in Shaver and Mikulincer's (2002) framework and their developmental antecedents.

Studies of attachment and sources of self-esteem. Attachment differences in sources of self-esteem have been tested directly in three studies. Brennan and Morris (1997) assessed two dimensions of self-esteem: *self-liking* (feelings of worth based on internalised acceptance and love; i.e., fulfilled attachment needs) and *self-competence* (feelings of general self-efficacy based on successes and autonomy; i.e., fulfilled exploration needs). This distinction has been made repeatedly in the self-esteem literature (Swann, 1996), and was recently formalised by Tafarodi and Swann (1995, 2001), who demonstrated discriminant validity between the two dimensions. As expected, Brennan and Morris (1997) found that participants' endorsement of secure attachment was

predicted primarily by high self-liking, whereas endorsement of dismissing attachment was predicted only by high self-competence. The authors interpreted these results to indicate that secure individuals' high self-esteem is based on interpersonal sources, whereas dismissing individuals' high self-esteem is based on competence sources. Ratings of fearful and preoccupied styles were predicted by low self-liking, suggesting that anxious individuals' low self-esteem is based on unfulfilled attachment needs.

Brennan and Bosson (1998) extended these findings by testing which aspects of psychological well-being mediated the associations between attachment dimensions and global self-esteem. The high self-esteem of secure (compared to fearful) individuals was accounted for by well-being regarding relationships and autonomy, whereas the high self-esteem of dismissing (compared to preoccupied) individuals was accounted for by well-being regarding mastery and autonomy. These patterns partly supported Brennan and Morris' (1997) results, again suggesting that dismissing individuals report high self-esteem because of satisfied exploration (not attachment) needs. However, they also implicated exploration needs in the low self-esteem of preoccupied individuals. This might be because these two styles were treated as one dimension (akin to hyperactivation versus deactivation), or alternatively might reflect preoccupied individuals' low self-complexity and entangling of different areas of the self.

In the third study to thus far explore attachment differences in sources of self-esteem, Park et al. (2004) examined specific domains on which people report their self-esteem to be contingent. They used Crocker, Luhtanen, et al.'s (2003) Contingencies of Self-Worth scale, which asks participants to rate agreement with statements such as "When I think I look attractive, I feel good about myself" and "My self-esteem is influenced by my academic performance". Park et al. found that highly secure individuals relied on family support, a relatively unconditional interpersonal source that reflects their internalised secure base. Highly preoccupied individuals reported basing self-esteem on physical appearance and others' approval, supporting their reliance on other people for validation (but inconsistent with Brennan & Bosson, 1998). Highly fearful individuals reported basing self-esteem on physical appearance and academic competence, a combination of social and competence-based sources. Finally, highly dismissing individuals reported that their self-esteem was *independent* of all the sources assessed (appearance, approval, family support, virtue, God's love, competition, and academic competence), contradicting the suggestion that they rely upon competence experiences for high self-esteem.

Park et al.'s (2004) result regarding dismissing attachment likely reflects the explicit nature of the measure. Self-reported contingencies of self-worth, although they predict relevant behaviours and reactions (e.g., Crocker, Luhtanen, et al., 2003; Crocker, Karpinski, Quinn, & Chase, 2003), do not necessarily tap into all of a person's sources of self-esteem or possess equal validity for all persons. Crocker, Luhtanen, et al. (2003) report that some contingencies correlated with social desirability bias, and Leary (2004) suggests that contingent self-esteem "often works outside people's conscious awareness" (p. 12). Supporting this idea, Kernis, Cornell, Sun, Berry, and Harlow (1993) found that although self-reported importance of social acceptance did not predict self-esteem instability, daily variations in perceived social acceptance did, suggesting that participants were unaware of their contingent self-esteem. The defensive cognitions associated with deactivating attachment strategies and dismissing attachment (Edelstein & Shaver, 2004) may especially prevent this awareness. Indeed, studies suggest that dismissing individuals lack self-insight (Gjerde, Onishi, & Carlson, 2004), and present themselves as more resilient and well-adjusted than peers or expert observers rate them to be (Kobak & Sceery, 1988; Onishi et al., 2001). Moreover, dismissing individuals may deny contingencies of self-worth as one way to assert their self-reliance. Thus, a less explicit approach to assessing sources of self-esteem might reveal the sources on which dismissing individuals rely.

Summary. The direct and indirect evidence reviewed above is consistent with the proposal that secondary attachment strategies may include the development of a tendency to rely to varying extents on different sources in the environment for feelings of self-worth. However, the findings have not been consistent. Moreover, the studies have limitations, one important one being the explicit nature of Park et al.'s (2004) measure. Teasing apart the sources on which self-esteem is based for individuals with different attachment patterns is the first goal I address in this thesis (see Chapter 2). Given the dynamic nature of the self, these sources have important consequences for everyday functioning. Specifically, if insecure individuals do possess contingent self-esteem and base it on different areas of life, they will engage self-esteem regulation strategies appropriate to their contingencies. In the remainder of this chapter, I focus on one important way that self-views (high or low) are developed, maintained, and regulated: self-relevant feedback. I review evidence that attachment strategies might predict the way that an individual approaches and responds to feedback as well as its role in that individual's self-esteem regulation.

Self-Esteem Regulation and the Role of Feedback

Feedback as a Source of Self-Knowledge and Its Impact on the Self

Self-views and self-esteem are not static constructs but constantly evolve and change in response to events and experiences. As highlighted earlier, an important source of self-knowledge in infancy is the way that caregivers respond to one's behaviours and needs: consistent attention and sensitivity to an infant's needs lead the infant to believe that s/he is worthy of other people's love and affection, whereas inconsistent responsiveness or rejection lead the infant to believe that his/her needs are not worthy of attention and/or that s/he does not deserve other people's love. However, on entering the social world one is constantly bombarded with self-relevant experiences and other people's responses to the self—both positive and negative. Both types of information can be conceptualised as feedback: self-relevant experiences (e.g., success versus failure, doing well versus poorly in a contest) and other people's responses (e.g., flattery versus criticism, being invited to versus overlooked for a party) provide different types of information about the self's qualities, attributes, and worthiness.

A wealth of research in the self tradition has demonstrated that feedback impacts the self. Researchers have used experimental manipulation to show that, on average, self-relevant emotions and self-views are more positive immediately following positive (compared to negative) feedback. For example, task success versus failure affects self-relevant emotions (Brown & Dutton, 1995; Dutton & Brown, 1997) and self-evaluations (Jussim, Yen, & Aiello, 1995); feedback ostensibly from one's romantic partner affects mood, self-views, and self-relevant feelings (Carnelley et al., 2007); personality feedback and interpersonal evaluations affect emotional reactions (Dauenheimer, Stahlberg, & Petersen, 1999; Robinson & Smithlovin, 1992); social feedback affects depressed mood (Henriques & Leitenberg, 2002); and feedback about one's performance in a group, or group inclusion versus exclusion, affect state self-esteem (Leary, Cottrell, & Phillips, 2001; Leary et al., 1995). In addition, more naturalistic studies have corroborated the influence of feedback. For example, Koch and Shepperd (in press) asked participants to report hypothetical reactions to events and to recall past reactions to real events, again finding that people report feeling better about themselves following positive, compared to negative, events. Although immediate effects are temporary and transient, if feedback is repeated over time self-views will develop to incorporate the information. Leary et al. (1995) propose that short-term changes in state self-esteem or self-feelings can contribute, over time, to a dispositional level of self-esteem. Feedback is also studied

extensively in organisational research (see Ashford, Blatt, & Vandevalle, 2003, for a review). However, these approaches tend to use different constructs and theories (Anseel, Lievens, & Levy, 2007; Kluger & DeNisi, 1996) and will not be a focus of this thesis.

Feedback is available (and sometimes unavoidable) in many different arenas of life. However, receiving positive or negative feedback will impact differently upon one's emotional state and self-views depending on its relevance to one's self-esteem. James (1890) was an early proponent of the notion that self-views depend on an interaction between one's successes and one's pretensions. He recounted that:

> Our self-feeling in this world depends entirely on what we *back* ourselves to be and do. . . . I, who for the time have staked my all on being a psychologist, am mortified if others know much more psychology than I. But I am contented to wallow in the grossest ignorance of Greek. (p. 310, italics in original)

Thus, James predicted that feedback in personally important areas of life will make one feel more positive or more "mortified" than feedback in unimportant areas. This proposal has been elucidated more fully in the contingencies of self-worth perspective (Crocker, Luhtanen, et al., 2003; Crocker & Park, 2004; Crocker & Wolfe, 2001). These researchers have begun to test its predictions empirically, focusing most on the self-reported contingency of academic competence. Among people who report relying heavily (versus weakly) on academic competence, academic achievement correlates more positively with self-esteem, and self-esteem fluctuates more in response to acceptances and rejections from graduate schools (Crocker, Sommers, & Luhtanen, 2002) and to unexpectedly poor academic marks (Crocker, Karpinski, et al., 2003). Similarly, Kernis et al. (1993) found that daily variability in perceived competence predicted self-esteem instability to the extent that competence was important to a participant. This evidence supports the prediction that feedback in personally important domains impacts more on self-esteem than feedback in personally unimportant domains. Crocker and Wolfe (2001) further argue that over time, marked ups and downs in self-esteem in response to contingency-relevant feedback may contribute to increases in depression.

Feedback-Seeking and Self-Motives

Self-esteem regulation is a dynamic process that involves, not only intake of information from other people and the environment, but also active, motivated seeking of certain types of experience and feedback. People are motivated to seek out self-relevant information in order to develop, maintain, and regulate self-views and self-esteem. Crocker and Park (2004) even suggest that short-term self-esteem pursuit can become an

individual's primary motivating goal over and above more long-term adaptive goals. Thus, self-esteem regulation involves a constant, dynamic cycle: the motivated seeking of feedback shapes the type of feedback one actually receives, which is subjected to interpretation and internal processing, which perpetuates or regulates self-views, which in turn influence feedback-seeking once more. This "self-esteem regulation cycle" thus contains two central active components: feedback-pursuit and feedback-receipt. Both processes, but particularly feedback-seeking, are influenced by self-motives.

Although various self-related motives have been documented and researched, arguably one of the most dominant and pervasive is *self-enhancement* (Baumeister, 1998; Sedikides, 1993; Sedikides & Strube, 1997). This motive documents the powerful desire to feel positive about the self, and leads people to pursue positivity (self-promotion) and avoid negativity (self-protection). Although a myriad of self-enhancement strategies have been identified (Sedikides & Gregg, 2003; Tesser et al., 2000), one important and common way in which people self-enhance is by seeking feedback from other people and the environment (Sedikides, 1993; Shrauger & Schoeneman, 1979). Indeed, Taylor, Neter, and Wayment (1995) found that seeking feedback was the most commonly reported method of self-evaluation in situations when participants wanted to self-enhance (and also highly prevalent in other everyday situations). People generally prefer to receive positive over negative feedback, especially when the feedback pertains to a stable self-view or a large self-discrepancy (Dauenheimer et al., 1999; Dauenheimer, Stahlberg, Spreeman, & Sedikides, 2002). As reviewed above, they also feel better after receiving positive than negative feedback, suggesting it is more goal-congruent.

Another self-motive that has been extensively researched is that of *self-verification* (Swann, 1983; Swann, Rentfrow, & Guinn, 2003). Self-verification theory states that people are intrinsically motivated to confirm their pre-existing self-views, positive or negative. This is because knowing oneself (a) increases psychological coherence, and (b) makes the world more predictable and controllable, which assuages anxiety and makes one's social interactions smoother. Empirical evidence in support of self-verification includes findings that individuals who have negative self-views or suffer from depression tend to select interaction partners who view them negatively over those who view them positively (Swann, Stein-Seroussi, & Giesler, 1992; Swann, Wenzlaff, Krull, & Pelham, 1992; see Swann et al., 2003, for review). These results are interpreted to mean that people with negative self-views or depression actually desire negative feedback. The self-inconsistency inherent in positive feedback creates feelings of dissonance, discomfort, risk, and pressure to live up to the positive evaluation, whereas

negative feedback creates feelings of coherence, safety, familiarity, and "existential security" (Swann et al., 2003, p. 369). Self-verification theory predicts that people will therefore seek feedback that is consistent with their current self-views.

However, other researchers have suggested that there is insufficient evidence that self-verification is an *intrinsic* self-motive, and that the above patterns result from an inability of people with negative self-views to satisfy their motive to self-enhance. Sedikides and Gregg (2003) argue that feedback-seeking behaviour is a joint function of motive and ability; although all people are motivated to seek positivity and avoid negativity, those with low self-esteem are prevented from seeking positive feedback by the pragmatic and risk-averse concerns listed above (see also Marigold, Holmes, & Ross, 2007). This view is supported by findings (Swann, Stein-Seroussi, et al., 1992) that participants with low self-esteem describe choosing to interact with negative evaluators because they feel such people know them better and they are likely to get along well—not because they intrinsically want to continue perceiving themselves negatively. Furthermore, Alloy and Lipman (1992) argue that findings such as Swann, Wenzlaff, et al.'s (1992) are equally well explained by schema-consistent processing: that is, information consistent with the content of an activated or chronically accessible schema is more likely to be selected, processed, and remembered than schema-inconsistent information (Markus & Wurf, 1987). Because participants with low self-esteem or depression have more negative schemas of the self and the world than those with higher self-esteem, this could explain their tendency to selectively process negative information and feedback. The present research is conducted under the view that self-enhancement is a pervasive motive that may be curtailed to varying extents by self-verifying or schema-consistent behaviour.

The self-enhancement motive is relatively more powerful, and more likely to drive feedback-seeking, when the feedback pertains to a personally important (rather than unimportant) self-aspect (Dunning, 1995) or a domain on which self-esteem is highly contingent (Crocker & Park, 2004) (though see Petersen & Stahlberg, 1995). Therefore, both feedback-seeking behaviours, and responses to feedback, are subject to individual differences. In addition, however, there are dispositional individual differences in self-motives and self-esteem regulation processes. It is necessary to review these differences in order to understand and predict how attachment orientation will relate to self-esteem maintenance and regulation.

Individual Differences in Feedback Processes

Individual differences may shape the role of feedback in self-view regulation in several ways. First, individuals who have "weaker, more reactive self-concepts" and have external sources of self-esteem are more likely to need feedback and other external input to regulate their self-view, whereas individuals with more stable self-concepts can rely upon information such as personal standards (Taylor et al., 1995, p. 1285; Wayment & Taylor, 1993). Self-esteem instability, contingent (versus true) self-esteem, and low self-concept clarity are also all related to heightened need for and reactions to feedback (Greenier et al., 1999; Kernis et al., 1993; Kernis & Goldman, 2003; Kernis et al., 2000). This suggests that individuals with high, compared to low, attachment anxiety would rely more heavily on external feedback because of their more externally contingent, unstable self-esteem (Foster et al., 2007; Park et al., 2004). Individuals with high, compared to low, avoidance might demonstrate the same patterns if, as hypothesised, they rely on external validation of their competence and independence.

Second, there are individual differences in the extent to which people tend to self-enhance. In particular, individuals with high global self-esteem generally demonstrate a greater proclivity to self-enhance and seek positive feedback than do those with low self-esteem (e.g., Cassidy, Ziv, Mehta, & Feeney, 2003; see Sedikides & Gregg, 2003, for review). Sedikides and Gregg (2003) argue that individuals with high self-esteem are more *successful* at self-enhancing than those with low self-esteem, engaging many self-enhancement strategies to a greater extent. Deci and Ryan (1995) propose that individuals whose self-esteem is both high and contingent are especially likely to seek out positive feedback because they depend on it to maintain their fragile self-worth. Individuals with low self-esteem or depression, though also motivated to pursue self-esteem, are more oriented toward self-protection (Crocker & Park, 2004; Leary, 2004; Tice, 1991). Similarly, Kernis and Goldman (2003) review evidence that people with unstable self-esteem take a more self-protective attitude to self-relevant tasks and events. Moreover, those with negative self-views may display self-verifying behaviour (Swann et al., 2003) or preferentially process schema-consistent information (Alloy & Lipman, 1992). Therefore, whereas a person with high or stable self-esteem might be highly motivated to seek out positive feedback, a person with low or contingent self-esteem may be motivated instead to avoid negative feedback—though s/he may choose negative feedback over positive if forced to make a choice.

Third, there are individual differences in the ways that people react to feedback. After negative feedback, individuals with high, compared to low, self-esteem generally display less extreme emotional reactions (e.g., Jussim et al., 1995; Leary et al., 1995, 1998) and believe they have performed better (Seta, Donaldson, & Seta, 1999). They also activate representations of their unrelated strengths, whereas those with low self-esteem or depression focus on their weaknesses instead (Dodgson & Wood, 1998; Ingram, Smith, & Brehm, 1983). Josephs, Bosson, and Jacobs (2003) induced feedback via either experiencing task success/failure or telling participants how well they had done. Individuals with high self-esteem accepted all positive feedback and incorporated it into their self-view; those with low self-esteem accepted all negative feedback, but positive feedback only from a knowledgeable other. Behavioural reactions also vary: Vohs and Heatherton (2001) found that after negative feedback, individuals with high self-esteem emphasise independent self-aspects and are consequently seen as less likeable and more antagonistic than those with low self-esteem, who emphasise interdependent self-aspects (see also Crocker & Park, 2004). Thus, negative feedback may impact not only a person's self-views but also, indirectly, others' views of him or her.

Finally, people with unstable (compared to stable) self-esteem tend to perceive feedback as more self-esteem relevant, experience greater fluctuation in self-feelings after feedback, focus on threatening aspects of events, and exaggerate implications of feedback (e.g., Greenier et al., 1999; Kernis et al., 1998; see Kernis & Goldman, 2003, for a review). These patterns emerge even controlling for self-esteem level, suggesting that the relative stability of self-views is equally important to consider. Greenier et al. (1999) suggest that this is due to three aspects of cognitive processing: heightened attention to self-evaluative events, bias toward interpreting events as self-esteem relevant, and generalising feedback to global feelings of self-worth.

Although self-esteem level, self-esteem stability, and depressive symptoms clearly influence feedback processes, individual differences in tendencies to self-enhance may also be moderated by personal importance of the feedback. Seta et al. (1999) assessed ratings of task importance after positive or negative feedback and found that, whereas individuals with high self-esteem were most likely to self-enhance (i.e., rate the task as more important after positive than negative feedback) when feedback was *high* in self-relevance, those with low self-esteem did so only when feedback was *low* in self-relevance. This may indicate that the dissonance or risk associated with accepting positive feedback (Sedikides & Gregg, 2003) is lessened for low self-esteem people when the feedback is not highly relevant to their self-image. This interpretation is

supported by the finding that people with low self-esteem engage in social comparison when a positive outcome is almost guaranteed—when it is "safe" to do so (Wood, Giordano-Beech, Taylor, Michela, & Gaus, 1994). It is possible that similar patterns may arise for feedback-seeking—low self-esteem individuals may be more able to seek out positive feedback when it is less personally important. In summary, the processes involved in seeking and receiving feedback are driven both by features of the person (e.g., self-esteem) and contextual features (e.g., feedback importance).

Attachment and Self-Esteem Regulation Via Feedback

The literature reviewed above suggests that the adoption of secondary attachment strategies may include the development of a tendency to rely on different sources for feelings of self-worth. One important implication of this notion concerns the way that individuals therefore regulate self-views and self-esteem levels on a daily basis. That is, there may be attachment differences in the operation of the self-esteem regulation cycle. The two central components of this cycle—feedback-seeking and feedback-receiving—form the second major focus of the research in this thesis. Below I discuss the application of attachment patterns to each in turn, including previous research that has tested some of these questions. I first review motivated feedback-seeking processes in terms of attachment (see also Chapters 3-4) and then turn to the affective, cognitive, and self-esteem regulating processes of receiving feedback (see also Chapter 5).

Attachment, Self-Motives, and Feedback-Seeking

The first component of the self-esteem regulation cycle is the act of seeking or pursuing self-relevant feedback. I propose that attachment orientation influences feedback-seeking behaviour in three distinct ways. First, because the self-enhancement motive is more powerful in personally important (than unimportant) domains, there may be attachment differences in feedback-seeking which correspond to attachment differences in personal importance. For example, individuals high in attachment anxiety should seek positive feedback particularly in interpersonal domains, whereas those high in avoidance should do so particularly in competence-related domains. Second, however, given the documented individual differences in self-motives, individuals with some attachment orientations may be more able to self-enhance than others, and thus more likely to display the predicted feedback-seeking patterns. Finally, individuals with different attachment orientations may differ in the extent to which they need, desire, or

are open to feedback—suggesting that some individuals may seek feedback to a greater extent than others overall. These second and third arguments are explicated in the following sections.

Attachment differences in self-enhancement. Because of the links between attachment models and level and stability of self-esteem, individuals with different attachment orientations may evince different tendencies to self-enhance when seeking feedback, which would be strongest in personally important domains. Specifically, one might expect secure individuals (who have high stable self-esteem) to display self-enhancing tendencies, particularly in close relationships. This self-enhancement would be manifested in a tendency to want positive more than negative feedback, and to prefer positive feedback given the choice. Dismissing individuals (who have high but potentially contingent self-esteem) may need self-enhancement most to maintain their positive self-view. They might self-enhance particularly about abilities and self-reliance, but may do so in less adaptive ways (e.g., by derogating others; Crocker & Park, 2004). Fearful and preoccupied individuals (who have low contingent self-esteem) desire positivity, but would self-enhance less and be more oriented toward self-protection. Because intimacy and approval are connected to self-esteem for individuals with hyperactivating strategies, these patterns should be strongest regarding interpersonal feedback. Thus, preoccupied individuals may self-protect by avoiding negative interpersonal feedback more than negative competence feedback. Fearful individuals, who are high in both anxiety and avoidance, may self-protect across all domains.

The predictions described above have not been tested in different domains of feedback simultaneously. However, self-enhancing preferences have been examined for relationship feedback—a domain that should be relevant to self-esteem for secure individuals, imperative to self-esteem for preoccupied and fearful individuals, but defensively irrelevant for dismissing individuals. In five studies, attachment styles have been related to hypothetical choices of positive versus negative feedback. Cassidy et al. (2003) found that secure, compared to insecure, children and adolescents were more likely to seek positive feedback from peers. Three studies (Brennan & Bosson, 1998; Brennan & Morris, 1997; Carnelley et al., 2007) showed that secure individuals choose more positive feedback from their romantic partner than do insecure individuals. A study by Carnelley, Ruscher, and Shaw (1999) failed to find this pattern. These researchers asked participants to report the feedback they would choose from a hypothetical partner described to fit a particular attachment style. Carnelley et al. (1999) found an effect of the hypothetical *partner's* attachment style, but participants' own attachment style had no

effect on feedback-seeking, suggesting that the manipulation served to override individual differences.

Thus, as expected, secure individuals appear to self-enhance by seeking positive feedback from peers and partners. In none of these previous studies, however, was the effect of feedback *content* systematically examined; that is, it is not known whether feedback-seeking patterns are the same regarding relationship qualities and competence. Cassidy et al. (2003) examined feedback about global self-worth, a source of self-liking. The remaining four studies (Brennan & Bosson, 1998; Brennan & Morris, 1997; Carnelley et al., 1999, 2007) examined feedback-seeking from romantic partners about a range of attributes (e.g., athletic ability, social skills, close relationship skills, intellectual ability) and did not distinguish social from non-social feedback. In addition, no research has investigated feedback-seeking in explicitly competence-relevant contexts (e.g., requesting feedback on university grades, undertaking particular tasks). Future research should aim to address these omissions.

Attachment differences in openness to feedback. The extent to which people seek positive versus negative feedback is one important indication of the way they may regulate their self-esteem in daily life. However, in addition they may be highly keen to receive feedback or else opt to avoid feedback altogether. There are indirect lines of evidence that openness to (or desire for) feedback may vary as a function of attachment orientation. First, Taylor et al.'s (1995) and Deci and Ryan's (1995) theorising suggests that individuals with more contingent self-esteem are more dependent on feedback, and should thus be more motivated to seek it, than those with true or stable self-esteem. This suggests that insecure individuals, who have unstable self-esteem and theoretically external contingencies of self-worth, should report more desire for feedback than secure individuals. In particular, higher anxiety should predict higher desire for interpersonal feedback, and higher avoidance should predict lower desire for interpersonal feedback but higher desire for competence feedback.

Consistent with this view of interpersonal feedback are findings linking attachment anxiety to excessive reassurance-seeking in romantic relationships (Brennan & Carnelley, 1999; Davila, 2001; Shaver et al., 2005). Excessive reassurance-seeking is usually triggered by perceived threat (Van Orden & Joiner, 2006), but highly anxious individuals are hypervigilant to rejection cues. Thus, given any opportunity to verify that someone accepts or loves them, they may eagerly pursue this feedback. On the other end of the scale, avoidance is inversely linked to seeking support from others (e.g., Collins & Feeney, 2000; Simpson et al., 1992). This includes *adaptive inferential feedback*, in

which a support-provider offers positive attributions for a negative event experienced by the support-recipient (DeFronzo, Panzarella, & Butler, 2001). Thus, high-avoidant individuals may be less inclined to seek feedback from others. Both insecure approaches to interpersonal feedback, though rooted in attachment-related affect regulation strategies, may be maladaptive. The need for reassurance and dependency of high-anxious individuals, and the compulsive self-reliance and distancing of high-avoidant individuals, have both been implicated as vulnerability factors for psychological distress (Mikulincer & Florian, 1998; Wei, Mallinckrodt, et al., 2005; Wei et al., 2004; Zuroff & Fitzpatrick, 1995). In addition, excessive reassurance-seeking contributes to a vicious cycle that elicits negative feedback or rejection from others and may play a role in depression (Joiner, Metalsky, Katz, & Beach, 1999; Van Orden & Joiner, 2006). Importantly, it is not the same as positive feedback-seeking (Joiner & Metalsky, 1995), suggesting that secure and high-anxious individuals, though both open to feedback, may seek it in different ways. Conversely, high-avoidant individuals' lack of openness prevents them from benefiting from social support. DeFronzo et al. (2001) found that avoidant students who had received more, versus less, adaptive inferential feedback about a stressful event reported fewer symptoms of depression and anxiety, suggesting that welcoming others' adaptive views on a stressor is helpful even to those who rely on deactivating strategies.

Further evidence relating attachment to openness to feedback comes from research on information-processing. Studies show that secure individuals are more open to integrating new information into the self-concept (Mikulincer & Arad, 1999) and mental representations of others (Green-Hennessy & Reis, 1998), and are more curious and less cognitively rigid (Mikulincer, 1997), than are highly avoidant individuals (with anxious-ambivalent individuals generally falling in between). Fraley et al. (1998, 2000) likewise argue that dismissing-avoidance involves directing attention away from attachment-related cues, suggesting lower openness to detecting and processing interpersonal feedback. In addition, Kumashiro and Sedikides (2005) found that thinking about a close positive relationship after intellectual threat allows one to seek more feedback—a resource more available to secure individuals than highly anxious or avoidant individuals. Thus, although security should predict less *dependence* on feedback, highly secure individuals may be open to receiving feedback, especially compared to high-avoidant individuals.

These predictions have been directly examined in romantic relationships by Brennan and Bosson (1998) and Carnelley et al. (2007, Time 1), who assessed self-

reported attitudes to partner feedback. Consistent with theory, high-avoidant individuals reported aversion to feedback, and preoccupied individuals reported higher openness to feedback than dismissing individuals. Fearful individuals reported the most need for positive feedback, even at the expense of the truth. However, both studies relied upon self-reports of typical experiences (e.g., "I often ask what my partner thinks of my behavior, thoughts, or personality") and did not consistently distinguish positive from negative feedback. Recently, Rholes, Simpson, Tran, Martin, and Friedman (2007, Study 2) offered participants, who expected to undergo a stressful procedure, information from a computerised profile. The information supposedly included feedback about positive and negative relationship characteristics. They found that individuals with high, compared to low, attachment anxiety were more interested in negative feedback and, to the extent that they felt stressed, less interested in positive feedback. Individuals with high avoidance were more interested in negative feedback to the extent that they felt stressed, although this was negated if the participant received a supportive note from their partner about the stress procedure. These results indirectly suggest that stress suppresses anxious individuals' desire for positive interpersonal feedback and that stressed individuals higher in either anxiety or avoidance might be open to negative feedback about their relationships.

The notion that attachment avoidance involves the defensive exclusion of *attachment-related* information (Bowlby, 1980; Fraley et al., 2000; Mikulincer & Orbach, 1995) suggests that highly avoidant individuals may be less averse to feedback about competence compared to relationships. Consistent with this suggestion, and the idea that dismissing individuals have contingent (though high) self-esteem, Shane and Peterson (2004) found that individuals with a defensive coping style (who resemble dismissing-avoidants; Vetere & Myers, 2002) viewed positive feedback but avoided negative feedback on a computerised task. Rholes et al. (2007, Study 2) also offered participants career-related feedback, although they did not separate positive and negative feedback. As feelings of stress increased, high-avoidant individuals were more interested in career feedback and low-avoidant individuals less interested. Again, this effect disappeared if support was provided. This suggests that a combination of stress and lack of support induces high-avoidant individuals to want competence feedback and negative relationship feedback, which could implicate the operation of defensive strategies. However, it is unclear whether high-avoidant participants particularly desired self-enhancing competence feedback or simply wanted to focus away from relationships (cf. Mikulincer, 1997).

Summary. There is evidence that individuals characterised by different attachment patterns are liable to seek different types of feedback to differing extents. Attachment strategies give rise to a complex interplay between the sources on which an individual bases self-esteem regulation, his/her trait level and stability of self-esteem, and his/her cognitive and interpersonal openness versus defensiveness. All these features play a role in the feedback-seeking component of the self-esteem regulation cycle and these roles warrant further empirical attention. Some of these issues are addressed in Chapters 3 and 4. Importantly, given the dynamic and motivated nature of feedback-seeking, individuals consequently exert an influence on the types of feedback they receive in everyday life. I next discuss the implications of attachment patterns for the processes involved in receiving and reacting to feedback in different areas of life, and in particular the influence of that feedback on self-views.

Attachment and the Impact of Feedback on Reactions and Self-Views

Stages of reactions to feedback. Bowlby (1980) stated that "Every situation we meet with in life is constructed in terms of the representational models we have of the world about us and of ourselves" (p. 229). That is, an individual's working models guide interpretation of events and information, including feedback, and thus influence the way the individual responds. Jussim et al. (1995) argued that on receiving feedback, one goes through a three-stage process that involves (a) immediate emotional reaction, (b) cognitive appraisal of accuracy and attributions, and (c) self-evaluations and future expectations. They also demonstrated this distinction in an experimental setting. Similarly, Collins and Read (1994; Collins et al., 2004) proposed a model of attachment working model activation in response to attachment-relevant or threatening events. They argued that when working models are activated, (a) an initial emotional reaction (*primary appraisal*) is triggered based on the affect contained in working models and the extent to which the event is consistent with one's goals and needs. Then (b) cognitive responses are formed, which involve access to expectations and prior schematic content (e.g., views of self and others). Individuals preferentially attend to and store schema-consistent information; they also form interpretations and causal attributions based on their working models. This cognitive interpretation of an event can either maintain or alter the emotional response (*secondary appraisal*); for example, initial emotions might be amplified by an internal, global, and stable attribution. Finally, (c) emotional and cognitive responses guide one's behavioural reaction to an event, selecting a particular

strategy from one's repertoire (e.g., displaying affection versus saying something antagonistic).

The models proposed by both Jussim et al. (1995) and Collins and Read (1994) identify different stages of reactions that may operate in a feedback context. The receipt of self-relevant feedback may often be sufficiently threatening to activate the attachment system, thus eliciting attachment differences in responses to feedback. Although Collins and Read focused on emotional, cognitive, and behavioural responses to events, it is also vital to consider the implication of feedback for maintenance and regulation of self-views (i.e., stage (c) of Jussim et al.'s model). Below, I review evidence that attachment models influence emotional and cognitive response patterns, drawing on prior research to generate novel predictions about consequences of feedback for self-esteem regulation.

Attachment and emotional reactions to feedback. According to Collins and Read's (1994) model, primary appraisal is based on the extent to which the event is congruent with *personal goals* and the activation of *schema-triggered affect*. Thus, for example, a preoccupied individual may automatically evaluate feedback against the goal of intimacy or approval, whereas a dismissing individual may automatically evaluate feedback against the goal of competence or self-reliance. Because working models associated with hyperactivating strategies are highly emotionally charged (Mikulincer & Orbach, 1995), schema-triggered affect may be stronger for individuals with high, compared to low, attachment anxiety. These individuals' emotional reactions may also be more pervasive and long-lasting, because they are less able to regulate their negative affect (Diamond & Hicks, 2005; Mikulincer & Orbach, 1995).

Supporting this prediction in the interpersonal realm, Collins (1996) and Brennan and Bosson (1998) found that individuals with high, compared to low, anxiety reported more emotional distress following hypothetical negative relationship events or generally after feedback from romantic partners. J. Feeney (2004) further found that anxiety was positively associated with self-doubts after a hurtful relationship event, which was partly mediated by emotional distress. Experimentally, Carnelley et al. (2007) found that participants with high, compared to low, anxiety reacted with more distress to negative feedback ostensibly from their romantic partner. In sum, it appears that attachment anxiety is associated with more negative reactions to negative interpersonal events or feedback. In contrast, individuals with high (dismissing) avoidance report less positive and negative emotion after feedback (Brennan & Bosson, 1998; Carnelley et al., 2007). Avoidant individuals also tend to report less emotion after their social interactions, suggesting that this is not specific to romantic contexts (Tidwell, Reis, & Shaver, 1996).

Interestingly, J. Feeney (2004) found that although avoidance was positively related to relationship problems after a hurtful event, this was attenuated by the fact that high-avoidant individuals responded with less anger, sarcasm, or rumination than low-avoidant individuals. Thus, sometimes defensive reactions might help the relationship as well as short-term affect-regulation, although the self-report nature of Feeney's study lessens the validity of high-avoidant individuals' reports of relationship problems.

No research has explicitly examined attachment differences in emotional reactions to competence or self-reliance feedback. However, Mikulincer (1998b) found that failure on an impossible logic task led to lowered mood among avoidant and anxious-ambivalent individuals but not secure individuals. Diamond and Hicks (2005) found that attachment anxiety positively predicted state anxiety reactivity to an aloud-subtraction task during which the experimenter gave constant negative feedback. Although avoidance did not predict reactivity, participants with high, compared to low, avoidance did recover more slowly from the task. These preliminary findings suggest that the effects of attachment anxiety on emotional reactions are not specific to the relationship domain. In addition, highly avoidant individuals may be affected by feedback about their competence, although evidence is preliminary.

Attachment and cognitive reactions to feedback. Relevant cognitive processes that influence feedback reactions include attention to and perception of feedback, appraisal of importance, and causal attributions. Noller (2005) described attachment insecurity as a "filter" for interpreting partners' behaviour. In this view, insecure working models can distort the decoding of events and lead to maladaptive conclusions about their cause. High-anxious working models are underlain by a hyperactivated attachment system and vigilance for, and expectation of, threat and rejection. Therefore, highly anxious individuals are likely to have a lower threshold for perceiving negative interpersonal feedback (e.g., rejection, boredom, disapproval). This pattern is also predicted by the link between unstable self-esteem and *ego-involvement*, or interpreting events as self-esteem relevant (Greenier et al., 1999). Supporting this suggestion, individuals with high, compared to low, anxiety perceive an ambiguous unsupportive note ostensibly from their partner as more negative (Collins & Feeney, 2004), write more negative open-ended appraisals of imagined partner behaviour (Collins, 1996), and report more negative partner behaviours and trust violation events in daily diaries (J. Feeney, 2002; Mikulincer, 1998a). Thus, high-anxious individuals are more likely than low-anxious individuals to notice, and interpret as negative, cues of interpersonal feedback.

Individuals with high, compared to low, avoidance also perceive relationship events as more negative (Collins & Feeney, 2004; J. Feeney, 2002), possibly reflecting schema-consistent processing based on their negative relationship expectations (Baldwin et al., 1993). However, deactivating strategies may lead them to dismiss the importance of interpersonal feedback and forget it quickly (Edelstein, 2006). Indeed, dismissing individuals report most indifference to typical or manipulated feedback from romantic partners (Brennan & Bosson, 1998; Carnelley et al., 2007). However, as reviewed earlier, evidence suggests that deactivating strategies are underlain by insecure worries and that defensive processes are cognitively effortful (Dozier & Kobak, 1992; Magai et al., 2000; Maier et al., 2005; Mikulincer et al., 2000; Niedenthal et al., 2002). Thus, under conditions of stress or illness, dismissing individuals may be less equipped to engage cognitive strategies and suppress interpersonal feedback (cf. Rholes et al., 2007).

Attachment differences in causal attributions about relationship events have been assessed in several studies. Mikulincer (1998a) found that secure (compared to insecure) individuals attributed positive but not negative trust events to more stable and internal causes. In contrast, high-anxious individuals attribute imagined or daily negative partner behaviour to causes stable, global, and internal to the relationship (Collins, 1996; Mikulincer, 1998a). Supporting the interplay between emotional and cognitive processes, Pereg and Mikulincer (2004) also found that anxious individuals' tendency to internalise negative but not positive partner behaviours was exacerbated by a negative mood induction. In addition, Mikulincer (1998c) found that insecure individuals attributed partners' hypothetical negative behaviour to hostile intent even when the situation was ambiguous. This implies, again, that high-anxious individuals perceive chronic negativity from others, whereas more secure individuals may "give the benefit of the doubt" where possible. Attributions have been shown to partially mediate attachment differences in relationship conflict and satisfaction (Gallo & Smith, 2001; N. Sumer & Cozzarelli, 2004), showing that they may be one mechanism maintaining insecure individuals' negative experiences. In most of the studies mentioned above, avoidance was unrelated to relationship attributions. However, Collins (1996) found that more avoidant individuals attributed negative partner behaviour to more external, unstable, specific, and uncontrollable causes, suggesting the operation of defensive cognitions.

Attribution patterns influence subsequent emotions and the impact of feedback on self-views (Collins & Read, 1994). When a highly anxious person attributes negative interpersonal feedback to something internal, unchanging, and relevant to their whole self, this not only exacerbates negative affect but also aids incorporation of information

into self-views. Conversely, a highly avoidant person's neutral or defensively external attributions minimises emotional reactions to the feedback and its implications for self-views. The above results suggest that secure individuals make self-enhancing attributions for relationship events and feedback, attributing positive events to the self and negative events to specific external causes. As documented by Kurman (2003), construing feedback as specific is self-protective because other self-aspects are not implicated and one can focus on them to reduce negative affect. Mikulincer (1995) showed that the self-concepts of high-anxious people are not well differentiated (i.e., contain few distinct self-aspects), whereas those of high-avoidant people are differentiated and not well integrated (i.e., different self-aspects do not overlap or influence each other). Therefore, the self-protective mechanism of specific construals may be available to high-avoidant individuals the most and to high-anxious individuals the least. As with many of the questions I have reviewed, it is unclear where fearful individuals fit into this process because their self-structure has not been directly examined.

No attachment research has explicitly examined cognitive reactions to feedback about self-competence. However, high-avoidant participants inhibit accessibility of attachment figure representations (i.e., deactivate the attachment system) when primed with "separation" but not "failure", suggesting that their defences are not as operational in competence contexts (Mikulincer, Gillath, et al., 2002). Collins, Ford, et al. (2006) assessed self-reported attributions about general events, and found that attachment anxiety predicts pessimistic attributional style (i.e., internal, global, and stable attributions about negative but not positive events). Some of the events included were competence-relevant (e.g., being fired from a job, being praised for a successful project). This preliminary finding suggests that for people high in attachment anxiety, maladaptive attributions may extend to competence domains, and thus feed back into negative emotions and self-views. Predictions for effects of avoidance can be only tentative.

Attachment and the impact of feedback on the self. Feedback relevant to one's sources of self-esteem has most implications for self-esteem regulation and is most likely to influence one's state self-esteem and long-term self-view. Thus, the extent to which an individual relies on hyperactivating attachment strategies should predict the impact of feedback about acceptance and approval, whereas the extent to which the individual relies on deactivating strategies (if, as predicted, they involve contingent self-esteem) should predict the impact of feedback about competence and self-reliance. Added to these patterns are the attachment differences in self-structure and cognitive response reviewed earlier. The self-concepts of individuals with high, versus low, attachment

anxiety are more malleable (Broemer & Blumle, 2003) and lower in coherence and self-complexity (Mikulincer, 1995). Therefore, when negative information is attended to and attributed to the self, it is likely to be incorporated readily into one's self-view and generalised. For example, following a critical remark from a partner, a high-anxious person may incorporate it into the view that s/he is "not good enough" or "a bad romantic partner". In contrast, highly avoidant individuals' self-concepts are compartmentalised (Mikulincer, 1995) and their mental representations are relatively inflexible and do not easily facilitate the integration of new information (Green-Hennessy & Reis, 1998; Mikulincer, 1997; Mikulincer & Arad, 1999). Thus, their views of the self (and others) may be relatively rigid and slow to change. Following a critical remark from a partner, a high-avoidant person may dismiss its importance and validity, or may interpret the remark as confirmation that "my partner is intolerant" or that "relationships are not worth the effort". This defensive cognitive processing means that the high-avoidant person's self-esteem and self-views remain intact. If, however, competence feedback does not activate the same defensive processes, the high-avoidant person might recognise the relevance of such feedback. Nevertheless, their self-structure may still facilitate construal of feedback as specific and/or assimilation of it into existing self-views.

Some empirical evidence regarding interpersonal feedback supports these overall predictions. Carnelley et al. (2007) found that participants with high, compared to low, attachment anxiety reported lower self-esteem after negative bogus partner feedback, whereas dismissing individuals' self-views were least reactive. Srivastava and Beer's (2005) results are compatible with the idea that individuals with higher anxiety are more likely to adjust self-perceptions over time in line with liking-relevant cues from other group members, although they did not assess feedback. Srivastava and Beer also did not find any effect of avoidance on change in self-views. Finally, interviews with undergraduate women classified as preoccupied (i.e., high anxiety and low avoidance) suggest that feedback from romantic partners impacts their feelings of both worth and competence (Hepper, 2004).

However, some contradictory findings question the generalisability of the above results. Pietromonaco and Feldman Barrett (1997) assessed immediate reactions to social interactions in a diary format. They found that after high-conflict interactions, preoccupied individuals reported more intimacy and positive emotion, and less drop in self-esteem, than other individuals, whereas dismissing individuals reported more negative emotion and lower self-esteem than other individuals. This finding suggests that for preoccupied individuals, conflict can satisfy their hyperactivated desire for attention

and intimacy and thus fulfil a self-esteem regulation function. Conversely, dismissing individuals' defences may be less effective in conflict interactions (e.g., because they cannot escape or exclude negative information). Pietromonaco and Feldman Barrett suggested that collecting data immediately after interactions might have eliminated typical memory biases (e.g., dismissing individuals forgetting negative experiences). More recently, Carvallo and Gabriel (2006) gave participants computerised positive social acceptance feedback, indicating either that other members of an internet-based group wanted to interact with the participant (Study 1), or that the participant would experience positive interpersonal relationships in the future (Study 2). In both studies, positive feedback raised mood and state self-esteem more for individuals with high, compared to low, dismissing attachment (but had no significant effects for ratings of other attachment styles). Carvallo and Gabriel argue that dismissing attachment represents a chronic lack of belonging, predisposing individuals to welcome unambiguous signals of being accepted. However, this finding is inconsistent with Carnelley et al.'s (2007) results, as well as evidence that high-avoidant individuals do not benefit from positive mood induction (Mikulincer & Sheffi, 2000) and report less positive emotion in social interactions (Tidwell et al., 1996). Perhaps the nature of the feedback, which was based on questionnaire responses rather than actual social interaction, facilitated motivation to self-enhance. An important task for future research is to assess why, and under what conditions, dismissing individuals are affected by interpersonal feedback.

As yet, no research has assessed the impact of positive and negative agentic feedback on self-esteem for individuals with different attachment patterns. It is possible that feedback about competence or self-reliance may be relevant to a deactivating individual's self-esteem regulation and may not elicit the defensive reactions that interpersonal feedback might. Instead, highly avoidant individuals may feel bad about negative feedback, although their habitual patterns of attributions and self-structure might still protect their self-view from incorporating negative information. Predictions can be only tentative at this stage. Empirical examination of these questions would shed light on the role of competence (e.g., success, self-reliance) in self-esteem as part of deactivating attachment strategies.

Summary

The self-concept structure and affect-regulation strategies of individuals with different attachment working models suggest that the mechanisms and processes by

which their self-views are maintained and regulated will also differ. Although some areas are relatively well-researched, no empirical work has yet explicitly examined the interplay between attachment models and self-esteem regulation processes regarding different domains of feedback. There are strong theoretical reasons to predict that both the feedback-pursuit and feedback-receipt components of the self-esteem regulation cycle are subject to moderation by an individual's attachment strategies. The final section of this chapter describes the central aims and predictions of the present programme of research, which is designed to examine these issues.

Overview of The Present Research

The overarching aim of the present research is to examine in depth some of the key questions raised in this chapter. The extensive theoretical and empirical foundations reviewed above are consistent with the overall suggestion that attachment security facilitates the development of a positive, internally regulated working model of the self that can serve as a resource in times of threat. In contrast, secondary attachment strategies facilitate the development of a self-model that is inextricably intertwined with and contingent upon affect-regulation goals, and feelings of self-worth therefore become invested to a greater extent in the trappings of specific areas of life. I therefore sought, in this research programme, to examine this suggestion more thoroughly and to explore its manifestations in everyday processes of self-esteem regulation. Specifically, the following chapters address attachment differences in (a) sources of self-esteem, (b) feedback-seeking behaviour, and (c) reactions to feedback in interpersonal and competence-relevant domains.

Summary of Studies

Preliminary evidence supports the prediction that high attachment anxiety relates to increased reliance on the fulfilment of hyperactivated goals for affection and approval for self-esteem, whereas high attachment avoidance has been inconsistently linked to increased reliance on the fulfilment of deactivated goals for exploration and self-reliance for self-esteem. However, dismissing individuals, who are characterised by chronic deactivating strategies, report high self-esteem and low contingencies of self-worth (Bartholomew & Horowitz, 1991; Park et al., 2004). Thus, it is important to assess their sources of self-esteem in a way that counteracts self-presentation bias. This was the goal of Study 1 (see Chapter 2). In this study, I sought to examine a new aspect of the self-structure of individuals with different attachment patterns: the link between global self-

esteem and domain-specific self-views. Specifically, I tested whether attachment dimensions moderate the correlations between global and specific evaluations (cf. Pelham & Swann, 1989). Thus, for example, if independence is central to the self-esteem of high-avoidant individuals, the correlation between perceived independence and global self-esteem should be higher for individuals with high, compared to low, avoidance. This approach provides converging evidence for attachment differences in sources of self-esteem from a new angle.

The everyday regulation of self-esteem is a dynamic and motivated process, within which the pursuit and receipt of self-relevant feedback are central. Given the role of contingent self-esteem, particularly that invested in specific domains, in seeking and reacting to feedback, attachment theory may provide a framework to explain and predict the different patterns of motivation, emotion, cognitions, and behaviour associated with different types of feedback. Thus, the remaining studies examined the moderating role of attachment dimensions in seeking and reacting to feedback, as well as the role of feedback in determining daily self-esteem. Throughout, I designed the studies so that both interpersonal and competence domains of feedback could be examined simultaneously, pitted against one another, and compared directly. Thus, I was able to compare whether effects of attachment style differed across domains and draw conclusions about the *relative* importance, or the *relative* impact, of each domain.

The goals of Study 2 and Study 3 were to examine attachment differences in the extent to which individuals are open to feedback and seek positive (over negative) feedback in each domain. This was a novel approach in that no prior studies have assessed both types of feedback-seeking behaviour and compared interpersonal to competence feedback directly. In Study 2 (see Chapter 3) participants considered hypothetical feedback from a same-sex friend; in Study 3 (see Chapter 4) they completed social interaction and problem-solving tasks in the laboratory and were told (falsely) that they would actually receive feedback. Thus, these studies provided a valuable comparison of hypothetical and real-life responses and aimed to clarify questions raised by previous research (e.g., Brennan & Bosson, 1998; Rholes et al., 2007). For example, do dismissing individuals self-enhance by welcoming and seeking positive feedback about competence and self-reliance? And do secure individuals report high desire for feedback (reflecting cognitive openness) or weak desire for feedback (reflecting their lack of dependency on external input)? Chapter 3 and Chapter 4 attempt to identify possible answers to these questions.

Finally, it is important to examine the ways that individuals are influenced by feedback when they receive it. Feedback that contributes to self-esteem regulation should impact state self-esteem and self-views; moreover, an individual's attachment pattern should guide the way s/he processes feedback and its longer-term impact. Thus, patterns of reaction to feedback not only reveal more about the role of feedback in self-esteem regulation, but also indicate how emotional and cognitive habits might maintain attachment differences in self-views. These were the main goals of Study 4 (see Chapter 5), which assessed everyday feedback processes using daily diaries. Specifically, Study 4 examined the extent to which daily self-esteem fluctuates in response to interpersonal and competence feedback, as well as attachment differences in emotional, cognitive, and state self-esteem reactions to interpersonal and competence feedback. In this way, Chapter 5 completes the feedback cycle. Together, Studies 2-4 addressed the ways that attachment differences in self-esteem may be maintained on a daily basis.

In all studies, I examined whether attachment effects were mediated by trait self-esteem level. Given that self-esteem has a permeating effect on self-motives and feedback processes, arguably it could account for attachment differences in seeking and reacting to feedback. However, I suggest that self-esteem regulation processes of individuals with different attachment patterns, being complex and multifaceted, would not be explained by those individuals' global sense of self-esteem. In each chapter I return to this question and consider the evidence provided by each study.

Contribution and Implications of this Research

The present set of studies approach the self-esteem regulation processes involved in primary and secondary attachment strategies from three different angles. First, do individuals with different attachment patterns connect different domain-specific self-views to global self-esteem within the self? Second, do they approach and seek interpersonal and competence-related self-relevant feedback differently? Finally, does their daily self-esteem fluctuate differently with the amount of interpersonal and competence feedback they receive? Taken together, these angles provide a more complete picture of the everyday processes by which attachment differences in the self are maintained.

This research has potential to contribute to both the attachment and self-esteem literatures. First, it offers the rich theoretical grounding of attachment theory as a new framework for understanding self-esteem regulation. Instead of using multiple constructs (e.g., self-esteem level, self-esteem stability, contingencies of self-worth) to predict

feedback-seeking or reactions, attachment patterns may provide explanatory power over and above these variables when self-esteem regulation is considered in a holistic rather than a piecemeal way (e.g., when multiple domains are examined simultaneously). Furthermore, to the extent that this turns out to be true, this approach provides a theoretical account of developmental antecedents to individual differences in self-esteem regulation. Although authors have speculated about the role of early experiences in developing unstable, contingent, or disregulated self-esteem (e.g., Deci & Ryan, 1995; Kernis & Goldman, 2003; Leary & Downs, 1995), these speculations lack thorough elucidation or empirical testing. Thus, making links between attachment theory and self-esteem theories expands those theories into a stronger developmental grounding. It also provides new directions for research, such as examining differences in feedback-seeking behaviour under conditions of attachment threat.

The second major contribution of this research is aiding understanding of the dynamic processes by which attachment differences in self-esteem and self-concept are maintained. It aims to identify the specific sources that maintain the low, unstable self-esteem of preoccupied and fearful individuals and examine whether they differ. Moreover, a particular advantage of this approach is that it provides an important test of the nature of dismissing individuals' high self-esteem: is it truly solid, as they claim, or is it, in fact, contingent on continued validation of competence and self-reliance? In addition, this research examines, for the first time, attachment differences in attitudes to feedback in domains other than romantic relationships, adding to the literature on attachment processes in social interactions (e.g., Tidwell et al., 1996) and work performance and attitudes (e.g., Hazan & Shaver, 1990). Thus, findings may have implications for organisational research as well as relationship and self research.

Finally, given the link between attachment patterns and psychological distress and disorders (see earlier review), understanding how low and/or unstable self-esteem among these individuals is maintained may inform clinical research and therapy. In conclusion, this programme of studies has potential to add significantly to our understanding of the ways that a person's attachment history and working models impact upon the regulation of the self-concept. Thus, I aim to provide a motivational and dynamic (rather than static) view of self-esteem regulation and maintenance for adults with different attachment models. The self is a dynamic process, as are attachment goals and strategies; the present research acknowledges this truth and seeks to tease apart the interplay between the two. Further theoretical and practical implications will be discussed in light of empirical results.

CHAPTER II

Study 1: Attachment Differences in Sources of Self-Liking and Self-Competence

Chapter 1 reviewed direct and indirect evidence suggesting that the adoption of secondary attachment strategies includes the development of a tendency to rely on different sources in the environment for feelings of self-esteem. If this is the case, this proposal has important implications for the everyday dynamic processes and long-term functioning of individuals with different attachment orientations. Dependence on external input for regulating feelings of worth and effectiveness is likely to exacerbate self-esteem instability, interfere with effective functioning in close relationships and at work, and have long-term implications for mental health (e.g., Butler et al., 1994; Kernis et al., 1993; Wei, Mallinckrodt, et al., 2005). Moreover, the specific nature of these external sources (e.g., interpersonal or agentic) will influence the nature of this long-term impact. It is therefore important to understand the nuances of individual differences in sources of self-esteem in order to help understand the nature and maintenance of intrapersonal and interpersonal difficulties they may influence. The aim of Study 1 was to examine attachment differences in sources of self-liking and self-competence in a new way that addressed some of the limitations of previous work in this area. Before describing the study, I briefly review the logic and background to this overarching proposal and highlight the omissions of prior studies that were designed to investigate it.

Attachment Strategies and the Development of Sources of Self-Esteem

Normatively (under conditions of sensitive, consistent care) the attachment system is activated in times of danger, stress, or illness. Its activation prompts proximity-seeking and display of attachment behaviours, which in turn prompt the primary caregiver to protect the infant, alleviating distress (Sroufe & Waters, 1977). In this context, the individual develops *security-based strategies*, accompanied by the confidence to explore the environment in the absence of threat, and positive working models of the self as worthy of love and others as trustworthy (Mikulincer et al., 2003). Over time, these positive working models facilitate the development of an internalised secure base. Thus, instead of requiring the caregiver's presence to regulate responses to

threat, the secure individual has an internal resource to regulate emotional, cognitive, and self-relevant experiences (Lopez & Brennan, 2000; Mikulincer & Shaver, 2004).

When an infant experiences a less-than-optimal caregiving history, the attachment behavioural system adapts and the individual develops secondary attachment strategies (Main, 1981). These strategies may include a tendency to derive feelings of self-worth from different sources in the environment. If a caregiver is inconsistently responsive, the infant cannot be confident in the caregiver's availability. Proximity-seeking and other attachment behaviours sometimes successfully gain protection, and thus remain a viable option, but the infant experiences fear and anxiety. Thus, the most adaptive strategy may be to develop *hyperactivating* strategies, in which the individual monitors the environment vigilantly for signals of threat or abandonment, displays attachment behaviours and emotions readily, and prefers proximity over exploration (Ainsworth et al., 1978; Cassidy & Kobak, 1988; Main et al., 1985). Hyperactivating strategies are characteristic of high attachment anxiety (Mikulincer et al., 2003). As a result of this type of history, a highly anxious individual does not have an internally regulated self-model, but relies upon attachment figures for protection and regulation of affect. Thus, hyperactivating strategies may include a tendency to depend heavily on approval, affection, and acceptance from other people in order to feel worthwhile (Brennan & Morris, 1997).

Alternatively, if a caregiver is consistently rejecting or neglectful, the infant learns that normative attachment behaviours are not rewarded, or are punished. Thus, the individual may develop *deactivating* strategies, in which displays of emotion are suppressed, working models represent others as untrustworthy and unavailable, and exploration is preferred over proximity-seeking (Ainsworth et al., 1978; Bowlby, 1980; Main et al., 1985). Deactivating strategies are characteristic of high attachment avoidance (Mikulincer et al., 2003). As a result of this type of history, a highly avoidant individual does not have an internal secure base on which to ground a positive model of self; thus, deactivating strategies may include a tendency to base a positive self-model instead on agentic experiences of exploration and self-reliance (Brennan & Morris, 1997). As reviewed in Chapter 1, it is not known whether fearful individuals (high in anxiety and avoidance) utilise hyperactivating strategies, deactivating strategies, both, or something else (e.g., incoherent lack of any strategy; Simpson & Rholes, 2002). Understanding how fearful attachment relates to sources of self-esteem might provide clues to which model is most appropriate.

Research on Attachment Differences in Sources of Self-Esteem

The overarching prediction that attachment strategies incorporate different sources of self-esteem, and particularly that hyperactivating and deactivating secondary strategies have important consequences for self-esteem regulation, is grounded in a rich theoretical background. There is also indirect supportive evidence in the attachment literature. Regarding hyperactivating strategies and interpersonal sources of self-esteem, individuals with high, compared to low, attachment anxiety report low self-esteem, poorly integrated self-concepts, and are vulnerable to depression (e.g., Carnelley et al., 1994; Luke et al., 2004; Mikulincer, 1995). Moreover, their self-views are relatively unstable and malleable (Broemer & Blumle, 2003; Foster et al., 2007) and they report high need for reassurance and low ability to self-regulate (Shaver et al., 2005; Wei, Mallinckrodt, et al., 2005). High-anxious individuals are also motivated to gain love and approval from others (Collins & Read, 1994; Mikulincer, 1998b; Pietromonaco & Feldman Barrett, 2006). In research explicitly testing sources of self-esteem, the low self-esteem of preoccupied and fearful individuals (who are high in anxiety) corresponded more to self-liking than self-competence (Brennan & Morris, 1997) and was mediated by both interpersonal and competence well-being (Brennan & Bosson, 1998). Finally, Park et al. (2004) found that highly preoccupied individuals reported relying on physical appearance and others' approval, whereas highly fearful individuals reported relying on physical appearance and academic competence. This result suggests that fearful attachment involves both interpersonal and agentic sources of self-esteem.

Regarding deactivating strategies and agentic sources of self-esteem, individuals with high, compared to low, avoidance choose to explore in leisure activities, place higher importance on work, and prefer intellectual to social tasks (Carnelley & Ruscher, 2000; Hazan & Shaver, 1990; Mikulincer, 1997). They are also motivated to gain and maintain self-reliance (Mikulincer, 1998b; Rom & Mikulincer, 2003). Dismissing individuals' high self-esteem may correspond to self-competence more than self-liking (Brennan & Morris, 1997) and is explained by feelings of mastery and autonomy (Brennan & Bosson, 1998). Dismissing individuals claim not to rely on any specific domains for self-worth (Park et al., 2004), which may reflect a drive for self-reliance as well as lack of self-insight (Gjerde et al., 2004). Thus, preliminary evidence supports the notion that deactivating strategies include agentic sources of self-esteem.

Thus, direct and indirect evidence supports the overall proposal that the extent to which an individual adopts secondary attachment strategies is related to the sources on

which that individual's feelings of self-worth are contingent. However, the three studies that have been designed explicitly to test the notion have been limited in important ways. First, correlational studies of attachment and self-esteem dimensions (Brennan & Bosson, 1998; Brennan & Morris, 1997) used flawed measures of self-liking and self-competence to approximate sources of self-esteem. Rosenberg's (1965) self-esteem scale, which these authors used to assess self-liking, includes items that tap self-competence (e.g., "I am able to do things as well as most people"). The Self-Attributes Questionnaire (Pelham & Swann, 1989), which was used to assess self-competence, asks participants to rate themselves *relative to others* from "bottom 5%" to "top 5%". This item format is also used in measures of self-enhancement (Taylor & Brown, 1988) and therefore confounds self-competence with self-enhancement. Brennan and colleagues' results may therefore reflect attachment differences in constructs other than self-liking and self-competence.

Second, prior studies have not included all potential sources of self-esteem. Tafarodi and Swann (1995, 2001) propose that self-liking develops through close relationships, social acceptance and approval, physical appearance, and social identity, whereas self-competence develops through a history of successes and failures, meeting goals, dealing effectively with everyday demands, and maintaining autonomy. Of these, Brennan and Bosson (1998) included measures of positive relationships, environmental mastery, and autonomy. Park et al. (2004) included measures of CSW in the domains of appearance, approval, and academic competence. Although the two studies covered a range of sources, they were not designed with Tafarodi and Swann's theorising in mind, and did not pit the relevant sources against one another. Third, Park et al.'s (2004) use of an explicit self-report measure limits the validity of their findings. Do people *really* base self-esteem on the sources that they report on the CSW scale? Given evidence that individuals with high attachment avoidance are prone to biased self-presentation and lack personal insight (Gjerde et al., 2004; Onishi et al., 2001), this is perhaps a strong assumption. It is thus important to examine highly avoidant individuals' sources of self-esteem in more subtle ways.

Overview and Hypotheses

Study 1 was designed to examine the proposal that different areas of life, and corresponding domains of self-view, would serve as sources of self-liking and self-competence for individuals with different attachment models. In this study, I employed a novel approach to assess attachment differences in sources of self-esteem and address the limitations described above. First, I assessed self-liking and self-competence using

Tafarodi and Swann's (1995, 2001) Self-Liking/Competence Scale. This measure was developed with a sound theoretical basis and has been systematically validated. Second, I simultaneously examined multiple theoretically derived sources of both self-liking and self-competence. Third, to minimise self-presentation and self-insight bias, I tested the current hypotheses by examining how different aspects of the self relate to each other in self-concept structure; specifically, by inspecting correlations between self-esteem and specific self-evaluations in theoretically relevant domains. To the extent that one experiences success, or evaluates the self positively, in a domain that is a personal source of self-esteem, one's self-esteem should be boosted and/or maintained at a high level, producing a positive correlation between specific self-evaluations and global self-esteem. However, the self-evaluation—self-esteem correlation should be attenuated for domains that are *not* personally important or on which self-esteem is not contingent (Harter, 1986; James, 1890; Marsh, 1993).

A similar approach has been used with some success to show that domains which an individual rates as personally important are more strongly related to self-esteem than self-rated unimportant domains (e.g., Pelham, 1995; Pelham & Swann, 1989). A recent study by Anthony et al. (2007) has also adopted this approach with trait-adjective ratings, which they refer to as assessing the "attunement of self-esteem" to different traits among people with different social roles. In the current study, attachment dimensions served as a proxy for self-importance without requiring participants to recognise consciously the personal relevance of a domain. Therefore, the general pattern of my proposal would be supported if attachment dimensions moderated correlations between specific domains and global self-esteem dimensions. Dismissing individuals' claims of independent self-esteem would be corroborated if their self-esteem were to be *less* associated with specific domains compared to the self-esteem of other individuals.

Specifically, in Study 1 participants completed self-report measures of attachment anxiety and avoidance; self-liking and self-competence; and self-views in five domains: close relationships, social acceptance, physical attractiveness, mastery, and autonomy. Theoretically, the first three domains signal interpersonal value, and are sources of self-liking, whereas the last two signal agentic traits, and are sources of self-competence (Tafarodi & Swann, 1995). This research question has not previously been examined in this novel way. As described below, and depicted in Figure 2, I predicted that attachment models would moderate sources of self-liking and self-competence.

Although self-liking is theoretically derived from interpersonal sources, individuals high in anxiety may rely on socially contingent sources to a greater extent

than those low in anxiety. I therefore predicted that the associations between self-liking and self-views of close relationships, attractiveness, and social acceptance would be more positive for individuals with high, compared to low, attachment anxiety (*Hypothesis 1*). In addition, individuals high in avoidance may derive self-worth from competence-relevant sources. I therefore predicted that the associations between self-liking and self-views of mastery and autonomy would be significant for individuals high in avoidance but not for those low in avoidance (*Hypothesis 2*).

Self-competence is theoretically derived from successes, failures, and autonomy. However, I also expected sources of self-competence to vary by attachment orientation. I predicted that the positive associations between self-competence and self-views of mastery and autonomy would be stronger for those with high, compared to low, avoidance (*Hypothesis 3*). In addition, individuals high in anxiety may derive a sense of competence from interpersonal domains. I therefore predicted that the associations between self-competence and self-views of attractiveness, social acceptance, and close relationships would be significant for individuals high in anxiety but not for those low in anxiety (*Hypothesis 4*).

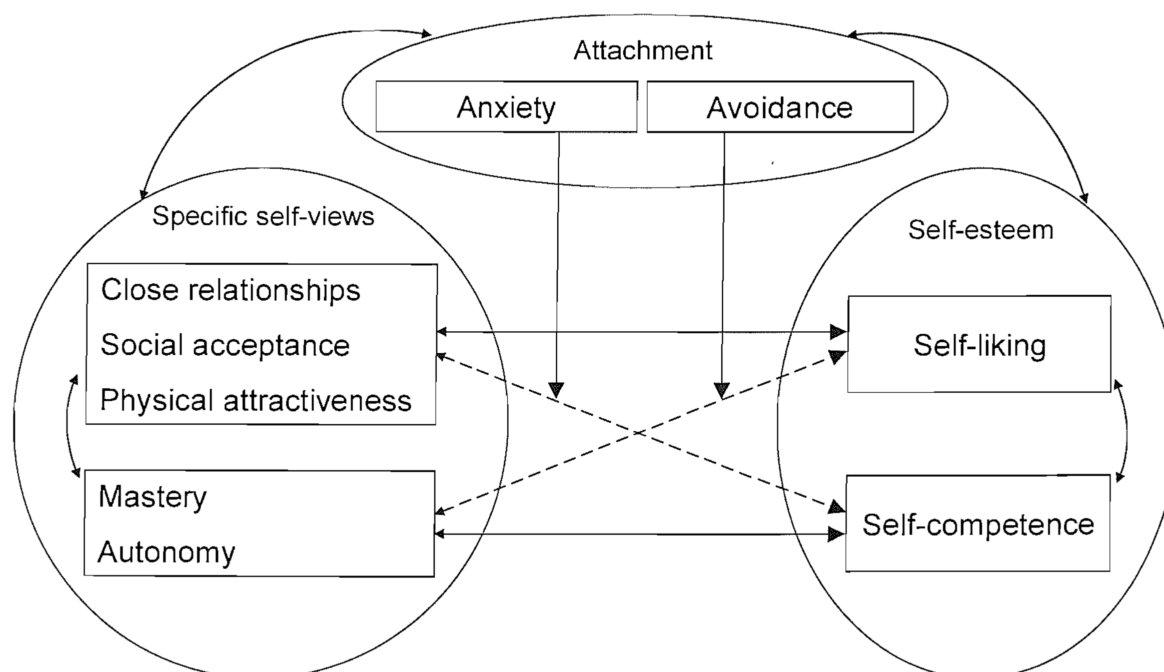

Figure 2. Theoretical model of associations between attachment and self-view variables. *Note.* Curved lines show causally unspecified correlations; straight solid lines show associations with causal direction specified by arrows; dotted lines show an association that is only present in moderated form; arrows pointing to lines indicate moderating effect.

Method

Participants

A total of 344 participants were recruited. I excluded individuals over the age of 25 (*n* = 21) and those who had never been involved in a romantic relationship (*n* = 21), leaving a final sample of 302 (78% female).[3] These comprised students and recent graduates from the University of Southampton (*n* = 177) and students from further education colleges for 16-18 year olds, who were recruited at their college (*n* = 69) and two university visit days (*n* = 56). The mean age was 18.7 (*SD* = 1.94, range 16-25). University students received research participation credits, and college students and graduates participated voluntarily.

Of the final sample, 53% were currently involved in a romantic relationship, which ranged from 1 week to 10 years in duration (*M* = 18 months). Most (*n* = 197) participants reported their sexual orientation and the status of their current relationship (these data were not collected for two college samples as requested by their Institutional Review Board). Of those asked, 98.5% reported a heterosexual orientation. Of romantic relationships, 84% were described as committed and monogamous (including 14% who were married, engaged, or cohabiting).

Materials and Procedure

Participants either came to a laboratory and participated in groups of up to 15, or completed questionnaires in private. They completed measures of attachment, self-esteem, and self-views in three counterbalanced orders (see Appendix A for materials). On completion, participants were thanked and debriefed.

Adult attachment. The Experiences in Close Relationships scale (ECR; Brennan et al., 1998) assesses romantic attachment. Participants are instructed to think about their experiences across all previous romantic relationships, not just one partner. Two 18-item subscales assess anxiety (e.g., "I worry about being abandoned") and avoidance (e.g., "I prefer not to show a partner how I feel deep down"). Items are rated on a scale from 1

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[3] Preliminary analyses indicated that individuals with no relationship experience reported higher avoidance than other participants, and their inclusion altered some results (e.g., avoidance correlated more strongly with self-competence and mastery). Because of these alterations, these participants did not fit well into the sample. Participants over the age of 25 were also excluded because (a) they have different relationship experience than younger participants and may base self-esteem on different sources, (b) they fell over three standard deviations away from the mean age, precluding parametric analyses of age, and (c) their inclusion altered some results. The effect of the removal of these participants on generalisability of results will be considered in Chapter 6.

(*strongly disagree*) to 7 (*strongly agree*). Evidence for the reliability and construct validity of the ECR has been provided in numerous studies (see Mikulincer & Shaver, 2003, for a review). Internal consistency coefficients for these and all final scales were high (see Table 1). Consistent with the theoretically orthogonal nature of the two attachment dimensions, anxiety and avoidance were only weakly correlated (Table 1).

Self-liking and self-competence. The Self-Liking/Competence Scale Revised (SLCS-R; Tafarodi & Swann, 2001) assesses global self-liking (e.g., "I am comfortable with myself") and self-competence (e.g., "I perform well at many things") on two 8-item subscales. Items are rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Although the subscales are correlated, they elicit a two-factor structure and have demonstrated discriminant validity and high test-retest reliability (Tafarodi & Swann, 1995, 2001). In the present sample, the scales were moderately correlated (Table 1). This correlation resembled those obtained by Tafarodi and Swann (2001) in a sample of $N = 1325$ ($r = .57$ for women and .59 for men).

Domain-specific self-views. Participants reported self-views in the domains of *physical attractiveness*, *social acceptance*, *close relationships*, *mastery*, and *autonomy*. The items were incorporated into one scale, presented in a random order, and rated from 1 (*strongly disagree*) to 6 (*strongly agree*).[4] The measures of domain-specific self-view and self-liking/self-competence may share some method variance. However, the self-view items focus on specific subjects, whereas self-liking/self-competence items are pitched in a general and affectively laden way. As shown in Table 1, correlations between domain-specific scales and self-esteem dimensions were moderate, not large.

The Physical Appearance subscale of the Domain-Specific Self-Esteem Inventory (Hoyle, 1991) assessed self-evaluations of physical attractiveness using 5 items (e.g., "I feel that others would consider me to be attractive"; $\alpha = .92$). The Social and Public self-esteem subscales of this measure were not included.

Fourteen items assessing perceived *social acceptance* were selected from scales of inclusionary status and social support. These were: the Belongingness in Life scale (Van Prooijen, van den Bos, & Wilke, 2004); two Perceived Inclusionary Status scales (Leary et al., 1995; Spivey, 1990); and the Belonging subscale of the Interpersonal Support Evaluation List (Cohen, Mermelstein, Kamarck, & Hoberman, 1985). The selected items cohered well ($\alpha = .92$) and included "People often seek out my company" and "I often feel like an outsider in social gatherings" (reversed).

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[4] Self-view data were unavailable for 24 college students because of time constraints at one university visit day.

Table 1

Descriptive Statistics and Zero-order Correlations for Study 1 Variables

	1.	2.	3.	4.	5.	6.	7.	8.
Age	-.04	-.06	.05	.12	-.15	-.18	-.02	-.13
Attachment								
1. Anxiety	—	.11	-.44	-.32	-.27	-.36	-.51	-.29
2. Avoidance		—	-.25	-.19	-.18	-.15	-.26	-.19
Domain-specific self-views								
3. Relations			—	.49	.37	.33	.55	.43
4. Attractiveness				—	.33	.18	.67	.42
5. Mastery					—	.31	.49	.54
6. Autonomy						—	.33	.41
Global self-esteem								
7. Self-liking							—	.57
8. Self-competence								—
Mean	3.85	2.88	4.60	3.63	3.93	3.89	3.13	3.15
SD	0.94	1.04	0.72	1.06	0.80	0.72	0.81	0.57
Cronbach's α	.90	.95	.95	.92	.79	.86	.92	.81

Note. Sample sizes range from 274 to 302 due to missing data. Anxiety and avoidance range from 1-7. Domain-specific self-views range from 1-6. Global self-esteem ranges from 1-5. Correlations of .12 or more are significant at $p < .05$, those of .16 or more are significant at $p < .01$, and those of .20 or more are significant at $p < .001$.

Three 14-item Psychological Well-Being subscales (PWB; Ryff, 1989) assessed self-evaluations of *close relationships*, *mastery*, and *autonomy*. Positive Relations with Others assesses the extent to which one has warm and satisfying relationships (e.g., "Maintaining close relationships has been difficult and frustrating for me" [reversed]; α = .88). Environmental Mastery assesses the extent to which one feels masterful at managing everyday tasks and activities (e.g., "I am good at juggling my time so that I can fit everything in that needs to get done"; α = .84). Autonomy assesses the extent to which one feels independent and self-regulated (e.g., "My decisions are not usually influenced by what everyone else is doing"; α = .86). These scales were used by Brennan and Bosson (1998) to assess sources of self-esteem. The PWB subscales of Personal Growth, Purpose in Life, and Self-Acceptance do not reflect sources of self-liking or self-competence so were excluded.

The self-view items were subjected to Principal Components Analysis with orthogonal (Varimax) rotation. Five factors were identified, accounting for 49% of the

observed variance.[5] The first factor (explaining 17.9% of variance) contained 9 *close relationships* items, 12 *social acceptance*, and 1 *environmental mastery*; the highest loading item was "I often feel like I'm on the outside looking in when it comes to friendships". The second factor (8.8%) contained the 14 *autonomy* items. The third factor (7.8%) contained five *close relationships* and two *social acceptance* items; this factor was about relational personality traits, defined by "People would describe me as a giving person, willing to share my time with others". The fourth factor (7.7%) contained the five *physical attractiveness* items. The fifth factor (7.5%) contained 12 *environmental mastery* items, several cross-loading weakly (< .45) on factor 1 or 3.

The items were combined as follows. *Physical attractiveness* and *autonomy* were retained in their original scales. Because *close relationships* and *social acceptance* items loaded together and the original scales were highly correlated ($r = .84, p < .001$), these scales were combined in analyses, hereafter referred to as *relations*. The *environmental mastery* scale was problematic because some of its items loaded on relations factors. Based on a separate Principal Components Analysis of the 14 environmental mastery items, I removed seven items about building a lifestyle (combined, these correlated strongly with relations, $r = .72$). Seven items about keeping up with daily demands and responsibilities, hereafter *mastery*, were retained (see Appendix A). Mastery correlated only moderately with relations and was internally consistent (Table 1). All final scales were created from mean scores, with high scores indicating positive self-views.

Results

Analysis Strategy and Preliminary Analyses

Descriptive statistics are presented in Table 1. No outliers ($z > \pm 3$) were present for any variables, and none had a problematic degree of skew or kurtosis. As shown in Table 1, anxiety and avoidance correlated negatively with all four domain-specific self-views, self-liking, and self-competence.[6] Self-liking and self-competence correlated positively with domain-specific self-views.

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[5] Oblique rotation was investigated because I expected the underlying factors to be correlated. However, because none of the emerging factors correlated above r = .20, the orthogonal solution was retained.

[6] I also regressed self-esteem dimensions and self-views on anxiety, avoidance, and their interaction. The Anxiety × Avoidance interaction marginally predicted attractiveness and autonomy (βs = -.10 and -.09 respectively, *ps* < .10). Simple slopes indicated that for both domains, dismissing individuals' self-views were as positive as secure individuals', but fearful individuals' self-views were less positive than preoccupied individuals'.

Hierarchical regression analyses were conducted to test hypotheses. In each, centred predictors were entered at Step 1, two-way interactions at Step 2, and three-way interactions at Step 3. Coefficients for each predictor are reported from the step at which it was entered. Significant interactions were probed by estimating simple regression slopes at levels of the predictors one standard deviation (*SD*) above and below the mean, as advised by Aiken and West (1991; Cohen, Cohen, West, & Aiken, 2003). Throughout, I report and interpret marginally significant effects ($p < .10$) but infer conclusions from them with caution.

Initially, I included age as a predictor and moderator in analyses, because participants' ages spanned a developmental shift from adolescence to adulthood (Crittenden, 2002). Moreover, age correlated with several variables (Table 1). When probing significant age interactions, I plotted the relevant effect at ages 17, 19, and 21. When age did not moderate results, analyses were re-conducted omitting age.

Sources of Self-Liking and Self-Competence

To examine how self-esteem dimensions related to domain-specific self-views on average across the sample, I simultaneously regressed self-liking, then self-competence, on the four self-view domains (see Table 2).[7] Both dimensions were predicted by all four domains. Because self-liking and self-competence were correlated, as were the domain-specific self-views (Table 1), I examined the extent to which the domains *uniquely* predicted self-liking partialling variance due to self-competence, and vice versa, by adding the second self-esteem dimension to the regression model in Step 2 (see Table 2). When self-competence was partialled, attractiveness, relations, and mastery remained predictors of self-liking, but autonomy did not. When self-liking was partialled, mastery and autonomy remained predictors of self-competence, but relations and attractiveness did not. These patterns suggest that relations and attractiveness are unique sources of self-liking and autonomy a unique source of self-competence, whereas mastery contributes somewhat to both self-liking and self-competence. These findings are consistent with expectations, with the exception of mastery, and facilitate interpretation of attachment differences.

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[7] Four interactions between a domain and age were obtained in these analyses (*ps* < .05). These showed that the association between self-liking and mastery increased with age, the associations between self-competence and both mastery and attractiveness increased with age, and the association between self-competence and autonomy decreased with age. Each association between self-esteem and a specific self-view was statistically significant at all ages.

Table 2

Multiple Regressions Predicting Self-Liking and Self-Competence from Domain-Specific Self-Views

Criterion	Self-liking		Self-competence	
Predictor	Step 1 β	Step 2 β	Step 1 β	Step 2 β
Relations	.21***	.18***	.13*	.07
Attractiveness	.47***	.43***	.21***	.09
Mastery	.22***	.15**	.35***	.30***
Autonomy	.11*	.06	.21***	.19***
Age	-.01	.00	-.06	-.06
Self-competence	—	.19***	—	—
Self-liking	—	—	—	.25***
F of step	71.23***	13.63***	40.30***	13.63***
Overall R^2	.57***	.59***	.43***	.46***

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

Are Different Domains of Self-View relevant to Self-Liking and Self-Competence for Individuals with Different Attachment Models?

I tested my main hypotheses by examining whether attachment dimensions moderate the associations between self-esteem dimensions and specific self-views. I first examined the role of age, entering each domain in a separate hierarchical regression analysis to preserve degrees of freedom. In each analysis, self-liking (or self-competence) was regressed on age, anxiety, avoidance, one self-view domain, and all two- and three-way interactions. There was a marginally significant Age × Avoidance × self-view interaction in three models: moderating the relevance of autonomy to self-liking, and the relevance of both mastery and attractiveness to self-competence.[8] Statistics for these interactions and simple slopes are presented in Table 3. The three interactions are plotted and described in turn.

[8] When I included all domains in one analysis, but anxiety and avoidance in separate analyses, the same interactions emerged at the same significance levels.

Table 3

Simple Slopes Analyses following Age × Attachment × Domain Interactions Predicting Self-Liking and Self-Competence

Criterion and predictors		Beta coefficients		
		Age 17	Age 19	Age 21
Self-liking				
Autonomy	At low avoidance	.21†	.10	-.02
	At high avoidance	.11	.16*	.21*
Avoidance	At low autonomy	-.07	-.16*	-.27**
	At high autonomy	-.17†	-.10	-.03
Interaction: $\beta = .14, p = .097$, overall $F(14, 259) = 8.62^{***}$				
Self-competence				
Mastery	At low avoidance	.52***	.51***	.51***
	At high avoidance	.32**	.53***	.74***
Avoidance	At low mastery	.06	-.06	-.19*
	At high mastery	-.12	-.05	.02
Interaction: $\beta = .12, p = .07$, overall $F(14, 260) = 10.39^{***}$				
Attractiveness	At low avoidance	.21†	.39***	.56***
	At high avoidance	.33**	.33**	.33**
Avoidance	At low attractiveness	.01	-.08	-.17
	At high attractiveness	-.07	-.04	-.01
Interaction: $\beta = -.13, p = .096$, overall $F(14, 259) = 6.78^{***}$				

$^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

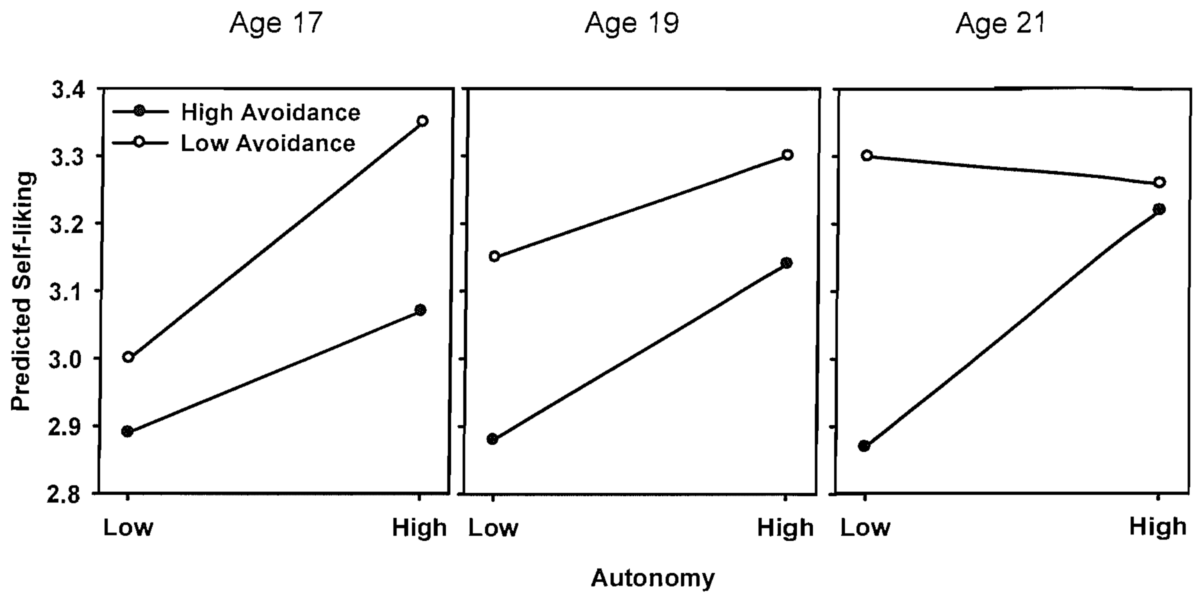

Figure 3. Simple slopes of self-liking on autonomy at high and low levels of avoidance at ages 17, 19, and 21.

Figure 3 depicts the Age × Avoidance × Autonomy interaction predicting self-liking. The relevance of autonomy to self-liking decreased with age for individuals low in avoidance, but increased for those high in avoidance. From age 19 up, high-avoidant participants reported equal self-liking to low-avoidant participants if they had high autonomy, but lower self-liking if they had low autonomy. This pattern, though moderated by age, is consistent with Hypothesis 2: older high-avoidant individuals use a competence domain as a route to liking themselves.

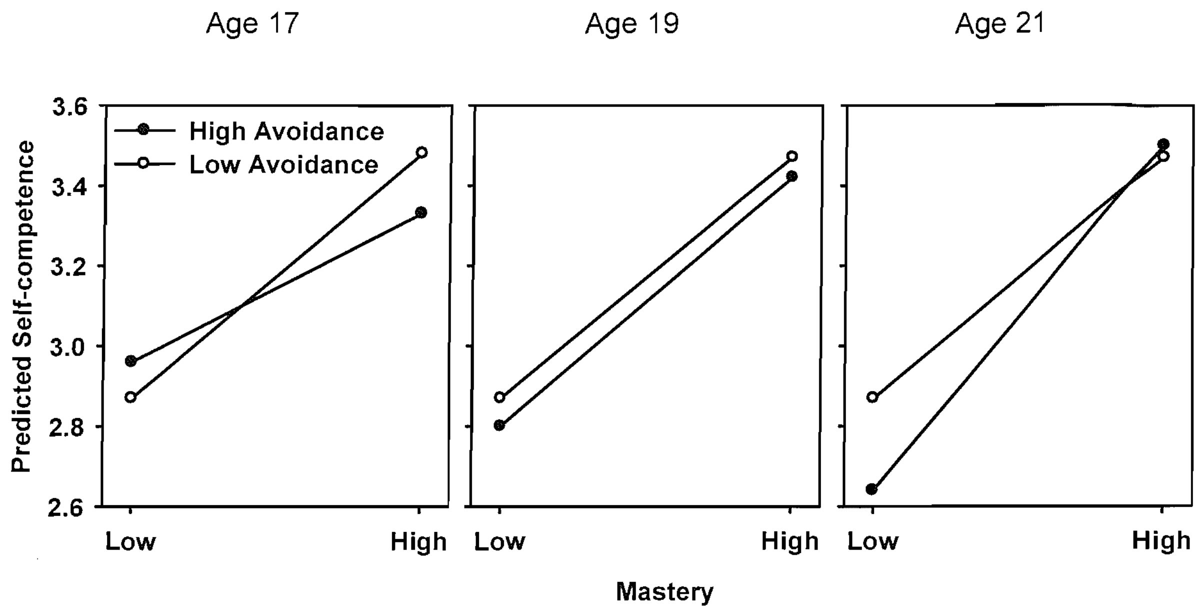

Figure 4. Simple slopes of self-competence on mastery at high and low levels of avoidance, at ages 17, 19, and 21.

Figure 4 depicts the Age × Avoidance × Mastery interaction predicting self-competence. Although mastery was a robust source of self-competence, its relevance increased with age for individuals high in avoidance (but not for those low in avoidance). High mastery consistently enabled high-avoidant individuals to feel as competent as low-avoidant individuals, but by age 21, low mastery led them to feel less competent than low-avoidant individuals. These results provide age-moderated support for Hypothesis 3: older highly avoidant individuals derive self-competence from mastery to a greater extent than low-avoidant individuals.

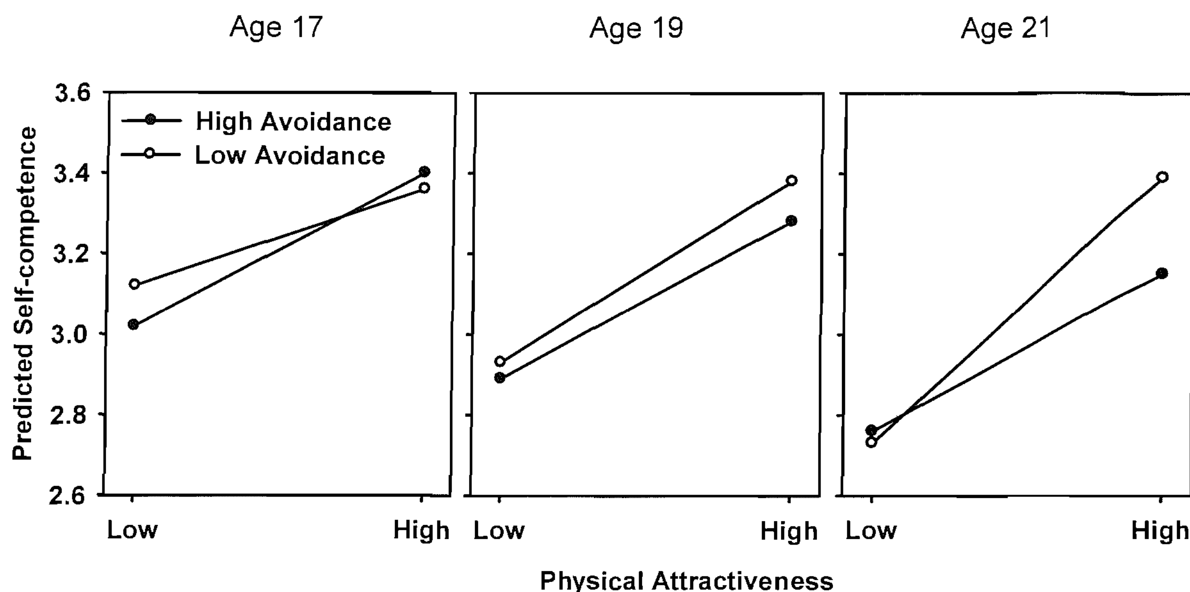

Figure 5. Simple slopes of self-competence on physical attractiveness at high and low levels of avoidance at ages 17, 19, and 21.

Figure 5 depicts the Age × Avoidance × Attractiveness interaction for self-competence. The relevance of attractiveness to self-competence increased with age for individuals low in avoidance (but not for those high in avoidance). As age increased, low-avoidant individuals reported consistently high self-competence if they were high in attractiveness ($\beta_{AGE} = -.04$, *ns*) but decreasing self-competence if they were low in attractiveness ($\beta = -.27, p < .01$). Self-competence declined with age for high-avoidant individuals, whether high or low in attractiveness (βs = -.21, *p*s < .08). Thus, feeling attractive may protect low-avoidant (secure and preoccupied) individuals from an age-related decline in self-competence.[9] Consistent with Hypothesis 4, preoccupied individuals derive self-competence from an interpersonal source. However, this was not expected for secure individuals, who are low in anxiety.

Having examined the effects of age, I re-conducted the analyses controlling for age but omitting its interactions. This was advantageous because the increased degrees of freedom enabled the inclusion of all four domains in the same regression model, thus ensuring that associations were *uniquely* driven by a given domain.

[9] An age-related decline in self-competence is consistent with findings that children decrease in self-esteem when making a transition from elementary to middle school (Kernis & Goldman, 2003). A similar phenomenon may exist in the transition from college to university.

No attachment × domain interactions predicted self-liking. However, the Anxiety × Avoidance interaction significantly moderated the relevance of both relations and attractiveness to self-competence (see Table 4).[10]

Table 4

Multiple Regression Predicting Self-Competence from Attachment Dimensions and Domain-Specific Self-Views

	Step 1		Step 2		Step 3	
Predictor	β	*t*	β	*t*	β	*t*
Anxiety	.02	0.27	.02	0.37	.02	0.38
Avoidance	-.02	-0.44	-.04	-0.74	-.04	-0.77
Autonomy	.21	4.04***	.23	4.13***	.21	3.84***
Attractiveness	.21	3.87***	.22	3.87***	.18	3.16**
Mastery	.35	6.59***	.35	6.45***	.35	6.44***
Relations	.13	2.14*	.11	1.70†	.14	2.24*
Anxiety*Avoidance	-	-	.02	0.36	.03	0.45
Anx*Autonomy	-	-	-.09	-1.54	-.10	-1.76†
Anx*Attractiveness	-	-	-.04	-0.59	-.05	-0.84
Anx*Mastery	-	-	.04	0.75	.05	0.84
Anx*Relations	-	-	.08	1.18	.10	1.54
Avoi*Autonomy	-	-	-.03	-0.45	-.05	-0.83
Avoi*Attractiveness	-	-	.01	0.07	-.03	-0.44
Avoi*Mastery	-	-	-.03	-0.58	-.03	-0.55
Avoi*Relations	-	-	.01	0.22	.06	1.02
Anx*Avoi*Autonomy	-	-	-	-	.05	0.77
Anx*Avoi*Attractive	-	-	-	-	.15	2.14*
Anx*Avoi*Mastery	-	-	-	-	.09	1.38
Anx*Avoi*Relations	-	-	-	-	-.23	-3.18**
Overall $F(20, 253) = 11.21$, $R^2 = .47^{***}$						

Note. Age was controlled in Step 1. Anx = Anxiety; Avoi = Avoidance.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

[10] The Anxiety × Autonomy interaction became marginally significant in Step 3 of the model when three-way interactions were added (Table 4). However, because it was not significant at Step 2 when it was entered, it was not interpreted.

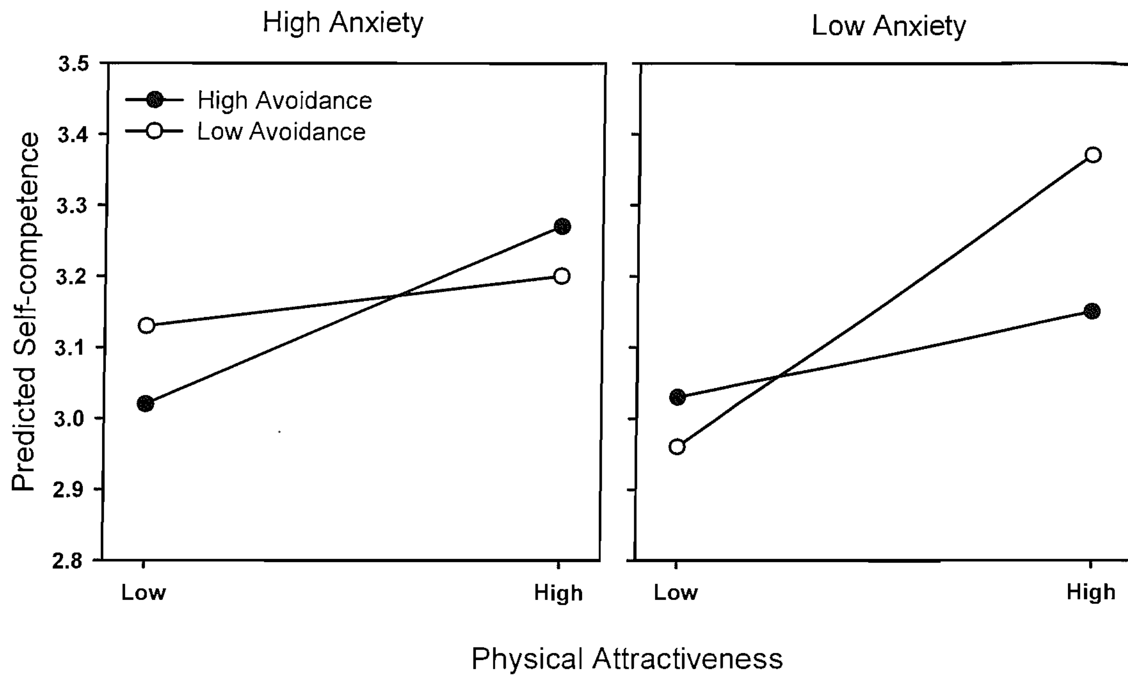

Figure 6. Simple slopes of self-competence on physical attractiveness at high and low attachment anxiety and avoidance.

Figure 6 depicts the Anxiety × Avoidance × Attractiveness interaction, estimating simple slopes of self-competence on attractiveness for each attachment style (e.g., secure attachment represented by one *SD* below the mean on anxiety and avoidance).[11] Simple slopes are presented in Table 5. Attractiveness was relevant to self-competence for secure and fearful individuals but not for preoccupied or dismissing individuals. Although simple slope differences were small, Figure 6 suggests that secure and fearful individuals felt more competent than other individuals when perceiving themselves as attractive (but not necessarily less competent when unattractive). These results support Hypothesis 4: fearful individuals derived self-competence from an interpersonal source. However, secure individuals again seemed to draw self-competence from attractiveness, suggesting that the finding depicted in Figure 5 is not just an artefact that appears with age.

[11] Throughout the thesis, I describe simple slopes by referring to "secure individuals", "preoccupied individuals", etc. This notation serves to aid brevity of expression: no assumptions are made about classification of individuals into categorical attachment styles. By "preoccupied individuals", for example, I mean *individuals with a highly preoccupied attachment pattern* (i.e., high in anxiety and low in avoidance). The anxiety and avoidance scores for each attachment style estimated in this way in the present sample are similar to normative scores reported by Brennan et al. (1998) for individuals categorised as secure, dismissing, preoccupied, and fearful. Estimated anxiety scores for all patterns are slightly higher than Brennan et al.'s participants, whereas the preoccupied pattern is slightly lower in avoidance.

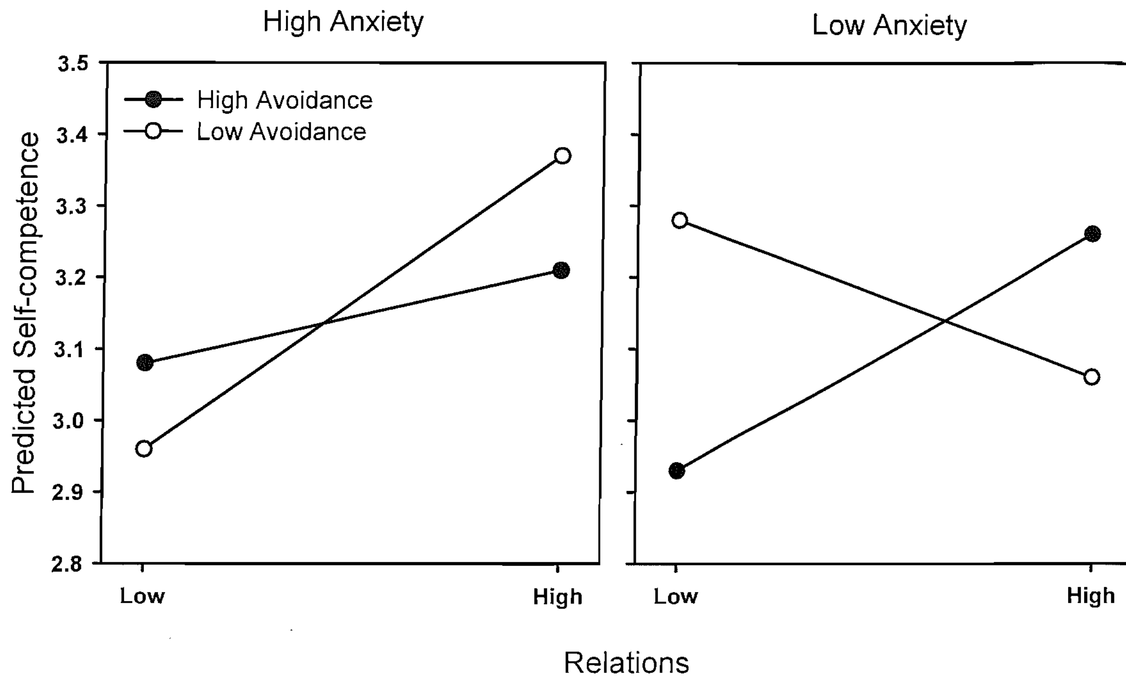

Figure 7. Simple slopes of self-competence on relations at high and low attachment anxiety and avoidance.

Figure 7 depicts the Anxiety × Avoidance × Relations interaction (see Table 5 for simple slopes). Relations were relevant to self-competence for preoccupied and dismissing individuals but not for fearful or secure individuals. Among individuals with high relations scores, preoccupied and dismissing individuals felt slightly more competent than other individuals, but among those with low relations scores, secure individuals felt most competent. These results support Hypothesis 4: preoccupied individuals derive self-competence from a normally relational source but secure individuals do not. However, dismissing individuals, who are low in anxiety and high in avoidance, were not expected to rely on relational sources for self-competence.

Discussion

The results of Study 1 provided some new insight into the sources from which individuals with different attachment orientations derive self-esteem, adding to a growing literature linking attachment to the structure and dynamics of self-representations. The main focus of Study 1 was to examine, in a new way, the relevance of different domains of self-view to self-liking and self-competence for individuals with different attachment models. The results were not as clear-cut as I had predicted, and effects were generally small. However, the findings were generally consistent with expectations, and some

Table 5

Simple Slopes Analyses following Anxiety × Avoidance × Domain Interactions Predicting Self-Competence

Relevance of each domain at each attachment style	Secure	Dismiss.	Preocc.	Fearful
Attractiveness	.35***	.10	.06	.22*
Relations	-.20	.29*	.35**	.11

Attachment differences at each level of self-view

		Attractiveness		Relations	
		High	Low	High	Low
Secure	< dismiss.	-.15†	.02	.18†	-.31*
	< preocc.	-.11	.10	.27**	-.28*
Fearful	> dismiss.	.09	.01	-.04	.13
	> preocc.	.04	-.07	-.14	-.11

Note. Dismiss = dismissing. Preocc = preoccupied.
† $p \leq .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

novel patterns were also observed. To ease interpretation, I discuss each pattern of attachment dimensions and accompanying strategies in turn. Again, this does not imply that any one individual would belong in only one category, but provides a convenient framework for discussion.

Highly Anxious Sources of Self-Esteem

High attachment anxiety theoretically develops within an inconsistent caregiving environment, and is characterised by hyperactivating attachment strategies, a chronic concern with relationships and approval, and interference with exploration (Ainsworth et al., 1978; Mikulincer et al., 2003). Consistent with this portrait, highly anxious individuals in the present sample appeared to rely on interpersonal domains of life to feel competent as well as likeable (Hypothesis 4). Specifically, preoccupied individuals derived self-competence from relationships and social acceptance, and fearful individuals (and older preoccupied individuals) from attractiveness. Physical attractiveness is a socially acceptable and desirable characteristic (Dion, Berscheid, & Walster, 1972; Eagly, Ashmore, Makhijani, & Longo, 1991), and thus could serve as a "safe" contingency of self-worth for fearful individuals because they may perceive more control over their appearance than other interpersonal sources (Park et al., 2004). However,

contrary to expectations (Hypothesis 1), anxiety did not moderate sources of self-liking. Because self-liking is generally based on interpersonal sources, the contribution of relationships to self-liking may be robust to individual differences.

These results mirror Park et al.'s (2004) findings that fearful and preoccupied individuals reported relying on physical attractiveness and/or others' approval for self-esteem. They are also consistent with evidence that high-anxious people desire approval and reassurance from others and will adapt their behaviour to gain it (Mikulincer, 1998b; Pietromonaco & Feldman Barrett, 2006; Shaver et al., 2005). Thus, individuals characterised by hyperactivating strategies need reassurance and input from other people not only to feel worthy but also to feel competent. Consistent with this notion are findings that partner feedback impacts anxious individuals' state self-competence (Carnelley et al., 2007), and that preoccupied individuals say partner feedback contributes to their general feelings of competence (Hepper, 2004). This may partly reflect the poorly differentiated nature of high-anxious individuals' self-structure, which also enables negative affect to spread and generalise easily (Mikulincer, 1995; Mikulincer & Orbach, 1995). The congruence between the present study and Park et al.'s suggests that highly anxious individuals have some awareness of the sources on which their self-esteem relies, consistent with the finding that anxious individuals accurately report their personalities (Onishi et al., 2001).

Highly Avoidant Sources of Self-Esteem

High attachment avoidance theoretically develops within a rejecting caregiving environment, and is characterised by deactivating attachment strategies, a defensive orientation away from relationships and towards exploration, and denial of attachment needs (Ainsworth et al., 1978; Mikulincer et al., 2003). Consistent with this portrait, highly avoidant individuals in the present study appeared to rely on competence-relevant domains of life to feel worthy and competent, to a greater extent than less avoidant individuals (Hypothesis 2 and 3). This pattern emerged more clearly with age, such that high-avoidant individuals derived self-liking increasingly from autonomy and self-competence increasingly from mastery as they got older. It appears, then, that daily successes and control are pivotal for their feelings of competence, whereas independence and self-reliance are pivotal for their feelings of worth. Highly avoidant individuals learn to like themselves not through *connections* with others, as is normative, but *separation* from others. Thus, deactivating strategies may trigger a compensatory response within the self-system: because the fulfilment of attachment needs is blocked as a source of self-

worth, self-esteem becomes wrapped up in the operation of the exploration system and fulfilment of exploration needs. This pattern was most evident among older participants, suggesting either that the tendency to rely on competence-relevant sources increases with age, or that the positive effects of this strategy on self-esteem levels are only apparent in adulthood. Crittenden (2002) described age 15-25, roughly the age span of the present sample, as the time in which working models are re-organised and re-integrated into adult patterns. A developmental approach to studying attachment avoidance in future would thus enable researchers to explore how it evolves through adolescence and adulthood.

Importantly, although dismissing individuals claim that their self-esteem is unconditional (Park et al., 2004), they *do* seem to base self-liking and self-competence on specific sources. If their self-esteem was truly self-sufficient or internally regulated, it should have been *less* connected to specific sources than other individuals', which was not the case for any domain. This is compatible with the suggestion that dismissing individuals' claims of non-contingent self-esteem (Park et al., 2004) reflect a motivation to self-present as self-reliant. It is also compatible with research suggesting that dismissing individuals lack insight about themselves (Gjerde et al., 2004; Onishi et al., 2001). Believing in the invincibility of one's self-esteem may be one way that avoidant individuals protect themselves from threat, echoing Mikulincer's (1998b; Mikulincer et al., 1998) findings regarding reported self-views after threat.

Unexpectedly, social relationships were linked to self-competence for dismissing individuals. It is possible that dismissing individuals see relationships as something that have to be *worked* at, so derive a sense of achievement from positive interpersonal experiences. This may be defensive; by construing relationships as a matter of ability rather than worthiness, one becomes less vulnerable to rejection. Alternatively, because the close relationships and social acceptance scales were so highly correlated and appeared to focus on social, rather than intimate, relationships (see Appendix A for items), it is possible that dismissing individuals boost competence by having many social acquaintances but fewer close friends. Consistent with this suggestion, Tidwell et al. (1996) found that although attachment was unrelated to amount of social interaction during a week, avoidant individuals interacted least often and for least time with each interaction partner. However, Mikulincer and Selinger (2001) found that high-avoidant individuals endorsed lower social affiliation motives in friendships than did low-avoidant individuals, suggesting an avoidant orientation even to non-intimate interaction. An alternative explanation was suggested by Carvallo and Gabriel (2006), who found that

positive social acceptance feedback boosted mood and state self-esteem for dismissing individuals. They suggested that dismissing individuals lack belongingness (a fundamental human need; Baumeister & Leary, 1995) so badly that given unambiguous cues of acceptance, they experience a true boost. Similarly, highly dismissing individuals in the current sample who found themselves part of a stable and accepting friendship or social group might use this acceptance to boost their self-esteem. This finding warrants future replication and exploration. In summary, the present results are most compatible with the view of dismissing individuals as having high but contingent self-esteem (Deci & Ryan, 1995), suggesting that they may maintain positive and relatively stable self-views by constantly striving to validate their sense of mastery and/or self-reliance, and may also experience higher self-competence to the extent that they perceive positive social relationships.

Secure Versus Insecure Sources of Self-Esteem

Secure individuals' sources of self-esteem can be inferred from patterns for low anxiety and avoidance. For individuals characterised by neither hyperactivating nor deactivating strategies, self-liking was based upon attractiveness and relationships (as expected), but also mastery. They derived self-liking from autonomy at age 17, but older participants' self-liking was high regardless of autonomy. Given the transitional nature of the age range included in the study, this pattern could derive from adolescents' drive to gain autonomy from parents, which may become less self-esteem-relevant in young adulthood (e.g., Allen & Land, 1999). In addition, secure participants' self-competence was based on mastery and autonomy, but was less dependent on either source than high-avoidant individuals'. Unexpectedly, attractiveness was related to secure individuals' high self-competence. Given that this domain was important to self-liking, secure individuals may use perceptions of attractiveness to boost feelings of competence. These findings generally suggest that secure individuals derive self-liking and self-competence from normative sources, but are less dependent on them than highly anxious or avoidant individuals. This pattern is consistent with the high self-esteem stability and non-contingent self-esteem of secure individuals (Brandt & Vonk, 2005; Foster et al., 2007; Park et al., 2004).

Finally, the present results suggest that one way in which highly fearful individuals may be disadvantaged is that their self-esteem is particularly contingent on specific sources. As well as normative sources, fearful individuals' self-liking relied on feeling autonomous, and their self-competence on feeling both masterful and attractive.

These sources span interpersonal and agentic arenas, suggesting that fearful individuals may be susceptible to a combination of hyperactivating and deactivating strategies. This dual approach is likely to leave fearful individuals highly vulnerable to ups and downs in both interpersonal and agentic areas of life (Crocker & Park, 2004). Because of their high attachment anxiety, these ups and downs may also readily generalise to the whole self and trigger spreading affect (Mikulincer & Orbach, 1995). Thus, contingent self-esteem may go some way to explaining fearful individuals' susceptibility to mental health difficulties (Crocker & Wolfe, 2001; Simpson & Rholes, 2002).

There were notable *consequences* for self-esteem when highly anxious and/or avoidant individuals relied on particular sources. Specifically, when an insecure individual held a positive self-view in a self-relevant domain, they tended to feel *equally* likeable or competent as more secure individuals, but when they held a negative self-view, they felt *lower* self-liking or competence. That is, perceiving domain-specific positivity merely raised self-esteem to a more normative level, never above it. Given that high anxiety and avoidance are consistently associated with low self-esteem (e.g., Bylsma et al., 1997; Collins & Read, 1990), insecure individuals' increased reliance on secondary sources of self-esteem appears not to be a successful strategy. This is consistent with Crocker, Karpinski, et al.'s (2003) study, in which high academic contingencies of self-worth were associated with dents, but not boosts, to daily self-esteem as a function of grades.

Strengths and Limitations

Study 1 was the first attempt to examine attachment differences in sources of self-esteem using a moderation approach to self-structure. This differed in important ways from the mediation approach used by Brennan and Bosson (1998), because it allowed me to decompose precise patterns of interaction and thus reveal more textured individual differences. It also differed from Park et al.'s (2004) study, which relied upon both insight and honesty among participants. Although Study 1 utilised self-report measures of all the constructs, the associations among those constructs were obtained using statistical tests rather than personal admissions. Items tapping all five domains of self-view were mixed up together, obscuring participants' conscious awareness of their different interrelations with self-esteem. Nevertheless, some self-presentation bias is likely in participants' responses, and such bias may differ systematically by attachment orientation. Thus, an alternative approach to the research question, for example examining implicit self-esteem, or close others' reports of self-esteem, may reveal

different results. In a recent study, Anthony et al. (2007, Study 3) examined the relevance of different personality traits to self-esteem by assessing the cognitive accessibility of the traits (via response latency tasks). In future, this approach could be used to examine in a different way whether, for example, individuals with high, compared to low avoidance are quicker to say that they possess competence-related traits (but not interpersonal traits) to the extent that they have high self-esteem.

Of course, other sources of self-esteem may be relevant. I based the measures chosen on Tafarodi and Swann's (1995, 2001) theorising, aiming to cover the proposed bases of both self-liking, which parallels fulfilled attachment needs (close relationships, social acceptance, and physical attractiveness), and self-competence, which parallels fulfilled exploration needs (dealing with everyday demands, goal attainment, successful manipulation of personal world, and autonomy). However, mastery emerged as consistently relevant to self-liking, despite theoretically representing an important source of self-competence. Of the retained environmental mastery scale items, most assessed the first competence dimension above. In future, it would be desirable to develop a measure to assess the second and third constructs. The Contingencies of Self-Worth Scale (Crocker, Luhtanen, et al., 2003) assesses other dimensions such as academic competence and competition, which, although they overlap with mastery, may also play a role for highly avoidant individuals.

The effects detected in this study were relatively small, partly because some were moderated by participants' age, and partly because of the subtle design (compared to, e.g., Park et al., 2004). Results suggest that there exist only small differences in self-esteem between insecure people who view the self negatively versus positively on a personal source of self-esteem. It may be that the overall link between attachment insecurity and low self-esteem is fairly stable by young adulthood; all measures required participants to generalise about aspects of their lives, meaning that the study tapped into "average" associations. Moment-to-moment or day-to-day fluctuations in self-esteem might be more closely tied to fluctuations in personally relevant domains.

Importantly, I make no causal assumptions about the links between self-related constructs. Although it is reasonable to suggest (and a fundamental tenet of attachment theory) that one's early caregiving history may influence attachment models, specific self-views, and global self-esteem, these constructs develop in parallel. Moreover, specific self-views do not contribute to self-esteem in a solely "bottom-up" process; the "top-down" influence of self-esteem on specific self-views must also be recognised (see Sedikides & Gregg, 2003). For example, individuals with higher self-esteem tend to

evaluate themselves more positively on specific traits, especially when important or desirable (Brown, Dutton, & Cook, 2001). However, the present results are also valid in a top-down framework: an individual with high self-esteem will be more motivated to regulate and report positive self-views in domains of high, compared to low, self-relevance. Thus, an avoidant individual with higher self-esteem may view him- or herself as more autonomous, whereas an anxious individual with higher self-esteem may view him- or herself as more attractive. Any influence is likely to be bi-directional and cyclical. Essentially, the present results reflect the link between specific and global self-views within the self-system, regardless of causal influence between them. Other limitations of this study, including the predominance of females in the sample and the fact that all participants were students or university graduates, apply to all the present studies. These and related limitations will be discussed in detail in Chapter 6.

Conclusions

The findings of Study 1 lend further support to the thesis that the self-esteem of people characterised by different attachment strategies is invested in, or wrapped up in, different goals and areas of life. Consistent with suggestions by Brennan and Morris (1997), the experience of high or low self-esteem may be very different depending on one's attachment models. Thus, feedback pertaining to those specific sources will activate different motives, reactions, and behaviour among individuals with different attachment histories. In Chapter 1, I reviewed evidence that self-motives and reactions to feedback vary by both chronic individual differences (e.g., self-esteem level) and characteristics of feedback (e.g., personal importance). Therefore, attachment dimensions might provide a valuable framework to help understand and predict the ways that people approach and respond to feedback in different domains and the dynamic processes by which those people's self-views are regulated and maintained. The following studies aim to examine the implications of attachment differences in sources of self-esteem for self-view regulation in the context of everyday feedback. Specifically, Chapter 3 begins by examining the first component of the self-esteem regulation cycle: feedback-seeking.

CHAPTER III

Study 2: Attachment Differences in Seeking Hypothetical Feedback

Study 1 provided support for my overall proposal that attachment orientation is related to the organisation of self-views: different types of self-view were more closely related to self-liking and self-competence depending on one's level of attachment anxiety and avoidance. In this way, I extended the findings of Brennan and Morris (1997), Brennan and Bosson (1998), and Park et al. (2004) by examining attachment differences in sources of self-esteem from a new angle. Convergent evidence from these three studies and my own suggest that, indeed, one's personal attachment history may influence the areas of life on which one relies to feel worthy and competent by increasing the connection between self-esteem and the fulfilment of affect-regulation goals. In particular, the higher one's attachment anxiety, and corresponding reliance on hyperactivating strategies (Mikulincer et al., 2003), the more one's self-esteem depends on external cues of approval, affection, and attractiveness from other people. The higher one's attachment avoidance, and corresponding reliance on deactivating strategies, the more one's self-esteem depends on skills, success, and self-reliance, although dismissing individuals are reluctant to admit to this (Park et al., 2004). As suggested by Deci and Ryan (1995), having contingent self-esteem renders a person dependent on continual validation to regulate feelings of worth. Moreover, people are especially likely to seek that validation in domains that are relevant to their particular contingencies (Crocker & Wolfe, 2001). The overarching goal of Study 2 was to expand on the findings of Study 1 by examining the ways that individuals with different attachment models seek feedback in these personally important domains of life.

Feedback-Seeking in the Context of Self-View Maintenance

Individual differences in sources of self-esteem have important implications for functioning and motivations in both interpersonal and competence-related areas of everyday life. For example, a highly anxious individual whose self-esteem relies on feeling accepted and included would be motivated to obtain proof of their acceptance and approval. Thus, in a social interaction context, s/he may seek to elicit cues of acceptance from the interaction partner. S/he may also, however, fear rejection and be oversensitive to cues of rejection from the other person. These features are all associated with a

hyperactivated attachment system (Mikulincer & Florian, 1998) and have been demonstrated in research showing links between attachment anxiety and rejection-sensitivity (Downey & Feldman, 1996) and excessive reassurance-seeking (Shaver et al., 2005). As an opposing example, a highly avoidant individual whose self-esteem relies on feeling masterful and independent would be motivated to obtain proof of their skill and independence. Thus, in a social or other context, s/he may seek to achieve high scores, outperform others, elicit cues that others are impressed, and shun offers of help. These features are consistent with evidence that high-avoidant individuals are motivated to view themselves as separate from others and self-reliant (Collins & Read, 1994), especially when threatened (Hart et al., 2005; Mikulincer, 1998b), overachieve at work, and consider work more important than love to life satisfaction (Hazan & Shaver, 1990).

One important way of learning about one's standing relative to a desired self-perception, and thus regulating self-views, is by seeking self-relevant feedback. Feedback is an important source of information that enables people to maintain and develop self-knowledge and self-evaluations. It takes many forms, including verbal and non-verbal information from others, success or failure on tasks, and social comparisons. The dynamic nature of self-esteem regulation motivates people to pursue this information; research shows that people seek feedback frequently in everyday life (Taylor et al., 1995). According to self-enhancement theory, people are particularly motivated to seek positive feedback in order to boost self-esteem (Sedikides, 1993; Sedikides & Gregg, 2003). Furthermore, this motivation is particularly strong when feedback pertains to a personal source of self-worth (Crocker & Park, 2004; Dunning, 1995; Sedikides & Strube, 1997). Therefore, different types of feedback may be personally relevant and personally motivating depending on one's attachment orientation. Better understanding of these motives and their manifestations will contribute significantly to the overall picture of how attachment differences in intrapersonal and interpersonal functioning, in both relationship and work contexts, are maintained.

Individual differences in feedback-seeking patterns may take several forms. For example, one can be generally more open or averse to receiving feedback: one can enter into conversations about oneself, welcome others' opinions, and undertake diagnostic tasks; or else divert conversation topics away from oneself and avoid tasks that provide feedback. Additionally, one can selectively seek certain types of feedback (i.e., positive or negative): one can enter into conversations with people who have a favourable or unfavourable opinion of the self; ask positive or negative leading questions within conversations; and undertake tasks with a higher or lower probability of failure. Thus,

here I consider how attachment models might influence both *openness to feedback* and *positivity of selective feedback-seeking*.

Although in general people desire feedback, especially positive feedback, there are individual differences in the extent to which this is true. In particular, individuals with higher self-esteem show a greater proclivity to self-enhance (seek positivity about the self), whereas those with low self-esteem are more likely to self-protect (avoid negativity about the self) (Crocker & Park, 2004; Sedikides & Gregg, 2003; Tice, 1991). Attachment anxiety is negatively associated with self-esteem (Griffin & Bartholomew, 1994; Luke et al., 2004; Study 1 of this thesis). Thus, one might predict that secure and dismissing individuals would self-enhance by evidencing high openness to feedback and seeking positive feedback in personally important areas of life (i.e., interpersonal and competence domains respectively). However, if dismissing individuals' self-esteem is contingent, they might evince self-protection by avoiding negative feedback as well. In contrast, fearful and preoccupied individuals would be likely to self-enhance less, but would self-protect by showing low openness to negative feedback in personally important areas (i.e., interpersonal and, for fearful individuals, competence domains).

Indirect evidence also suggests that general openness to feedback might vary as a function of attachment models. Insecure individuals, especially those high in avoidance, do not readily integrate new information into representations of self and others (Green-Hennessy & Reis, 1998; Mikulincer & Arad, 1999). High-avoidant individuals also defensively exclude relationship-relevant information from mental and emotional processing (Bowlby, 1980; Edelstein, 2006; Fraley et al., 2000; Mikulincer & Orbach, 1995) and seek little support from others (DeFronzo et al., 2001; Simpson et al., 1992). This defensiveness may foster a general aversion to feedback among high-avoidant individuals, particularly from other people or about relationships. However, evidence that defensive deactivating strategies are specific to attachment-related information (Diamond & Hicks, 2005; Mikulincer, Gillath, et al., 2002) suggests that high-avoidant individuals may welcome feedback about their abilities and independence. In contrast, high-anxious individuals rely on external input to form their self-concept (Park et al., 2004), are generally keen for information about their relationships (Rholes et al., 2007) and seek reassurance to an excessive degree (Shaver et al., 2005). Thus, they may welcome feedback from others and seek it eagerly. It is unclear whether fearful individuals would resemble more closely the patterns associated with high avoidance or high anxiety, given that they possess both (Bartholomew & Horowitz, 1991) and may rely on both interpersonal and competence sources of self-esteem (Park et al., 2004; Study 1 of this

thesis). Secure individuals are likely open to, but not over-reliant on, feedback: they can maintain a stable self-concept using their internalised self-model but are simultaneously open to new information because accurate self-knowledge is adaptive (Kumashiro & Sedikides, 2005; Trope, 1982).

Research on Attachment and Feedback-Seeking

Attachment differences in *openness to feedback* have not been extensively studied. Brennan and Bosson (1998) and Carnelley et al. (2007, Time 1) asked participants about their general opinions and experiences regarding feedback from their romantic partners. Both studies supported the predictions that secure individuals would be most open to feedback whereas highly avoidant individuals (especially dismissing individuals) would be most averse to feedback. Rholes et al. (2007) asked participants who expected to undergo a stressful procedure how much they wanted information in a personalised computer profile about their relationship characteristics and career. Under stress, attachment anxiety was associated with higher desire for negative relationship feedback and lower desire for positive relationship feedback, whereas avoidance was associated with higher desire for career feedback and negative relationship feedback. Thus, when feedback is about relationships but from an objective source, and is offered under conditions of stress, insecure individuals seem more open than secure individuals to negative feedback. Supporting my overall proposal, high-avoidant individuals were more open to career (i.e., competence-related) feedback, although Rholes et al. (2007) did not separate positive versus negative career information.

Five studies have assessed the effects of attachment orientation on interpersonal *selective feedback-seeking* (Brennan & Bosson, 1998; Brennan & Morris, 1997; Carnelley et al., 1999, 2007; Cassidy et al., 2003). All five employed a hypothetical forced-choice measure, in which participants were asked whether they would prefer to hear either their romantic partner (Brennan & Bosson, 1998; Brennan & Morris, 1997; Carnelley et al., 2007), a hypothetical partner who fits the description of a particular attachment style (Carnelley et al., 1999), or a peer (Cassidy et al., 2003) say positive or negative things about them. All except Carnelley et al. (1999), which used a very different design, supported the prediction that secure individuals would be most likely to seek positive feedback. Thus, preliminary support for attachment differences in feedback-seeking has been demonstrated in interpersonal domains. These researchers, however, did not systematically distinguish between seeking feedback about relationship qualities and seeking feedback about abilities.

Previous research therefore supports the notion that secure individuals have the most adaptive approach to feedback-seeking in the context of romantic relationships. However, no research has systematically examined the role of attachment patterns in seeking feedback from non-romantic others or competence experiences. In addition, the two studies that assessed openness to feedback from romantic partners did not distinguish between positive and negative feedback and relied upon retrospective reports of typical experiences. Rholes et al.'s (2007) study, though it assessed openness, did not separate positive and negative competence feedback and involved only stressed participants. Given that people generally receive feedback in the course of everyday life, when they may or may not be stressed, it is important to examine feedback-seeking patterns in everyday self-view maintenance. Moreover, nuanced individual differences in sources of self-esteem (e.g., Park et al., 2004; Study 1 of this thesis) mean that it is crucial to distinguish feedback in different areas of life (e.g., social acceptance vs. intimate relationships; independence vs. success).

Overview and Hypotheses

Study 2 was designed to address the omissions identified above by examining the feedback-seeking patterns of individuals with different attachment models in both interpersonal and competence areas of life. In particular, Study 2 extended prior research in three fundamental ways: it was not restricted to the context of romantic partners; it systematically examined feedback about both interpersonal and competence attributes; and it assessed openness to positive and negative feedback directly (rather than retrospectively). I conducted a survey in which participants imagined receiving positive and negative feedback about various domains of the self from a same-sex friend. These domains were relevant to either interpersonal attributes (*close relationships*, *social acceptance*, *physical attractiveness*) or competence attributes (*mastery*, *autonomy*). This created a four-factor design with two within-participants factors (feedback domain and valence) and two continuous individual difference variables (attachment anxiety and avoidance). Participants reported their openness to positive and negative feedback in each domain, and then selected the type of feedback (from positive and negative options) that they preferred to receive in each domain. My hypotheses address the effects of attachment models on openness to feedback and positivity of choice in interpersonal and competence domains.

Openness to Feedback

In interpersonal domains, I expected high-avoidant individuals' defensive organisation of cognition and emotion regarding social interactions and relationships to lead them to avoid feedback. Although the personal *relevance* of interpersonal feedback is linked to attachment anxiety (e.g., Park et al., 2004), the *ability* to take in interpersonal feedback is linked to avoidance. Individuals high in both anxiety and avoidance (i.e., fearful) have competing motives to approach and avoid feedback and may report moderate openness. Thus, in the domains of relationships, acceptance, and attractiveness, I hypothesised that avoidance would be negatively associated, and anxiety positively associated, with openness to feedback (*Hypothesis 1*).

In competence domains, personal relevance of feedback is linked to attachment avoidance. Among those with high avoidance, dismissing individuals have the positive self-model to enable self-enhancement, so should be open to competence feedback. However, fearful individuals have negative self-models, so are more prone to self-protection and should be low in openness to feedback. Among those with low avoidance, secure individuals may self-enhance due to their high self-esteem, whereas preoccupied individuals are not motivated to self-enhance because competence is not self-relevant. Thus, in the domains of mastery and autonomy, I expected attachment anxiety (but not avoidance) to be negatively associated with openness to feedback (*Hypothesis 2*).

Positivity of Feedback Choice

In interpersonal domains, as described above, secure individuals should self-enhance, but fearful and preoccupied individuals are less likely to do so (due to low self-esteem) and dismissing individuals are not motivated to do so (because interpersonal feedback is not self-relevant). Thus, in the domains of relationships, acceptance, and attractiveness, attachment anxiety and avoidance should be negatively associated with feedback-seeking positivity (*Hypothesis 3*). In competence domains, those with low anxiety are likely to self-enhance: dismissing individuals are motivated because feedback is highly self-relevant, whereas secure individuals have high self-esteem. Those with high attachment anxiety are less likely to self-enhance: fearful individuals are unable to (because although competence is self-relevant, they have low self-esteem), and preoccupied individuals are not motivated to (because competence is not self-relevant). Thus, in the domains of mastery and autonomy, I expected attachment anxiety (but not avoidance) to be negatively associated with feedback-seeking positivity (*Hypothesis 4*).

The Role of Self-Esteem

Finally, given the links between attachment and self-esteem, and between self-esteem and self-enhancement, it could be argued that attachment differences in feedback-seeking can be explained by self-esteem levels. Indeed, Cassidy et al. (2003) found that secure children's positive feedback-seeking was mediated by their higher self-esteem. Therefore, I tested self-esteem as a mediator of the links between attachment and feedback-seeking. However, the processes underlying attachment differences in self-concept and behaviour are more complex than valence alone. For example, attachment differences in reactions to partner behaviour and coping with stress are independent of self-esteem (Collins, Ford, et al., 2006; Mikulincer & Florian, 1998). I therefore predicted that attachment differences in feedback-seeking would *not* be accounted for solely by self-esteem (*Hypothesis 5*).

Method

Participants

Data for Study 2 were collected at the same time as those for Study 1. Therefore, the sample, recruitment, and procedure were the same for both studies. Data from the 302 final participants described in Study 1 were used in Study 2 (78% female; 98% heterosexual; M_{AGE} = 18.7; 53% currently in a romantic relationship).

Materials and Procedure

Participants either participated in a classroom or in private. They completed two ostensibly separate questionnaire packets, the first containing measures of attachment and self-esteem, the second a filler measure followed by the feedback-seeking measures. Afterward, participants were thanked and debriefed.

Attachment and self-esteem. Attachment dimensions were assessed with Brennan et al.'s (1998) ECR, as in Study 1. Anxiety and avoidance were weakly correlated (Table 1). Self-liking and self-competence were assessed with Tafarodi and Swann's (2001) SLCS-R, as in Study 1. The two SLCS-R subscales were moderately correlated (Table 1), and for Study 2 all items were averaged to assess self-esteem (α = .90).

Filler items. To reduce the possibility that participants were primed with attachment or self-esteem concepts when completing the feedback-seeking measure, they completed a filler scale indicating leisure activities they regularly engaged in.

Hypothetical feedback-seeking. I adapted the Feedback-Seeking Questionnaire (Swann, Wenzlaff et al., 1992) to assess openness to feedback and positivity of feedback choice in the domains of *close relationships*, *social acceptance*, *physical attractiveness*, *mastery*, and *autonomy*.[1] Participants were asked to imagine that a same-sex friend was answering questions about the participant. They were presented with 30 leading questions, including three positive and three negative in each domain (e.g., for the domain of relationships, a positive question was "What makes this person particularly good at maintaining close relationships?", and a negative question was "What problems might this person have with intimacy and closeness?"). Participants indicated openness to feedback by rating how much they wanted to overhear the friend's response to each question, from 1 (*definitely not*) to 7 (*very much*). Average openness was computed for each domain and valence of feedback. Participants then circled, for each domain, the *two* questions out of six to which they would choose to hear the response. Positivity of feedback choice for each domain was indicated by the number of positive choices out of a possible two. The final measure is contained in Appendix C.

Results

Analysis Strategy

Results are presented according to dependent variable: openness to feedback and positivity of feedback-seeking. For each, the effects of attachment and feedback type (domain: relationships, acceptance, attractiveness, mastery, autonomy; and, for openness, valence: positive, negative) were tested using mixed ANCOVAs with anxiety and avoidance entered as covariates (covariates are indicated hereafter by a + sign). This strategy tested whether the associations between attachment dimensions and feedback-seeking differed by feedback valence and/or domain. For interactions where effects differed by domain, within-subjects simple contrasts were used to reveal the domains between which a particular effect differed.

To probe the specific nature of attachment effects, I then conducted a set of multiple regressions predicting each feedback type from attachment anxiety, avoidance,

[1] To develop the feedback-seeking measure, I designed a pool of positive and negative questions in each domain (with the assistance of two undergraduate students). Questions were selected and refined based on an independent sample of 29 undergraduates' ratings of (a) valence of each question's likely response, and (b) the extent to which it assessed each domain. The final questions were distinctly positive or negative, and tapped the intended domain but *not* other domains (see Appendix B for details of this pretest). Filler items in the domain of sporting ability were also included in the main study to minimise the salience of the hypothesis-relevant items. No significant attachment effects were found in this domain.

and their interaction. Significant interactions were probed by calculating simple slopes (Aiken & West, 1991) as in Study 1. This overall analysis strategy accounted for the correlations between openness to different types of feedback (in the ANCOVA) but also allowed me to examine relationships at specific levels of the variables and derive standardised coefficients and squared multiple correlations (in regressions). The pattern of significant and non-significant regression coefficients was interpreted in line with within-subjects contrasts obtained in ANCOVA.

Openness to Feedback

Data for the ten *openness* variables were non-normally distributed: two (positive acceptance and attractiveness) were negatively skewed and several outliers were present, which appeared to be legitimate data. Logarithmic transformations reduced skew and eliminated univariate outliers, so analyses were conducted on transformed data. Two multivariate outliers, $\chi^2_{\text{critical}}(14, \alpha = .001) = 36.1$, altered some results so were excluded. Due to missing data, $N_{\text{OPENNESS}} = 298$. Table 6 displays mean openness to each type of feedback. Participants were more open to positive than negative feedback in all domains, and were generally more open to interpersonal than competence feedback.

Table 6

Descriptive Statistics for Hypothetical Feedback-Seeking

Domain	Openness Mean		Openness *SD*		Choice	
	Positive	Negative	Positive	Negative	*M*	*SD*
Relationships	5.58_b	4.81_a	0.90	1.27	1.19_{ab}	0.75
Acceptance	5.80_a	4.80_a	0.92	1.49	1.16_{ab}	0.78
Attractiveness	5.66_{ab}	4.55_b	1.18	1.49	1.26_a	0.78
Mastery	5.19_c	4.68_{ab}	0.98	1.15	1.10_b	0.78
Autonomy	5.09_c	4.66_{ab}	1.00	1.21	1.15_{ab}	0.79
Total	5.47	4.70	0.82	1.11	1.17	0.53

Notes. $N = 298$ for openness and $n = 292$ for choice.
Openness ranges from 1 to 7. All means for positive feedback were higher than for negative feedback (*ps* < .05). Choice scores represent number of positive choices out of two. Mean choice in all domains was more positive than expected by chance (i.e., 1), *ts*(291) range from 2.15, $p < .05$ to 6.50, $p < .001$. For both variables, means within the same column that do not share a subscript differ at $p < .05$ in planned pairwise comparisons with Bonferroni adjustments.

To test hypotheses, a 5 (domain) × 2 (valence) + anxiety + avoidance ANCOVA was conducted on openness to feedback. There was no main effect of attachment, but significant interactions emerged between Domain × Anxiety and Valence × Anxiety × Avoidance, as did marginal interactions between Valence × Avoidance and Domain × Valence × Anxiety × Avoidance (see note to Table 7 for *F* statistics). Thus, attachment dimensions were differently related to openness to different types of feedback.

I first regressed openness to positive and negative feedback (averaged across domains) on attachment to probe the Valence × attachment interactions (Table 7, top row of each section). Avoidance was negatively associated with openness to positive feedback. This effect was also negative for every domain-specific regression, but only reached significance for relationships and approached it for acceptance. This supported Hypothesis 1, suggesting that high-avoidant individuals are most averse to positive feedback if it pertains to their interpersonal qualities. Openness to negative feedback was predicted only by Anxiety × Avoidance. Simple slopes analyses showed that fearful individuals (high in anxiety and avoidance) were least open to negative feedback compared to individuals with all other combinations of anxiety and avoidance (fearful vs. dismissing $\beta = -.20, p < .05$; fearful vs. preoccupied $\beta = -.14, p = .09$), who did not differ from one another (βs < .07, *ns*). Thus, the Valence × Anxiety × Avoidance ANCOVA interaction indicated that individuals high in avoidance were relatively averse to positive feedback, and those who were high in both avoidance and anxiety were also averse to negative feedback.

Regarding the Domain × Anxiety ANCOVA interaction, the association between anxiety and openness to feedback differed for interpersonal versus competence domains.[2] Regressions (Table 7) showed that individuals with high, compared to low, anxiety were less open to both positive and negative feedback about both mastery and autonomy but not interpersonal domains. This was consistent with Hypothesis 2.

Finally, the marginal four-way interaction showed that the Anxiety × Avoidance × Valence interaction in the domain of autonomy differed most from the other domains.[3]

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[2] Within-subject contrasts showed that the effects of anxiety in the domains of mastery and autonomy differed significantly from relationships, Fs > 8.49, ps < .01, and slightly from acceptance and attractiveness, Fs > 2.60, ps ranging from .05 to .11, but effects of anxiety within interpersonal or competence domains did not differ from one another, Fs < 1.

[3] Within-subject contrasts showed that the Anxiety × Avoidance × Valence interaction in the domain of autonomy differed from all interpersonal domains, Fs > 4.96, ps < .07, which did not differ from one another, Fs < 1. The Anxiety × Avoidance × Valence interaction in the domain of mastery fell in between, and did not differ from any domain, Fs < 2.61, ps > .10.

Table 7

Hierarchical Regressions Predicting Openness to Hypothetical Feedback from Attachment Dimensions

Feedback Type	Step 1			Step 2		Total
	Anx β	Avo β	F_{change}	Anx × Avo β	F_{change}	R^2
Positive						
Overall	-.06	-.14*	3.63*	.02	—	.02†
Relationships	-.03 $_a$	-.16** $_a$	4.23*	-.00 $_a$	—	.03*
Acceptance	-.03 $_a$	-.10† $_a$	1.63	.07 $_a$	1.31	.02
Attractiveness	.03 $_a$	-.08 $_a$	1.11	.07 $_a$	1.40	.01
Mastery	-.11† $_b$	-.06 $_a$	2.43†	-.01 $_{ab}$	—	.02
Autonomy	-.12* $_b$	-.06 $_a$	3.05*	-.10† $_b$	2.84†	.03*
Negative						
Overall	-.09	-.03	1.29	-.11*	3.78*	.02†
Relationships	.01 $_a$	-.00 $_b$	—	-.09 $_b$	2.42	.01
Acceptance	-.05 $_a$	-.01 $_b$	—	-.08 $_b$	2.04	.01
Attractiveness	-.06 $_a$	.02 $_b$	—	-.05 $_b$	—	.01
Mastery	-.11* $_b$	-.01 $_b$	1.95	-.09 $_b$	2.38	.02
Autonomy	-.13* $_b$	.02 $_b$	2.59†	-.09* $_b$	3.77*	.03*

Notes. $N = 298$. Anx = Anxiety, Avo = Avoidance. Coefficients for anxiety and avoidance did not alter in Step 2, so are omitted for brevity. — indicates $F < 1$. Coefficients within a column that do not share a subscript indicate different levels of an interaction in 4 (domain) × 2 (valence) + anxiety + avoidance ANCOVA.
ANCOVA: Main effects of attachment Fs < 1.95, *ns*.
Domain × Anxiety: $F(2.9, 840) = 3.07, p < .05$.
Valence × Avoidance: $F(1, 294) = 3.28, p = .08$.
Valence × Anxiety × Avoidance: $F(1, 294) = 4.86, p < .05$.
Domain × Valence × Anxiety × Avoidance: $F(3.7, 1074) = 2.02, p = .096$.
All other attachment interactions Fs < 1.76, ps > .13.
$^† p < .09$, $^* p < .05$, $^{**} p < .01$, $^{***} p < .001$.

In regressions, this pattern was shown by Anxiety × Avoidance predicting openness to positive feedback only in the domain of autonomy. Simple slopes showed that fearful individuals were the least open to feedback (fearful vs. dismissing and preoccupied: βs = -.22 and -.16, $ps < .05$; secure vs. dismissing and preoccupied: βs < |.04|, *ns*). The four-way ANCOVA interaction thus indicated that compared to individuals with other

attachment patterns, fearful individuals were markedly less open to *negative* feedback in every domain, but they were only less open to *positive* feedback about autonomy.

In summary, theory-consistent attachment differences were found in openness to different types of feedback. Partially supporting Hypothesis 1, participants with high, versus low, avoidance were less open to interpersonal feedback only when feedback was positive. Thus, highly avoidant individuals appear relatively averse to praise, but not criticism, about their relationships and acceptance. They were also, surprisingly, less open to positive feedback about mastery. Consistent with Hypothesis 2, participants with high, versus low, anxiety were less open to competence feedback. Finally, fearful participants (high in anxiety and avoidance) were the most averse to negative feedback across the board and positive autonomy feedback.

Interpretation of these patterns indicates that secure individuals in this sample were the most open to feedback in general. Dismissing individuals, who have high avoidance but low anxiety, were equally open to most feedback as secure individuals, with the exception of positive interpersonal and mastery feedback. Preoccupied individuals, who have high anxiety but low avoidance, were as open to interpersonal feedback as secure individuals but less open to competence feedback. Fearful individuals were the least open to feedback: because of their high anxiety they shun competence feedback, because of their high avoidance they shun positive interpersonal feedback, and because of their unique combination of both, they also shun negative feedback and positive autonomy feedback more than any other style. Overall, results support my predictions that insecurity would be negatively associated with openness and that different patterns would emerge for interpersonal and competence domains.

Positivity of Feedback Choice

Four domain-specific choice variables were platykurtic due to the limited range; however, I analyzed raw data because transformation did not eliminate kurtosis. Because of missing data, $N_{\text{CHOICE}} = 292$. Average choices in each domain (Table 6) showed that participants chose slightly more positive feedback than expected by chance. To test predictions, a 5 (domain) + anxiety + avoidance ANCOVA was conducted on positivity of feedback choice (see note to Table 8 for F statistics). Age was entered as a covariate because it correlated negatively with feedback choice in the domains of autonomy and mastery ($rs = -.13$ and $-.12$, $ps < .05$). The ANCOVA revealed main effects of avoidance and Anxiety × Avoidance. There were also significant Domain × Avoidance and Domain × Anxiety interactions, showing that attachment effects varied across domains.

Table 8

Hierarchical Regressions Predicting Positivity of Hypothetical Feedback Choice from Attachment Dimensions

Feedback Domain	Step 1			Step 2		Total
	Anx β	Avo β	F_{change}	Anx × Avo β	F_{change}	R^2
Overall	-.05	-.16**	4.50**	.10†	3.03†	.05***
Relationships	-.07 $_{ab}$	-.29*** $_{a}$	11.67***	.12* $_{a}$	4.61*	.12***
Acceptance	-.00 $_{a}$	-.05 $_{b}$	—	.05 $_{a}$	—	.00
Attractiveness	.04 $_{a}$	-.04 $_{b}$	—	.02 $_{a}$	—	.00
Mastery	-.11† $_{b}$	-.11* $_{b}$	4.22**	.11* $_{a}$	3.87*	.06**
Autonomy	-.15** $_{b}$	-.06 $_{b}$	4.63**	.04 $_{a}$	—	.05**

Notes. $N = 292$. Anx = Anxiety; Avo = Avoidance. Age was controlled for in Step 1. Coefficients for anxiety and avoidance did not alter when the interaction was added in Step 2, so are omitted for brevity.
Means within the same column that do not share a subscript indicate different levels of an interaction in 5 (domain) + anxiety + avoidance ANCOVA (shown by within-subject contrast Fs(1, 294)). — indicates $F < 1$.
ANCOVA Main Effects ($df = 1, 287$): Anxiety $F = 2.02, p = .16$, Avoidance $F = 7.02$, $p < .01$, Anxiety × Avoidance $F = 3.06, p = .07$.
Domain × Avoidance: $F(3.8, 1084) = 5.31, p < .001$.
Domain × Anxiety: $F(3.8, 1084) = 2.70, p < .05$.
Domain × Anxiety × Avoidance: $F < 1$.
† $p \leq .07$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Regressions (Table 8) showed that avoidance was negatively associated with feedback choice in all domains, but the coefficient was largest for relationships compared to the other four domains.[4] Thus, consistent with Hypothesis 3, individuals with high, versus low, avoidance chose slightly more negative feedback in all domains, but particularly about their close relationships. In addition, consistent with Hypothesis 4, individuals with high, versus low, attachment anxiety chose more negative feedback only about their competence.[5]

[4] Within-subject contrasts showed that the effect of avoidance in the domain of relationships differed significantly from the other four domains, $F(1, 287) > 7.80$, $ps < .01$, which did not differ from one another, $Fs < 1.79$, $ps > .18$.

[5] Within-subject contrasts showed that the effect of anxiety did not differ within interpersonal domains, $Fs < 2.11$, $ps > .14$, or within competence domains, $F < 1$. The effects of anxiety for mastery and autonomy differed from both acceptance and attractiveness, $Fs > 2.79$, ps ranging from .01 to .096, though not from relationships, $Fs < 1.99$, $ps > .16$.

Finally, I decomposed the marginally significant Anxiety × Avoidance interaction. Although this coefficient did not vary significantly across domains, the effects of anxiety and avoidance did, meaning that the pattern of attachment styles might also differ. Because the interaction did not even approach significance for three domains, decomposed patterns of attachment effects in these domains would not be meaningful. Therefore, I calculated simple slopes for relationships and mastery choices. Both are shown in Figure 8. For relationships, consistent with Hypothesis 3, secure individuals chose the most positive feedback and high-avoidant individuals the most negative, with preoccupied individuals in between (secure vs. preoccupied: $\beta = -.17, p < .05$; secure vs. dismissing: $\beta = -.41, p < .001$; fearful vs. preoccupied: $\beta = -.19, p < .05$; fearful vs. dismissing: $\beta = .05$, *ns*). For mastery, secure individuals sought the most positive feedback compared to individuals with all other combinations of anxiety and avoidance ($\beta s = -.21, ps < .01$), who did not differ from one another ($\beta s < .07$, *ns*).

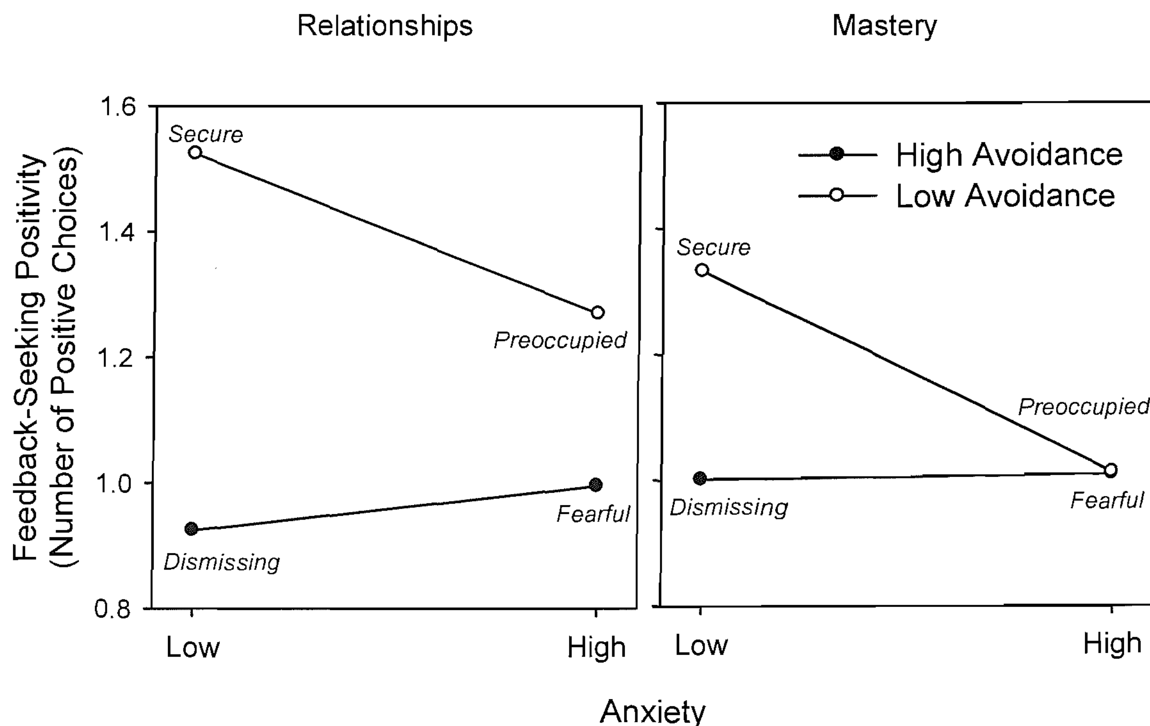

Figure 8. Simple slopes for positivity of hypothetical feedback choice in the domains of close relationships (left panel) and mastery (right panel) on attachment anxiety and avoidance.

In summary, secure individuals sought the most positive feedback overall and high-avoidant individuals the most negative, consistent with predictions and previous research (e.g., Brennan & Morris, 1997). In addition, preoccupied individuals sought some positive feedback about relationships. These patterns were consistent with Hypothesis 3: highly avoidant participants sought negative feedback about interpersonal qualities, whereas preoccupied individuals sought some positive relationship feedback. However, results were only partly consistent with Hypothesis 4: although dismissing individuals sought positive feedback about autonomy, they did not seek positive feedback about mastery. This suggests that dismissing individuals are not likely to seek feedback about their mastery from a friend.

The Role of Self-Esteem

Analysis strategy. I next examined whether attachment differences in feedback-seeking were mediated by self-esteem (Hypothesis 5). To meet the criteria for mediation, a mediator must correlate with the independent variable (i.e., attachment dimensions) and must significantly predict the dependent variable (i.e., feedback-seeking) when controlling for the independent variable(s) (Baron & Kenny, 1986). Self-esteem correlated negatively with anxiety and avoidance (rs = -.47 and -.26, ps < .001), but not with the Anxiety × Avoidance interaction, $r = .02$, $p = .72$. Thus, patterns associated with the interaction could not be directly mediated. I first conducted simple regressions predicting feedback-seeking outcomes from self-esteem. For each criterion predicted by both attachment and self-esteem, I then conducted a hierarchical regression to examine whether previously significant attachment effects (entered at Step 1) decreased when self-esteem was entered at Step 2. I also conducted a formal test of the indirect effect of attachment via self-esteem. Because Baron and Kenny's (1986) method for testing mediation lacks statistical power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), and distributions of indirect effects typically violate parametric assumptions (Bollen & Stine, 1990), authors have recommended bootstrapping to test indirect effects (Preacher & Hayes, 2004; Shrout & Bolger, 2002). Thus, I estimated the indirect effects of attachment on feedback-seeking via self-esteem by drawing 2,000 bootstrap samples from the data and calculating the indirect effect in each one. A confidence interval for the size of the effect, based on the 2,000 estimates, was judged significant if it did not include zero.

Openness to feedback. Simple regressions showed that self-esteem predicted openness to positive feedback in every domain (βs from .17 to .26, *ps* $< .01$), but openness to negative feedback only for autonomy ($\beta = -.12$, $p < .05$; other βs $< |.07|$, *ps* $> .26$). Thus, I tested mediation for effects of (i) avoidance on openness to positive relationship feedback, (ii) anxiety on positive mastery and positive autonomy feedback, and (iii) anxiety on negative autonomy feedback. In hierarchical regressions (Table 9), self-esteem predicted openness to positive relationship feedback but avoidance remained significant. The effects of anxiety on openness to positive competence feedback were fully mediated by self-esteem, and all tests for indirect effects on positive feedback were significant. However, self-esteem did not uniquely predict openness to *negative* autonomy feedback controlling for attachment dimensions. In summary, self-esteem fully mediated the effects of attachment anxiety on openness to positive competence feedback and partially mediated the effect of avoidance on openness to positive relationship feedback. However, self-esteem did not mediate the effects of attachment on openness to negative feedback.

Positivity of feedback choice. Simple regressions showed that self-esteem predicted choice positivity for mastery and autonomy (βs = .22 and .18, *ps* $< .01$; other βs $< .08$, *ps* $> .15$). Thus, I tested mediation of the effects of (i) anxiety and avoidance on mastery choice and (ii) anxiety on autonomy choice (Table 9). The effect for autonomy was not significantly mediated. For mastery, self-esteem mediated the individual effects of anxiety and avoidance, but the effect of Anxiety × Avoidance remained significant in Step 2. Simple slopes controlling for self-esteem showed that differences between attachment styles were smaller than previously observed (Figure 8), but that secure individuals still sought most positive mastery feedback, with dismissing individuals seeking most negative feedback and high-anxious styles in between (secure vs. dismissing $\beta = -.17$, $p < .05$, all other βs $< |.12|$, *ns*). Thus, self-esteem levels partly account for effects of attachment insecurity on negative feedback-seeking about mastery. However, high-anxious individuals sought negative feedback about autonomy, and insecure individuals sought negative feedback about relationships, independently of their lower self-esteem.

Table 9

Tests of Self-Esteem as a Mediator of Significant Associations between Attachment and Hypothetical Feedback-Seeking

IV → Criterion	Step 1 IV	Step 2 βs IV	Step 2 βs SE	Indirect effect Confidence int.	Indirect effect Mediated?
Openness to Feedback					
Avoidance → pos relationship	-.16**	-.12*	.20**	-.015, -.002*	Partial
Anxiety → pos mastery	-.11†	-.01	.23***	-.038, -.004**	Full
Anxiety → pos autonomy	-.12*	-.01	.25***	-.037, -.005**	Full
Anxiety → neg autonomy	-.14*	-.10	.08	-.016, +.006	—
Positivity of Feedback Choice					
Anxiety → mastery[a]	-.10†	-.01	.19**	-.147, -.004**	Full
Avoidance → mastery[a]	-.11†	-.07	.19**	-.082, -.002**	Full
Anxiety → autonomy	-.15**	-.10	.12†	-.103, +.005	—

Note. †$p < .09$, *$p < .05$, **$p < .01$, ***$p < .001$. Confidence intervals (Confidence int.) that do not include zero are indicated by *(95% interval) or **(99% interval).
SE = Self-esteem; pos = positive; neg = negative.
These tests were performed only for criterion variables that were significantly predicted by both attachment and self-esteem; mediation tests were then conducted only for instances in which self-esteem predicted the criterion and *IV* decreased in significance. For brevity, only originally observed attachment predictors are displayed, and are labelled *IV*, although all predictors were included in the model. Confidence intervals are bias-corrected estimates derived from 2,000 bootstrap samples of the data.
[a] These coefficients were taken from one regression model. The effect of Anxiety × Avoidance remained unchanged from step 1 ($\beta = .11, p < .05$) to step 2 ($\beta = .11, p < .05$) and was therefore not mediated.

Discussion

Study 2 examined whether individuals with different attachment models differed in (a) openness to hypothetical feedback and (b) choices of positive versus negative hypothetical feedback about interpersonal and competence attributes. As such, this was the first study to systematically examine attachment differences in feedback-seeking across different domains of positive and negative feedback. In general, the results supported my predictions that attachment working models are related to the way one approaches feedback about one's interpersonal and competence qualities, and that these patterns differ across domains. One implication of this is that prior findings on feedback

from romantic partners (e.g., Brennan & Bosson, 1998) cannot be generalised to feedback about other areas of life.

As expected, secure individuals showed the most self-enhancing patterns: they were open to all feedback and sought the most positive feedback in a forced-choice situation. High-anxious individuals were relatively less open to feedback, and sought less positive feedback, about competence. High-avoidant individuals were less open to positive feedback and sought less positive feedback, particularly about close relationships. Dismissing individuals were, however, as open to competence feedback as secure individuals. Fearful individuals, in contrast, were most averse to almost all types of feedback and sought negative feedback across the board. Mediation analyses suggested that insecure people may be less open to positive feedback because of their lower self-esteem. However, the majority of findings were not fully explained by self-esteem levels.

Interpersonal Feedback-Seeking

Patterns of feedback-seeking in interpersonal domains can be compared to research on feedback from romantic partners (Brennan & Bosson, 1998; Brennan & Morris, 1997; Carnelley et al., 2007) or about relationship qualities (Rholes et al., 2007). This feedback should be more self-relevant for individuals with high, compared to low, attachment anxiety, and more likely to engage defensive processes for those with high, compared to low, avoidance. As expected, individuals with high, versus low, avoidance were less open to positive feedback, particularly about close relationship qualities. Thus, high-avoidant individuals, who are characterised by deactivating strategies, avoid processing interpersonal feedback—a tendency that increases with the intimate nature of the feedback. This is consistent with research demonstrating that high-avoidant individuals process attachment-relevant information shallowly and forget it quickly (e.g., Edelstein, 2006; Fraley et al., 2000; Mikulincer, Gillath, et al., 2002) and do not readily integrate new information into models of self and others (Green-Hennessy & Reis, 1998; Mikulincer & Arad, 1999). It also supports high-avoidant individuals' retrospective reports of low openness to feedback (Brennan & Bosson, 1998; Carnelley et al., 2007). Interestingly, the link between avoidance and openness emerged only for positive feedback in the current study. Because high-avoidant individuals have negative self-views and interpersonal expectations, they may perceive negative feedback to be consistent with their working models and thus be more likely to take it on board (Collins & Read, 1994). This pattern is also consistent with avoidant individuals' tendency not to

seek support (DeFronzo et al., 2001; Simpson et al., 1992). Thus, one way that high-avoidant individuals avoid processing attachment-relevant information is by avoiding exposure to it in the first place: an important preemptive defence strategy (Fraley et al., 2000).

When forced to choose, high-avoidant individuals selected more negative feedback than secure individuals did, again most markedly in the domain of close relationships. This is consistent with their relative aversion to positive interpersonal feedback and would be likely to reinforce their negative views of relationships in the long term, consistent with the operation of a self-verification motive (Swann et al., 2003). However, preoccupied individuals, who have low avoidance and high anxiety, sought slightly more positive feedback about close relationships (compared to chance levels and compared to high-avoidant individuals). Close relationships are highly self-relevant for preoccupied individuals (Brennan & Morris, 1997; Park et al., 2004). Consistent with predictions and with research on excessive reassurance-seeking (Shaver et al., 2005), they appear to pursue indications that they are cared for and valued in close relationships. Nevertheless, preoccupied individuals' feedback-seeking was less positive than secure individuals'. In addition, fearful individuals resembled dismissing individuals in seeking negative interpersonal feedback, despite having high attachment anxiety and thus relying on interpersonal sources of self-esteem (Park et al., 2004; Study 1 of this thesis). Thus, in relationship-relevant contexts, fearful individuals' high avoidance and deactivating strategies might take precedence over their underlying desire for approval and affection in guiding behaviour (cf. Crowell et al., 1999). Further research is needed to examine the contexts in which fearful individuals' responses are driven by hyperactivating versus deactivating tendencies (Simpson & Rholes, 2002).

In the domains of social acceptance and attractiveness, the patterns of attachment differences in feedback-seeking were weaker and did not reach statistical significance. High, compared to low, avoidance was again associated with a (weak) tendency to avoid positive feedback and seek negative feedback. Acceptance feedback is less intimate than close relationship feedback, and might arise in a group or social affiliation context. Thus, it might be perceived as less threatening to high-avoidant individuals than close relationship feedback and be less likely to trigger deactivating defences. Alternatively, this pattern might reflect the finding in Study 1 that social relationships were associated with dismissing individuals' self-competence; it is possible that they do not seek negative feedback in this domain because it is relevant to their self-esteem. This finding should be replicated and examined further. Attractiveness feedback, in general, elicited the most

positive feedback choices across the sample. Coupled with Study 1's finding that attractiveness was highly relevant to secure (as well as high-anxious) individuals' self-esteem, this suggests that feedback in this area may elicit consistent responses among late-adolescent and young adult participants (see also Kernis et al., 1993, for non-significant findings regarding personal importance of physical attractiveness and social acceptance and self-esteem instability). Alternatively, it might be more fruitful to study feedback-seeking about attractiveness from a potential dating partner.

Competence Feedback-Seeking

Daily mastery and autonomy should be more relevant to self-esteem for individuals with high, compared to low, avoidance, a suggestion supported in Study 1 of this thesis. I thus predicted that high-avoidant individuals would be motivated to seek positive feedback but that only those with positive self-models (i.e., dismissing individuals), not negative self-models (i.e., fearful individuals), would be able to do so. I also expected secure individuals to seek positive feedback because of their high self-esteem, whereas preoccupied individuals would not because competence is not relevant to their self-esteem.

Results showed that individuals with high, compared to low, attachment anxiety were indeed less open to feedback about competence. This is consistent with the notion that hyperactivating strategies compromise the satisfaction of exploration needs (Ainsworth et al., 1978; Brennan & Morris, 1997), leading to low perceived self-competence and an aversion to information about one's mastery and independence. It also showed that dismissing individuals are as open to competence feedback as secure individuals. This is partly consistent with Rholes et al.'s (2007) study, in which high-avoidant individuals were *more* open to career-related feedback than low-avoidant individuals under conditions of stress and low social support. Thus, dismissing individuals are not indiscriminately averse to all self-relevant information, supporting evidence that defensive information-processing is specific to attachment cues (e.g., Mikulincer, Gillath, et al., 2002).

Dismissing individuals also chose positive feedback about autonomy, suggesting that they are indeed motivated to self-enhance about their independence. However, only secure individuals chose positive feedback about mastery. This was inconsistent with my predictions and with the finding for autonomy. The fact that feedback in this study hypothetically came from a friend may have reduced its importance to dismissing individuals, whereas they may value feedback about independence from another person.

Other researchers have linked attachment avoidance to mastery concerns; Elliot and Reis (2003) found that high avoidance related to low approach motivation and high fear of failure, and J. Green and Campbell (2000) found that avoidance (chronic or primed) negatively predicted desire for exploration. It is possible that dismissing individuals have underlying concerns about themselves that inhibit their ability to explore under certain circumstances.

Although dismissing individuals showed some tendency to self-enhance, fearful individuals, who also have high avoidance, did not. Fearful individuals were the most averse to positive feedback about autonomy and negative feedback across the board. This suggests that perhaps their attempts to exclude potentially threatening self-relevant information *are* indiscriminate across domains. Because of their high anxiety and avoidance, however, fearful individuals were the most likely to seek negative feedback across domains. Mediation tests suggested that part of the problem might be their low self-esteem, which reduced openness to positive competence feedback and positive feedback-seeking about mastery. However, fearful individuals' other negative choices were unrelated to their self-esteem. This pattern indicates that they are likely to shape their own negative experiences by seeking negative feedback despite not desiring it.

Strengths and Limitations

The results of Study 2 begin to build in important ways on previous research. Not only did I examine openness to feedback separately from forced choices, but I compared feedback-seeking in interpersonal and competence domains directly. Prior attachment research had examined feedback mainly from romantic partners—an important source, but by no means the only one to influence self-view maintenance. These results provide preliminary support for the notion that attachment insecurity leads people to avoid positive feedback (or all feedback) and to seek out negative feedback, and that these tendencies differ across interpersonal and competence realms of life. On a broad level, the findings are consistent with my proposal that attachment orientation plays a role in self-view maintenance.

However, Study 2 was also limited in several ways. First, the data were correlational, with all measures collected in a single session. Despite the neutral filler measure, it is possible that completing the attachment and self-esteem measures primed participants with attachment or self-evaluative cues when considering feedback. Second, the feedback was hypothetical, which reduces the external validity of the findings. Hypothetical feedback may not activate individuals' feedback-seeking motivation and

may therefore not elicit generalisable patterns. For example, highly anxious individuals may be strongly motivated to seek interpersonal feedback when they expect to actually receive that feedback, but not when they simply imagine receiving it. Further, people might be more open to negative feedback hypothetically than if they expect to receive it because when it is real it carries more potential threat. Finally, the feedback originated from a same-sex friend. In reality, a friend is more likely to provide interpersonal than competence feedback, and the competence feedback they do provide may be confounded with interpersonal information (e.g., he/she may praise a high grade, but this may also convey implicit social acceptance). Thus, participants' responses to the hypothetical feedback may reflect more accurately the way they seek competence feedback *from friends* than from objective sources. This may go some way to explaining why dismissing individuals showed no tendency to seek positive feedback about mastery: they may construe feedback from a friend about their skills as interpersonal and therefore information to be avoided.

Therefore, the findings of Study 2 warrant further investigation and clarification. In particular, how do individuals with different attachment orientations respond when offered real feedback from a domain-appropriate source (i.e., interpersonal feedback from a person and competence feedback from an objective source)? This was the purpose of Study 3, which is contained in Chapter 4. After Study 3, I will consider results from both studies and their implications in light of one another.

CHAPTER IV

Study 3: Attachment Differences in Seeking Imminently Expected Feedback

The results of Study 2 indicated that an individual's attachment pattern influences the extent to which they hypothetically want to hear different types of feedback and whether they would choose positive or negative feedback. This preliminary evidence supports my overarching prediction that individual differences in attachment shape the self-esteem regulation cycle. However, as discussed in Chapter 3, the feedback in Study 2 was hypothetical and supposedly originated from a friend, a naturally interpersonal source of feedback. The objectives of Study 3, therefore, were to test whether the findings of Study 2 would replicate in a situation wherein participants believe they will actually receive feedback, and when the feedback comes from a source that is uniquely relevant to either the interpersonal or competence realm. To achieve these objectives and provide a sounder test of my hypotheses, participants in Study 3 came to the laboratory, engaged in tasks relevant to interpersonal qualities and competence, and were offered real feedback (although they never received it). Specifically, they were promised feedback about *close relationships* and *social acceptance* (supposedly from other students), and about *mastery* and *autonomy* (supposedly from an official scoring system).[1] Participants again reported *openness* to each domain and valence of feedback, and made *choices* from positive and negative options in each domain.

Hypotheses

Study 3 was designed to test the same basic predictions as Study 2. To recap, Hypothesis 1 predicted that individuals with high, compared to low, avoidance would be less open to interpersonal feedback. Hypothesis 2 predicted that individuals with high, compared to low, attachment anxiety would be less open to competence feedback. Hypothesis 3 predicted that individuals high in either anxiety or avoidance would seek less positive interpersonal feedback than secure individuals. Hypothesis 4 predicted that individuals high in anxiety would seek less positive competence feedback than those low

[1] The domain of *physical attractiveness* was omitted from Study 3 because it yielded no findings in Study 2 and patterns suggested that attractiveness may elicit consistently positive feedback-seeking in a student sample (see Study 2 Discussion).

in anxiety. Finally, Hypothesis 5 predicted that attachment differences in feedback-seeking would not be accounted for solely by self-esteem.

Of these expectations, results of Study 2 were generally consistent with Hypothesis 1 and 3, demonstrating the expected patterns in interpersonal domains. However, dismissing individuals were not as open to positive competence feedback or as likely to seek it as expected (Hypotheses 2 and 4). I suggested that this may reflect the fact that feedback came from a friend and was not viewed as self-relevant by dismissing individuals. In Study 3, competence feedback came from an objective scoring system, so dismissing individuals may express more desire for it. Again, I expected that findings would not be explained by self-esteem levels.

Study 3 also built on Study 2 by assessing a novel aspect of feedback-seeking: choice between receiving *interpersonal versus competence feedback*. This measure was included to explore everyday preferences further: people can choose, for example, whether to spend time working alone or with others, or whether to engage in conversation about work or relationships. These tendencies impact upon one's opportunities to receive feedback, and therefore develop one's self-views and skills, in each area of life. As reviewed in Chapter 1, high-avoidant individuals derive self-worth from competence, prefer to spend time on information search rather than social interaction, and are more interested in career information than relationship information when stressed (Mikulincer, 1997; Rholes et al., 2007), whereas high-anxious individuals have a hyperactivated concern with relationships, rely on others' opinions, and are generally interested in relationship information (Bartholomew & Horowitz, 1991; Rholes et al., 2007). Thus, I predicted that avoidance would positively predict choosing competence feedback, whereas attachment anxiety would positively predict choosing interpersonal feedback (*Hypothesis 6*).

Method

Participants

In total, 112 undergraduate students from the University of Southampton (88% female; 98% heterosexual; $M_{AGE} = 20.11$, *Median* = 19, *SD* = 3.76, range 18-40)[2]

[2] Age was not included in Study 3 analyses, because the sample comprised only undergraduates and the age range was older compared to Study 1 and 2, which included sixth-form students. Supplementary analyses in Study 3 confirmed that age had no effects on feedback-seeking. Nor did removing participants over the age of 25 ($n = 7$) change any results except for reducing power slightly.

participated for course credit and entry into a prize draw (with two prizes of £25). The majority (83%) were White-British, with the remainder White-Other (8%), Asian (4%), or Other (5%). About half (49%) were involved in a romantic relationship (M_{DURATION} = 24 months; range 1 month to 15 years).

Procedure

Phase 1. Participants accessed a website to complete attachment, self-esteem, and filler measures, presented in 12 counterbalanced orders.

Phase 2. Phase 2 took place one to four days after Phase 1, in order to eliminate carry-over or priming effects and to establish a predictive link between individual differences and feedback-seeking. Four participants had to complete Phase 1 after Phase 2 due to technical difficulties, and did so before receiving debriefing. Two participants completed Phase 1 then postponed Phase 2 until a later date, creating a gap of a month or more between phases. Exclusion of participants who completed Phase 1 less than two hours, or more than a week, before Phase 2 did not alter any findings, so all participants were retained.

Two participants attended each laboratory session, which took part in a room with two video cameras. They were informed that the session would be video-recorded and all provided informed consent. Participants then completed two structured dyadic tasks with the researcher observing from another room (see Appendix D for task instructions).[3]

The first (interpersonal) task comprised a structured 8-minute social interaction based around 10 neutral discussion topics (e.g., "If you attended the Olympics, which sport/s would you most want to watch and why?"). The second (competence) task comprised a 20-minute problem-solving exercise. Participants were given instructions, newspaper and tape, and instructed to construct, together, a bridge between two tables 1.5m apart which could support the maximum possible weight (various food tins). Instructions stated that the task would be scored using a standardised coding system, with points awarded for a range of aspects (e.g., completion of task to specifications, efficient use of resources, planning). All participant pairs successfully constructed a bridge and most managed to support some weight. However, because the instructions were ambiguous and contained multiple criteria, participants were unaware of exactly how well they would score on the task. The researcher did not give any indication of how well

[3] Three undergraduate students assisted in collection of the data. Each underwent training for running Phase 2, and I monitored them carefully to ensure that all participants received the same treatment and amount of information throughout.

or how poorly pairs had performed on the task, to ensure that participants did not receive any informal feedback before completing feedback-seeking measures.

After the tasks, participants were taken to separate rooms to complete questionnaires, including those related to the cover story (see below), the feedback-seeking measure, and a funnel debriefing questionnaire.[4] Finally, participants were verbally debriefed and informed that there was to be no feedback.

Measures: Phase 1

Romantic attachment was assessed using the ECR as in previous studies; anxiety ($\alpha = .93$) and avoidance ($\alpha = .92$) were weakly correlated ($r = .16, p = .09$). Self-esteem was again assessed with the SLCS-R, averaging all items to index self-esteem ($\alpha = .90$).

Measures: Phase 2

Cover story. Written instructions, given to participants after completing the dyadic tasks, stated that the video data from the lab session would be coded and evaluated as part of the research project. To evaluate participants' interpersonal qualities, one male and one female undergraduate at another university would view the tape. To evaluate participants' competence and work skills, two experts would score the problem-solving task on its standardised scoring system. Then, these raters would generate short summaries of participants' attributes in specific areas. Participants were told that, in the past, people had expressed interest in viewing these summaries, and that we would therefore send each participant some of the summaries written about him or her. However, due to limited resources participants would have to choose which feedback they would receive. In reality, videotapes were not scored and participants did not receive feedback. All materials are contained in Appendix D.

Feedback-Seeking. Participants read a list of the specific feedback summaries available to them in the interpersonal set (close relationship qualities, likeability/ acceptance) and the competence set (daily mastery, autonomy/independence), presented in counterbalanced order. As in Study 2, each specific domain contained six feedback items: three positive and three negative. The items were very similar to those included in Study 2, except that the wording was changed from the third person to the first person.

[4] The funnel debriefing contained the key question: "Was there anything about this study that you did not believe?" assessing suspicion about feedback. Eight participants expressed significant doubt about receiving feedback. However, removing their data did not change any results except for reducing power and corresponding significance levels. Therefore, they were retained in the sample.

Participants first rated the extent to which they wanted to receive each specific summary from 1 (*not at all*) to 9 (*completely*). Average openness was scored for each domain and valence of feedback. Participants then selected, for each domain, the two summaries that they wanted to receive. Positivity of feedback choice for each domain was indicated by number of positive choices out of two (zero, one, or two). Finally, participants indicated whether they preferred to receive the interpersonal or the competence feedback set.

Results

Openness to Feedback

One openness variable was negatively skewed (positive acceptance) but no univariate outliers were present so data were not transformed. I excluded data from four multivariate outliers, $\chi^2_{critical}(10, \alpha = .001) = 29.6$, which altered some results. Due to missing data, $N_{OPENNESS} = 105$. The analysis strategy was identical to Study 2. As shown in Table 10, participants were more open to positive than negative feedback in interpersonal domains, whereas the reverse was true in competence domains.

To test hypotheses, a 4 (domain) × 2 (valence) + anxiety + avoidance ANCOVA was conducted on openness to feedback. There were no main effects of attachment dimensions, but there were significant Valence × Avoidance and Domain × Anxiety ×

Table 10

Descriptive Statistics for Expected Feedback-Seeking

Domain	Openness Mean		Openness SD		Choice	
	Positive	Negative	Positive	Negative	*M*	*SD*
Relationships	6.48_b	6.21_b	1.50	2.02	0.96	0.77
Acceptance	6.79_a	6.40_{ab}	1.40	1.85	0.84	0.66
Mastery	6.40_b	6.73_a	1.39	1.51	0.81	0.71
Autonomy	6.17_b	6.47_{ab}	1.59	1.59	0.82	0.70
Total	6.46	6.45	1.26	1.46	0.86	0.51

Notes. $N = 105$ for openness and $n = 109$ for choice. Openness ranged from 1-9. Differences between positive and negative feedback were present for acceptance, mastery, and autonomy ($ps < .05$). Means within the same column that do not share a subscript differ at $p < .05$ in planned pairwise comparisons with Bonferroni adjustments. Choice scores represent number of positive choices out of 2. Mean choice for acceptance, mastery, and autonomy were more negative than expected by chance (i.e., 1); *t*s from -2.49, $p < .05$ (acceptance) to -2.82, $p < .01$ (mastery) (relationships $t = -0.50$, *ns*). Positivity of feedback choice did not differ significantly across domains.

Avoidance interactions, and marginal Domain × Valence × Anxiety and Domain × Valence × Anxiety × Avoidance interactions (*ps* < .06) (see note to Table 11 for *F* statistics). To probe the interactions, I regressed openness to each domain and valence of feedback on attachment dimensions.

Averaged across domains (Table 11, top row in each section), participants with high, versus low, avoidance were more open to negative feedback but not positive feedback. This pattern, reflecting the Valence × Avoidance ANCOVA interaction, differed from Study 2. That is, avoidance and openness to *positive* feedback were related in Study 2, whereas avoidance and openness to *negative* feedback were related in Study 3. Although results differed across studies, the interpretation was consistent: compared to low-avoidant participants, high-avoidant participants in both studies desired negative feedback more than positive feedback.

Within-subject contrasts for the significant Domain × Anxiety × Avoidance ANCOVA interaction revealed that the effect of Anxiety × Avoidance for openness to acceptance feedback differed from the effect in all other domains.[5] The coefficients predicting positive and negative acceptance feedback were both marginally significant in Table 11 (and the corresponding coefficient was significant when positive and negative feedback were averaged, $\beta = -.20, p < .05$). Simple slopes suggested that secure individuals were *less* open to feedback about acceptance compared to all insecure individuals ($\beta s \approx .30$, *ps* < .05), who did not differ from one another ($\beta s < |.10|$, *ns*). This pattern, though not found in Study 2, is consistent with Hypothesis 1, which predicted that high-anxious individuals desire cues of approval from others to feel worthy. Unexpectedly, this desire for acceptance feedback emerged not only for high-anxious participants but also dismissing participants.

Finally, within-subject contrasts for the two marginally significant ANCOVA interactions showed that the Anxiety × Valence and Anxiety × Avoidance × Valence interactions in the domain of relationships differed from all other domains.[6] The regression coefficients for anxiety and Anxiety × Avoidance, though non-significant, were positive for negative relationship feedback and negative for positive relationship

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[5] Contrasts for acceptance versus other domains were all significant, $Fs(1, 101) > 6.57$, *ps* < .01. The Anxiety × Avoidance interaction in the domains of mastery and autonomy also differed from one another, $F = 3.92, p = .05$, but the regression coefficient for the interaction did not approach significance in either of these domains, so this finding was not examined further. Contrasts showed no differences between the remaining domains, *F*s < 1.2, *ps* > .28.

[6] For the marginal three- and four-way interactions, the Anxiety × Valence and Anxiety × Avoidance × Valence interactions in the domain of relationships were significantly different than all other domains, $F(1, 101) > 4.06$, *ps* < .05, which did not differ from one another, *F*s < 1.

Table 11

Hierarchical Regressions Predicting Openness to Expected Feedback from Attachment Dimensions

Feedback Type	Step 1 Anx β	Step 1 Avo β	Step 1 F_{change}	Step 2 Anx × Avo β	Step 2 F_{change}	Total R^2
Positive						
Overall	.05	-.01	—	-.01	—	.01
Relationships	$-.06_{a}$	$-.05_{a}$	—	$-.03_{ab}$	—	.01
Acceptance	$.15_{ab}$	$.07_{a}$	1.76	$-.18^{\dagger}_{a}$	$3.70^{\dagger}$	$.07^{\dagger}$
Mastery	$.04_{ab}$	$-.04_{a}$	—	$.03_{bc}$	—	.00
Autonomy	$.03_{ab}$	$-.03_{a}$	—	$.12_{bc}$	1.52	.02
Negative						
Overall	.15	$.23^{*}$	4.95^{**}	-.01	—	$.09^{*}$
Relationships	$.17^{\dagger}_{b}$	$.21^{*}_{b}$	5.10^{**}	$.12_{c}$	1.60	$.10^{*}$
Acceptance	$.14_{ab}$	$.14_{b}$	$2.66^{\dagger}$	$-.17^{\dagger}_{a}$	$3.21^{\dagger}$	$.08^{*}$
Mastery	$.09_{ab}$	$.22^{*}_{b}$	3.59^{*}	$-.07_{bc}$	—	$.07^{\dagger}$
Autonomy	$.09_{ab}$	$.21^{*}_{b}$	3.27^{*}	$.06_{bc}$	—	$.06^{\dagger}$

Notes. $N = 109$. Anx = anxiety; Avo = Avoidance. Coefficients for anxiety and avoidance did not alter in Step 2 so are omitted for brevity. Means within the same column that do not share a subscript indicate different levels of an interaction in 4 (domain) × 2 (valence) + anxiety + avoidance ANCOVA. — indicates $F < 1$.
Valence × Avoidance: $F(1, 101) = 9.37, p < .01$.
Domain × Valence × Anxiety: $F(2.8, 279) = 2.63, p = .055$.
Domain × Anxiety × Avoidance: $F(2.8, 284) = 6.43, p < .001$.
Domain × Valence × Anxiety × Avoidance: $F(2.8, 279) = 2.64, p = .055$.
Other attachment interactions: Fs < 2.03, ps > .15.
$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

feedback (Table 11). I did not probe the Anxiety × Avoidance interactions because they did not approach significance. However, the marginal Domain × Valence × Anxiety ANCOVA interaction suggested that high-anxious participants were slightly more open to negative than positive feedback about relationships but not about other domains. This weak result differed from Study 2, in which high-anxious individuals were equally open to interpersonal feedback as secure individuals. However, it is consistent with Rholes et al.'s (2007) finding that attachment anxiety predicted interest in negative relationship information under conditions of stress.

In summary, the overall pattern of results for openness to feedback differed from Study 2, but the two are not inconsistent. In Study 3, compared to secure individuals, (a) high-avoidant individuals were more open to negative feedback, (b) high-anxious individuals were slightly more open to negative than positive feedback about close relationships, and (c) individuals with any type of insecurity were open to feedback about their social acceptability. Thus, rather than protecting themselves from negative information, insecure participants tended to welcome it. Notably, high-avoidant individuals' desire for negative feedback was prevalent in competence as well as interpersonal domains: they did not self-protect in the self-relevant areas of mastery or autonomy. Results of both studies suggest that insecure people are more open to negative than positive feedback, although the specific manifestation of this pattern differed from Study 2 (wherein insecure participants shunned positive feedback) versus Study 3 (wherein they welcomed negative feedback).

Positivity of Feedback Choice

There were no outliers, but due to missing data, $N_{\text{CHOICE}} = 109$. Table 10 shows that, unlike in Study 2, participants chose slightly more negative feedback than expected by chance. A 4 (domain) + anxiety + avoidance ANCOVA on feedback choice revealed a main effect of avoidance and a marginal Anxiety × Avoidance interaction (see note to Table 12 for F statistics). This interaction was replicated in a regression (Table 12) and indicated that, as in Study 2, secure individuals chose more positive feedback overall than insecure individuals (secure vs. preoccupied and dismissing: $\beta s = -.30$ and $-.41$, $ps < .05$; fearful vs. preoccupied and dismissing: $\beta s < |.11|$, *ns*). The ANCOVA showed no domain × attachment interactions, suggesting that attachment effects were consistent across domains. The pattern of high-avoidant participants seeking negative feedback was visible across all domains (Table 12), mirroring Study 2. There was a significant negative association between anxiety and feedback choice in the domain of relationships. This echoed high-anxious individuals' higher openness to negative than positive feedback (Table 11) but contradicted Study 2, in which preoccupied participants sought some positive relationship feedback

This pattern of results supports the prediction that secure people seek the most positive feedback in interpersonal domains (Hypothesis 3). However, there was no evidence that dismissing people self-enhance by seeking positive feedback about competence (Hypothesis 4). Instead, high-avoidant individuals' negative feedback-seeking emerged across all domains.

Table 12

Hierarchical Regressions Predicting Positivity of Expected Feedback Choice in Each Domain from Attachment Dimensions

Feedback Domain	Step 1			Step 2		Total R^2
	Anx β	Avo β	F_{change}	Anx × Avo β	F_{change}	
Overall	-.15	-.27*	6.24**	.16†	3.15†	.13**
Relationships	-.22*	-.22*	6.67**	.14	2.37	.13**
Acceptance	-.09	-.15	1.85	.12	1.71	.05
Mastery	-.12	-.17†	2.73†	.16†	2.79†	.07*
Autonomy	-.01	-.22*	2.88†	.03	—	.05

Notes. $N = 109$. Anx = Anxiety; Avo = Avoidance. In all cases, the coefficients for anxiety and avoidance did not alter when the interaction was added in Step 2, so are omitted for brevity. — indicates $F < 1$.
ANCOVA Main Effects ($df = 1, 105$): Anxiety $F = 2.51, p = .12$, Avoidance $F = 7.88$, $p < .01$, Anxiety × Avoidance $F = 3.15, p = .08$.
All attachment interactions Fs < 1.72, ps > .16.
$^{\dagger}p < .10$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

The Role of Self-Esteem

To examine whether self-esteem mediated attachment effects on feedback-seeking (Hypothesis 5), I followed the same strategy as in Study 2, conducting regressions to test whether self-esteem reduced effects of attachment dimensions. Self-esteem correlated negatively with both anxiety and avoidance (rs = -.55 and -.25, ps < .01), but not Anxiety × Avoidance ($r = .14, p = .15$). Thus, self-esteem could mediate effects of either attachment dimension but not directly their interaction. For *openness to feedback*, self-esteem predicted only openness to negative mastery feedback (β = -.22, $p < .05$; other βs < |.13|, ps > .18). However, adding self-esteem at Step 2 did not uniquely predict openness or reduce the effects of attachment. For *positivity of feedback choice*, self-esteem significantly predicted choices for mastery and autonomy (βs > .19, ps < .05; other βs < .17, p > .09). However, adding self-esteem at Step 2 did not uniquely predict feedback choice or reduce attachment effects in any domain. In sum, there was no evidence that insecure individuals desired, or sought, negative feedback because of their lower self-esteem.

Interpersonal Versus Competence Feedback Choice

Overall, 64.3% of participants chose the interpersonal feedback set over the competence feedback set, indicating a significant average preference $\chi^2_{(1, N = 112)} = 9.14$, $p < .01$. To assess whether attachment dimensions influenced this choice, I conducted a logistic regression predicting the binary outcome of interpersonal versus competence choice. Logistic regression derives a model to predict the probability of an event occurring. Model fit is indicated by the *-2 Log Likelihood* of the observed data given the model parameter estimates, and is tested using the χ^2 distribution. The logistic regression equation for attachment dimensions predicting probability of choosing interpersonal (over competence) feedback is:

$$P(\text{interpersonal}) = \frac{1}{1 + e^{-Z}}, \text{ where } Z = B_0 + B_1(\text{Anxiety}) + B_2(\text{Avoidance}) \qquad \text{[Equation 1]}$$

and by mathematical derivation, the *odds* of choosing interpersonal feedback (i.e., the ratio of event occurring to not occurring) are:

$$\frac{P(\text{interpersonal})}{P(\text{competence})} = e^{B_0} e^{B_1(\text{Anxiety})} e^{B_2(\text{Avoidance})} \qquad \text{[Equation 2]}$$

The effect of an individual predictor on probability of the outcome is indicated by the B coefficient (Equation 1). Effects are more readily interpreted, however, by converting B into e^B, the *odds ratio*. Equation 2 shows that when predictor i increases by one unit, the odds of the event occurring are multiplied by e^{B_i}. Thus, an odds ratio greater than 1 indicates that the predictor is *positively* associated with the odds of the event, and an odds ratio less than 1 indicates that the predictor is *negatively* associated with the odds of the event (Tabachnick & Fidell, 2001). Results are shown in Table 13.

Table 13 shows that, consistent with Hypothesis 6, high-anxious participants were significantly more likely than low-anxious participants to choose interpersonal feedback. The odds ratio shows that a one-unit increase in anxiety rendered choosing interpersonal feedback 56% more likely. Contrary to Hypothesis 6, avoidance was not significantly associated with this choice. Self-esteem was not associated with choosing either interpersonal or competence feedback (Table 13).

Table 13

Logistic Regression Analyses Predicting Choice of Interpersonal versus Competence Feedback from Attachment and Self-Esteem

Model	Predictors	Predictor		Step	Overall Model	
		B	Odds Ratio	χ^2	-2 LL [a]	R^2
Attachment						
Step 1	Anxiety	$.45^*$	1.56	6.28^*	139.71^*	.08
	Avoidance	-.21	0.81			
Step 2	Anx × Avoid	-.13	0.88	0.71	$139.01^\dagger$	.08
Mediator						
	Self-Esteem	-.52	0.59	2.75	143.24	.03

Notes. Anx = Anxiety; Avoid = Avoidance. Coefficients indicate effect of a predictor on likelihood of choosing interpersonal feedback. Coefficients for anxiety and avoidance did not alter when the interaction was added in Step 2, so are omitted for brevity.
$^\dagger p < .08$, $^* p < .05$, $^{**} p < .01$.
[a] -2 LL = -2 log likelihood. Smaller values indicate better model fit. R^2 is estimated.

Discussion

Study 3 extended Study 2 by assessing feedback-seeking in an experimental situation wherein participants expected to receive feedback. Furthermore, feedback about interpersonal and competence attributes came from distinct sources relevant to each domain (i.e., interpersonal feedback came from students, and competence feedback from an objective scoring system). Results of Study 3 suggest that when offered feedback, compared to secure individuals, high-avoidant individuals are more open to negative feedback and seek more negative feedback across interpersonal and competence domains. High-anxious individuals are open to negative feedback and seek negative feedback about relationships; these anxious individuals also prefer to receive interpersonal over competence feedback. Finally, individuals with any type of insecurity were more open to feedback about social acceptance than secure individuals. This finding was predicted for individuals high in anxiety, who rely on social sources for self-worth, but also emerged for individuals high in avoidance (including dismissing individuals).

Taken at an individual level, some results differ from those of Study 2; however, the two sets of results can be reconciled and tell a coherent story when differences in

design are considered. In particular, the findings are consistent with theoretical predictions that attachment security enables a person to welcome self-relevant feedback and self-enhance by seeking positive over negative feedback, whereas insecure secondary attachment strategies give rise to maladaptive feedback-seeking tendencies. Secure attachment was unfailingly linked to openness to positive feedback (but not negative), and an overriding tendency to seek positive feedback over negative. Moreover, these patterns were not explained by secure individuals' positive self-views: most results in Study 2, and all in Study 3, were independent of attachment differences in self-esteem. Thus, attachment dimensions are not simply a proxy for self-esteem. Different patterns of feedback-seeking were detected across both studies for individuals characterised by deactivating and hyperactivating attachment strategies; that is, individuals high, compared to low, in attachment avoidance and anxiety respectively.

Attachment Avoidance and Feedback-Seeking

The most consistent finding across both studies was that individuals with high, versus low, avoidance generally chose negative feedback over positive. The underlying mechanisms implied by results, however, differed across studies. In Study 2, high-avoidant participants were relatively averse to positive feedback, suggesting that they choose negative feedback because they are less keen for flattering information than low-avoidant participants. In Study 3, high-avoidant participants were relatively eager to receive negative feedback, suggesting that they choose negative feedback because they are keener for critical information than low-avoidant participants. It is possible that the real feedback in Study 3 led secure people to self-protect by avoiding negativity, whereas less secure people either were unable to self-protect, pursued negative information because it was more schema-consistent, or actually desired negative feedback. Such a desire could reflect a motive to self-improve (Taylor et al., 1995) or to confirm negative views of self and others (Swann et al., 2003). Whatever the underlying motive, negative feedback-seeking is liable to result in a self-fulfilling prophecy in which an individual exposes him/herself to negative interpersonal information and thus preserves negative views of self, others, and relationships.

High-avoidant individuals theoretically derive self-worth from feeling masterful and independent, because they have learned to defend the self from feelings of rejection by deactivating the attachment system and excluding attachment-relevant information from processing (Bowlby, 1980; Brennan & Morris, 1997). In interpersonal domains, these participants may seek negative feedback to preserve the belief that others are

unreliable and maintain defensive behaviour. This reflects patterns found in previous studies investigating feedback from romantic partners (e.g., Brennan & Bosson, 1998). It is also consistent with Rowe's (2003) research, in which individuals primed with an avoidant attachment style showed automatic behavioural avoidance of positive attachment stimuli and approach to negative attachment stimuli. However, my results further suggest that high-avoidant individuals display negative feedback-seeking tendencies across many areas of life, including the competence realm that theoretically supplies their self-esteem. In the domain of autonomy in Study 2, dismissing individuals resembled secure individuals in desiring positive feedback, supporting my prediction that dismissing individuals would self-enhance in domains of competence. However, this was observed only in Study 2, when feedback came from a friend; not in Study 3, when it came from a non-social source. It is possible that, although dismissing adults are motivated to self-enhance about autonomy, they require this validation to come *from another person*—ironically refuting their claims of self-sufficiency and independence from sources of self-worth (Park et al., 2004). In future, research could test this notion by comparing attitudes to autonomy feedback from social versus non-social sources.

In neither study did dismissing individuals seek positive feedback about daily mastery. This may suggest that it does not contribute to their self-esteem as much as autonomy does, or that they are not prone to self-enhancing about mastery. Alternatively, dismissing individuals might use different behavioural strategies to obtain mastery feedback. For example, one can undertake easy or difficult tasks to achieve success or failure, attempt to prove one's ability or "show off" to other people, compete to outperform others, or boast about one's achievements in order to elicit positive feedback. Research on attachment differences in work experiences (Hazan & Shaver, 1990; H. Sumer & Knight, 2001) supports the idea that high-avoidant individuals may use such behavioural strategies, manifested in overachievement, spill-over from work to home life, and putting in more effort at work than in a relationship. Future research should aim to assess behavioural decision-making and strategies employed by high-avoidant, particularly dismissing, individuals when competence-related feedback is available.

Attachment Anxiety and Feedback-Seeking

High-anxious individuals, in contrast, theoretically derive self-worth from others' acceptance and approval, because they possess hyperactivated concerns about abandonment and cannot regulate their emotions and self-esteem internally. Prior studies (Park et al., 2004; Study 1 of this thesis) support the idea that high-anxious individuals

rely on socially contingent domains such as relationship qualities or social acceptance. I predicted that they would desire feedback in these areas but would not be able to self-enhance (seek positive feedback over negative) because of their negative self-model (Griffin & Bartholomew, 1994; Sedikides & Gregg, 2003). In Study 2, preoccupied participants chose some positive hypothetical feedback about close relationships. However, in Study 3, participants with high, versus low, attachment anxiety were more open to negative than positive feedback, and chose negative feedback, about close relationships. They also chose interpersonal feedback over competence feedback, whereas low-anxious participants were balanced in their choice. In the domain of social acceptance in Study 3, high-anxious individuals were more open to all feedback than secure individuals, including negative feedback. These patterns support my prediction that individuals who use hyperactivating strategies would strongly desire interpersonal feedback in general, but they also further imply maladaptive attitudes to feedback in personally important areas. Again, a self-fulfilling prophecy is likely to follow in which views are reinforced of the self as unworthy of love and incompetent, others as unreliable, and relationships as anxiety-provoking.

Differences in results between my two studies may be attributable to methodological differences in the *reality* and *source* of interpersonal feedback; that is, Study 2 concerned hypothetical feedback from a friend, whereas Study 3 concerned real feedback from unknown students. It is possible that, consistent with Seta et al.'s (1999) suggestion, individuals with negative self-models are motivated to seek positive feedback, but are only able to do so when feedback is low in self-relevance (i.e., hypothetical), not when it is high in self-relevance (i.e., real). Alternatively, high-anxious people may value positive feedback from a friend more than feedback from an objective source because a friend can provide reassurance and opportunities for intimacy. Finally, high-anxious individuals might be motivated to seek *negative* feedback, and do so from a diagnostic, objective source (i.e., a stranger) but do not consider it likely or useful from a potentially biased source bound by social norms (i.e., a friend). Further research is needed to tease apart these suggestions.

Interestingly, the results of Study 3 are more similar than those of Study 2 to Rholes et al.'s (2007) findings (obtained when participants expected to undergo a stressful procedure and were offered feedback from a computer). This suggests that the lab procedure in Study 3 may have evoked feelings of stress, at least among some participants. Rholes et al. found that high-anxious individuals were more interested in negative relationship feedback and less interested in positive relationship feedback than

low-anxious individuals, especially if they felt highly stressed. Thus, it may be that hyperactivating strategies combine with a stressful or threatening situation (such as expecting evaluation of oneself after an involved experimental session) to drive maladaptive feedback-seeking behaviour. Unfortunately, I did not assess feelings of stress in the present study. However, high-anxious individuals are more likely to perceive a situation as threatening than low-anxious individuals because they are hypervigilant to threat (Mikulincer, Gillath, et al., 2002; Mikulincer et al., 2003). In general, the pattern of choosing to pursue interpersonal feedback, and then seeking negative information within those scenarios, may partly explain how high-anxious individuals maintain their low self-esteem.

Feedback-Seeking in Everyday Life

Overall, my findings suggest that the negative feedback-seeking associated with attachment insecurity might manifest differently in everyday life depending on one's constellation of anxiety and avoidance, for example in conversation with a friend or romantic partner. A dismissing individual is unlikely to start a conversation about relationship issues and, when involved in one, might elicit negative feedback by failing to show emotion or by criticising the other person. He or she may instead seek to verify his or her independence from the partner—itself likely to elicit negative feedback about relationship qualities. In contrast, a preoccupied individual will eagerly initiate conversations about relationship issues, but may then elicit negative feedback by asking for reassurance in a maladaptive way (e.g., "Why won't you say you love me?", "What's wrong with me?"). Such behaviour is motivated by desire for reassurance and affection, but rarely succeeds in attaining either (Joiner et al., 1999). Future research could explore *what* about excessive reassurance-seeking elicits negative feedback (e.g., repetition, pleading tone of voice, inference that the other is not valued; Van Orden & Joiner, 2006).

Finally, fearful individuals may display the most maladaptive feedback-seeking behaviours. In Study 2, their general aversion to feedback suggested that they self-protect by avoiding feedback altogether. However, in Study 3, combined results for anxiety and avoidance suggest that fearful individuals desire and choose negative feedback across the board, but especially about close relationships, and that, due to their high anxiety, they pursue interpersonal over competence feedback. Thus, it appears that fearful individuals are highly vulnerable to receiving negative feedback by creating situations in which it is likely to occur. This finding contributes to the growing evidence that fearful individuals are worst off in many arenas, including mental health (Carnelley et al., 1994; Simpson &

Rholes, 2002) by suggesting that their feedback-seeking habits might increase the likelihood of receiving negative information and thus exacerbate chronic self-doubts.

Strengths and Limitations

Strengths of Study 3 include the fact that participants reported their attachment orientation several days before completing feedback measures, meaning that they would not be primed with attachment concepts immediately before providing feedback-seeking data. In addition, I designed a setting in which feedback could feasibly be provided and managed to completely convince 93% of participants that they would receive feedback. This enhanced the external validity of the setting compared to Study 2. However, this design was nonetheless limited in its generalisability. In everyday life, students rarely receive interpersonal feedback from total strangers. In future, research could employ methods similar to that used by Swann and colleagues (e.g., Swann et al., 1989; Swann, Wenzlaff et al., 1992) in which participants bring a friend or room-mate to the lab and report on the type of feedback they desire from their friend. Parallel studies of romantic couples would also be valuable.

The competence feedback in Study 3 more accurately reflected the type of feedback students receive in the course of their studies and paid work compared to Study 2. However, it is also important to investigate feedback-seeking processes in closer-to-life settings. For example, students often receive feedback on specific strengths and weaknesses of coursework. One line of enquiry could assess individuals' relative preference for these specific assessments of a genuine piece of work. Another might focus on behavioural data, such as length of time spent reading different sections of a feedback report, or frequency with which a student solicits feedback from a tutor during a meeting. Many of these scenarios, with careful design, could also be approximated in a lab setting. The current study was designed specifically to assess interpersonal and competence feedback in the same session, but future research might examine the two domains separately in order to achieve better external validity for each.

A further limitation of Study 3 was its smaller sample size compared to Study 2. The marginally significant interactions reported for ANCOVAs in Study 3 attest to the possibility that some analyses lacked power. Thus, a caveat on these findings is that differences between domains that have small effect sizes in the population may have gone undetected in Study 3. One variable that might increase the size of effects in future research and enable inspection of further everyday context effects is threat. The attachment system is theoretically activated under conditions of fear, stress, or illness,

and its primary goal is protection in these conditions (Bowlby, 1969). Prior research has often demonstrated a difference in attachment effects under neutral conditions versus induced stress (e.g., Rholes et al., 2007; Simpson et al., 1992), self-targeted threat (e.g., Hart et al., 2005; Mikulincer & Florian, 1998), or primed attachment threat (e.g., Mikulincer et al., 2000; Mikulincer, Gillath, et al., 2002; Rowe & Carnelley, 2003). Although the procedure in Study 3 may have been perceived as self-threatening because real feedback was expected (see above), I did not specifically manipulate stress or threat. It is possible that levels of individual stress (e.g., performance pressure, heightened threat or implications of evaluation) or attachment threat (e.g., primed awareness of separation concepts, discussion of a relationship problem with another person) might either amplify or alter the attachment differences in feedback-seeking obtained in this study.

Conclusions

The results of Study 2 and Study 3, taken together, raise questions about the operation of the self-esteem regulation cycle as well as hint to answers. Two very different study designs provided support for my overall predictions that (a) attachment orientations do relate to feedback-seeking above and beyond self-esteem levels, (b) different patterns are observed in interpersonal and competence domains, and (c) on the whole, it is individuals with secure attachment models who seek the most positive feedback and avoid negative feedback. Thus, it appears that individuals characterised by insecure, secondary attachment strategies do play an active role in creating and maintaining the fragile, defensive, and/or anxiety-provoking world in which they live. The tendency to prefer and seek out negative feedback has important negative implications for relationship quality, effective work functioning, views of others and relationships, and—particularly when that feedback pertains to personally relevant domains—self-esteem level and stability. In the following chapter, I present the results of Study 4, which was designed to examine some of these very implications in the context of daily life.

CHAPTER V

Study 4

Attachment Differences in Receiving Daily Feedback: Self-Esteem Lability and Self-Reported Reactions

Studies 2 and 3 revealed that people with different attachment orientations tend to seek different types of interpersonal and competence feedback, both hypothetically and when they expect to receive it. What happens when they actually receive that feedback? Whether or not we have actively sought out self-relevant feedback, receiving it has immediate effects on our emotions, cognitions, and self-views. Moreover, Leary et al. (1995) suggest that in the long term we incorporate information from feedback into our self-concept and self-esteem. The overarching goal of Study 4 was to examine the role of attachment orientation in the processes of receiving feedback, responding to it, and incorporating it into self-views. Thus, this study aimed to illuminate the intraindividual processes underlying the feedback-receipt component of the self-esteem regulation cycle.

Research identifies several factors that moderate short- and long-term effects of feedback. First, feedback is more likely to exert an effect if it pertains to a personal source of self-esteem (Crocker et al., 2002; James, 1890). Second, the specific ways that an individual reacts to feedback (e.g., emotions, cognitive processing) determine how that feedback impacts on the self (Jussim et al., 1995; Seta et al., 1999). Third, stable individual differences guide both the way someone reacts to feedback and the ease with which that feedback is integrated into the self. For example, people with high trait self-esteem tend to self-enhance: they react more positively and less negatively to feedback, and they accept positive feedback but downplay negative feedback (e.g., Dodgson & Wood, 1998; Josephs et al., 2003; Seta et al., 1999). Conversely, people who are depressed tend to internalise negative feedback and view it as more important than positive feedback (e.g., Wenzlaff & Grozier, 1988). In sum, the impact of feedback is determined by both person and contextual factors.

Individual differences in attachment might provide an overarching framework to encompass all the above factors and understand self-esteem regulation. Specifically, to the extent that one's attachment history is negative (e.g., smothering or rejecting), an individual may develop secondary strategies for protection and distress reduction (i.e., hyperactivating or deactivating the attachment system). Consequently, highly anxious

and/or avoidant working models develop, and self-esteem becomes grounded, not in a secure and internally regulated sense of worth, but in secondary sources (see Chapter 1 for full review and discussion). Specifically, attachment anxiety is linked to interpersonal sources of self-esteem such as social acceptance, physical attractiveness, and close relationships. In contrast, attachment avoidance is linked to competence sources of self-esteem such as successes, independence, and achieving goals (Brennan & Bosson, 1998; Brennan & Morris, 1997; Park et al., 2004; Study 1 of this thesis). Reliance on constantly procuring acceptance and affection (for high-anxious individuals) and/or maintaining competence and self-reliance (for high-avoidant individuals) has important implications for the role of feedback in regulating feelings about the self. In particular, attachment differences in sources of self-esteem might help to understand the day-to-day stability or lability of individuals' self-esteem and the ways that individuals react to interpersonal and competence feedback. This was the focus of Study 4. Better understanding of daily fluctuation of self-esteem in response to feedback will contribute to research examining day-level processes of self-esteem regulation. It will also illuminate important new aspects of the dynamic processes by which attachment differences in self-views and self-esteem are maintained.

Self-Esteem Lability

People receive feedback on a daily basis from many sources, which may target interpersonal or competence aspects of the self. Following James' (1890) assertion that self-esteem depends on experiences in personally important areas of life, positive and negative feedback in those important areas should boost and dent self-esteem to a greater extent than feedback in less important areas. At the end of a particular day, then, one's level of self-esteem should reflect the culmination of these important boosts and dents. Across time, fluctuation of self-esteem in response to self-relevant events or feedback is referred to as self-esteem lability (Butler et al., 1994).

Several studies have examined day-to-day fluctuations in self-esteem and well-being in relation to daily events, although none has specifically targeted feedback. Butler et al. (1994) were among the first to use a daily diary approach to investigate self-esteem lability. Butler et al. developed the Daily Events Survey, a list of 40 positive and negative events. They found that the level of self-esteem on a particular day was predicted by that day's positive and negative events, and that greater self-esteem lability was associated concurrently and prospectively with depressive symptoms. More recent studies have also used diary data to link daily positive and negative events to self-esteem (e.g., Zeigler-Hill

& Showers, 2007), as well as self-concept clarity (Nezlek & Plesko, 2001), depressogenic thinking (Nezlek & Plesko, 2003), stress and desire to drink alcohol (Carney, Armeli, Tennen, Affleck, & O'Neil, 2000), and overall well-being (Nezlek & Gable, 2001).

Individual differences in self-esteem lability have been demonstrated. Crocker, Karpinski, et al. (2003) found that the day-level impact of receiving university grades on daily self-esteem and affect was greater for students who reported basing their self-worth on academic competence. Furthermore, lability of self-views and well-being tends to be lower among individuals with better overall adjustment, defined in terms of symptoms, mood, trait self-esteem, or self-concept structure (Nezlek & Plesko, 2003; Zeigler-Hill & Showers, 2007). Individuals with low, compared to high, attachment anxiety tend to have more stable self-esteem (Brandt & Vonk, 2005; Foster et al., 2007) and self-views that are more robust to temporarily accessible positive or negative self-information (Broemer & Blumle, 2003), suggesting that attachment security may also indicate well-being in this context. Together, these findings suggest that (a) daily self-esteem may fluctuate more in response to feedback if that feedback pertains to a personal source of self-worth (which are related to attachment models), and (b) this fluctuation may be generally more pronounced for individuals with high attachment anxiety or avoidance.

Emotional and Cognitive Features of Attachment Models in a Feedback Context

The habits and strategies that an individual relies on to process affective cues and cognitive information indicate how that individual might respond to self-relevant feedback. Jussim et al. (1995) proposed that reactions to feedback follow three stages. First, an emotional reaction is triggered (schema-triggered affect; Collins & Read, 1994). Second, a cognitive appraisal of the feedback is engaged. This can amplify, dampen, or alter the initial emotional response (secondary appraisal; Collins & Read, 1994). Finally, the feedback may be incorporated into the individual's self-concept. The extent to which this happens is influenced by cognitive appraisal (Jussim et al., 1995): feedback is more readily incorporated into the self if it is processed fully, is considered important, and is attributed to internal, global, and stable causes. Thus, it is important to examine attachment differences in each stage of reaction. The affective-cognitive landscape of secure and insecure attachment strategies may drive reactions to feedback, both overall, and across different types of feedback.

Characteristics of attachment anxiety in the context of feedback reactions. Individuals who are high (compared to low) in attachment anxiety are more likely to use hyperactivating strategies to cope with threat and distress (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Hyperactivation of the attachment system involves constant vigilance and sensitivity to threat cues, and intensified focus and rumination on concerns about threat. Adults with higher attachment anxiety experience emotions more readily (Searle & Meara, 1999), generalise negative affect (Mikulincer & Orbach, 1995), and have difficulty regulating emotions (Diamond & Hicks, 2005), including anger (Mikulincer, 1998c). They also harbour low, unstable self-esteem and low self-complexity (Foster et al., 2007; Mikulincer, 1995).

The rejection-sensitive nature of high-anxious individuals' cognitive style means they are more likely to interpret ambiguous messages from a romantic partner as negative (Collins & Feeney, 2004) and endorse negative attributions for partners' real and hypothetical behaviour (Collins, Ford, et al., 2006; Mikulincer, 1998a). Their negative attributions and focus on negative information may be exacerbated by negative mood (Pereg & Mikulincer, 2004) and involve interfering thoughts and rumination (Mikulincer, 1998a; Mikulincer & Florian, 1998). Thus, one might expect their reactions to self-relevant feedback to take on a similar hue. The associations between attachment anxiety and self-esteem instability and malleability (Broemer & Blumle, 2003; Foster et al., 2007), coupled with lack of defensive cognitive style, may facilitate variability of high-anxious individuals' state self-esteem and self-views in response to positive or negative feedback. Given high-anxious individuals' low self-complexity and tendency to generalise affect, one might expect these patterns to emerge after both interpersonal and competence feedback. However, because interpersonal feedback is more directly relevant to anxious sources of self-esteem (Brennan & Morris, 1997; Park et al., 2004; Study 1 of this thesis), it would be perceived as most threatening and thus have most impact.

Some evidence supports the above pattern of predictions. Brennan and Bosson (1998) found that high-anxious individuals reported distress and ambivalence regarding general experiences of feedback from romantic partners, and Carnelley et al. (2007) further showed that high-anxious participants reported negativity and decreased self-evaluations after manipulated negative partner feedback. Murray, Bellavia, Rose, and Griffin (2003) found that individuals who generally thought their romantic partner viewed them negatively (and thus are likely to have high attachment anxiety) reported lower self-esteem on days after negative relationship events. Finally, Srivastava and Beer (2005) found that over a series of group meetings, high-anxious individuals adjusted their

self-perceptions to match other group members' views of them. Thus, it appears that interpersonal feedback exerts more immediate, daily, and longer-term effects on self-esteem for individuals with high, compared to low, attachment anxiety. However, Murray, Bellavia, et al. (2003) and Srivastava and Beer (2005) did not assess both attachment and feedback directly. Moreover, no studies have directly tested associations between attachment and competence feedback.

Characteristics of attachment avoidance in the context of feedback reactions. Individuals who are high (compared to low) in attachment avoidance are more likely to use deactivating strategies to cope with threat and distress (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Deactivation of the attachment system includes denial of attachment needs, suppression of experience and expression of emotion, and distancing oneself from others. Highly avoidant adults suppress negative emotion (Mikulincer & Orbach, 1995; Searle & Meara, 1999) and negative self-attributes (Mikulincer, 1995). Any negative emotions they feel may be externally focused, such as hostile anger (Mikulincer, 1998c). They limit cognitive processing of interpersonal cues by directing attention away (Fraley et al., 2000), suppressing activation of mental representations (Mikulincer et al., 2000; Mikulincer, Gillath, et al., 2002), suppressing negative thoughts (Fraley & Shaver, 1997), denying importance of partner feedback (Brennan & Bosson, 1998), and forgetting information (Edelstein, 2006). Moreover, they show cognitive rigidity rather than openness to new information (Green-Hennessy & Reis, 1998; Mikulincer & Arad, 1999). These patterns are accompanied by a focus on exploration and self-reliance (Hazan & Shaver, 1990) as well as basing self-esteem on agency (Brennan & Bosson, 1998; Study 1 of this thesis).

The defensive information-processing style of high-avoidant individuals not only protects them from interpersonal distress but also limits positive interpersonal experiences. For example, high-avoidant individuals report less positive emotion regarding social interactions or positive daily relationship events than low-avoidant individuals (Campbell et al., 2005; Tidwell et al., 1996). They also experience relationships as less intimate, satisfying, and trusting (J. Feeney, 1999b, 2002) and attribute a romantic partner's positive and negative behaviours to negative intentions (Collins, Ford, et al., 2006; Mikulincer, 1998c). There is some evidence that defensive deactivating strategies are effortful: high-avoidant individuals are physiologically aroused during the AAI (Dozier & Kobak, 1992) and everyday interpersonal conflict (Gallo & Matthews, 2006), activate attachment-related worries when primed under

cognitive load (Mikulincer et al., 2000), and show perceptual vigilance for emotional and social cues (Magai et al., 2000; Maier et al., 2005; Niedenthal et al., 2002).

Given this complex pattern of affective and cognitive habits, high-avoidant individuals might be expected to react to feedback with suppressed emotions, negative attributions, shallow and fleeting processing of feedback, and restricted impact on self-views. Consistent with this notion, Brennan and Bosson (1998) found that high-avoidant participants reported feeling indifferent after feedback from romantic partners, and they were less affected by bogus partner feedback in Carnelley et al.'s (2007) study. Srivastava and Beer (2005) did not find effects of avoidance, suggesting that effects of interpersonal feedback on self-evaluations are driven mainly by attachment anxiety. However, research suggests that some of these defensive strategies are specific to interpersonal contexts: high-avoidant individuals do not suppress activation of attachment-figure representations when primed with competence threat (Mikulincer, Gillath, et al., 2002), and after failure feedback they recover slowly from physiological stress (Diamond & Hicks, 2005) and perform worse on subsequent tasks (Mikulincer & Florian, 1998). Thus, not only would feedback about competence be high in self-relevance because it pertains to a source of self-esteem, but it may break through high-avoidant individuals' practised defensive walls. However, no research has yet examined the effects of competence feedback on self-esteem from an attachment perspective. Given the theoretical role of competence in self-esteem for individuals who use deactivating strategies, this is an important question.

The Current Study

Study 4 focused on two principal questions. First, how does the daily self-esteem of individuals with different attachment orientations fluctuate in accordance with daily interpersonal and competence feedback? Second, how do individuals with different attachment orientations report reacting to positive and negative feedback in these domains? The indirect evidence reviewed above is broad in focus and methodology, but no research has examined directly the effect of both interpersonal and competence feedback on self-esteem for individuals with different attachment models. Moreover, the two studies that have conceptualised the link between attachment and receiving feedback have focused only on romantic partners and either asked about retrospective general experiences (Brennan & Bosson, 1998) or assessed reactions to manipulated bogus feedback (Carnelley et al., 2007). Thus, this study represents a first attempt to integrate this diverse body of research by examining how people are affected by real feedback that

they receive daily in the course of their lives, and how these effects vary by domain (interpersonal or competence).

To achieve this, I utilised a daily diary design. Diary research is an increasingly valuable tool in social psychology research (Bolger, Davis, & Rafaeli, 2003; Nezlek, 2001). Data collection can be event-contingent (data is collected on the occurrence of a particular event) or interval-contingent (data is collected at specified intervals, e.g., every day), and can gather rich information about intrapersonal and interpersonal processes and dynamics (Gable & Reis, 1999). One can examine within-person associations (e.g., the effect of feedback on daily self-esteem) independently of between-person differences (e.g., links between attachment and trait self-esteem), and—importantly—between-person differences in those within-person associations. Study 4 used interval-contingent sampling in which participants reported, every evening for 14 days, the daily feedback they received and their daily self-esteem level. Thus, I could address Question 1 by (a) testing self-esteem lability to different types of feedback and (b) examining how attachment dimensions moderate that lability.

Additionally, if participants report specific reactions to real feedback events daily, within a few hours of receiving the feedback, the memory biases inherent in retrospective research are reduced. This provides a more detailed and accurate understanding of how people really react to the feedback they receive. Thus, to address Question 2, participants also rated their emotional, cognitive, and self-related reactions to the most positive and negative interpersonal and competence feedback they received each day. Study 4 therefore built on previous research by examining and comparing the short-term and daily effects of both interpersonal and competence feedback and how those effects vary by attachment orientation.

Hypotheses

Daily Self-Esteem as a Function of Daily Feedback

Across the sample, I expected daily self-esteem to fluctuate with daily feedback: self-esteem at the end of a day should be positively associated with positive feedback and negatively associated with negative feedback received that day. However, attachment dimensions should moderate these associations, and the moderation should differ according to the domain of feedback.

Interpersonal feedback. The fluctuation of daily self-esteem with positive and negative interpersonal feedback should be greater for individuals with high, compared to

low, attachment anxiety (*Hypothesis 1a*). This is because interpersonal domains such as social acceptance, attractiveness, and close relationships are more important to self-esteem for high-anxious than low-anxious individuals. Although secure individuals' self-esteem theoretically derives from interpersonal sources, their high self-esteem stability (Foster et al., 2007) and internalised secure base (Shaver & Mikulincer, 2002) mean that they do not require external input to maintain high self-esteem. In addition, the positive effect of *positive* interpersonal feedback on self-esteem may be smaller for individuals with high, compared to low, avoidance (*Hypothesis 1b*). This is because high-avoidant (dismissing and fearful) individuals limit the processing of interpersonal information and report less positivity after social interactions (Campbell et al., 2005; Fraley et al., 2000). I did not expect the effect of *negative* interpersonal feedback to vary by avoidance (*Hypothesis 1c*).

Competence feedback. The fluctuation of daily self-esteem with positive and negative *competence* feedback should be greater for individuals with high, compared to low, avoidance (*Hypothesis 2a*). This is because competence domains such as academic ability, success, and independence are more important to high- than low-avoidant individuals' self-esteem. If avoidant individuals' defensive processing is specific to interpersonal information (Mikulincer, Gillath, et al., 2002), their self-esteem should be susceptible to boosts and dents after competence feedback. The effect of competence feedback on self-esteem was not expected to vary by attachment anxiety (*Hypothesis 2b*).

Feedback from romantic partners. Feedback from a partner should serve the same purpose as interpersonal feedback in general, although attachment differences might be more pronounced because attachment working models are most likely to be activated in the context of romantic relationships (Collins et al., 2004). Thus, I expected the fluctuation of daily self-esteem in response to partner feedback to be greater for individuals with high, compared to low, attachment anxiety (*Hypothesis 3a*) and, for positive feedback, lesser for individuals with high, compared to low, attachment avoidance (*Hypothesis 3b*).

Daily Relationship Quality as a Function of Partner Feedback

As a secondary focus, I also examined the fluctuation of daily perceptions of relationship quality as a function of daily partner feedback. Highly anxious individuals experience relationships as tumultuous and their hyperactivated attachment system is constantly vigilant to signs of acceptance and rejection from a partner (Mikulincer et al., 2003). Moreover, Pietromonaco and Feldman Barrett (2006) found that preoccupied and

fearful individuals' esteem for their partner after an interaction depended on perceived partner approval. Campbell et al. (2005) also found that both conflict and support from romantic partners had stronger effects on daily relationship satisfaction for higher-anxious individuals. I therefore predicted that the within-person association between partner feedback and daily relationship quality would be stronger for individuals with high, compared to low, attachment anxiety (*Hypothesis 4a*). Highly avoidant individuals tend to report consistently low satisfaction with their relationships and low trust for a partner (J. Feeney, 1999b), and prior research has not identified unique predictors of fluctuation in high-avoidant individuals' relationship satisfaction (Campbell et al., 2005) or esteem for partner (Pietromonaco & Feldman Barrett, 2006). Thus, I expected the association between avoidance and relationship quality to be consistently negative regardless of partner feedback (*Hypothesis 4b*).

Self-Reported Reactions to Feedback

In line with the models proposed by Collins and Read (1994; Collins et al., 2004) regarding activation of attachment working models, and by Jussim et al. (1995) regarding reactions to self-relevant feedback, I explored three stages of reaction to feedback: emotional, cognitive, and self-targeted.

Emotional reactions. I assessed pure positive emotions (e.g., happiness) after positive feedback and pure negative emotions (e.g., sadness) after negative feedback. In addition, the emotions *anger*, *guilt*, and *anxiety* could arise after any type of feedback. After interpersonal feedback, I expected individuals with high, compared to low, attachment anxiety to report more extreme positive and negative emotions, including higher anxiety, guilt, and anger, due to their emotion regulation difficulties (*Hypothesis 5a*). Individuals with high, compared to low, attachment avoidance should report less positive emotion after positive interpersonal feedback (Campbell et al., 2005), although they may report anger after negative interpersonal feedback (*Hypothesis 5b*).

After competence feedback, I expected individuals with high, compared to low, attachment avoidance to report more extreme positive and negative emotions (*Hypothesis 6a*). This strong prediction was based on theoretical sources of self-esteem; however, the pattern may be tempered by high-avoidant individuals' general suppression of emotions. I expected individuals with high, compared to low, attachment anxiety to report more negative emotion after negative competence feedback because of their general difficulties with emotion regulation (e.g., Diamond & Hicks, 2005). However, this pattern should be

weaker than after interpersonal feedback because competence is less self-relevant (*Hypothesis 6b*).

Cognitive reactions. I focused on three types of cognitive reaction to feedback: perceived importance, attributions, and rumination. I expected attachment anxiety to predict maladaptive response patterns to interpersonal feedback because it is highly relevant to high-anxious individuals' self-esteem. That is, individuals with high, compared to low, attachment anxiety would perceive interpersonal feedback to be more important, attribute it to internal, global, and stable causes, and ruminate for longer about negative interpersonal feedback (*Hypothesis 7a*). In contrast, those with high, compared to low, attachment avoidance would perceive interpersonal feedback to be *less* important because they engage defensive information processing strategies (*Hypothesis 7b*). They might, however, perceive competence feedback to be relatively *more* important because it is relevant to their self-esteem (*Hypothesis 7c*). No predictions were made about the association between attachment avoidance and attributions or rumination.

Self-related reactions. Similar patterns were expected for state self-esteem and changes in self-views as were predicted for daily self-esteem lability. That is, individuals with high, compared to low, attachment anxiety should report more change in state self-esteem and views of the self after interpersonal feedback (*Hypothesis 8a*). Individuals with high, compared to low, avoidance should report *less* change in state self-esteem and self-views after positive interpersonal feedback (*Hypothesis 8b*) but more change in both outcomes in response to competence feedback (*Hypothesis 8c*). However, given evidence that high-avoidant individuals lack self-insight (Gjerde et al., 2001), their self-reports may differ from their self-esteem lability: for example, even if daily self-esteem fluctuates with negative competence feedback, highly avoidant individuals might report not changing their self-view. This was an exploratory research question.

The Mediating Roles of Self-Esteem and Depression

Individuals with higher attachment anxiety or avoidance report lower self-esteem (Collins & Read, 1990) and are more prone to depression (Carnelley et al., 1994; Wei, Mallinckrodt, et al., 2005). However, I expected that the effects of attachment revealed in this study would not be accounted for by trait self-esteem or recent depressive symptoms (*Hypothesis 9*). Campbell et al. (2005) found that effects of attachment on daily perceptions of romantic relationships were unexplained by self-esteem or neuroticism, supporting this suggestion (see also Collins, Ford, et al., 2006).

Method

Participants

A total of 177 undergraduates participated in exchange for course credit and tickets for a cash prize draw (with four prizes ranging from £5 to £50). Two were excluded from the study because they indicated in their exit questionnaire that they had either not understood or not followed instructions. The final 175 participants comprised 22 men and 153 women ranging from 18 to 47 years of age (M = 19.8, SD = 3.34).[1] The sample was predominantly heterosexual (97%) and White British (90%) or White Other (5%). Of the sample, 58.9% were currently in a romantic relationship (M_{DURATION} = 20.8 months, range 1 to 113 months).

Procedure

Participants attended an introductory session in groups of 8-13 in which the purpose and requirements of the study were explained and informed consent obtained. The role of participants as collaborators in the research was emphasised, and participants signed a commitment form to confirm their dedication to the study. They also completed background questionnaire measures and received the 14 diary records to complete during the study. Each participant was allocated a unique participant code and all materials were marked only with this code to preserve anonymity.

The introductory session also defined *feedback* and trained participants to recognise it in everyday life. I operationalised feedback as: "an event, experience, or piece of information originating from any external source or from something you do, which conveys, directly or indirectly, a positive or negative evaluation of some aspect of yourself." Examples of interpersonal and competence feedback were given[2] and participants completed a brief training exercise to distinguish feedback from non-self-

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[1] Although the age range is again large, results when excluding participants over the age of 25 (n = 6) were identical to those reported below.

[2] The terms used for participants were *social and relationship experiences* and *competence and work experiences*. This made the categories more accessible to participants and illustrated the feedback included in each. Interpersonal feedback was defined as feedback about "personality, relationships, attractiveness, social skills, how much you are liked by others, overall worth as a person, etc., which may come from friends, family, romantic partner, or any other people in social interactions". Competence feedback was defined as feedback about "how successful/talented you are, your skills/weaknesses, how much you have achieved, etc., which may come from people, objective sources like tests, or your own experiences of success/failure. This includes work settings but also hobbies or everyday tasks". Examples were taken from a pretest in which 30 students described common feedback experiences (see Appendix E).

relevant positive and negative experiences. A "cheat-sheet" containing definitions and examples was given to each participant to keep (see Appendix F).

Participants were guided through the structured diary record. They were informed that the diary should be completed each evening before bed, or if necessary before going out for the night (to facilitate completion and accuracy). They were told that if they forgot one evening, they could complete the diary the next morning as soon as they woke, but if they did not remember until later the next day, they should leave it blank. It was explained that retrospective completion could ruin the results and reiterated that forgetting was only human and there was no penalty for forgetting one or two. This strategy, engaging participants as collaborators and clarifying the impact of retrospective completion or dishonesty, can minimise faking data (A. Green, Rafaeli, Bolger, Shrout, & Reis, 2006). Participants returned completed diaries to a designated box every 2-4 days (decided in the introductory session) during the study. As an incentive, participants received a prize draw ticket for every diary they returned on the planned day.

The researcher kept in contact with each participant frequently during the 14 days of the study, with daily reminders (via text message or email) and prompts when a participant forgot to return diaries on a planned day. Participants returned a total of 2,334 diaries (an average of 13.3 per person; range = 9-14), and 64.0% of participants returned all 14 diaries. Most diaries (82.4%) were returned on the planned day. Regular contact with participants and inspection of diary records suggested that participants complied with instructions; that is, completing most diaries on time, skipping diaries that they forgot, and not completing them retrospectively.

On the 15th day of the study, participants returned for an "exit session", in which they completed a questionnaire about their experience of participating. Participants were given verbal and written debriefing, thanked, and given prize draw tickets.

Background Measures

In the introductory session, participants completed questionnaire measures including attachment, self-esteem, and depression. Three varying orders were distributed to reduce carry-over effects or priming.

Attachment and self-esteem. The ECR was used to assess attachment anxiety (α = .92) and avoidance (α = .95) as in previous studies. The two scales were barely correlated (r = -.03, *ns*). The SLCS-R was again used to assess self-esteem (α = .88).

Depression. A short form of the Center for Epidemiological Studies Depression Scale (CES-D-10; Cole, Rabin, Smith, & Kaufman, 2004) assessed depressive symptoms

during the past two weeks. The original 20-item CES-D (Comstock & Helsing, 1976; Radloff, 1979) was developed in community samples, rather than clinical samples, so was appropriate for use with undergraduates. Based on established measures of depression, it was designed to cover all aspects of depressive symptomatology (i.e., cognitive, behavioural, affective, and somatic; Radloff, 1979). Reliability and validity has been demonstrated in a number of populations (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993). The CES-D-10 was developed from the full form using Item Response Theory principles and spans the above dimensions. The ten items were rated on a scale from 0 (*rarely or none of the time*) to 3 (*all of the time*), for example, "I was bothered by things that usually don't bother me" ($\alpha = .75$).

Daily Measures: Self-Esteem, Relationship Quality, and Daily Feedback

On the front of each diary record, participants recorded date and time of completion. The diary took participants 10-15 minutes on average to complete. Measures were completed in the following order; all rating scales ranged from 1 to 9 (Appendix F).

Daily self-esteem. To assess daily self-esteem, I conducted a principal components analysis with Varimax rotation of the 16 SLCS-R items (Tafarodi & Swann, 2001) using the data from Study 2 ($N = 302$). I selected the two highest loading positive items and the highest loading reversed item for each of self-liking and self-competence and adapted them to the present tense. The final six items were rated from *strongly disagree* to *strongly agree* and were averaged to indicate daily self-esteem (e.g., [today] "I feel secure in my sense of self-worth"; "I feel able to accomplish what I try for").

Daily relationship quality. I wrote three items to assess perceived relationship quality for participants who were in a romantic relationship. The face-valid items specifically asked about satisfaction, commitment, and trust (e.g., "[today] I trust my partner") and were averaged to indicate daily relationship quality. These dimensions are three central components of relationship quality identified in the literature and assessed in the Perceived Relationship Quality Components scale (see Fletcher, Simpson, & Thomas, 2000, for review and discussion).

Feedback checklist. To assess daily feedback, I developed a Feedback Checklist.[3] The checklist contained 16 interpersonal feedback events (e.g., "I was invited to spend

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[3] To generate items for the Feedback Checklist, 30 students were asked to describe positive and negative interpersonal and competence feedback experiences from the past few days (Appendix E). I based the Checklist on the most frequent and representative types of interpersonal and competence feedback. I adapted four additional general items from Butler et al.'s (1994) Daily Events Survey.

time with, or felt very included by, a group of friends or date"; "I got the sense that I looked unattractive") and 16 competence feedback events (e.g., "I achieved a personal daily goal"; "Somebody in authority criticised my work or academic abilities"). In each domain, half the events were positive and half negative, and items were matched between categories (on item length, explicit vs. indirect feedback, and context of the event). Participants indicated whether or not they had experienced each event that day. For every event experienced, they rated its effect on how they felt about themselves at the time, on a scale from *extremely worse* to *extremely better*. Mirroring the Daily Events Survey (Butler et al., 1994; Nezlek & Plesko, 2001), an item scored 0 if the feedback was not received today. For feedback that was received, items were scored from 1 to 5, with 1 indicating the feedback had little or no effect and 5 indicating it had a strong effect. Supporting the validity of the Feedback Checklist, every feedback event occurred at least 100 times (and some over 1000 times) during the study. I scored daily feedback in two ways: for each type of feedback, I recorded the *number* of feedback events occurring each day, and *averaged* the 0-5 ratings. Important differences between results for the two indices are discussed below.

To examine the structure of the Feedback Checklist, I subjected the 32 events (indicated by the 0-5 scores) to a principal components analysis with oblique rotation (Table 14).[4] Two competence feedback events, involving criticism and praise from other people, did not load with other competence feedback and were removed. Three of the four attractiveness feedback events loaded on a separate factor, so I examined attractiveness separately in all following analyses. All remaining positive interpersonal feedback items loaded onto one factor. The negative interpersonal feedback items loaded onto two factors: rejection and criticism/conflict (see Table 14). The estimated within-person correlation between these two factors (obtained in a multilevel model) was $\tau = .49$, suggesting that the feedback types overlapped but were distinct. Positive competence feedback loaded onto two factors; however, the estimated within-person correlation between these was $\tau = .88$, so all positive competence feedback was combined. Negative competence feedback loaded onto two factors: academic and personal/non-academic. The estimated correlation between these was $\tau = .46$, suggesting they were related but distinct. Thus, I computed average scores for three types of positive

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[4] Orthogonal rotation produced very similar results. Although principal components analysis does not separate the variance in scores attributed to days (within-person) versus individuals (between-person), it has been used in similar previous studies (e.g., Zuckerman & O'Loughlin, 2006). Because the focus of this analysis was differences between events, not participants, there is no reason to expect individual differences to influence the findings.

Table 14

Loadings for Feedback Checklist Items in Principal Components Analysis

Feedback Item	Component 1	2	3	4	5	6	7	8
Positive reaction from other	.70							
Positive social interaction	.68							
Expressed affection	.67							
Praised relationship qualities	.58							
Someone helped me	.52							
Invited to spend time/included	.39							
Negative reaction from other		.62						
Disapproval/uncaring		.60						
Not invited/felt excluded		.57						
Rejected efforts to contact other		.55						
Achieved personal goal			.79					
Completed challenge			.61					
Positive non-academic session			.49					
Failed personal goal[a]			-.45					.39
Poor university grade				.68				
Criticised academic work				.65				
Outperformed by others				.49				.39
Conveyed work not good enough				.45				
Looked attractive					-.73			
Looked unattractive					.72			
Complimented appearance					-.59			
Good university grade						-.68		
Praised academic achievement						-.63		
Outperformed others						-.53		
Made positive work contribution						-.51		
Criticised relationship qualities							-.70	
Picked a fight or argument							-.62	
Criticised appearance[b]							-.58	
Struggled with task								.67
Negative non-academic session								.38
Percent of variance	11.1	7.7	5.7	4.6	4.2	3.8	3.7	3.5

[a] This negative item loaded with positive feedback. Because it also cross-loaded on Factor 8, it was combined with Factor 8 for analyses.

[b] This item was combined with the other negative attractiveness item for analysis.

Note. Loadings above .30 are shown. Two competence feedback items were removed: one (criticising/mocking non-academic abilities) loaded on interpersonal Factor 7 (.54), and one (praising non-academic abilities) loaded on its own (.75) and thus was separate from other competence feedback. Results when these items were included were very similar to those reported. The components were labelled as follows: (1) positive interpersonal, (2) rejection, (3) personal success, (4) academic failure, (5) attractiveness, (6) academic success, (7) criticism/conflict, and (8) personal failure.

feedback: *attractiveness*, *interpersonal*, and *competence*; and five types of negative feedback: *attractiveness*, *rejection*, *conflict*, *academic*, and *personal failure*. Although there was some conceptual overlap between feedback types, I retained the separate indices to examine differences in greater detail.

Partner feedback. Two items asked about the overall extent to which a participant's date or partner (if they had one) provided (a) positive feedback and (b) negative feedback each day (*not at all* to *very much*). Participants who were not in a relationship were asked to leave these items blank.

Daily Measures: Self-Reported Reactions to Feedback

The final section of the diary asked participants about four feedback events in detail: the most positive and most negative interpersonal and competence feedback they received that day (cf. Greenier et al., 1999). For each one, participants provided a brief description of the event and rated their reactions at the time of the event. Participants were told that if they could not remember an event for a particular category, they should leave it blank (judged preferable to inventing an event). Thus, results are based only on the feedback that each participant described. Participants provided a total of 2174 positive interpersonal events (*M* per participant = 12.4), 1672 negative interpersonal events (*M* = 9.55), 1730 positive competence events (*M* = 9.89), and 1509 negative competence events (*M* = 8.62). For all reaction variables, a mean score was computed for each participant across the diary days.[5]

Emotional reactions. The positive emotions (included after positive feedback) were *happy*, *accepted*, *proud*, and *relieved*. The former three were combined as an index of *positive emotion* ($\alpha = .76$ for both interpersonal and competence feedback). *Relieved* reduced internal consistency and was analysed separately. The negative emotions (included after negative feedback) were *sad/depressed*, *rejected*, *disappointed in myself*, and *hurt*, combined as an index of *negative emotion* ($\alpha = .89$ for interpersonal; $\alpha = .82$ for

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[5] Because participants returned varying numbers of diaries and recorded varying numbers of events, some participants' mean scores will be more reliable than others'. I re-conducted all analyses including only participants who provided at least three feedback events for all four types ($n = 157$). Results obtained with this subsample were very similar to those reported below. The results from the whole sample are reported, to be more representative. This was necessary because number of diary records returned correlated with attachment anxiety ($r = .16, p < .05$) and avoidance ($r = -.21, p < .01$). Nevertheless, it did not correlate with age, self-esteem, depression, or any dependent variables. Because the primary analyses used all available data, and self-reported feedback reactions were averaged across all diaries, this pattern should not influence any of the results reported below.

competence). After all types of feedback participants rated the items *guilty*, *anxious*, and *angry/irritated*; these were analysed separately.

Cognitive reactions. Participants reported the perceived importance of each feedback (*unimportant* to *very important*). Three items assessed attributions about the cause of the feedback: internal-external, stable-unstable, and global-specific. Finally, participants reported for how long they thought about the feedback after receiving it, as an index of rumination (*only a few seconds* to *a few hours or more*).

Effect on the self. Two items assessed the effect of feedback on state self-esteem (*extremely negative* to *extremely positive*) and the extent to which it changed how the participant viewed him/herself (*not at all* to *very much*).

Exit Measures

At the exit session, participants indicated whether the study period had been typical for them, on a scale from 1 (*completely typical*) to 7 (*extremely unusual*), and briefly gave details if relevant. Nine participants endorsed 6 or 7 for reasons that might affect responses to feedback (including illness, break-ups with partners, and family bereavement). However, removing these participants' data did not alter any results so they were retained.

Results

Validity of Diary Data

Diary records that appeared problematic or not valid were removed from analyses to maximise validity ($n = 24$; 1.0% of diaries). These included days on which participants indicated they were ill and had no social contact, diaries with odd response patterns or suggesting lack of concentration, and diaries that were returned very late. In addition, specific feedback described by participants was screened (with the help of two undergraduate students) to ensure that it fit into the correct category. Feedback that was clearly described in the wrong location (e.g., positive instead of negative) or was not true feedback (e.g., did not contain an evaluation of the participant) was recoded to the correct category or deleted ($n = 9$). Feedback that was ambiguous in domain (e.g., contained both interpersonal and competence aspects or was described vaguely) was marked as ambiguous ($n = 17$). Removal of these events did not alter any results so they were retained. According to participants' reports on the front of each diary record, most diaries (91.1%) were completed between 7:00pm and 1:00am, which was considered the optimal

time; 3.7% were completed early (4:00pm – 7:00pm); 2.9% completed late (after 1:00am); and 2.3% completed the next morning before 11:00am.[6] Removing data from these days did not notably alter results, so they were retained.

Daily Self-Esteem as a Function of Daily Feedback

Analysis strategy and data preparation. The diary data had a hierarchical structure, in which observations for days were nested within individuals (Kenny, Kashy, & Bolger, 1998). Therefore, I analysed the data using multilevel random coefficient modelling (MRCM) with the software program HLM 6 (Raudenbush, Bryk, & Congdon, 2000).[7] In MRCM terminology, within-person effects are labelled Level 1, and between-person effects Level 2 (Nezlek, 2001). To examine individual differences in self-esteem lability, I used MRCM to examine how attachment dimensions (at Level 2) influence relationships between daily feedback and daily self-esteem (at Level 1). In all MRCM analyses, I centred Level 1 (daily) predictors around each participant's mean (*group-mean centring*; Kreft & de Leeuw, 1998). This approach tests the effect of *deviations from a participant's average* feedback on his/her daily self-esteem. This is preferable to grand-mean centring (i.e., around the sample's mean) because parameter estimates for grand-mean centred Level 1 variables are influenced by between-participant differences as well as within-participant differences (Nezlek, 2001). I standardised Level 2 predictors (individual differences), and left daily self-esteem, the criterion, in its raw scale.

Preliminary analyses tested for temporal trends in the data, which can produce biased cross-correlations and reduce power and validity of results (West & Hepworth,

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[6] Multivariate ANOVAs examining the effect of time on daily measures revealed that on the Feedback Checklist, participants tended to report slightly more negative attractiveness feedback when completing the diary during the evening ($M = 0.45$) as opposed to early, late, or the next day (Ms = 0.30, 0.34, 0.38; $F[3, 2289] = 2.68, p < .05$) and slightly more positive competence feedback during the evening ($M = 2.00$) as opposed to early, late, or the next day (Ms = 1.82, 1.68, 1.60; $F[3, 2289] = 2.82, p < .05$). Time of completion was unrelated to all other daily measures, Fs < 2.27, ps > .05.

[7] Ordinary least squares (OLS) analyses such as ANOVA and linear regression are inappropriate for hierarchical data for important reasons. First, OLS analyses do not estimate random error so may generate biased estimates. MRCM analyses can model effects as random, which is important for diary research, in which one samples, presumably randomly, from a population of days in a participant's life. Second, MRCM analyses model effects and random error within persons (Level 1) and between persons (Level 2) simultaneously and with greater accuracy than OLS (see Nezlek, 2001; Raudenbush & Bryk, 2002, for discussion). This means that within-person associations can be examined independently of between-person differences. Other advantages of MRCM are that they are robust to missing data and unequal measurement occasions across participants, and that they can test how variables at one level influence relationships between variables at another level. Throughout, I used significance tests of fixed effects based on robust standard errors, which are adjusted to account for the distribution of residuals (Liang & Zeger, 1986).

1991).[8] There was evidence of autocorrelation among daily self-esteem scores; that is, the error variances for temporally adjacent observations were more strongly correlated than those further away from one another. To account for this trend throughout analyses, I modelled daily self-esteem as a function of self-esteem on the previous day as well as my main predictors (Kessler & Greenberg, 1981). This tested the relationship between today's feedback and today's self-esteem controlling for carry-over effects of yesterday's self-esteem. This general approach is common in daily diary research, especially in studies that have examined day-to-day fluctuation in subjective ratings (e.g., Birnbaum et al., 2006; Bolger, Zuckerman, & Kessler, 2000; Butler et al., 1994; Murray, Griffin, Rose, & Bellavia, 2003; Zuckerman & O'Loughlin, 2006).[9]

Daily self-esteem data were normally distributed. Daily feedback data were not: *mean scores* for negative feedback were positively skewed (ranging from 1.31 to 2.89) and had high kurtosis (ranging from 2.02 to 11.57). Log transformations improved the distributions, leaving only two variables above 1 on either skew (maximum = 1.16) or kurtosis (maximum = 2.02). For *number* of feedback events (unweighted by mean scores), a square-root transformation was sufficient, leaving only one variable skewed (skew = 1.07) and two with kurtosis (maximum = 1.44). Thus, all following analyses were conducted using transformed data for daily feedback. To identify outliers, I examined the Level 1 residuals in an initial model. A Q-Q plot test of normality revealed that the residuals were approximately normally distributed, but three extreme outlying days skewed the Q-Q plot and were removed. The final number of days for multilevel analyses was 2307. Descriptive statistics for daily feedback (number of events and weighted means) and their correlations with attachment dimensions are presented in Table 15. These show that, on average, individuals with high, compared to low, attachment anxiety reported more negative interpersonal feedback, whereas those with high, compared to low, avoidance reported less positive interpersonal feedback. These

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[8] Autocorrelation was tested with a multivariate multilevel model with self-esteem each day as 14 dependent variables. This compared the fit of two models differing only in error structure: one assuming correlations between all 14 Level 1 error terms to be homogeneous, and one with 1st order autocorrelated errors (i.e., higher correlations between temporally adjacent errors). The autocorrelated model fit the data significantly better than the homogeneous model, $\Delta\chi^2(1) = 81.41, p < .001$. It is also possible to test effects of Level 1 and Level 2 predictors in such a multivariate model (Raudenbush & Bryk, 2002). Results of hypothesis tests using this approach were very similar to those reported below.

[9] Another temporal trend was that self-esteem tended to increase over time: day of the study (1-14) significantly predicted daily self-esteem ($\gamma = 0.03, p < .001$). However, controlling this variable in main analyses did not alter any attachment effects. Thus, these results are not discussed further. Day of the week, weekend/weekday, and number of diaries returned were unrelated to daily self-esteem.

Table 15

Descriptive Statistics for Daily Feedback and Correlations with Attachment Dimensions

Feedback Type	Number of Events[a]				Average Score[b]			
	M	*SD*	*r*(Anx)	*r*(Avo)	*M*	*SD*	*r*(Anx)	*r*(Avo)
Interpersonal								
Positive	3.46	1.13	-.08	-.23**	2.02	0.85	-.07	-.30***
Neg rejection	0.86	0.50	.18*	.07	0.61	0.44	.20**	.05
Neg conflict	0.29	0.27	-.12	.06	0.43	0.43	-.07	.01
Attractiveness								
Positive	0.89	0.46	-.13	-.18*	1.38	0.84	-.10	-.19*
Negative	0.44	0.32	.17*	.08	0.60	0.52	.21**	.07
Competence								
Positive	1.98	0.87	-.03	-.13	0.88	0.47	-.05	-.20**
Neg academic	0.41	0.35	-.07	.07	0.27	0.26	-.05	.05
Neg personal	0.85	0.47	.10	.14	0.78	0.52	.13	.11
Partner[c]								
Positive	—	—	—	—	6.66	1.40	-.11	-.32**
Negative	—	—	—	—	2.35	1.15	.27**	.18

Notes. Neg = negative. *r*(Anx) = correlation with attachment anxiety. *r*(Avo) = correlation with avoidance. Means and standard deviations were computed with raw data but correlations with transformed data.

[a] Maximum numbers of events each day were as follows: positive interpersonal = 6; positive competence = 7; negative rejection and negative academic = 4; negative personal failure = 3; attractiveness and negative conflict = 2.

[b] Average scores for checklist events were computed by taking the mean of all 14 days' ratings for each feedback category. These range from 0 (*event did not happen*) to 5 (*event happened and had strong effect on feelings at the time*) and thus represent a weighted version of feedback events. Correlations between number and average score for each feedback category range from .92 to .97, but both are shown to aid comparison with each other and with the reported results.

[c] For partner feedback, scores range from 0 (*not at all*) to 9 (*very much*) ($n = 96$).

$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

patterns are consistent with evidence that compared to secure individuals, anxious individuals report more daily negative partner behaviours and trust violation events (J. Feeney, 2002; Mikulincer, 1998a), and avoidant individuals rate social interactions less positively (Tidwell et al., 1996). Competence feedback events, which are generally more objective in nature, were not significantly correlated with attachment dimensions.

Reliability and validity of daily self-esteem items. I examined the reliability and validity of the six daily self-esteem items in a *totally unconditional model* (Nezlek, 2001), which is a multilevel model containing no predictors. This estimated the variability in responses at Level 1 (within-person) and Level 2 (between-persons) and produced an estimate of reliability (the ratio of true to total variance of a coefficient).

The unconditional Level 1 and Level 2 models were as follows:

$$\text{Level 1: } y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + u_{0j}.$$

Here, y_{ij} is self-esteem on day i for participant j, and β_{0j} is mean self-esteem across all days for participant j. At Level 1, r_{ij} represents the random error associated with the measure of self-esteem on day i for participant j. At Level 2, γ_{00} is the grand mean of all participants' mean self-esteem scores (the mean of all β_{0j} coefficients) and u_{0j} represents the random error associated with β_{0j}. Estimated variances of r_{ij} and u_{0j} indicate the within-person and between-person error variance respectively.

The unconditional model estimated the grand mean daily self-esteem (γ_{00}) to be 6.23. The Level 1 (within-person) error variance was 0.95, and the Level 2 (between-person) error variance was 0.88. The estimated reliability of mean daily self-esteem (β_{0j}) was .92, which indicated that it was a reliable measure.[10]

Validity of the daily self-esteem scale was operationalised, following Nezlek (2001) as the proportion of variance in daily self-esteem explained by trait self-esteem. Thus, a model was examined in which trait self-esteem, assessed at the introductory session, was included as a Level 2 predictor of mean daily self-esteem (β_{0j}):

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \gamma_{01}\text{TraitSE} + u_{0j}.$$

[10] I also conducted a three-level model in which the six self-esteem items were modelled at Level 1, days at Level 2, and persons at Level 3. This enabled me to examine the items separately (see Nezlek & Gable, 2001). Within-scale reliability (i.e., internal consistency) was acceptable at .73. I investigated whether self-liking (SL) and self-competence (SC) items were separable, using a no-intercept model with dummy codes at Level 2 defining SL and SC items. However, reliability estimates were lower (SL = .59, SC = .66) and the estimated within-day correlation between the two scales was $\tau = .99$, suggesting that the daily self-liking and self-competence items tapped the same construct. Thus, all analyses used daily self-esteem as the criterion.

The fixed coefficient for trait self-esteem, which resembles a standardised regression coefficient because the predictor was standardised, was $\gamma_{01} = .55$, $p < .001$. The Level 2 error variance was estimated as 0.58, a 34.2% decrease compared to the unconditional model. Thus, the daily measure of self-esteem was reliable and significantly predicted by trait self-esteem (although less than half of the between-person variance was explained, suggesting the items were not perfect).

Attachment dimensions as moderators of self-esteem lability. The main analyses (Hypotheses 1-2) addressed the moderating effect of attachment dimensions on the within-person associations between daily self-esteem and different types of daily feedback. Because of the number of parameter estimations required for models with several predictors, I tested my hypotheses in three separate models for *interpersonal*, *attractiveness*, and *competence* feedback. At Level 1, I examined the within-person relationships between daily feedback and daily self-esteem by adding the relevant feedback types as group-centred predictors. Self-esteem on the previous day was included as a fixed effect. To illustrate, the Level 1 model for interpersonal feedback was as follows:

$$y_{ij} = \beta_{0j} + \beta_{1j}\text{SEyesterday} + \beta_{2j}\text{PosFeedback} + \beta_{3j}\text{NegRejection} + \beta_{4j}\text{NegConflict} + r_{ij}$$

where Pos and Neg indicate positive and negative feedback respectively.

To test the significance of each slope, I examined the intercept for each feedback type at Level 2. Attachment anxiety and avoidance were added as Level 2 variables, predicting both mean daily self-esteem (the intercept) and the slopes of feedback on self-esteem (a "slopes as outcomes" model; Nezlek, 2001). To illustrate, the Level 2 model for interpersonal feedback was as follows:

Intercept: $\beta_{0j} = \gamma_{00} + \gamma_{01}\text{Anxiety} + \gamma_{02}\text{Avoidance} + u_{0j}$

SEyesterday: $\beta_{1j} = \gamma_{10}$

PosFeedback: $\beta_{2j} = \gamma_{20} + \gamma_{21}\text{Anxiety} + \gamma_{22}\text{Avoidance} + u_{2j}$

NegRejection: $\beta_{3j} = \gamma_{30} + \gamma_{31}\text{Anxiety} + \gamma_{32}\text{Avoidance} + u_{3j}$

NegConflict: $\beta_{4j} = \gamma_{40} + \gamma_{41}\text{Anxiety} + \gamma_{42}\text{Avoidance} + u_{4j}$

The effect of yesterday's self-esteem on today's self-esteem is indicated by the intercept γ_{10}, the effect of today's positive interpersonal feedback is indicated by the intercept γ_{20}, and so on. The effect of attachment anxiety on the within-person relationship between positive interpersonal feedback and daily self-esteem is indicated by the slope coefficient γ_{21}. Thus, γ_{21}, γ_{22}, γ_{31}, γ_{32}, γ_{41}, and γ_{42} represent cross-level interactions. Significant cross-

level interactions were probed with multilevel simple slopes analyses (Bauer & Curran, 2005; Preacher, Curran, & Bauer, 2006). These extend the Aiken and West (1991) method by estimating Level 1 slopes for participants one standard deviation above and below the mean on a Level 2 variable (e.g., attachment anxiety). Following Preacher et al. (2006), I use ω to denote a multilevel simple slope coefficient. The models examining attractiveness and competence feedback were tested in the same way. I entered the interaction between attachment anxiety and avoidance as a Level 2 predictor but it was not significant in any model so was excluded. The results of these MRCM analyses are presented in Table 16.

Table 16

Attachment Dimensions as Moderators of Within-Person Relationships between Daily Feedback Scores and Daily Self-Esteem

	γ Coefficients			Error
Parameter	Intercept	Anxiety	Avoidance	Variance
Daily self-esteem[a]	4.83***	-.27***	-.23***	0.42
Yesterday's self-esteem[a]	0.23***	—	—	—
Interpersonal feedback				
Positive	1.48***	-.22	-.50**	2.16
Neg rejection	-1.05***	-.40**	-.37*	0.84
Neg conflict	-0.48***	.08	.10	0.61
Attractiveness feedback				
Positive	0.71***	.10	-.25*	0.60
Negative	-0.98***	.12	.07	1.14
Competence feedback				
Positive	2.05***	.42†	-.00	4.05
Neg academic	-0.87***	-.22	.30	1.55
Neg personal failure	-1.39***	.03	.14	1.17

Note. Daily feedback scores were log-transformed and group-mean centred. All slopes except previous day's self-esteem included a random error component. Degrees of freedom: random slopes $df = 172$; fixed slope $df \approx 1997$; error variance $df \approx 159$ (varying due to missing data). Coefficients for slopes cannot be directly compared because feedback score standard deviations varied. Neg = negative.

†$p = .06$, *$p < .05$, **$p < .01$, ***$p < .001$.

[a] These parameters were included in all three models. These estimates were taken from the interpersonal feedback model but were almost identical across all models.

Intercept coefficients (left column) indicate the within-person effects of a Level 1 predictor, in terms of deviation from a participant's mean. For example, when self-esteem had been one unit above a participant's mean yesterday, s/he scored 0.23 above his/her mean today. Consistent with prior research (Butler et al., 1994; Nezlek & Gable, 2001), daily self-esteem varied positively with all positive feedback, and negatively with all negative feedback. That is, on a day when a participant received more positive feedback or less negative feedback than average, s/he reported higher self-esteem.

Coefficients for attachment in Table 16 indicate the change in the within-person effect of feedback on daily self-esteem when anxiety or avoidance increases by one standard deviation. The relationship between *rejection feedback* and daily self-esteem was more negative for participants with high, compared to low, anxiety, consistent with Hypothesis 1a. Unexpectedly, this was also the case for participants with high avoidance, contrary to Hypothesis 1c. Both interactions are shown in Figure 9. Simple slopes showed that the association between daily rejection and daily self-esteem was significant for all participants, but was more negative for high-anxious ($\omega = -1.45, p < .001$) compared to low-anxious individuals ($\omega = -0.65, p < .01$), and more negative for high-avoidant ($\omega = -1.43, p < .001$) compared to low-avoidant individuals ($\omega = -0.68, p < .01$).

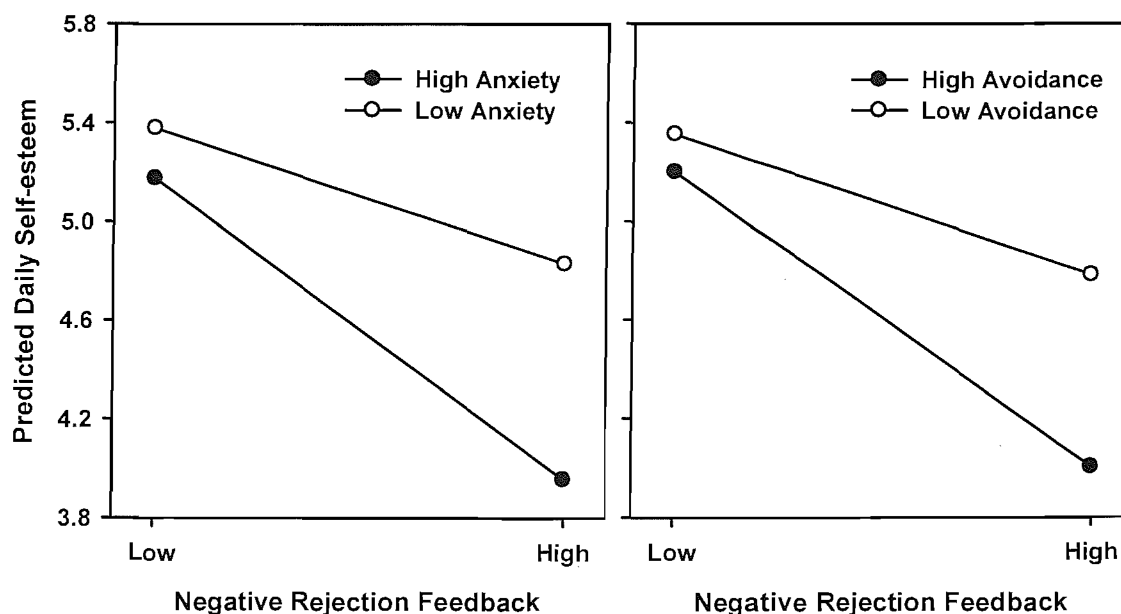

Figure 9. Simple slopes of daily negative rejection feedback on daily self-esteem at high and low attachment anxiety (left panel) and attachment avoidance (right panel). The *x*-axis spans the range of rejection feedback observed in the data and is centred around each participant's mean.

This result suggests that being excluded from social situations, rejected, or shown negative body language undermines the self-esteem of all insecure individuals to a greater extent than secure individuals. Interestingly, this pattern did not arise for criticism/conflict feedback. Nor did positive interpersonal feedback boost self-esteem for high-anxious more than low-anxious individuals, contrary to Hypothesis 1a.

The relationships between daily self-esteem and both *positive interpersonal* and *positive attractiveness* feedback were significantly less positive for participants with high, compared to low, avoidance.[11] These patterns are depicted in Figure 10. The slope between daily self-esteem and positive interpersonal feedback was more positive for low-avoidant ($\omega = 1.98, p < .001$) compared to high-avoidant individuals ($\omega = 0.97, p < .001$). For positive attractiveness feedback, the slope was significant for low-avoidant ($\omega = 0.95, p = .01$) but not high-avoidant individuals ($\omega = 0.46, p = .22$). Consistent with Hypothesis 1b, positive feedback from others does not boost the self-esteem of high-avoidant individuals to the same extent as low-avoidant individuals.

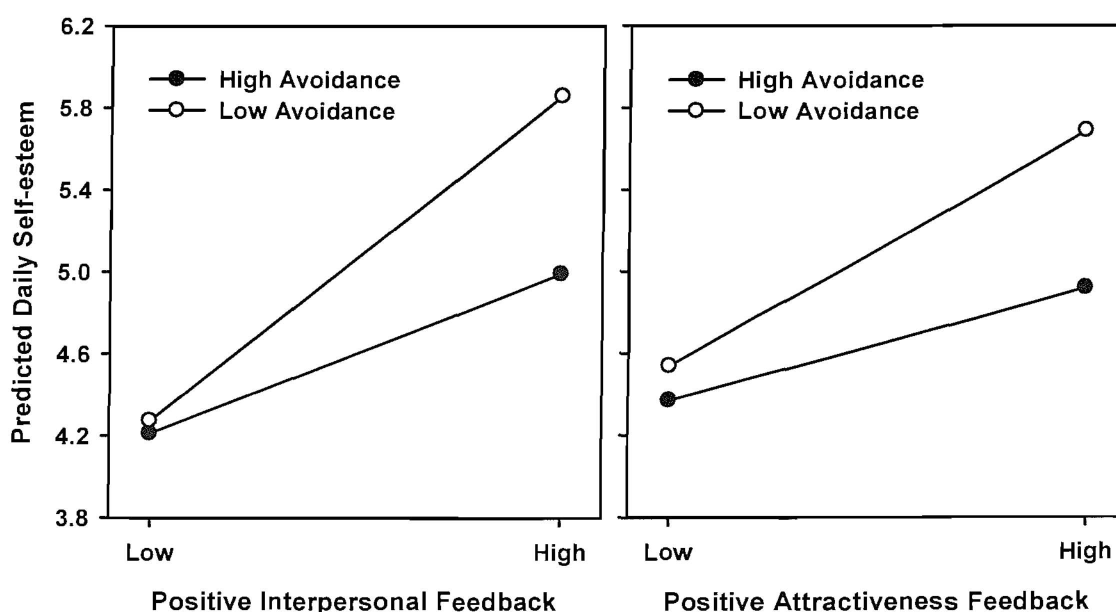

Figure 10. Simple slopes of daily positive interpersonal (left panel) and positive attractiveness (right panel) feedback on daily self-esteem at high and low attachment avoidance. The *x*-axes span the range of feedback observed in the data and are centred around each participant's mean.

[11] When I tested a model with interpersonal and attractiveness feedback simultaneously, the cross-level interaction between avoidance and positive attractiveness feedback became marginally significant ($\gamma = -0.19, p < .07$). Thus, this effect may be partly driven by interpersonal aspects of attractiveness feedback. Interactions for interpersonal feedback remained significant.

Neither of the above patterns was visible in the competence domain, suggesting that the effects were specific to interpersonal feedback, especially acceptance or rejection. Most pertinently, effects of competence feedback were not stronger for high-avoidant than low-avoidant individuals, failing to support Hypothesis 2a. However, anxiety marginally moderated the slope for *positive competence feedback*. The relationship between positive competence feedback and daily self-esteem was more positive for high-anxious ($\omega = 2.47, p < .001$) than low-anxious participants ($\omega = 1.63$, $p < .001$), such that although anxiety was negatively associated with self-esteem, the effect was smaller on days when positive competence feedback was high ($\omega = -0.22$, $p = .002$) compared to low ($\omega = -0.33, p < .001$). This unexpected finding may reflect the general lability of high-anxious individuals' self-esteem: when they are successful or receive positive feedback about their abilities, their self-esteem tends to experience a slight boost toward normative levels.

Because all feedback scores were group-centred, none of these results could reflect a systematic response bias (e.g., anxious participants reporting more feedback on average or rating it as more important). Nevertheless, it could be argued that weighting feedback events by their effect or importance confounds amount of feedback with its effects on daily self-esteem (Butler et al., 1994). Therefore, I also conducted analyses using only the *number* of daily feedback events in each category. In this index, all feedback events count equally, making it more objective, though less sensitive. Both the previous cross-level interaction effects involving attachment anxiety were significant (rejection feedback: $\gamma = -0.21, p < .01$; positive competence feedback: $\gamma = 0.17, p = .03$), suggesting that the differential effect of feedback on self-esteem for high- versus low-anxious individuals is not contingent upon its initial importance. In addition, the moderating effects of avoidance for positive interpersonal feedback ($\gamma = -0.15, p = .05$) and positive attractiveness feedback ($\gamma = -0.19, p = .06$) were only slightly smaller than before. However, avoidance no longer moderated the slope for negative rejection feedback ($\gamma = -0.11, p = .25$). This suggests that rejection experiences only dent a high-avoidant individual's self-esteem at the end of the day to the extent that the experience initially affected him/her. Therefore, the cognitive defences engaged by high-avoidant individuals (e.g., Fraley et al., 2000) partly seem to protect self-esteem from the effect of feedback. If they remember and indicate on the Feedback Checklist that an event occurred, but believe that it had little self-relevance, it appears not to impact on their self-esteem. But if those defences are not activated, or are ineffective, leading the individual

to acknowledge the influence of feedback on the Checklist, their self-esteem seems vulnerable to rejection.

The roles of trait self-esteem and depression. I sought to determine whether the effects of attachment on within-person associations between feedback and self-esteem were accounted for by attachment differences in trait self-esteem or depression (Hypothesis 9). As expected, trait self-esteem correlated negatively with attachment anxiety ($r = -.41, p < .001$) and avoidance ($r = -.18, p < .05$), whereas depression correlated positively with anxiety ($r = .35, p < .001$) and marginally with avoidance ($r = .13, p = .08$). Trait self-esteem and depression correlated negatively ($r = -.57$, $p < .001$). For each trait, I conducted the same models as before (using mean feedback scores), substituting trait self-esteem or depressive symptoms for attachment at Level 2.

Trait self-esteem did not significantly moderate the slopes of attractiveness feedback (γs < |0.19|, *p*s > .14) or competence feedback (γs < |0.38|, *p*s > .07). However, individuals with higher trait self-esteem showed less fluctuation in daily self-esteem with negative rejection feedback ($\gamma = 0.44, p < .01$). Because effects of both attachment anxiety and avoidance had been observed on this slope, I entered attachment dimensions and trait self-esteem as simultaneous Level 2 predictors. When all variables were entered together, trait self-esteem did not predict the rejection slope ($\gamma = 0.28, p = .13$) and the effects of both anxiety and avoidance remained marginally significant (anxiety $\gamma = -0.30$, $p = .055$, avoidance $\gamma = -0.31, p = .09$). Although these effects were lessened, the fact that self-esteem also did not contribute uniquely to the rejection slope precludes mediation.

Depressive symptoms did not moderate the slopes of interpersonal feedback (γs < |0.18|, *p*s > .31) or competence feedback (γs < |0.18|, *p*s > .22). Individuals with more depressive symptoms showed more fluctuation in daily self-esteem in response to negative attractiveness feedback ($\gamma = -0.37, p = .02$). However, because attachment did not moderate this slope, depression could not mediate any effects of attachment. In summary, neither trait self-esteem nor depression could account for attachment differences in self-esteem lability.

The Effect of Daily Feedback from Romantic Partners

I next examined whether daily self-esteem and perceptions of relationship satisfaction, trust, and commitment fluctuated in response to positive and/or negative feedback from one's romantic partner, and whether this fluctuation was moderated by attachment (Hypotheses 3-4). These analyses focused on participants currently involved in romantic relationships. Five participants were excluded from analyses because they

broke up with their partner during the study or were dating multiple people, leaving 96 participants (1273 diary days) for analysis. Both positive and negative partner feedback were skewed and were log-transformed before analysis.[12]

The multilevel models were parallel to the previous ones. Based on multivariate tests for autocorrelation, daily relationship quality was modelled in the same way as daily self-esteem: controlling for the previous day's relationship quality as a fixed slope (cf. Shaver et al., 2005). The Level 1 model for daily relationship quality was as follows:

$$y_{ij} = \beta_{0j} + \beta_{1j}\text{RelQualityYesterday} + \beta_{2j}\text{PosPartner} + \beta_{3j}\text{NegPartner} + r_{ij}$$

where y_{ij} is the relationship quality reported on day i by person j. As an example, part of the Level 2 model (for the slope of positive partner feedback) was:

$$\beta_{2j}\text{PosPartner} = \gamma_{20} + \gamma_{21}\text{Anxiety} + \gamma_{22}\text{Avoidance} + u_{2j}.$$

Results predicting both daily self-esteem and daily relationship quality are shown in Table 17. On days when participants received more positive feedback and less negative feedback from their romantic partner, they tended to report significantly higher self-esteem and higher perceived relationship quality. Attachment avoidance, but not anxiety, was negatively associated with average relationship quality across the diaries (Table 17). This is consistent with Hypothesis 4b and research linking avoidance to lower relationship satisfaction, trust, and commitment (e.g., Collins, Cooper, Albino, & Allard, 2002; see J. Feeney, 1999b, for a review).

Results showed that the within-person relationship between positive partner feedback and *daily self-esteem* was stronger for individuals with high, compared to low, attachment anxiety (see Figure 11). Specifically, the slope for positive partner feedback was significant for high-anxious individuals ($\omega = 1.02, p < .001$) but only marginal for low-anxious individuals ($\omega = 0.39, p = .06$), such that on days when a partner provided low levels of positive feedback, high-anxious individuals reported lower self-esteem than low-anxious individuals ($\omega = -0.26, p < .01$), but when a partner provided high levels of positive feedback, high- and low-anxious individuals reported equally high self-esteem ($\omega = -0.13, p = .17$). This pattern is consistent with Hypothesis 3a, suggesting that highly anxious individuals' self-esteem depends on a partner's displays of affection, love, or acceptance to attain normative levels. Interestingly, this pattern differs from overall

[12] Positive and negative partner feedback were negatively correlated, within-person $\tau = -.74$. However, this did not cause analytic problems. I retained the two separate scores to examine whether results differed for positive versus negative feedback. The same results were obtained if positive and negative feedback were entered into separate models.

Table 17

Attachment Dimensions as Moderators of Within-Person Relationships between Daily Partner Feedback and Daily Outcomes

	γ Coefficients			Error
Criterion and Parameter	Intercept	Anxiety	Avoidance	Variance
Self-Esteem				
Daily self-esteem	5.12^{***}	$-.20^{*}$	$-.30^{***}$	0.49
Yesterday's self-esteem	0.19^{***}	—	—	—
Pos partner feedback	0.71^{***}	$.31^{**}$	-.07	0.15
Neg partner feedback	-0.42^{***}	.03	.11	0.29
Perceived Relationship Quality				
Daily rel. quality	6.28^{***}	-.10	$-.66^{***}$	1.00
Yesterday's rel. quality	0.17^{***}	—	—	—
Pos partner feedback	1.48^{***}	$.39^{**}$	$.38^{**}$	0.93
Neg partner feedback	-0.74^{***}	-.01	.06	0.52

Note. Partner feedback scores (1-9 scale) were log-transformed and group-mean centred. Attachment anxiety and avoidance were standardised. All slopes except for previous day's self-esteem or relationship quality were modelled with a random error component. Degrees of freedom: random slopes $df = 93$; fixed slopes $df \approx 1067$; random error variance $df = 77$. Coefficients for slopes cannot be directly compared because feedback score standard deviations varied. Pos = positive; neg = negative; rel. = relationship.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

effects of interpersonal feedback (Table 16): high-anxious individuals' self-esteem was dented by rejection but not boosted by positive interpersonal feedback. It may be that feedback from an attachment figure is a particular source of self-esteem for anxious individuals because of their chronic attachment concerns. Negative feedback from romantic partners did not uniquely knock high-anxious individuals' self-esteem, suggesting either that negative feedback from a partner can satisfy hyperactivated goals for intimacy and attention (Pietromonaco & Feldman Barrett, 1997), or that *low*-anxious individuals' self-esteem suffers equally after negative partner feedback. The effects of partner feedback on self-esteem did not differ by avoidance, suggesting that—inconsistent with Hypothesis 3b—high-avoidant individuals' self-esteem is boosted to the same extent as low-avoidant individuals' by positive partner feedback.

The within-person relationship between positive partner feedback and *daily perceived relationship quality* was also moderated by attachment anxiety (Figure 11).

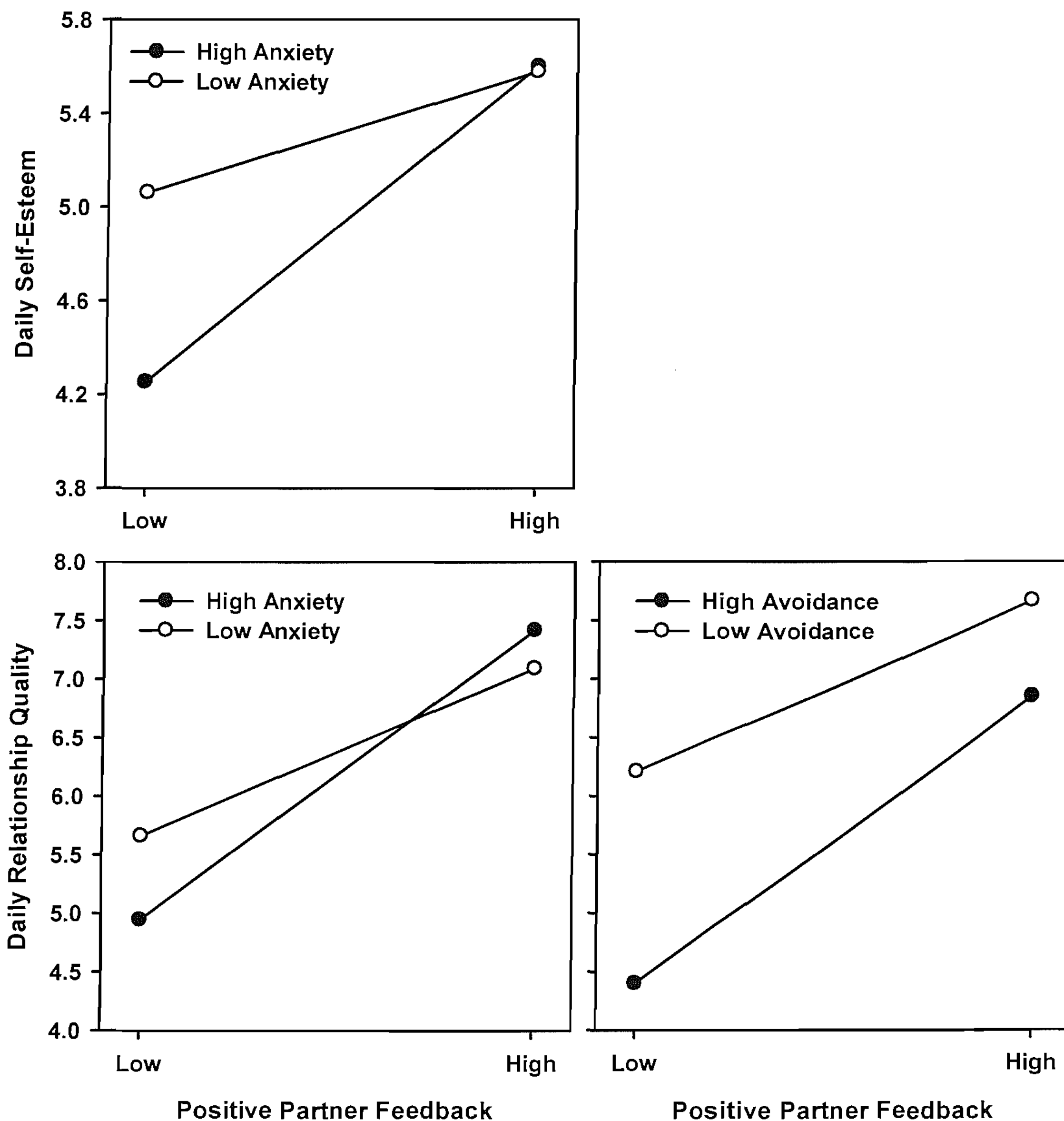

Figure 11. Simple slopes of daily positive partner feedback on daily self-esteem at high and low anxiety (top panel), and on daily relationship quality at high and low attachment anxiety (lower left panel) and avoidance (lower right panel). The *x*-axes span the range of feedback observed in the data and are centred around each participant's mean.

The effect of positive feedback on relationship quality was stronger for individuals with high ($\omega = 1.87, p < .001$), compared to low ($\omega = 1.08, p < .001$) anxiety. On days when they receive positive partner feedback, high-anxious individuals increase not only evaluations of the self but also evaluations of the relationship. Consistent with Hypothesis 4a, this mirrors Pietromonaco and Feldman Barrett's (2006) finding that preoccupied individuals value their partner more when the partner aids the individual's self-regulation. Campbell et al. (2005) and J. Feeney (2002) also found that anxious

individuals' perceptions of their relationship depend on daily relationship events, although the present results implicate only positive, not negative, events.

Interestingly, the same pattern was observed for avoidance: perceived relationship quality varied with daily positive feedback more for individuals with high ($\omega = 1.85$, $p < .001$) versus low ($\omega = 1.10, p < .001$) avoidance (Figure 11, lower right panel). Although high-avoidant participants did not incorporate positive feedback into their *self*-evaluation, they did evaluate the *relationship* more positively when they received more positive feedback. This finding contrasts with Hypothesis 4b and with prior studies that did not find avoidance to moderate associations between relationship events and relationship satisfaction (Campbell et al., 2005; Pietromonaco & Feldman Barrett, 2006). It is possible that avoidant individuals who enter into a relationship develop different goals from those who do not. Consistent with previous research (J. Feeney, 1999b; Kirkpatrick & Davis, 1994), participants in this sample who were in a relationship reported lower avoidance ($M = 2.40$, $SD = 0.97$) than single participants ($M = 3.16$, $SD = 1.01$; $t[165] = 4.93, p < .001$). Thus, partner feedback analyses may not include individuals who are very high in avoidance. However, additional analyses showed that relationship duration did not moderate the slopes of partner feedback on either daily self-esteem or relationship quality, nor did it change or moderate any attachment effects. Alternatively, high-avoidant individuals' value for partners who provide positive feedback might reflect desire for a partner who makes them feel powerful or in control.

In summary, it seems that insecure individuals—potentially for different reasons—exhibit greater satisfaction with, and commitment to, their romantic relationships to the extent that their partner helps maintain their self-esteem. In future, it would be valuable to examine potential mediators of this phenomenon. For example, are boosts to satisfaction, trust, and commitment mediated by different attachment-related goals (e.g., intimacy versus ego-flattery) for different individuals?

Self-Reported Reactions to Feedback

The final goal of the present study was to examine the specific ways that participants with different attachment models react to positive and negative interpersonal and competence feedback (averaged across all diaries). I focused on emotional, cognitive, and self-related reactions. To examine the differential effects of attachment on different types of feedback, I first conducted Analyses of Covariance for each reaction, testing the interactions between attachment dimensions (entered as covariates) and type

of feedback (similar to Study 2 and 3).[13] For positive and negative emotions, a 2 (Domain: Interpersonal vs. Competence) + anxiety + avoidance ANCOVA was conducted because these items were included only after positive and negative feedback respectively. For the remaining reactions, a series of 2 (Domain) × 2 (Valence) + anxiety + avoidance ANCOVAs was conducted.[14] To minimise the number of statistical tests and inflation of experiment-wise Type I error rate, I then ran multiple regressions predicting specific reactions from attachment dimensions, as indicated by any attachment × feedback type interactions. For example, if attachment effects varied by valence, I regressed reactions to positive and negative feedback on attachment (averaging across domain). If attachment effects varied by both domain and valence, I regressed reactions to all four types of feedback on attachment. Results for all emotional, cognitive, and self-related reactions are presented in Table 18. The relevant attachment × feedback type interaction(s) from the ANCOVA are summarised in the far right column, with the regression results in the centre columns.

Emotional reactions. Across all feedback, higher attachment anxiety was associated with more extreme emotions, supporting Hypothesis 5a and 6b. The only exception was positive emotions. Instead of feeling actively positive after positive feedback, high-anxious individuals tended to feel relieved and anxious, suggesting they expected or feared negative feedback. They also reported more negativity after negative feedback. Contrary to predictions, this pattern was not stronger for interpersonal than competence feedback, suggesting that high-anxious individuals' hyperactivated, emotionally chaotic attachment system does not differentiate between feedback that is more or less relevant to their attachment concerns.

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[13] It would also be possible to examine these hypotheses using MRCM analyses with a set of three-level models (specific reactions to the four different types of feedback nested within days, nested within persons). This would require dummy-coded variables representing each type of feedback at Level 2 (days), and would test the effects of attachment dimensions on average reactions to each feedback type at Level 3 (persons). This would essentially achieve the same goal as averaging across days, because this time I was not interested in testing the associations among variables *within* days. However, it would not readily allow me to test whether the effects of attachment dimensions varied significantly between different types of feedback in the way that ANCOVA can. In the interest of brevity and in order to compare attachment effects across feedback types explicitly, I conducted, and report results of, analyses averaged across days.

[14] Two participants were excluded from analyses for *angry* and *guilty* because they were high outliers on both variables for positive feedback ($z > 5$). Even so, the distributions for angry, guilty, and anxious reactions to positive feedback were positively skewed with high kurtosis, so these variables were inverse-transformed to reduce non-normality. For ANCOVAs involving these emotions, reaction variables were standardised so that transformed and raw scores (i.e., for positive and negative feedback respectively) could be examined together.

Table 18

ANCOVAs and Multiple Regressions Predicting Reactions to Feedback from Attachment Dimensions

Reaction	Feedback Type	Step 1 Anx	Step 1 Avo	Step 1 F_{change}	Step 2 Anx × Avo	Step 2 F_{change}	Total R^2	ANCOVA interactions
				Emotional Reactions				
Positive emotions	Pos Interpers.	-.01	$-.22^{**}$	4.54^{*}	.04	-	$.05^{*}$	Avoidance × Domain: $F = 3.60^{\dagger}$
	Pos Comp.	.01	$-.13^{\dagger}$	1.46	.05	-	.02	
Relieved	All positive	$.23^{**}$	-.06	5.21^{**}	$.13^{\dagger}$	$3.20^{\dagger}$	$.07^{**}$	Fs < 1.3, p > .26
Negative emotions	All negative	$.27^{***}$	.02	6.94^{***}	.10	1.77	$.08^{**}$	Fs < 2.4, p > .12
Anxious	Positive	$.26^{***}$	$.18^{*}$	9.17^{***}	-.01	-	$.10^{***}$	Avoidance × Valence: $F = 7.10^{**}$,
	Negative	$.35^{***}$	-.02	12.13^{***}	-.08	1.32	$.13^{***}$	Anxiety × Valence: $F = 4.30^{*}$
Guilty	All	$.22^{**}$	$.16^{*}$	6.51^{**}	$-.16^{*}$	4.64^{*}	$.10^{***}$	Fs < 1.9, p > .17
Angry	Positive	.12	.09	1.91	-.11	2.05	.03	Avoidance × Valence: $F = 7.45^{**}$,
	Negative	$.21^{**}$	-.12	5.41^{**}	.07	-	$.05^{**}$	Anx × Avo × Valence: $F = 4.06^{*}$
				Cognitive Reactions				
Importance	Pos Interpers.	.12	$-.17^{*}$	4.04^{*}	.03	-	$.05^{*}$	Anx × Domain × Valence: $F = 2.98^{\dagger}$,
	Neg Interpers.	$.22^{**}$	.03	4.48^{*}	$.14^{\dagger}$	$3.50^{\dagger}$	$.07^{**}$	Anx × Avo × Dom × Val: $F = 7.26^{**}$
	Pos Comp.	$.13^{\dagger}$	.01	1.39	$.13^{\dagger}$	$2.99^{\dagger}$	.03	
	Neg Comp.	.07	.05	-	.02	-	.01	
Internal Attribution	Interpersonal	.09	$.16^{*}$	3.01^{*}	$-.18^{*}$	5.53^{*}	$.06^{**}$	Anxiety × Domain: $F = 3.40^{\dagger}$
	Competence	-.08	$.18^{*}$	$2.87^{\dagger}$	-.11	-	.03	

Table 18 cont.

Reaction	Feedback Type	Step 1 Anx	Step 1 Avo	Step 1 F_{change}	Step 2 Anx × Avo	Step 2 F_{change}	Total R^2	ANCOVA interactions
Global Attribution	Positive	.06	-.01	-	.07	-	.01	Avoidance × Valence: $F = 3.76^{*}$
	Negative	.09	.08	1.30	.05	-	.01	
Stable Attribution	Pos Interpers.	.01	$-.14^{*}$	1.98	-.09	1.41	.03	Avoidance × Valence: $F = 8.34^{**}$,
	Neg Interpers.	.06	$.17^{*}$	3.36^{*}	-.11	2.61	$.04^{*}$	Anx × Avo × Dom × Val: $F = 3.05^{*}$
	Pos Comp.	.00	-.00	-	.00	-	.00	
	Neg Comp.	.02	.11	1.35	$-.18^{**}$	6.92^{**}	$.04^{*}$	
Rumination	Pos Interpers.	.04	-.00	-	.11	2.19	.01	Avoidance × Domain: $F = 3.24^{\dagger}$,
	Neg Interpers.	$.20^{**}$	.08	4.17^{*}	.05	-	$.05^{*}$	Anxiety × Valence: $F = 3.28^{\dagger}$
	Pos Comp.	.10	.08	1.35	$.19^{*}$	5.98^{*}	$.05^{*}$	
	Neg Comp.	.11	$.21^{*}$	$2.94^{\dagger}$	.07	-	$.04^{\dagger}$	
				Self Reactions				
State Self-Esteem	Pos Interpers.	-.05	$-.16^{*}$	$2.50^{\dagger}$	-.05	-	.03	Anxiety × Domain: $F = 4.33^{*}$,
	Neg Interpers.	$-.29^{***}$	.03	8.06^{***}	-.00	-	$.08^{**}$	Anxiety × Valence: $F = 3.77^{*}$,
	Pos Comp.	.03	-.02	-	.07	-	.01	Avo × Domain × Valence: $F = 4.50^{*}$
	Neg Comp.	$-.18^{*}$	-.03	$2.85^{\dagger}$	-.02	-	.03	
Change Self-View	Pos Interpers.	.05	.06	-	.08	1.08	.01	Avoidance × Domain: $F = 4.21^{*}$,
	Neg Interpers.	$.15^{*}$	$.14^{\dagger}$	3.84^{*}	.05	-	$.05^{*}$	Anx × Avo × Valence: $F = 6.15^{*}$,
	Pos Comp.	.09	-.03	-	$.24^{**}$	10.16^{**}	$.07^{*}$	Anx × Domain × Valence: $F = 3.41^{\dagger}$,
	Neg Comp.	-.00	.03	-	.01	-	.00	Anx × Avo × Dom × Val: $F = 6.01^{*}$

Note. Degrees of freedom vary due to missing data. – indicates $F < 1$. Pos = positive; Neg = negative; Interpers. = interpersonal; Comp = competence; Anx = anxiety; Avo = avoidance; Dom = domain; Val = valence. ANCOVA main effects and non-significant interactions ($ps > .10$) are not shown. *F*s for attributions were taken from univariate tests in a MANCOVA with internal, global, and stable as multiple dependent variables. Each attribution regression controlled for other attributions in Step 1; R^2 indicates partial variance accounted for by attachment. $^{\dagger}p < .09$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Avoidance was less consistently associated with emotional reactions. Supporting Hypothesis 5b, high-avoidant individuals reported less positive emotions after positive feedback, particularly interpersonal feedback, than low-avoidant individuals. However, they reported feeling more anxious after positive feedback compared to low-avoidant individuals. It was expected that those high in avoidance would feel more negative after receiving negative feedback about competence than relationships (Hypothesis 6a); however, this did not appear to be the case. There was a tendency for high-avoidant individuals to report more anger after positive than negative feedback, but this was not moderated by domain. Thus, success or failure in personally important domains does not appear to trigger emotional reactions for high-avoidant individuals.

Finally, having high avoidance *or* anxiety elevated guilt after any feedback: an Anxiety × Avoidance interaction showed that secure individuals reported less guilt in general compared to all insecure individuals (βs > .22, *p*s < .01) who did not differ from one another (βs < .10, *p*s > .33). Guilt reflects evaluations of the self and one's behaviour in relation to important social and internal standards and contributes to the development of self-knowledge (Barrett, 1995; Mascolo & Fischer, 1995). Thus, this finding suggests that all insecure individuals evaluate themselves negatively against standards, regardless of the feedback they have received.

Cognitive reactions. Individuals with high, compared to low, attachment anxiety rated interpersonal feedback as more important (Table 18), consistent with Hypothesis 7a and supporting their social sources of self-esteem. However, this pattern was significantly larger for negative than positive feedback (indicated by a three-way ANCOVA interaction). Thus, high-anxious individuals are biased toward weighting *negative* personally important feedback more heavily than *positive*. This pattern may explain the way that rejection dents these individuals' daily self-esteem but acceptance does not boost it (Table 16).

Individuals with high, compared to low, attachment avoidance rated positive but not negative interpersonal feedback as *less* important, supporting Hypothesis 7b. This is consistent with high-avoidant individuals' defensive attitude to attachment-relevant information (Fraley et al., 2000; Mikulincer, Gillath, et al., 2002) and further suggests that they defensively exclude positive feedback more than negative. Again, this may account for the earlier finding that positive interpersonal feedback provided less of a boost to these individuals' daily self-esteem but negative interpersonal feedback did not make less of a dent.

Hypothesis 7a predicted that higher anxiety would relate to more internal, global, and stable attributions for interpersonal feedback. This was partially supported. An Anxiety × Avoidance interaction showed that secure individuals made more *external* attributions for interpersonal feedback than individuals with any insecure pattern (βs > .27, *p*s < .02), who did not differ from one another (βs < .07, *p*s > .47). Individuals with high, versus low, avoidance also made more internal attributions for competence feedback. They also tended to make more *global* and *stable* attributions for negative than positive feedback (shown by Avoidance × Valence ANCOVA interactions). An Anxiety × Avoidance interaction showed that secure individuals attributed negative competence feedback to more unstable causes than all other individuals (βs > .28, *p*s < .01) who did not differ from one another (βs < .11, *p*s > .15). Thus, partially supporting Hypothesis 7a, high-anxious individuals made more internal attributions for interpersonal feedback than secure individuals, but they only made stable attributions for negative competence, not interpersonal feedback. High-avoidant individuals attributed all feedback to internal and, for negative feedback, global and stable causes, suggesting that they internalise and process feedback when they acknowledge its occurrence.

The final cognitive result was that individuals with high, compared to low, attachment anxiety ruminated for longer about negative interpersonal feedback, consistent with Hypothesis 7a. Those with high, compared to low, avoidance ruminated for longer about negative competence feedback, suggesting that even though they do not report negative emotions, they do think about this self-relevant feedback for longer. Interestingly, fearful individuals (who have high anxiety and avoidance) ruminated for longer about positive competence feedback than any other individuals (βs > .24, *p*s < .02), who did not differ from one another (βs < .11, *p*s > .35) (Figure 12, left panel). Thus in general, attachment insecurity was linked to attributing feedback to more internal, stable, and global causes and to thinking about feedback for longer. These patterns were strongest for negative feedback, and were also strongest for interpersonal feedback for anxious individuals, and competence feedback for avoidant individuals: their respective sources of self-esteem. Thus, cognitive internalisation and focus on negative feedback may contribute to insecure individuals' low self-esteem and negative interpersonal expectations in the long term.

Self-related reactions. The lower section of Table 18 shows that individuals with high, compared to low, attachment anxiety felt worse about the self after feedback when it was negative and interpersonal, consistent with Hypothesis 8a. They also reported altering their self-perception more after negative interpersonal feedback, suggesting that

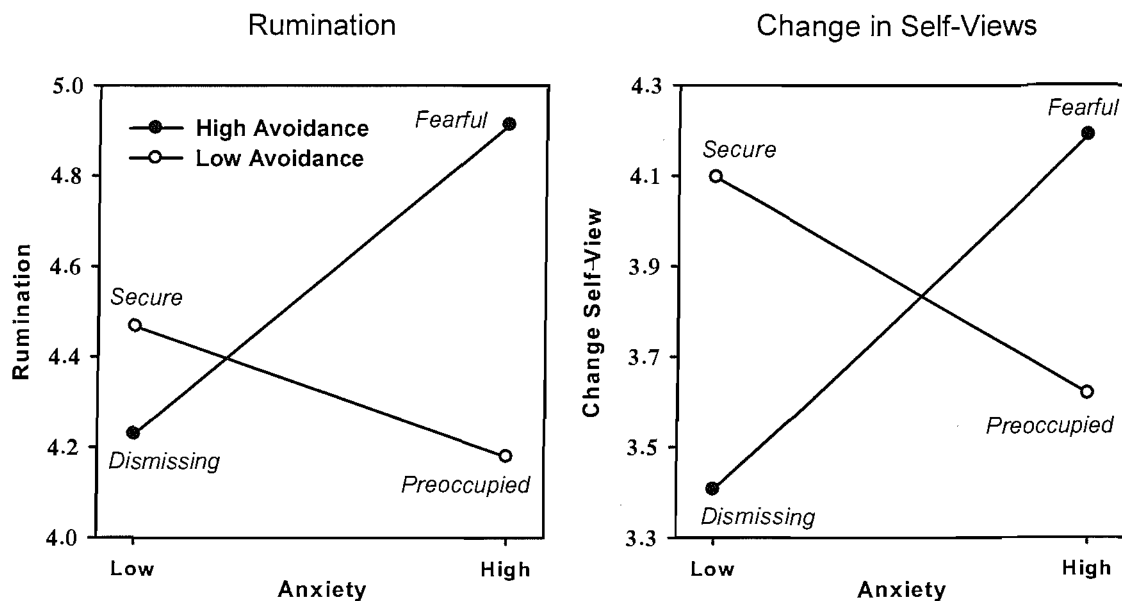

Figure 12. Simple slopes for rumination (left panel) and change in self-views (right panel) after positive competence feedback as a function of attachment anxiety and avoidance. Both *y*-axes are centred on the sample mean for the relevant criterion.

high-anxious individuals readily incorporate personally important negative feedback into their self-view. This echoes the greater fluctuation in their daily self-esteem with rejection feedback, and results of Carnelley et al. (2007).

Individuals with high avoidance showed inconsistent patterns between the two outcomes (Table 18). After *positive interpersonal* feedback, they reported less boost to state self-esteem than low-avoidant individuals, consistent with Hypothesis 8b and echoing their lack of positive emotional reaction above and in previous research (e.g., Campbell et al., 2005). They also did not report lower state self-esteem after negative interpersonal feedback. However, participants with high, versus low, avoidance changed their self-view *more* after interpersonal than competence feedback (shown by an Avoidance × Domain interaction), suggesting that they take on board the message in interpersonal feedback. An unexpected Anxiety × Avoidance interaction emerged for *positive competence* feedback (Figure 12, right panel). Simple slopes showed that dismissing individuals incorporated positive competence feedback into self-views the *least*: they reported less change in self-views than secure ($\beta = -.26, p < .01$) and fearful individuals ($\beta = .28, p < .01$), whereas preoccupied individuals reported equal change to secure individuals ($\beta = -.17, p = .12$) and only marginally less than fearful individuals

($\beta = .19$, $p = .07$). This pattern opposes Hypothesis 8c, which predicted that high-avoidant individuals would welcome and incorporate positive competence feedback into the self because it would aid self-enhancement. It is possible that dismissing individuals' defences are so ingrained that they exclude all self-relevant information without appraising its threat or value first.

The roles of self-esteem and depression. As before, I examined whether the above findings are due to attachment differences in trait self-esteem or recent depressive symptoms. For criterion variables that were predicted by both self-esteem and depression, I first tested which uniquely predicted the outcome before testing mediation. I then re-conducted the regressions presented in Table 18 adding trait self-esteem or depression at the final step. As in previous studies, I used Baron and Kenny's (1986) mediation criteria and statistically tested indirect effects by estimating bootstrapped confidence intervals. Results are shown in Table 19.

Self-esteem, but not depression, predicted positive emotions. For positive *interpersonal* feedback, the effect of avoidance was virtually unchanged at Step 2, but the indirect effect was significant, indicating partial mediation. For positive *competence* feedback, the previously marginal effect of avoidance was eliminated. This suggests that high-avoidant individuals lack positivity after competence feedback only because of their lower self-esteem, but lack positivity after interpersonal feedback for other reasons.

Higher self-esteem and lower depression both predicted less negative emotion after feedback, but when entered together at Step 2, depression predicted emotions ($\beta = .24$, $p < .01$) whereas self-esteem did not ($\beta = -.15$, $p > .10$). As shown in Table 19, the effects of attachment anxiety on negative emotion and anger after negative feedback were partially mediated by depression. The remaining emotions (anger after positive feedback, relief, anxiety, guilt) were not predicted by self-esteem or depression.

The only cognitive reactions predicted by self-esteem were stable attributions for negative interpersonal feedback ($\beta = -.16$, $p < .05$) and rumination for positive competence feedback ($\beta = .16$, $p = .05$). However, the significant attachment effects in both models were unchanged. Depression did not predict any cognitive reactions, echoing Collins, Ford, et al.'s (2006) finding that attachment differences in attributions for partner behaviour were independent of self-esteem and negative affectivity.

State self-esteem after negative feedback was predicted by trait self-esteem and depression. For negative *interpersonal* feedback, when either (or both) variables were entered, attachment anxiety remained significant, indicating partial mediation. For

Table 19

Self-Esteem and Depressive Symptoms as Mediators of Significant Associations between Attachment and Self-Reported Reactions to Feedback

IV → DV (feedback type)	Step 1 IV	Step 2 βs IV	Step 2 βs Med	Indirect effect Confidence int.	Mediated?
		Self-Esteem as Mediator			
Avo → pos emotion (inter)	$-.23^{**}$	$-.20^{**}$	$.16^{*}$	-.068, -.003 *	Partial
Avo → pos emotion (comp)	$-.13^{\dagger}$	-.09	$.19^{*}$	-.110, -.001 **	Full
Anx → state SE (neg inter)	$-.29^{***}$	$-.19^{*}$	$.25^{**}$	-.153, -.012 **	Partial
		Depression as Mediator			
Anx → neg emotion (all)	$.27^{***}$	$.16^{*}$	$.31^{***}$	+.037, +.005**	Partial
Anx → angry (neg)	$.20^{**}$	$.14^{\dagger}$	$.17^{*}$	+.015, +.165 *	Partial
Anx → state SE (neg inter)	$-.29^{***}$	$-.20^{**}$	$-.25^{**}$	-.114, -.017 **	Partial
Anx → state SE (neg comp)	$-.18^{*}$	-.09	$-.25^{**}$	-.126, -.015 **	Full
Anx → self-view (neg inter)[a]	$.15^{*}$	.05	$-.26^{**}$	+.004, +.156 *	Full
Avo → self-view (neg inter)[a]	$.15^{*}$	.10	$-.26^{**}$	-.001, +.100	–

Note. Confidence intervals that do not include zero are indicated by *(95% interval) or **(99% interval). Anx = anxiety; Avo = avoidance; Med = mediator. SE = self-esteem; pos = positive; neg = negative; inter = interpersonal; comp = competence.
These tests were performed only for criterion variables that were significantly predicted by both attachment and self-esteem or depression. For brevity, only originally observed attachment predictors are displayed, labelled *IV*, although all predictors were included in the model. Confidence intervals are bias-corrected estimates derived from 2,000 bootstrap samples of the data.
[a] These coefficients were taken from one regression model.
$^{\dagger}p < .09$, $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

negative *competence* feedback, when both mediators were entered at Step 2, depression was significant ($\beta = -.18, p < .05$) but self-esteem was not ($\beta = .17, p = .08$). As shown in Table 19, depression fully mediated the effect of attachment anxiety. Thus, high-anxious individuals' low state self-esteem was explained fully by depression for negative competence feedback but only partly for negative interpersonal feedback.

Finally, higher self-esteem predicted less change in self-views after negative interpersonal feedback, and mediated the effect of anxiety but not the effect of avoidance (although avoidance became non-significant at Step 2). Depression predicted change in self-views after negative competence feedback ($\beta = .28, p = .001$) but attachment was not

initially significant, so this did not account for attachment effects. In summary, of 21 criterion variables significantly predicted by attachment dimensions in Table 18, two effects were fully mediated by depression and one by trait self-esteem. Most patterns, particularly of cognitive reactions, were driven uniquely by attachment differences.

Discussion

The purpose of Study 4 was to examine how attachment differences in sources of self-esteem are manifested in self-esteem lability, and self-reported reactions, to different types of feedback. This was a first attempt to study the day-to-day fluctuation in self-esteem of adults with different attachment orientations in the context of feedback received in self-relevant areas of life. Overall, the results obtained provide new insight into the ways that attachment differences in self-esteem and intra- and interpersonal functioning may be maintained.

Attachment Differences in Self-Esteem Lability

The most important finding was that self-esteem lability in response to interpersonal and competence feedback differed according to attachment models. Importantly, no observed attachment differences in self-esteem lability could be explained by attachment differences in trait self-esteem level or depressive symptoms. Thus, these patterns are unique to individual differences in attachment.

Self-esteem lability to interpersonal feedback. Results showed that the higher one's attachment anxiety, the more one's daily self-esteem is buffeted by rejection experiences, and boosted toward normative levels by positive feedback from one's romantic partner (for those in a relationship). Consistent with my predictions, the more one's attachment history theoretically leads to reliance on acceptance, approval, and affection for self-worth (e.g., Brennan & Morris, 1997), the more such experiences influence daily feelings of self-worth. The observed pattern mirrors Srivastava and Beer's (2005) finding that high-anxious individuals' self-evaluations adjusted over time to match others' perceptions of them. It is also consistent with previous studies of feedback from romantic partners. Brennan and Bosson (1998) found that higher-anxious individuals reported feeling worse after partner feedback, and Carnelley et al. (2007) found that they reported lower self-competence and (for preoccupied individuals) lower global self-esteem than low-anxious individuals immediately after manipulated negative partner feedback.

Although rejection decreased high-anxious individuals' daily self-esteem more than low-anxious individuals', conflict did not. This supports Pietromonaco and Feldman Barrett's (1997) finding that preoccupied individuals did not report lower self-esteem after conflict, suggesting that conflict interactions can satisfy their hyperactivated needs for attention and validation (see Pietromonaco, Greenwood, & Feldman Barrett, 2004, for discussion). Both findings may indicate that sometimes high-anxious individuals' displaced set-goal of constant intimacy and attention can override the actual valence of evaluation involved in the interaction. That is, daily self-esteem reflects the fulfilment of attachment-related goals more than the fulfilment of normative esteem-related goals (i.e., positive evaluation). I assessed positive and negative *partner* feedback with overall indexes, so it was not possible to compare different types of partner feedback. Thus, attachment effects for negative partner feedback might be obscured if this feedback often involves conflict. Future research should differentiate between different types of partner feedback, similar to the way I differentiated between rejection and conflict in the Feedback Checklist, to identify which types or aspects of partner feedback impact most on anxious individuals' self-esteem. Nevertheless, this study demonstrates that feedback from interpersonal sources has daily, not just immediate, implications for anxious individuals' self-views.

This finding adds to a body of research examining factors that underlie high-anxious individuals' vulnerability to depression. These studies have implicated aspects of the self-system, including low self-esteem (Roberts et al., 1996), need for reassurance and inability to encourage and support oneself (Wei, Mallinckrodt, et al., 2005), and excessive reassurance-seeking (Shaver et al., 2005). Wei, Vogel et al. (2005) also found that emotional reactivity (proposed to assess hyperactivating strategies) fully mediated the link between attachment anxiety and negative mood. These mediators are all consistent with a tendency to rely on external contingencies of self-worth (Park et al., 2004) and with reactivity to feedback. The present results integrate these findings by assessing reactivity and self-esteem regulation in the context of everyday life. Because self-esteem lability has been linked to concurrent and later depressive symptoms (Butler et al., 1994; Crocker, Karpinski, et al., 2003), reactivity to daily (interpersonal) feedback may be a further mechanism in high-anxious individuals' susceptibility to depression.

Also as predicted, the higher one's attachment avoidance, the *less* one's self-esteem was boosted by positive feedback about acceptance, relationship qualities, or physical attractiveness. This is consistent with the defensive information-processing style associated with attachment system deactivation, which may prevent one from benefiting

from support or intimacy (Mikulincer et al., 2003). Moreover, this extends evidence that avoidant individuals gain less positivity from social interaction (Sibley & Liu, 2006; Tidwell et al., 1996) or positive relationship events (Campbell et al., 2005), suggesting that the lack of benefit impacts self-esteem at the end of the day. However, high-avoidant individuals' self-esteem in the present study appeared vulnerable to rejection—to the extent that the individual acknowledged its effect. That is, sheer *number* of rejection-relevant events did not knock high-avoidant participants' self-esteem, but combined *effect* of those events (average rating of the effect of feedback on feelings about the self at the time it was received) did. This novel finding suggests that the way an avoidant individual processes rejection when it occurs may determine its longer-term influence on self-esteem. That is, if s/he simply notes that an event (e.g., not being invited out) occurred, but believed that it had little self-relevance, it appears not to affect self-esteem that evening. But if a breakdown in defensive processing leads him/her to perceive a rejection event as meaningful at the time, store it, and remember its effect at the end of the day, it appears to impact on daily self-esteem. This suggestion is consistent with some evidence that defensive exclusion of attachment-related information occurs at the time of encoding, not at retrieval (Fraley & Brumbaugh, 2007; Fraley et al., 2000). Importantly, it also contradicts high-avoidant individuals' self-reported non-contingent self-worth (Park et al., 2004) and indifference to feedback (Brennan & Bosson, 1998; Carnelley et al., 2007). These individuals may be unaware of the longer-term effects of some interpersonal feedback on their self-esteem, just as they are unaware of aspects of their personality (Gjerde et al., 2004; Onishi et al., 2001).

Self-esteem lability to competence feedback. I predicted that competence feedback would influence daily self-esteem more for individuals with high, versus low, avoidance, because deactivating strategies involve agentic sources of self-esteem (Brennan & Morris, 1997). However, avoidance did not moderate lability to competence feedback. This suggests that high-avoidant individuals resemble low-avoidant individuals in incorporating competence feedback into self-esteem, although methodological limitations might obscure effects. The Checklist (based on feedback reported by undergraduates) focused on academic and personal-goal successes and failures. As university students, academic feedback may have been important for the whole sample and thus exerted a uniform effect on self-esteem. In addition, the Checklist did not contain any feedback targeting *self-reliance* (e.g., "I did not need help on a challenging task"). The pretest suggested that such events were not common, but additional items could directly test their occurrence and effect. Alternatively, the effect of academic or personal-goal

feedback on high-avoidant individuals' self-esteem might be moderated by perceived self-reliance in attaining that specific feedback. Future research should aim to examine these suggestions further.

Unexpectedly, positive competence feedback influenced daily self-esteem to a marginally greater extent for participants with high, versus low, attachment anxiety. Competence should, theoretically, be a source of self-esteem only for fearful individuals (who have high avoidance as well as high anxiety), not preoccupied individuals (who have low avoidance). Highly anxious people demonstrate inhibited exploration in infancy and adulthood (Ainsworth et al., 1978; J. Green & Campbell, 2000). They also imbue work with relationship concerns and experience spill-over of problems between home and work (Hazan & Shaver, 1990; H. Sumer & Knight, 2001) and pursue attachment needs in work and leisure (Carnelley & Ruscher, 2000; Rom & Mikulincer, 2003). Thus, it is possible either that positive competence feedback carries an implicit message of acceptance for them, or that it satisfies under-nourished exploration needs, thus boosting self-esteem somewhat toward normative levels. The present finding echoes Hazan and Shaver's (1990) observation that anxious-ambivalent individuals report "slacking off" after receiving praise at work, suggesting that behaviour is also affected by this feedback. However, such behaviour would feed into less productivity and ironically decrease the likelihood of future positive feedback. This finding should be replicated, and these competing interpretations tested, in future.

Attachment Differences in Reactions to Feedback

The ways that individuals react to positive and negative feedback may help interpret patterns of self-esteem lability. These results involve the *most* positive and negative feedback each day, which should be, in principle, most self-esteem-relevant. Patterns of emotional reaction and cognitive appraisal should influence impact of feedback on the self (Jussim et al., 1995), and may hint at mechanisms that maintain attachment differences in self-esteem (Collins & Read, 1990; Mikulincer, 1995).

Interpersonal feedback reactions. As expected, individuals with high, versus low, attachment anxiety perceived interpersonal—particularly negative—feedback as more important, and reported more negative emotions, including anxiety, guilt, and anger, and lower state self-esteem. They also reported that negative interpersonal feedback changed their self-view more. Conversely, individuals with high, versus low, avoidance perceived positive interpersonal feedback as *less* important and reported less positive emotion or state self-esteem boost. These results support and extend prior research on reactions to

partner feedback (Brennan & Bosson, 1998; Carnelley et al., 2007), partner behaviour (Collins, Ford, et al., 2006), and social interaction (Tidwell et al., 1996). The patterns directly mirror self-esteem lability results for negative and positive interpersonal feedback. Thus, viewing feedback as important may facilitate its impact on mood and self-esteem immediately and through the day, whereas viewing it as less important curtails its impact. One inconsistency was that high-avoidant individuals reported more change in self-view after interpersonal feedback, compared to competence feedback and compared to low-avoidant individuals. This may reflect the finding that high-avoidant individuals' daily self-esteem was affected by rejection feedback when the feedback was rated influential: the fact that someone wrote about a feedback event shows that s/he remembered and processed it to some extent.

Attributions can also amplify or dampen implications of feedback for the self. Attributing feedback to specific causes can aid self-protection by reducing the relevance of feedback to the self (Kurman, 2003), and negative attributions can partly explain long-term attachment differences in relationship quality (Gallo & Smith, 2001; N. Sumer & Cozzarelli, 2004) and are associated with depression (e.g., Horneffer & Fincham, 1996). For interpersonal feedback in the present study, participants with high attachment anxiety or avoidance made more internal attributions, suggesting that they are likely to internalise rather than brush off feedback. However, contrary to predictions they did not make more global or stable attributions. It is possible that when writing about the *most* positive/negative feedback, low-anxious as well as high-anxious individuals consider feedback to be relatively global and stable. Perhaps more nuanced attachment differences would be observed for objectively *less* important feedback: low-anxious individuals might distinguish clearly between important and trivial events, but high-anxious individuals might consider all interpersonal feedback important. This suggestion echoes Tidwell et al.'s (1996) finding that secure individuals differentiated more between interactions with different types of partner than did insecure individuals. In future, studies might specifically compare reactions to objectively unimportant events (e.g., negative body language) to more important events (e.g., breaking off a relationship). Despite this caveat, the present results revealed predicted attachment differences in rumination about feedback. Individuals with high, versus low, attachment anxiety ruminated for longer about negative interpersonal feedback, supporting prior research and reflecting the hyperactivated chronic attachment worries linked to attachment anxiety (Mikulincer & Florian, 1998).

Competence feedback reactions. Individuals with high, versus low, attachment anxiety again reacted to competence feedback with extreme emotions, including low state self-esteem after negative feedback. These patterns attest to the generalisation, poor emotional regulation skills, and low self-complexity associated with high anxiety (Diamond & Hicks, 2005; Mikulincer, 1995; Mikulincer & Florian, 1998; Mikulincer & Orbach, 1995). In fact, anxious individuals' negative and angry emotional reactions and their lower state self-esteem after competence feedback were partly or wholly explained by their increased symptoms of depression. These results concerning amplified reactions to feedback represent another arena in which attachment anxiety, depression, and self-regulation difficulties are inextricably entwined (see also Kim, 2005; Shaver et al., 2005; Wei, Mallinckrodt, et al., 2005; Wei, Vogel, et al., 2005).

Again, high-avoidant individuals' reactions to competence feedback did not resemble the expected patterns. I tentatively predicted that they would boost self-esteem by feeling positive but not negative after competence feedback, making adaptive attributions for positive feedback, and incorporating it into self-views. However, high-avoidant participants reported less positive emotion after competence as well as interpersonal feedback, although this was explained by their lower self-esteem. They also felt anxious after positive feedback, and guilty, regardless of the domain of feedback. They did not rate competence feedback more important than low-avoidant individuals, but they did make more internal attributions. High-avoidant individuals also attributed negative competence feedback to more global and stable causes than positive feedback, and ruminated for longer about it. This set of reactions appears relatively maladaptive, and could contribute to negative, not positive, self-views. The defensive cognitive processing and emotional suppression associated with attachment avoidance (Fraley et al., 2000; Mikulincer & Florian, 1998; Mikulincer et al., 2003) do not aid self-enhancement: high-avoidant individuals are unable to take on board positive competence feedback but deal negatively with negative feedback.

Unexpectedly, positive competence feedback, which should enhance high-avoidant individuals' self-esteem, was thought about for longest and incorporated most into self-views for fearful individuals, who have high anxiety as well as avoidance. Given their higher anxiety compared to dismissing individuals, and thus less stunted and compartmentalised emotional processes (e.g., Mikulincer & Orbach, 1995), fearful individuals may be more able to notice, process, and adapt their self-view to incorporate positive feedback. This pattern corroborates high-anxious participants' daily self-esteem lability to positive competence feedback observed above (see also Hazan & Shaver,

1990). However, because fearful individuals rely not only on competence but also interpersonal sources, and display the other negative reactions associated with high attachment anxiety, fearful individuals do not benefit from this lower defensiveness. In fact, they report chronically low self-esteem and the most problematic profile of all the attachment patterns (Simpson & Rholes, 2002).

Methodological considerations. The above results reveal more about the ways that individuals with different attachment models react to feedback, categorised either as interpersonal or competence in nature. However, other aspects of feedback could also influence or moderate reactions. For example, interpersonal feedback includes feedback about social acceptance, close relationships, and attractiveness—domains that were separated in my previous studies. Further, in the Checklist, rejection versus conflict, and academic versus personal failure, could also be separated. Other relevant dimensions include the source of feedback (e.g., from a person vs. objective source vs. oneself); whether feedback is about one's romantic relationship; status of the feedback-provider (cf. Rudich, Sedikides, & Gregg, 2007); or implications of feedback for self-reliance (which might moderate feedback effects for high-avoidant individuals). Some studies found largest attachment effects in social interaction with opposite-sex partners, particularly romantic partners (Sibley & Liu, 2006; Tidwell et al., 1996), which might also be true for feedback.

Thus, future research could test if results are moderated by certain aspects of feedback. One approach might utilise event-contingent data, in which participants report on events immediately after they occur (Wheeler & Nezlek, 1977). This approach could gather more details and compare reactions to different categories of feedback (Nezlek, 2001). In addition, the associations between different reactions could be modelled. For example, Collins and Read (1994; Collins et al., 2004) describe how emotional reactions interact with cognitive processes (i.e., primary and secondary appraisal). These associations might also differ by attachment style, because hyperactivating and deactivating strategies have been respectively linked to impaired ability to use cognitive or affective information effectively (Crittenden, 1997). Consistent with these ideas, research suggests that individuals with high, versus low, attachment anxiety rely more on affective cues when making cognitive appraisals (Kane & Collins, 2006; Pereg & Mikulincer, 2004). Thus, emotional reactions to feedback might be more entangled with cognitive reactions and other outcomes for high-anxious than low-anxious individuals, whereas cognitive reactions or contingencies might predict other outcomes more for high-avoidant than low-avoidant individuals. Such outcomes could include behaviour (or

behavioural intentions) or future expectations, which both have implications for interpersonal functioning and self-views (Collins et al., 2004; Jussim et al., 1995).

Perceived Relationship Quality and Implications for Relationships

Daily positive and negative feedback from romantic partners predicted daily relationship satisfaction, trust, and commitment. However, fluctuation in relationship quality with positive feedback was stronger for individuals who were high in either attachment anxiety or avoidance. For high-anxious individuals, positive feedback raised views of the relationship to slightly higher than low-anxious individuals; for high-avoidant individuals, it just reduced the deficit in relationship views. This fluctuation fits with patterns of relationship functioning for individuals with high attachment anxiety. They experience relationships as tumultuous, unreliable, and fraught with anxiety (e.g., Bartholomew & Horowitz, 1991; Collins & Read, 1990; Hazan & Shaver, 1987) and are oversensitive to cues of acceptance and rejection (e.g., Downey & Feldman, 1996). The present finding extends and integrates research showing that daily support and conflict predicts high-anxious individuals' daily relationship perceptions and expectations (Campbell et al., 2005; J. Feeney, 2002), positive sexual experiences have more benefit for the relationships of high-anxious than low-anxious individuals (Birnbaum et al., 2006), and that preoccupied individuals value a partner more to the extent that s/he aids self-regulation (Pietromonaco & Feldman Barrett, 2006). It seems that relationship satisfaction for high-anxious individuals is not just about positive or negative relationship interactions but particularly the self-relevant aspects of those interactions.

This result was not expected for individuals with high avoidance, who deny the importance of feedback from partners (Brennan & Bosson, 1998; Carnelley et al., 2007) and whose daily self-esteem was not notably influenced by partner feedback in the current study. Moreover, neither Campbell et al. (2005) nor Pietromonaco and Feldman Barrett (2006) found avoidance moderated daily change in relationship views. However, it seems that high-avoidant, more than low-avoidant people, feel more satisfied, trusting, and committed to their romantic relationship if their partner provides them with positive feedback. The major difference between the present study and previous studies was that I explicitly assessed *feedback*, not relationship events. Thus, positive partner feedback might serve a specific function for high-avoidant individuals. For example, they may value a relationship to the extent that a partner flatters, appreciates, or idolises them, *not* to the extent that they feel support or intimacy. This is consistent with research linking avoidance to self-enhancing motives for having sex (Davis, Shaver, & Vernon, 2004;

Schachner & Shaver, 2004). As mentioned above, it would be valuable to assess specific types of partner feedback. For example, high-anxious people's relationship satisfaction may depend on acceptance and affection from a partner, whereas high-avoidant people's relationship satisfaction may depend on ego-flattery and signs of power.

The observed patterns have implications for long-term relationship outcomes. In particular, research has shown that individuals whose *partner* is highly anxious or avoidant tend to be less satisfied and to report lower relationship quality (Kane et al., 2007; Kirkpatrick & Davis, 1994; Mikulincer, Florian, et al., 2002). Kane et al. (2007) showed that this was mediated by the insecure partner's poor caregiving (cf. B. Feeney & Collins, 2001). The present results suggest that one reason for this might be the insecure person's focus on self-esteem regulation and the relevance of relationship events for the self, which may interfere with effective caregiving.

Strengths and Limitations

This study was the first to examine daily fluctuation in self-esteem (and relationship quality) for individuals with different attachment models as a function of daily feedback. As such, it contributes to several lines of previous research. First, the present results test attachment differences in sources of self-esteem in a new way. The use of diary methodology removes bias associated with individuals misreporting their contingencies of self-worth (cf. Park et al., 2004) or recalling general experiences (cf. Brennan & Bosson, 1998), and examines real as opposed to manipulated feedback (cf. Carnelley et al., 2007). I was able to assess effects on daily self-esteem of different types of feedback explicitly, including feedback about acceptance, rejection, conflict, attractiveness, success, and failure as well as feedback from romantic partners. Thus, this study represents an important contribution to our understanding of the secondary self-esteem maintenance strategies associated with attachment insecurity.

Second, this study extended demonstrations of the self-esteem instability associated with high attachment anxiety (Brandt & Vonk, 2005; Foster et al., 2007) by showing that this instability relates to the feedback an anxious individual receives about acceptance or rejection. Third, these findings reveal more about consequences of hyperactivating and deactivating attachment strategies for self-esteem regulation; not only self-esteem lability but also specific patterns of emotional and cognitive reactions to different types of feedback. New questions are raised about the interplay between these reactions for different individuals and their impact upon self-view maintenance. Finally, findings for people in romantic relationships hint that partner feedback impacts upon

perceptions of relationship quality for individuals with high anxiety or high avoidance, suggesting that satisfaction with a relationship is partly driven by the partner's role in self-esteem regulation. This avenue warrants further investigation.

Nevertheless, the study had methodological limitations. Because participants completed the diary at the end of the day, memory for feedback could be incomplete. My analysis strategy, which tested effects of feedback *centred on each participant's mean*, would attenuate this problem if memory bias was consistent across days and types of feedback (e.g., if a particular individual always recalled 60% of all feedback, his/her group-centred score would be correct). However, individuals with high versus low avoidance have systematically poorer memory for attachment-related information and events, especially negative ones (e.g., Edelstein, 2006; Fraley & Brumbaugh, 2007; Fraley et al., 2000; Miller & Noirot, 1999). Thus, high-avoidant participants may under-report negative interpersonal feedback. Such a bias is also likely to influence self-reported reactions to feedback, especially when the feedback occurred several hours ago. As suggested above, event-contingent sampling would be one way to examine specific reactions to feedback and reduce retrospective memory bias. Pietromonaco and Feldman Barrett (2006), in an event-contingent social interaction diary, found smaller attachment effects than predicted. They suggested that attachment differences observed in some studies may be partly due to memory bias, calling for more research on this issue.

The present study was conducted using paper-and-pencil diary records. Some authors have suggested that electronic methods of data collection such as palm-top computers provide significant advantages for response patterns and compliance, especially allowing verification of time of completion (A. Green et al., 2006; Tennen, Affleck, Coyne, Larsen, & DeLongis, 2006). In addition, Bolger et al. (2003) argue that participants may develop a habitual response style, skimming over sections or relying on standard responses. This would mainly be a problem if participants with certain attachment patterns were more susceptible to these habits than others. Future studies might address further individual differences in diary response patterns (Reis & Gable, 2000). The use of electronic data collection might reduce such bias because item order can be randomised and items can appear one at a time on the screen. A. Green et al. (2006) argue that checklist measures are sensitive to different data collection methods, so replication of current results using electronic diaries would be desirable.

Other issues include possible effects of repeated diary completion on views and understanding of the studied phenomenon, although there is little evidence that this compromises validity of results (Bolger et al., 2003). The order of diary measures (self-

esteem followed by Checklist) was designed to reduce (a) priming feedback received that day and (b) demand characteristics, in which some participants might detect the predicted link between feedback and self-esteem and alter their responses. Nevertheless, a random or counterbalanced order would go further toward removing order effects altogether. Finally, the specific feedback events described at the end of the diary may not be representative of participants' experiences. Although I tried to ensure that events were genuine, participants had the opportunity to select particular events from all feedback received that day. It is possible that attachment-related or ego-related motives might lead participants to preferentially write about certain feedback: for example, a dismissing individual might write about feedback that makes them look independent (i.e., self-presentation bias). Again, assessing reactions to a greater number of feedback events and asking for particular types of event in an event-contingent study might allow examination or removal of these effects.

Conclusions

Study 4 aimed to examine the role of everyday interpersonal and competence feedback in fluctuation of daily self-esteem and relationship quality among individuals with varying attachment patterns. Overall, the findings attest to the existence of attachment differences in sources of self-esteem and self-esteem lability to feedback about those sources. The link between avoidance and reactions to competence feedback was not as clear as predicted, suggesting that further research is necessary in this regard. However, attachment anxiety exerted clear influences on lability to interpersonal feedback, and potential vulnerability of high-avoidant individuals to rejection was revealed. Also consistent with expectations, attachment insecurity generally exerted a negative influence on daily processes: highly anxious or avoidant individuals' reliance on secondary sources of self-esteem led them to report lower self-esteem on average across the 14 diary days, and only rarely did receiving positive feedback boost self-esteem to the same level as low-anxious or low-avoidant individuals. Thus, consistent with Crocker, Karpinski, et al. (2003), external sources of self-esteem have more costs than benefits. The specific ways that participants reported reacting to feedback also shed new light on the day-to-day and moment-to-moment feedback processes and suggest fruitful avenues for further research.

CHAPTER VI

Adult Attachment and the Maintenance of Self-Views: General Discussion

The overarching goal of this thesis has been to examine the self-structure and processes that underlie the maintenance of self-views for individuals with different patterns of adult attachment. I proposed that given a less-than-optimal caregiving history, the development of secondary strategies to regulate attachment-related affect would lead self-esteem, instead of deriving from an internalised secure base, to be inextricably connected to the short-term fulfilment of set-goals (e.g., approval or agency). In other words, insecure individuals' self-esteem may be contingent, as opposed to true (Deci & Ryan, 1995; Kernis & Goldman, 2003) and may reflect malfunctioning or re-attunement of the sociometer (Leary & Downs, 1995). I thus argued that (a) insecure individuals would be motivated to seek feedback relevant to their contingencies (although behaviour would differ depending on whether self-views are positive or negative), (b) they would react differently to feedback that is relevant, versus irrelevant, to their sources of self-esteem, and (c) their daily self-esteem level would fluctuate in response to contingency-relevant feedback. This set of predictions can be summarised in the general suggestion that individual differences in attachment patterns shape the operation of the self-esteem regulation feedback cycle. Examining this operation was the aim of the present thesis.

Although attachment researchers have begun to consider the sources on which high or low self-esteem might be based for individuals with different attachment models (Brennan & Morris, 1997; Park et al., 2004), their ideas have not been rooted thoroughly in a developmental account of how these sources originate, and nor has the dynamic nature of self-esteem regulation been addressed fully. In this thesis, I sought to marry together the developmental and interpersonal expertise of attachment theory with the dynamic and motivational perspectives of self theories. Overall, results of the present research support my proposal and shed light on the specific nature of its influence on feedback processes. They also raise new questions to address in further research. In this chapter, I first summarise and integrate the findings of the present studies and place them in the context of literature regarding attachment theory and self-esteem regulation. I then discuss the application of my findings to everyday relationship and work contexts and clinical settings. I also consider caveats of the findings and strengths and limitations of

the research, and conclude by discussing broad directions for future research to continue examining these and related questions.

Attachment Differences in Self-Esteem Regulation

In each of my studies, I aimed to examine the influence of attachment patterns on a different aspect of the self-esteem regulation cycle. Study 1 was designed to examine whether sources of self-esteem are manifested in the structure of an individual's self-views; that is, whether contingency-relevant self-views are more connected to global self-esteem than other self-views. Study 2 and Study 3 were designed to examine how individuals approach and choose different types of feedback: Study 2 assessed hypothetical feedback-seeking, whereas Study 3 assessed genuine feedback-seeking behaviour in the lab. Finally, Study 4 was designed to capture the operation of self-esteem regulation in everyday life. It examined fluctuation of daily self-esteem as a function of daily contingency-relevant feedback and self-reported reactions to different types of daily feedback. Although the four studies asked diverse questions and yielded diverse results, their multi-method approach to self-esteem regulation yields a broader perspective of the processes underlying attachment differences in self-views. In the sections below I review and discuss the findings associated with each attachment pattern.

Attachment Security and Self-Esteem Regulation

Attachment security corresponds to an individual's possession of an internalised secure base and positive self-model built through consistently positive interactions with sensitive and responsive caregivers. As proposed by Mikulincer and Shaver (2004), this self-model can serve as an internal resource to help secure individuals cope effectively with everyday life and adversity. Consistent with this picture, secure individuals (i.e., those reporting low anxiety and avoidance) demonstrated the most adaptive patterns of self-esteem regulation in the present studies. For example, all but one statistical interaction in Study 1 indicated that self-esteem was more contingent for insecure, compared to secure individuals. The exception, physical attractiveness among older participants, led to secure individuals boosting their self-esteem even higher than usual when they felt attractive. In Study 2 and 3, they consistently sought out the most positive feedback and were more open to positive than negative feedback regardless of its domain. Finally, in Study 4, the only instance in which secure individuals showed higher self-esteem lability than insecure individuals was in response to positive interpersonal feedback, and low anxiety and avoidance were related to the most positive and least

negative self-reported reactions to feedback. Unsurprisingly, secure individuals reported high (trait or daily) self-esteem in all studies, as well as low depressive symptoms and high daily relationship satisfaction in Study 4.

Together, these findings support the suggestion that at least in young adulthood, secure individuals have a relatively stable and self-regulating self-model, or in Leary and Downs' (1995) terms, a functionally autonomous sociometer. This secure self-model is not contingent on external input but allows the individual to seek out positive feedback when it is offered. Furthermore, the flexible and open nature of secure models of self and others (Green-Hennessy & Reis, 1998; Mikulincer & Arad, 1999) means that significant new information is likely to be accommodated into working models, allowing for adaptation of strategies and behaviour if necessary and resulting in a relatively unbiased and flexible view of the world. Thus, this research has identified one pathway by which secure individuals maintain and regulate a positive self-model in everyday life.

Attachment Anxiety and Self-Esteem Regulation

The dimension of attachment anxiety corresponds to an individual's tendency to rely on hyperactivating strategies to regulate affect. The insecure attachment history that cultivates these strategies impedes the development of an internalised secure base, leads to a sense that the self is not loveable or competent, and undermines one's ability to regulate feelings about the self internally (Mikulincer & Shaver, 2004). I proposed (following Brennan & Morris, 1997) that individuals with high attachment anxiety develop a sense of self that is inseparably wrapped up with—and thus contingent on—needs for connection, affection, and reassurance from others. As argued by self theorists (Crocker & Wolfe, 2001; Deci & Ryan, 1995), contingent self-esteem fosters a high need for external input to regulate feelings of self-worth, and fluctuating self-views in response to positive and especially negative contingency-relevant feedback. That is, the sociometer becomes oversensitive to cues of acceptance and rejection (Leary & Downs, 1995). The results obtained across the present studies support these suggestions.

Results of Study 1 showed that within high-anxious individuals' self-concept, global self-competence was more closely linked to specific interpersonal self-views (relationships, social acceptance, and attractiveness) than it was for low-anxious individuals. Evidence from Study 4 corroborates the impact of these areas of life on high-anxious individuals' self-esteem. More daily experiences of rejection were related to their self-esteem falling even lower compared to low-anxious individuals. Conversely, positive feedback from a romantic partner reduced the deficit in self-esteem (for those

who were in a relationship). Overall, this is compatible with the idea that high-anxious individuals experience both highs and lows in self-worth in response to daily experiences that implicate acceptance or rejection (Campbell et al., 2005). Given the chronic and pervasive nature of anxious individuals' vigilance to cues of acceptance and rejection (Baldwin & Kay, 2003; Downey & Feldman, 1996; Mikulincer et al., 2000), they are also more likely to detect this type of feedback than secure individuals, exacerbating their volatile self-esteem by exposing it to more frequent feedback experiences. Indeed, attachment anxiety correlated positively with the number of negative feedback events recorded each day in Study 4. This vigilance might also attune a high-anxious individual to acceptance cues within positive competence feedback and in the ostensibly negative context of conflict, causing their daily self-esteem to rise, or not fall, respectively (cf. Pietromonaco & Feldman Barrett, 1997). Together, this set of findings supports the suggestion that to the extent that an individual relies on hyperactivating attachment strategies to regulate affect, self-worth becomes caught up in both short-term and long-term attainment of intimacy, approval, and attention, even in non-normative contexts.

High-anxious individuals also contribute to self-esteem regulation in their active approach or reactions to feedback. In general, the present research showed that high-anxious, especially preoccupied individuals, desired feedback about their interpersonal qualities. In Study 2, preoccupied individuals were equally open to hypothetical interpersonal feedback as were secure individuals, and in Study 3 they were more open to real social acceptance feedback than secure individuals and pursued interpersonal over competence feedback. This pattern supports Deci and Ryan's (1995; Ryan & Deci, 2004) assertion that contingent self-esteem results in a need and motivation to obtain external input. However, when it comes to self-enhancing, high-anxious individuals are less adaptive. Although in Study 2 preoccupied individuals selected some positive feedback about close relationships, something about the context in Study 3 led them to be more open to, and choose, negative over positive relationship feedback. I suggested that this difference might reflect heightened feelings of stress among high-anxious individuals in Study 3 compared to Study 2 (cf. Rholes et al., 2007). Again, given their heightened threat-detection, such an increase in stress will also occur more frequently in the everyday lives of those with high, compared to low, attachment anxiety. This, then, is another way that high-anxious individuals create their own rejecting environments which in turn lead their self-esteem to take frequent knocks.

Finally, self-reported reactions to feedback in Study 4 showed that individuals with high, compared to low, attachment anxiety are also more affected by interpersonal

feedback in the short-term, especially negatively. In particular, after negative interpersonal feedback, high-anxious individuals reported more negative emotions, lower state self-esteem, more change in self-view, higher perceived importance, and more rumination than low-anxious individuals—and no opposing positive patterns were visible for positive feedback. Thus, the way that feedback was perceived and processed is congruent with the effects it had at the end of the day.

Other behavioural patterns may elicit or exacerbate negative feedback from others indirectly. For example, Collins, Ford, et al. (2006) found that attachment anxiety correlated positively with conflict-related, punishing, and reassurance-seeking behavioural intentions after hypothetical partner transgressions, and Shaver et al. (2005) found that excessive reassurance-seeking was especially likely to occur after conflict. Excessive reassurance-seeking may elicit annoyance and eventually rejection from others (Joiner et al., 1999; Van Orden & Joiner, 2006). Recently, Vicary and Fraley (2007) found that individuals with high anxiety or avoidance made fewer relationship-enhancing behavioural choices in a computer-simulated romantic relationship than secure individuals did. Thus, in an interpersonal context, high-anxious individuals might be more likely than low-anxious individuals to elicit negative feedback via a variety of channels. In a competence context, high-anxious individuals might thwart their chances of receiving positive competence feedback by focusing on attachment needs and investing time in relationships rather than task completion (Mikulincer, 1997; Rom & Mikulincer, 2003) or by slacking off when they receive praise (Hazan & Shaver, 1990). Further examination of the manifestation of these behaviours is needed.

Taken together and in the context of prior research, my findings portray a maladaptive self-esteem regulation cycle. Individuals with high attachment anxiety tend to pursue interpersonal more than competence feedback, and hypothetically seek positive relationship feedback but in reality (or when stressed) seek negative over positive feedback. In daily life, they are more likely than low-anxious individuals to detect cues of acceptance and rejection, and are more likely to react in negative than positive ways (e.g., negative emotions, lower state self-esteem, rumination). As a result, high-anxious individuals incorporate negative interpersonal feedback into their self-view and rejection experiences are reflected in their level of self-esteem at the end of the day. Although they also experience boosts to daily self-esteem reflecting positive feedback from romantic partners or regarding competence, their chronic patterns of feedback-seeking, relationship and work behaviour, and hypervigilance to cues of rejection mean they are more likely to experience the negative than positive consequences of their contingent

self-esteem (cf. Crocker, Karpinski, et al., 2003). Thus, in the long-run individuals with high attachment anxiety may contribute to their own downfall.

Attachment Avoidance and Self-Esteem Regulation

The dimension of attachment avoidance corresponds to an individual's tendency to rely on deactivating strategies to regulate affect. Although the insecure attachment history that cultivates these strategies also impedes the development of an internalised secure base, individuals with a highly dismissing attachment pattern report high self-esteem and claim to be resilient. I proposed (following Brennan & Morris, 1997) that individuals with high avoidance develop a sense of self that is inextricably wrapped up with—and thus contingent on—defensive needs for exploration, self-reliance, and separation from others. Dismissing individuals may therefore possess self-esteem that is high but depends on constantly validating their mastery and self-reliance. Although they claim an autonomous sociometer, I sought to test if it is instead attuned to agentic cues (cf. Anthony et al., 2007). Fearful individuals, whose affect-regulation strategies are less well understood (Simpson & Rholes, 2002) are discussed separately below.[1]

Mastery and self-reliance as sources of self-esteem regulation. The present results provided inconsistent support for my prediction. Study 1 revealed that for individuals with high, compared to low, avoidance, global feelings of self-esteem were more closely linked to perceived autonomy and mastery. Thus, congruent with predictions, the structure of high-avoidant individuals' self-concept connects global self-esteem to agentic traits. However, in Study 4, positive and negative feedback about competence impacted daily self-esteem regardless of avoidance levels. Findings regarding feedback-seeking and feedback reactions were also inconsistent. In Study 2, dismissing individuals were equally open to hypothetical feedback about mastery and autonomy as secure individuals, and sought positive over negative feedback about autonomy (but not mastery). But in Study 3, high-avoidant individuals were more open than low-avoidant individuals to negative real feedback (including autonomy and mastery), and consistently chose negative feedback over positive. Self-reported reactions to competence feedback in Study 4 also contradicted self-enhancement: those with higher avoidance reported less positive emotion and state self-esteem, judged negative feedback

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[1] In this section, I variously refer to "high-avoidant" or "dismissing" individuals according to specific patterns of results. If an effect of avoidance but not anxiety was found, I discuss all high-avoidant individuals together. However, if effects of both dimensions were found, this indicates that fearful and dismissing individuals behaved differently; thus, I discuss dismissing individuals in this section and the different patterns of fearful individuals below.

as more global and stable than positive feedback, and ruminated about negative feedback. These patterns are not those of a person with high self-esteem reacting to personally important feedback (Crocker & Wolfe, 2001; Josephs et al., 2003; Jussim et al., 1995).

How, then, do my findings reconcile with research showing that high-avoidant individuals endorse self-reliance motives and enhance perceptions of self-reliance after threat (Collins, Ford, et al., 2006; J. Feeney, 1999a; Hart et al., 2005; Mikulincer, 1998b; Rom & Mikulincer, 2003)? Two plausible conclusions arise. One is that dismissing individuals are motivated to seek feedback about self-reliance, but this feedback is most validating when from a person in an interpersonal context. Thus, the feedback offered in Study 3 (which was objective) and assessed in Study 4 (which targeted mastery more than autonomy) was of low relevance to their self-esteem regulation. This suggestion fits with the notion that deactivating strategies operate most fiercely in response to attachment-related threat (Fraley et al., 1998; Fraley & Shaver, 2000); thus, the motive to enhance self-reliance may be strongest in interpersonal or threatening contexts. By extension, self-esteem regulation goals may be defensive and reactive, rather than proactive (i.e., self-reliance is engaged to regulate self-esteem mainly under threat).

A second possibility is that feedback, although a vital source of self-knowledge and a frequent way of satisfying self-motives (Sedikides & Gregg, 2003; Taylor et al., 1995), may not play a central role in high-avoidant individuals' competence validation. Thus, although their self-esteem is contingent upon perceived mastery and independence (Study 1), they might validate these perceptions in other ways. For example, a dismissing individual may enhance his/her mastery not by obtaining a test score but by working through a lunch break. Similarly, he/she may enhance self-reliance not by eliciting comments from others but by declining offers of help or presenting him/herself as self-reliant (cf. Park et al., 2004). This suggestion is compatible with findings that avoidant individuals prefer to work alone and put more effort into work than relationships (Hazan & Shaver, 1990); thus, the motive to enhance competence may be active in non-interpersonal contexts. By extension, the pursuit of self-esteem via competence may become a goal in itself (Crocker & Park, 2004).

Because attachment differences in competence feedback processes (seeking or receiving) have not previously been tested in a self-esteem framework, it is not yet possible to tease apart these two opposing possibilities. Future studies might compare dismissing individuals' approaches or responses to self-reliance feedback in a context that is either individual/interpersonal and either neutral/threatening. Another might force them to behave in a way that contradicts self-reliance (e.g., depending on someone in a

task) and assess whether this goal-incongruent behaviour impacts self-esteem. Finally, the relevance of mastery versus self-reliance could be compared by manipulating task success (vs. failure) and self-reliance (vs. dependency) orthogonally. If contingent on self-reliance, dismissing individuals' state self-esteem should reflect self-reliance more than success, whereas most individuals' should reflect success more than self-reliance.

In summary, the present set of findings corroborates my proposal that dismissing individuals' high self-esteem is contingent, not true. However, the studies failed to explicate fully the processes that maintain their (ostensibly) positive self-views. Instead, they suggest new avenues to pursue in addressing the question.

Interpersonal acceptance in self-esteem regulation. A second important pattern emerged across the present studies. This hinted that high-avoidant individuals' deactivating strategies are not entirely successful at disengaging self-esteem from other people and attachment needs. In particular, Study 1 showed that perceived social acceptance was closely linked to self-competence for dismissing individuals, and they were eager for real feedback about social acceptance in Study 3 (although not for hypothetical feedback in Study 2). In Study 4, individuals with high, compared to low, avoidance evidenced less increase in self-esteem on days when they received more positive interpersonal feedback, but a greater decrease in self-esteem on days when they experienced more rejection (to the extent that events were rated influential at the time). Similarly, if a dismissing individual received positive interpersonal feedback, s/he denied its importance and did not report positive emotions, preventing state self-esteem from rising. However, negative interpersonal feedback did not yield these responses but prompted more stable, global attributions and more change in self-views than other types of feedback. Thus, high-avoidant individuals experienced only negative, not positive consequences of interpersonal feedback compared to low-avoidant individuals.

The patterns in Study 4 implicate partial, but not complete, defensive exclusion of attachment-related information from processing (Bowlby, 1980). Dismissing individuals are motivated to minimise processing of attachment-related cues to avoid potential threat and rejection experiences. Much of the time this is effective and avoidance is associated with lower recall for emotional or relationship information (Fraley & Brumbaugh, 2007; Mikulincer & Orbach, 1995) and indifference to partner feedback (Carnelley et al., 2007). Indeed, the fact that the objective number of rejection events did not predict high-avoidant individuals' daily self-esteem in Study 4 suggests that they limited their processing and that this protected self-esteem from daily dents. Moreover, defensive exclusion of *positive* interpersonal events was so effective that high-avoidant individuals'

self-esteem was less affected than low-avoidant individuals'. However, if a rejection event got through the defensive net and was recalled as negative at the end of the day (i.e., described in the negative section or rated influential on the checklist), it affected high-avoidant individuals more than low-avoidant individuals (i.e., impacted their self-view or dented their daily self-esteem). Thus, although acceptance and rejection are connected to dismissing individuals' global self-esteem, and they are eager when offered real feedback about these areas, the feedback nevertheless triggers defensive processes that reveal vulnerability when compromised. Given that the Study 1 measure of relationships focused on social inclusion, that dismissing individuals' desire for feedback only applied to social acceptance (not close relationships), and that feedback from romantic partners did not impact their daily self-esteem, these patterns might apply most to social, rather than intimate, relationships.

Taken together, this consistent set of findings suggests that, despite their claims, interpersonal acceptance influences dismissing individuals' self-esteem regulation. This opposes dismissing individuals' denial of attachment and affiliation needs (Collins, Ford, et al., 2006; Mikulincer & Selinger, 2001; Rom & Mikulincer, 2003) as well as their claims of non-contingent self-esteem (Park et al., 2004). However, it is partly consistent with Carvallo and Gabriel's (2006) findings that dismissing individuals showed increased self-esteem after positive social acceptance feedback, and Pietromonaco and Feldman Barrett's (1997) finding that they reported lower self-esteem after conflict interactions. Pietromonaco and Feldman Barrett suggested that immediate data collection might have eliminated dismissing individuals' memory bias. Similarly, the designs of Study 1 and Study 4, which concealed the hypothesised link between self-esteem and its sources (self-views or feedback), may have reduced dismissing individuals' self-presentation bias (Onishi et al., 2001). An interesting direction for future research, given that cognitive load reduces dismissing individuals' defences (Mikulincer et al., 2000), might be to induce cognitive load and deliver dismissing individuals positive interpersonal feedback. If their defensive exclusion of interpersonal cues prevents them benefitting from such feedback, cognitive load should allow (or force) them to process it and might have beneficial effects on self-esteem and relationship views.

In summary, it seems that dismissing individuals' contingent self-esteem regulation cycle operates without their awareness (Leary, 2004). This lack of awareness may lead them to seek negative feedback—as shown consistently across Study 2 and 3—when in fact this feedback might impact negatively on their self-esteem unless defensive processes are operating smoothly and completely. The present findings add to a growing

body of evidence that dismissing individuals possess underlying insecurity and vulnerability. Research suggests that defensive exclusion strategies require cognitive resources (Mikulincer et al., 2000) and are preceded by an initial vigilance to attachment-related cues (e.g., Maier et al., 2005; see Chapter 1). Therefore, if one of the strategies is compromised, the underlying vigilance raises awareness of the cue. This might occur if cognitive resources are used up, if the person is stressed, if forced to attend to attachment-related threats (e.g., in the AAI; Dozier & Kobak, 1992), or if signals of threat or rejection are overwhelming (Edelstein & Shaver, 2004). Prior research has often assumed that dismissing individuals have a truly positive self-model just like secure individuals. My studies have corroborated recent suggestions that this is not necessarily the case and have identified another chink in their armour. Future research should aim to examine further the conditions under which dismissing individuals' defences are compromised and further consequences of this vulnerability for their functioning.

Fearful Attachment and Self-Esteem Regulation

The nature of fearful attachment is a matter of current debate in the literature. As mentioned in Chapter 1, Simpson and Rholes (2002) hypothesised that fearful individuals may be unable to decide whether proximity-seeking is a viable option in infancy and thus unable to decide whether to invest chronically in deactivating or hyperactivating strategies. Mikulincer and Shaver (2003, 2006) agree that fearful individuals might use both strategies to some extent, or might attempt to deactivate the attachment system but be unsuccessful. Thus, it is possible that their self-esteem remains tied up with, and sensitive to, interpersonal sources despite attempts to disengage attachment needs and become self-reliant. Indeed, this was the overriding message of the present results.

This research suggests that fearful individuals have the most contingent self-esteem and the least adaptive ways of regulating it, compared to individuals lower on anxiety and/or avoidance. In Study 1, their global self-esteem was notably connected to both interpersonal (i.e., attractiveness) and competence (i.e., mastery and autonomy) specific self-views. Likewise, in Study 4, both types of feedback impacted their self-esteem. Additive effects of anxiety and avoidance mean that they experienced the greatest blow to daily self-esteem as a function of rejection events. In addition, like preoccupied individuals they experienced boosts to self-esteem following positive feedback from romantic partners or competence, although like dismissing individuals this was not the case for other positive interpersonal feedback. Again, fearful individuals' self-esteem lability was reflected in their self-reported reactions to feedback. They

reported less positive emotion but more negative emotion after feedback, rated negative feedback more important, global, and stable than positive feedback, and ruminated about negative feedback regardless of the domain. Finally, they were the most likely to incorporate negative interpersonal feedback into their self-view. If avoidance dampens detection and effects of positive feedback and anxiety heightens detection and effects of negative feedback, fearful individuals experience both.

There was some evidence that fearful individuals attempt to self-protect by avoiding self-relevant feedback: in Study 2 they were the most averse of all individuals to negative feedback and some positive feedback. However, in Study 3 they were more open to real negative feedback than low-avoidant individuals, and in both studies they chose negative over positive feedback across the board. Thus, like preoccupied individuals their hypervigilance to threat may increase feelings of stress and perhaps prompt schema-consistent selection of information. Because fearful individuals' views of both the self and others are negative (Bartholomew & Horowitz, 1991), negative feedback is likely the most consistent and the most readily processed under stress.

There was one finding that favoured fearful participants, however: after positive competence feedback they thought about it for longer, and changed their self-view more, than any other individuals. This is consistent with their increase in self-esteem at the end of the day. It is possible that fearful individuals, like preoccupied individuals, extract the cues of acceptance from such feedback. Alternatively, fearful individuals, like dismissing individuals, might have invested self-esteem in competence because of their attempts to use deactivating strategies. Their less complete defensive exclusion (than dismissing individuals) might actually mean that they process and can take on board cues of success. Further research should aim to determine whether it is the acceptance aspect or the competence aspect of this feedback that boosts fearful people's daily self-esteem.

In summary, it appears that individuals who are high in both anxiety and avoidance are vulnerable to the pitfalls of both hyperactivating and deactivating strategies. Here and in past research, fearful individuals experienced the lowest levels of self-esteem compared to individuals with other attachment patterns. These findings suggest that they also experience the most contingent and labile self-esteem. This contingency and instability may partly underlie both their chronic self-doubts and their vulnerability to depression (Brennan et al., 1991; Carnelley et al., 1994).

Practical and Clinical Implications of Attachment Differences in Self-Esteem Regulation

The findings of this research program may help us to understand the motivation behind some individuals' behaviour in everyday contexts and the ways that those individuals function in, and are affected by, those contexts. I will focus on two areas that bear most directly on my research: interpersonal relationships and work. I then address implications of my findings for clinical research and therapy.

Implications for Interpersonal Relationships

Throughout this thesis, findings suggest that the higher one's attachment anxiety, the more one's self-esteem is invested in the attainment of intimacy, approval, and affection, and the more volatile one's self-related experiences are likely to be. Conversely, the higher one's avoidance, the more one convinces oneself that one's self-esteem is independent of relationships but in fact retains an underlying vulnerability. These patterns have significant implications for the way an individual behaves and functions in close (and affiliative) relationships.

Results suggest that highly anxious individuals become embroiled in a cycle of desiring interpersonal feedback but actually eliciting negative feedback from others. Attachment anxiety is positively associated with rejection sensitivity, the tendency to expect, notice, and over-react to rejection (Downey & Feldman, 1996). Research on behavioural confirmation (e.g., Snyder, Tanke, & Berscheid, 1977) has demonstrated that when one holds such an expectation, one's behaviour may inadvertently elicit confirmatory (rejecting) behaviour from others. This phenomenon has been demonstrated in the relevant fields of rejection-sensitivity in close relationships (Downey, Freitas, Michaelis, & Khouri, 1998) and self-verification in depression (Weinstock & Whisman, 2004). One behaviour that might play a role is excessive reassurance-seeking, which is characteristic of high-anxious individuals (Shaver et al., 2005) and also elicits negative reactions from others (Van Orden & Joiner, 2006). This might be one reason that partners of high-anxious people tend to be dissatisfied with their relationship (Kane et al., 2007).

The finding in Study 4 that high-anxious individuals' perceptions of relationship quality also depend on the amount of positive feedback they received from the partner suggests that relying on relationships for self-esteem regulation also biases perceptions of the relationship (Campbell et al., 2005; Pietromonaco & Feldman Barrett, 2006). Thus, if one feels low in self-esteem and one's partner has not provided positive feedback

recently, this state might sometimes elicit excessive reassurance-seeking and at other times elicit or exacerbate conflict because the relationship is not providing what one craves. Because high-anxious individuals have a low threshold for perceiving threat and rejection, these patterns are likely to occur frequently. More research is needed on the nature of excessive reassurance-seeking behaviour and the features that make it maladaptive, given that it is not the same as positive feedback-seeking (Joiner & Metalsky, 1995). However, this thesis has identified one underlying reason why high-anxious individuals may fall into such a pattern: because their sense of self depends on it.

Individuals with high attachment avoidance typically experience relationships as negative, untrusting, and dissatisfying (J. Feeney, 1999b) and possess negative working models of others (Bartholomew & Horowitz, 1991). The present findings suggest that these negative expectations and beliefs influence the way they approach feedback in close relationships. However, high avoidance shows itself differently from high anxiety. Instead of seeking reassurance, dismissing individuals believe they do not need feedback from others and prefer to receive negative feedback that confirms their negative relationship views. They also fail to seek support when it would benefit them (DeFronzo et al., 2001; Simpson et al., 1992). In addition, they may be motivated to prove or validate their self-reliance. They may do this by behaving in a way that distances them from others (e.g., acting cold or hostile, suppressing emotion and affection), thus increasing the chance of receiving negative feedback. Unfortunately, if their defences are compromised, this negative feedback also impacts their self-esteem (Study 4). This begets a self-fulfilling prophecy in which seeking self-reliance validation to enhance self-esteem pushes others away, leading others to reject the individual—ironically due to his/her dormant fears of rejection—and often denting his/her self-esteem.

The openness of high-avoidant individuals to real feedback about social acceptance in Study 3 suggests that sometimes they may be more receptive in (social more than intimate) relationships. It may be that the latent connection between self-esteem and acceptance in a high-avoidant individual's self-structure can account for the fact that they do still form relationships despite overt claims of indifference. That is, on a generalised level, high-avoidant individuals feel more competent when they perceive themselves to be accepted and included. They might manifest this felt acceptance rather differently than secure individuals, however, and may view relationships as a way to gain admiration and "ego-massage" rather than affection and love. This is congruent with the finding in Study 4 that positive feedback from a partner did not boost self-esteem but did boost relationship quality, and with findings that avoidant individuals endorse power and

ego-related motives for having sex (Schachner & Shaver, 2004). Future research should aim to examine the two possibilities that relationships provide a lacking sense of acceptance (Carvallo & Gabriel, 2006) versus power and ego boost. Reactions to different types of false feedback ostensibly from a social group or partner (e.g., "I really care for you" versus "I really admire you") might help to distinguish between the two.

In summary, both hyperactivating and deactivating attachment strategies, though they may develop to gain protection from a significant other, can impede involvement in smooth and satisfying relationships in adulthood. The investment of self-esteem regulation in the operation of these strategies can help account for some of the patterns that arise in close relationships and their persistence in the face of relationship dissatisfaction. Future research might focus on the types of relationship in which high-avoidant individuals invest self-esteem (if any) and their attempts to self-enhance within those relationships. For example, they may be more likely than secure individuals to pursue relationships in which they possess high status or are admired by others.

Implications for Work Performance

The current findings add to a body of research showing that adult attachment patterns influence one's functioning in work environments (Hazan & Shaver, 1990; Rom & Mikulincer, 2003; H. Sumer & Knight, 2001). In particular, attachment insecurity interferes with effective task performance in ways that can be understood within a self-esteem regulation framework. The pursuit of self-esteem is a motivating process (Crocker & Park, 2004), and so self-esteem regulation goals can lead people to behave in ways that are inconsistent with the most adaptive work goals. I discuss this general issue from two angles: long-term influence on behaviours and performance at work; and seeking work feedback, which links to relevant research in organisational psychology.

Chronic patterns of work behaviour and functioning. Individuals with high attachment anxiety are wrapped up in detecting and pursuing signs of acceptance and rejection even in a work context. Rom and Mikulincer (2003) found that anxious individuals endorsed attachment needs even in a task-focused group and that this interfered with their performance. My findings suggest that, for preoccupied individuals, this reflects the contingency of self-esteem on acceptance and not mastery: it matters far more to their self-concept that they are accepted than that they are successful. Thus, even if they are dissatisfied with work (Hazan & Shaver, 1990), it affects overall well-being less than if they feel rejected at work. An important task for future research is to address exactly how this contingency is reflected in behaviour. For example, might we see

relationship processes such as rejection-sensitivity and reassurance-seeking among anxious workers? How does this affect co-workers' views of an anxious individual?

Dismissing individuals, in contrast, are bent on proving their self-reliance, which may interfere with work functioning in contexts where cooperation is adaptive. They may, however, avoid such projects altogether if they can help it. Given that high avoidance relates to low approach goals and intrinsic motivation (Elliot & Reis, 2003), self-reliance or external recognition may take precedence over successful performance in motivating an individual. This might be reflected in self-defeating behaviours such as refusing help from others, which can lead to lower productivity (and impede working relationships among colleagues).

Fearful individuals, who are characterised by both interpersonal and agentic contingencies, may have the hardest time at work trying to balance the two self-esteem regulation goals. Consistent with this view, Rom and Mikulincer (2003) found that individuals with high anxiety and avoidance endorsed both security and self-reliance goals in task-focused groups and showed the worst self- or observer-rated instrumental functioning. However, no research has systematically tested the extent to which fearful individuals' behaviours resemble preoccupied or dismissing individuals in a task or work setting. Thus, do they seek reassurance and promote intimacy at the cost of performance? Do they seek to appear self-reliant? Or does conflict between the opposing goals lead them to withdraw from group interaction entirely, echoing disorganised infants' "frozen" behaviour (Main & Solomon, 1990), and thwarting both self-esteem regulation and performance? H. Sumer and Knight (2001) found that fearful attachment, like preoccupied attachment, related to negative spillover between work and home and low job satisfaction. Thus, in the long term, fearful individuals' interpersonal contingencies may take precedence over competence contingencies for job outcomes. Further investigation of the impact of attachment styles and their accompanying contingencies of self-worth on work behaviour and functioning is a fruitful research direction.

Seeking and receiving organisational feedback. A second area in which the present findings could provide new opportunities for research and understanding is that of feedback-seeking and feedback interventions in organisational contexts (Ashford et al., 2003; Kluger & DeNisi, 1996). Ashford et al. (2003) make a pertinent distinction between three motives underlying feedback-seeking from a management perspective. In my view, the three motives roughly represent the likely feedback-seeking motives associated with each major attachment strategy: secure individuals are most likely to approach work feedback with *instrumental* motives (i.e., to improve performance and

meet goals); high-anxious individuals with *image-based* motives (i.e., to regulate others' impressions); and high-avoidant individuals with *ego-based* motives (i.e., to protect one's ego). Thus, both image-based and ego-based motives may be grounded in self-esteem regulation goals. These motives also lead to different amounts and types of feedback-seeking at work. According to Anseel et al. (2007), feedback-seeking behaviour is the result of a cost-value analysis, which takes into account the relative strength of each motive. For example, when most concerned about image one might use indirect rather than direct forms of feedback-seeking (e.g., social comparison, trying to get a person to spontaneously give feedback). When most concerned about ego one might avoid seeking direct feedback because of potential self-esteem threat or because it might give an impression of weakness (Ashford et al., 2003). This implies that a dismissing individual might not actually ask for feedback from a superior because it violates his/her goal for self-reliance. This suggests another reason why dismissing individuals might choose to self-enhance by means other than feedback-seeking (see above).

However, feedback in organisations is vital for improving performance and functioning effectively (Ashford et al., 2003). Thus, the most adaptive feedback-seeking should be driven by instrumental motives, or in social psychology terms, self-improvement (Taylor et al., 1995). Attachment insecurity, then, may prevent workers from seeking the most constructive feedback. Furthermore, if an individual elicits negative feedback at work due to maladaptive feedback-seeking (e.g., reassurance-seeking, self-defeating self-reliance), colleagues and superiors may view him/her more negatively (Higgins & McCann, 1984). Finally, Kluger and DeNisi (1996) review evidence that directing attention onto the self after feedback (as opposed to the task) impedes subsequent task performance. Given that insecure individuals possess contingent rather than true self-esteem, they are more likely to exhibit ego-involvement regarding feedback (Greenier et al., 1999) than secure individuals, so more likely to perform badly.

Thus, organisational research can help understand the ways in which insecure (particularly high-anxious) individuals impede their own success. Basing work behaviour on self-esteem regulation goals instead of task-relevant or intrinsic mastery goals may result in employers viewing one negatively and in poorer work performance. Because the present studies were conducted predominantly with students, my findings likely apply to a university more than an employment context. Maladaptive feedback-seeking among insecure individuals might be reduced if organisations such as these create an open environment for seeking and providing feedback (Anseel et al., 2007). In addition, many aspects of feedback provision in a management setting influence reactions to it (Kluger

& DeNisi, 1996). For example, organisations could provide feedback in a private rather than public setting (e.g., over email or through a computer rather than face-to-face; Ang & Cummings, 1994), removing some of the image-based or ego-based risks from feedback. Then, even insecure employees might be more able and likely to seek and take on board constructive instrumental feedback and improve their performance. This thesis contributes to a young but growing area of research on attachment in organisations (Mikulincer & Shaver, 2006) by highlighting the differing roles of feedback for individuals with different attachment patterns. Research would benefit from further integrating organisational research with the present framework and extending it to both educational and business settings.

Clinical Implications

Understanding vulnerability to depression. Self-esteem regulation that is wrapped up in the fulfilment of short-term affect-regulation goals might play a role in heightening vulnerability to depression. However, vulnerability factors differ for high-anxious individuals (i.e., poor self-reinforcement, dependency on others, need for reassurance) versus high-avoidant individuals (i.e., poor self-reinforcement, perfectionism, self-criticism) (Wei, Mallinckrodt, et al., 2005; Wei et al., 2004; Zuroff & Fitzpatrick, 1995). These vulnerabilities are reminiscent of Beck's (1983) and Blatt's (1990) depressive personality dimensions of sociotropy or dependency, for high-anxious individuals, and self-criticism or autonomy, for high-avoidant individuals (Zuroff & Fitzpatrick, 1995). Butler et al. (1994) also found that self-esteem lability to daily events predicted increase in depression (cf. Crocker & Wolfe, 2001). Thus, the present findings have implications for understanding depression. In addition, they suggest that knowing a depressed client's attachment pattern might inform the intervention to most help him or her.

Simpson and Rholes (2004) have suggested that high-anxious attachment models include two dysfunctional attitudes that lead to depression: first, one's satisfaction with life is over-dependent on relationships; and second, one judges relationships against unrealistic standards. When anxious working models are activated, experiences and interactions are guided through the negative filter of these dysfunctional attitudes. Importantly, the first attitude closely resembles having interpersonally contingent self-esteem, a consistent correlate of attachment anxiety in my studies and previous research (Park et al., 2004). Other characteristics of high-anxious individuals that reflect their contingent self-esteem, such as rejection-sensitivity, excessive reassurance-seeking, and ruminative worry, have also been linked to depression (Downey & Feldman, 1996; Joiner

et al., 1999; Shaver et al., 2005; Weinstock & Whisman, 2007). All these features are congruent with the suggestion that the involvement of affect-regulation and self-worth in approval, affection, and support from others increases vulnerability to depression.

A parallel model for attachment avoidance could include the dysfunctional attitude that in order to be worthwhile, one must always be self-reliant and must not show weakness to others. That is, high-avoidant individuals' vulnerability to depression may reflect a combination of defensive self-reliance (which can increase depression via self-criticism; Blatt, 1990; Wei et al., 2004) and an unacknowledged reactivity to acceptance and rejection. Whenever those suppressed vulnerabilities to rejection are activated and affect an individual, not only are underlying attachment worries exposed, but also the dysfunctional attitude is contradicted, further undermining self-esteem. Attachment insecurity might provide a framework within which to understand these clusters of affective, cognitive, and behavioural vulnerabilities and consequently suggest a common point of origin to target in therapy.

Thus, one approach to therapy for individuals suffering from depression might be to target their dysfunctionally contingent self-esteem regulation processes. In particular, it may be possible to help an individual to seek, recognise, and react to feedback in different ways. Below I describe two general approaches—one intrapersonal and one interpersonal—that could be useful in achieving this type of change.

Developing security-based self-representations. The ideal way to reduce maladaptive self-esteem regulation processes and vulnerabilities would be to develop a *security-based self-representation* (Mikulincer & Shaver, 2004) that no longer depends on dysfunctional validation. Traditionally, clinicians suggest that the therapist may serve as an attachment figure or provide a secure base for a client (Bowlby, 1988; Parish & Eagle, 2003). This security may aid therapeutic intervention by activating secure working models more often and thus rendering them more accessible. An individual possesses multiple working models, and it is the currently activated model that drives behaviour (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; also see below). Bowlby (1973, 1988) conceptualised working models as responsive and open to change throughout the lifespan, and therapeutic intervention as one way to effect such a change. Thus, when with a secure relationship partner, including a therapist, an individual might gradually develop more adaptive patterns of feedback-seeking and feedback reactions.

Recent social-cognitive research has shown that priming a secure attachment model, via subliminally presenting security-related words, guided imagery, or writing about a secure attachment relationship, can also activate secure working models and

mimic these adaptive outcomes. Positive consequences of security priming include positive affect (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001), positive relationship expectations, better recall for positive attachment information (Rowe & Carnelley, 2003) and more positive attitudes to others (Mikulincer & Shaver, 2001). Carnelley and Rowe (2007) recently found that repeated security priming (over three days) resulted in more positive relationship expectations, self-views, feelings of security, and even lower ratings of global attachment anxiety two days later.

I suggest that temporarily activating secure working models might have beneficial effects on approaches to self-relevant feedback. Consistent with this idea, Kumashiro and Sedikides (2005) found that writing about a close positive relationship versus a neutral, distant, or negative relationship led participants to express more interest in (constructive) feedback after failing a test. Similarly, Mikulincer and Arad (1999) found that secure-primed participants exhibited greater cognitive openness than unprimed participants. J. Green and Campbell (2000) also found that secure-primed participants were more open to exploration than insecure-primed participants (although this does not show whether security increased exploration or insecurity decreased it). Thus, secure priming could be applied to help insecure individuals to seek and take on board positive feedback, feel less overwhelmed after negative feedback, and even facilitate the updating of maladaptive working models on a short-term basis. Repetition of such an intervention could be self-guided (e.g., spend 10 minutes each day self-priming with words, imagery, or thoughts of a secure relationship) and might gradually facilitate more long-term positive and/or more internally regulated self-esteem among insecure individuals. The feedback-relevant consequences of security priming would be a valuable issue to explore in future research.

Couples therapy. In the context of dysfunctional romantic relationships and couples therapy, interventions could address the self-esteem regulation cycle as a whole by targeting feedback-seeking and feedback-receiving processes. First, it might be possible to train high-anxious individuals how to elicit positive feedback in an interpersonal situation without seeking reassurance in a maladaptive way (cf. Van Orden & Joiner, 2006). Second, interventions could help insecure individuals to recognise when they have actually received positive feedback. One way to do this was suggested by Marigold et al. (2007), who showed that inducing an individual with low self-esteem to think about positive partner feedback in an abstract (versus concrete) way resulted in more positive outcomes (e.g., state self-esteem, felt security, relationship views). This might help high-anxious individuals to appreciate support and positivity from a partner, given that they tend to perceive less support from partners than partners report giving

(Simpson, Campbell, & Weisberg, 2006). It might also help high-avoidant individuals, who were shown in my studies to have a negative approach to feedback from others, to report less of it, and to lack boosts to state self-esteem afterward. Finally, couples could learn to help each other respond more adaptively to negative feedback. DeFronzo et al. (2001) showed that when other people have helped to reframe one's negative feedback by providing adaptive attributions (i.e., adaptive inferential feedback), one's subsequent well-being and depressive symptoms improve, even if one is avoidant. These techniques could be implemented in the context of a therapy session, but couples could also learn to use them to help themselves and each other to benefit from everyday positive feedback and cope more effectively with negative feedback. By conceptualising these issues within the framework of self-esteem regulation, rather than addressing them separately, it might be possible to effect a more rapid and complete change.

Strengths, Limitations, and Caveats

Strengths

This research had several strengths. It was grounded in the strong theoretical frameworks of attachment theory and theories of self-esteem regulation, which have both generated extensive and excellent research over the past decades. Moreover, it is one of only a handful of attempts to use each theoretical framework to inform the other (see also Brennan & Morris, 1997; Foster et al., 2007; Park et al., 2004). Although attachment researchers have written about working models of the self, and have examined the content and structure of these models extensively (e.g., Mikulincer, 1995), they have paid less attention to the dynamic nature of the self and the ways that it is regulated and maintained. Furthermore, self researchers have speculated about the developmental origins of self-esteem stability (Kernis & Goldman, 2003) or contingent self-esteem (Deci & Ryan, 1995) but have not yet tested these speculations empirically. Thus, by positioning my research at the interface of attachment theory and self-esteem regulation, I have attempted to contribute meaningfully to both fields and hope that current knowledge and research methods in each area can be adapted and extended to studying and understanding the other.

Another strength of this thesis is the multi-method approach to one overarching research question. Although I relied heavily on self-report measures (see below), I attempted to reduce response bias by examining statistical associations rather than self-reported associations (Study 1 and Study 4), assessing individual differences several days

before criterion measures and implementing a cover story (Study 3), and collecting data repeatedly over several days to examine within-person associations independently of individual differences (Study 4). Moreover, the multilevel analysis used in Study 4 allowed the examination of self-esteem lability to different types of feedback and could, in future, reveal many more fascinating aspects of individuals' daily well-being and self-esteem regulation. Finally, I assessed and compared interpersonal and competence-related domains (of the self or feedback) directly in every study, allowing parallel interpretations of the results of each and examining questions about attachment differences in self-esteem regulation for the first time. Nevertheless, the research was limited in ways that apply to all the present studies. There are also caveats to the conclusions one can draw from these findings. I discuss each of these below.

Measurement and Sampling Issues

Participants. This research relied on convenience samples and thus focused on college and university students. In each study, the majority of participants were white, well-educated, and likely had relatively high socioeconomic status. This sample restriction is common in social and personality psychology and may have affected the present results. For example, Mickelson et al. (1997) report that attachment anxiety was negatively associated with being white, middle class, and well-educated in a nationally representative US sample. Thus, average effects of interpersonal feedback may be stronger in samples of lower socioeconomic status. In addition, the present samples were composed mainly of women (78-88%), which precluded gender analyses (a limitation of the participant pool). Gender differences are sometimes found for attachment effects on relationship dynamics (Birnbaum et al., 2006; Collins & Read, 1990; Kirkpatrick & Davis, 1994). These are attributed to the resemblance of preoccupied attachment to female gender-role stereotypes (i.e., communal, relationship orientation) and dismissing attachment to male stereotypes (i.e., agentic, individualistic orientation) (Eagly & Wood, 1991; Pietromonaco & Carnelley, 1994). Consistent with this distinction, Brennan and Morris (1997) found that although secure women's high self-esteem was composed mainly of self-liking, secure men's self-esteem was composed of both self-liking and self-competence. Thus, competence may generally play a greater role in self-esteem for men than for women, regardless of attachment pattern. Nevertheless, Park et al.'s (2004) attachment effects on contingencies of self-worth held when controlling for gender, ethnic background, and parental income. Gender differences in self-esteem regulation processes are a question for future investigation. I discuss age issues in a later section.

Culture. Cultural differences in self-construals (Markus & Kitayama, 1991) suggest that on average, relationships are more important to well-being in collectivistic cultures (e.g., East Asia, Latin America), whereas agency is more important in individualistic cultures (e.g., Western Europe, North America). Cultures also emphasise different caregiving styles. For example, Rothbaum, Weisz, Pott, Miyake, and Morelli (2000) review evidence that caregiving in Japan promotes dependency rather than exploration, and thus resembles the caregiving of anxious infants in the West. Moreover, many features of secure adult attachment (e.g., autonomy, emotional openness, positive self-views) are seen as relatively undesirable in Japan (Rothbaum et al., 2000). Thus, although Japanese individuals are often classified as anxiously attached on Western measures (Schmitt et al., 2004; van IJzendoorn & Sagi, 1999), they might exhibit positive functioning and be secure in their cultural context. That is, in collectivistic cultures, interpersonal contingencies of self-worth may be normative.

As well as differences in contingencies of self-worth, researchers have questioned whether people in collectivistic cultures pursue self-esteem: do they self-enhance on interdependent dimensions (Sedikides, Gaertner, & Toguchi, 2003), or do they aim to "be a good self" by self-improving (Heine, 2005)? The first argument suggests that participants from these cultures would seek and relish positive interpersonal feedback; the second that they would seek and relish *negative* feedback. Thus, self-esteem regulation (if this concept is directly relevant in Eastern cultures) and feedback-relevant behaviour may differ between cultures. Supporting this view, Kitayama, Markus, Matsumoto, and Norasakkunkit (1997) found that Japanese people accept negative more than positive feedback and judge it more relevant to self-esteem, whereas Americans display the opposite pattern. Implications of these complex cultural differences for attachment differences in self-esteem regulation require investigation. Relatedly, an appropriate index of functioning after feedback in collectivistic cultures might be self-improvement motive or pro-social behaviour (instead of state self-esteem).

Self-report measurement. This thesis used self-report measures throughout. Although most associations between variables were determined statistically rather than by self-report, sources of bias in my findings may include self-presentation and self-deception. For example, dismissing individuals might inflate their daily self-esteem ratings, which would alter the main effects of attachment on daily self-esteem. Feedback-seeking data were collected via self-report, but in Study 3 participants believed they would receive feedback, so this data could also be viewed as behavioural. However, more direct measures of feedback-seeking would include time spent reading feedback,

the order in which one reads available types of feedback, or conversation topics initiated in social interaction. Future research would benefit from more use of such measures.

Self-report measures of adult attachment have been criticised by developmental researchers (Crowell & Treboux, 1995; Jacobvitz, Curran, & Moller, 2002), who argue that unconscious attachment representations and strategies can only be measured using narrative interviews such as the AAI. It is likely, given differences in method and target (i.e., attachment to parents versus peers), and typically low between-measure correlations (Crowell et al., 1999), that interview and self-report measures assess different aspects of attachment. However, as Shaver and Mikulincer (2002, 2004) attest, research conducted using self-report measures has revealed a great deal about unconscious processes underlying adult attachment. It is possible that different results would be obtained in the present research if attachment were assessed in an interview. For example, interviews may assess dismissing attachment strategies more accurately and might provide more evidence for defensive self-enhancement. Future research should aim to examine the concordance and divergence between interview and self-report measures further.

Multiple working models. A person does not possess just one attachment working model but multiple models. Collins and Read (1994) proposed that working models are organised in a hierarchy, with a general *default model* at the top and specific models, such as a romantic partner, at the bottom. Although the default model is most chronically accessible and is applied to new situations, specific models are activated in relevant contexts, and patterns of motivation, information-processing, and behaviour are driven by the activated model (Baldwin et al., 1996). Attachment style ratings at a general level correlate only moderately with ratings in important specific relationships, showing that they differ (Ross & Spinner, 2001). Cozzarelli et al. (2000) found that general models best predicted overall adjustment (e.g., self-esteem), whereas partner-specific models predicted relationship outcomes (e.g., relationship satisfaction). In the present research, I assessed attachment anxiety and avoidance at the level of general romantic relationships, the most extensively validated version of the scale (Brennan et al., 1998). Assessing the default model instead (i.e., referring to "close others" instead of "romantic partners") might increase power to detect differences in global self-esteem regulation but reduce power to detect differences within a relationship (e.g., effects of partner feedback). My use of a general romantic attachment measure facilitates comparison with relevant studies that have pitched their measures at the same level (e.g., Campbell et al., 2005; Carnelley et al., 2007; Pietromonaco & Feldman Barrett, 2006). However, future studies could vary this measure to examine context-specific self-esteem regulation processes.

Developmental origins, stability, and age. I described individual differences in self-esteem regulation as developing with attachment strategies in infancy. However, if attachment patterns show no stability from infancy to adulthood, it would not make sense to ground theories of self-esteem regulation in this way. Fraley (2002) found, in a meta-analysis of 27 longitudinal studies, that the data were most consistent with working models that are updated but not overwritten, suggesting that infant attachment patterns continue to influence adult attachment dynamics. Thus, the strategies of regulating affect (and self-esteem) that an individual develops in infancy might, despite being updated, continue to influence affect-regulation and self-esteem regulation strategies in adulthood. Likewise, experiences in close relationships in older childhood, adolescence, and adulthood may further shape working models and self-esteem regulation.

The present samples were mainly under the age of 30. Although no longitudinal studies analysed by Fraley (2002) had yet followed their samples beyond 21 years of age, longitudinal data following women from age 27 to 52 suggests that working models also tend toward stability during adulthood (Klohnen & John, 1998). The main exception was that women became less preoccupied and more secure over time, suggesting that people might depend less on interpersonal sources of self-esteem with age. Study 1 showed that self-esteem regulation may also change as adolescents become adults, particularly for avoidance. Thus, it might be important to determine whether individuals who report high avoidance on self-report measures become more prototypically avoidant in other ways as they reach adulthood (e.g., behaviour, cognitive processing, self-esteem lability).

Mediators or Moderators

Throughout this thesis, I have considered the role of trait self-esteem in attachment differences in self-esteem regulation. This was because of the extensive literature linking self-esteem levels to attachment (e.g., Cozzarelli et al., 2000; see Chapter 1) and feedback processes (Sedikides & Gregg, 2003) as well as suggestions that the tendency to base self-worth on relationships is due to low trait self-esteem (Murray, Griffin, et al., 2003). Although some attachment effects on openness to hypothetical positive feedback (Study 2) and emotional reactions to feedback (Study 4) were mediated by self-esteem, most results across the four studies were not. This is consistent with prior findings in attachment research (e.g., Campbell et al., 2005; Collins, Ford, et al., 2006; Mikulincer & Florian, 1998). I conclude that—at least in terms of feedback processes—attachment patterns are uniquely related to the way self-esteem is regulated, and do not simply serve as a proxy for self-esteem level.

Other variables might also play a role in accounting for attachment effects. For example, attachment anxiety relates positively to neuroticism, whereas avoidance relates negatively to agreeableness and extraversion (Shaver & Brennan, 1992; see Mikulincer & Shaver, 2006). However, consistently when attachment and other personality constructs are measured, attachment uniquely relates to outcomes and does not tend to interact with personality variables (e.g., Campbell et al., 2005; Davis et al., 2004; Mikulincer, Gillath, et al., 2002; Park et al., 2004; Roberts et al., 1996; Simpson et al., 1992). Moreover, even if individual associations are mediated, attachment can predict patterns of behaviour across contexts and outcomes (e.g., differences between domains of feedback). Thus, although it is often interesting to examine the variables that link attachment dimensions to other constructs (e.g., depression; Wei, Mallinckrodt, et al., 2005; Wei et al., 2004), the explanatory power of attachment theory remains notable.

A potential moderator of the present and related findings is stress or threat. The attachment system theoretically is activated under conditions of danger, stress, or illness, and thus one might expect different patterns of individual differences if participants are under such conditions. This is particularly the case for secure individuals, whose attachment system is normatively activated by threat, and for dismissing individuals, whose defensive strategies are activated by threat but may crumble under severe or unrelenting stress. High-anxious individuals, as we have seen, may perceive threat where objectively it does not exist and hyperactivate their attachment system. Some differences between Study 2 and Study 3, and similarities between Study 3 and Rholes et al.'s (2007) results, suggest that a lab environment with expected evaluation may be enough to cause some individuals stress and change the pattern of attachment effects. In future, this variable should be systematically manipulated to identify its effect on feedback-seeking and also on reactions to feedback.

Future Research Directions

In this final section I aim to highlight briefly some fruitful directions for future study that have arisen during the preparation of this thesis. Some are direct continuations or clarifications of my findings. Others are wider issues that have cropped up repeatedly or are new and exciting developments that I believe would shed further light on the present and related questions.

Future directions already touched on in this chapter include the influence of attachment patterns on actual behaviour in a work context, including reassurance-seeking, self-reliance strivings, and the way people seek and react to organisational

feedback. In addition, research could aim to assess directly whether implicit acceptance in competence feedback influences self-esteem regulation for high-anxious individuals, and if so, whether this or mastery mediates fearful individuals' reactions. More thorough study on relationship processes in couples and friendships is also needed: for example, over extended time periods, how does one person's feedback-seeking influence a partner's view of him/her and long-term relationship functioning? A third focus is clinical implications. Given that sources of self-esteem may increase vulnerability to depression, what discrete process triggers the incidence of clinical depression in some individuals but not others? How do the experience and maintenance of depressive symptoms differ among those with interpersonal versus agentic sources of self-esteem? These and the present findings may suggest ways to effect change in the self-esteem regulation cycle, potentially using interpersonal and/or security priming interventions. More broadly, I have also suggested that gender and age are important demographic influences on the present processes that were not adequately addressed in this thesis.

Generally, the areas of attachment and self-esteem regulation have potential to benefit each other. Future research could use attachment methods (e.g., couples research, attachment threat, security priming) to study the operation of self-esteem regulation, and self methods (e.g., implicit attitudes, false feedback paradigms, self-enhancement measures) to study attachment-system dynamics. Integration will benefit each area and provide a more holistic understanding of the self in the context of relationships and the wider world. In addition, advances in neuroscience could reveal neural underpinnings of these processes (for relevant examples, see Gillath, Bunge, Shaver, Wendelken, & Mikulincer, 2005; Kross, Egner, Ochsner, Hirsch, & Downey, 2007).

In my view, further research is needed to determine how dismissing individuals regulate their fragile but ostensibly positive self-views, and the relative roles of self-reliance, successes, and acceptance. Therefore, studies should assess unconscious or subtle processes or connections (as I did in Study 4), or penetrate defensive exclusion to uncover underlying vulnerabilities. Approaches might include behavioural measures, induction of stress or attachment threat, experimental manipulation of feedback received, and implicit measures. For example, it might be that although dismissing individuals' self-esteem reports do not alter notably after competence feedback, their implicit self-esteem (Greenwald & Banaji, 1995) might. Low implicit self-esteem has been linked to defensive processes, especially coupled with high self-reported self-esteem (Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003), and is also associated with recalled

lack of nurturing from parents, which is consistent with the developmental antecedents of attachment avoidance (DeHart, Pelham, & Tennen, 2006).

On a broader level, dismissing individuals' vulnerabilities beg re-examination of attachment system dynamics. Current models (Fraley & Shaver, 2000; Mikulincer et al., 2003) assume that it is attachment anxiety, or hyperactivation, that lowers threshold for detecting threat. Mikulincer et al. (2003) further propose that, over time, deactivating strategies inhibit neural pathways and feed negatively into threat monitoring and detection, suggesting that dismissing individuals become *less* attuned to threat cues. However, evidence cited and found in this thesis suggests that dismissing attachment is underlain by *sensitivity* to threat. Well-practised cognitive defences typically operate to stop threat reaching awareness, but interference (e.g., cognitive load or stress) results in threat perception, signs of anxiety, and self-doubts. This supports the idea that dismissing individuals' low anxiety reflects a tendency or ability to suppress threat cues, as opposed to not detecting them. Mikulincer et al.'s (2003) neural pathways might be better placed leading, not to inhibition of threat detection, but to a later point in the attachment-system activation process. An alternative solution might conceptualise attachment dimensions as 45° rotations of anxiety and avoidance, which sometimes result from factor-analysing ratings of the four attachment styles (Brennan & Bosson, 1998; Brennan et al., 1991). That is, the secure-fearful dimension would reflect monitoring and vigilance to threat, and the preoccupied-dismissing dimension would reflect chronic use of hyperactivating versus deactivating strategies once threat is detected. In this view, then, fearful attachment would represent high insecurity and inconsistent use of both strategies. Careful study of the conditions in which fearful individuals resemble preoccupied versus dismissing individuals might reveal when (or in which parts of the attachment system) they engage each strategy. Mikulincer and Shaver (2006) call for a measure to assess not only manifest attachment anxiety and avoidance but also the rotated dimensions (though see Wei, Vogel, et al., 2005, for evidence that hyper- and deactivation might be orthogonal). Such a measure would need to circumvent the problem that dismissing individuals, though they possess underlying insecurity, would be unlikely to report it.

In summary, the present research has raised questions about specific self-regulation processes but also contributes to a wider understanding of the interpersonal and intrapersonal underpinnings of individual differences in attachment. Thus, future research should aim to address limitations and omissions in this thesis but also to continue down the paths of understanding that this research has begun.

Concluding Remarks

This thesis has revealed that individual differences in adult attachment are related to the way that self-esteem is connected to specific affect-regulation goals, and to the way that feelings of self-worth or self-doubt fluctuate with the relative fulfilment of those goals. To borrow terminology from the self literature, insecure individuals possess unstable, contingent, and fragile self-esteem that depends on continual validation and can motivate maladaptive behaviour and reactions. The smooth or painful operation of the self-esteem regulation cycle varies with strategies of regulating attachment-related affect.

To return to the opening sentence of this thesis, the self does indeed develop and continue to exist in a relational context. However, whether the self thrives or not depends on the interplay between individual differences and situational factors. The rich background of attachment theory is a useful framework within which to further understand whether, how, and in what contexts the self can thrive and reach its potential.

APPENDICES

Appendix A: Materials for Study 1 (Chapter II)

Demographic Questionnaire (included in all studies)

Please circle, tick or write your responses to the following questions.

1. Gender: Male Female
2. Age: ________
3. Sexual orientation: Heterosexual Gay Lesbian Bisexual
4. How would you describe your ethnic background? Please tick one.

___ White: British ___ African
___ White: Other ___ Hispanic
___ East Asian ___ Mixed background
___ Other Asian ___ Other (please specify) ________________

5. How would you describe your current romantic relationship status? (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
_____ Not currently dating or involved in a relationship

6. If you are currently in a relationship, how long have you been involved with your partner?

____ years and _____ months

7. How many times in total have you ever been in a romantic relationship (including any current relationship)? _______
8. What is or was the length of your longest romantic relationship so far? _____ years and _____ months
9. What year of your course are you in? _________
10. Are you studying Psychology? Yes No
11. What is your current living situation? (tick one)

_____ Living alone
_____ Living with parents
_____ Living with partner and/or children
_____ Living permanently in shared accommodation with peers
_____ Living with peers in term time and with parents in holidays
_____ Other (please specify) ____

Adult Attachment: Experiences in Close Relationships Scale (Brennan et al., 1998)

Instructions: The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Write a number on the line next to each statement.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
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.

Self-Esteem: Self-Liking / Self-Competence Scale Revised (Tafarodi & Swann, 2001)

Indicate how much you agree with each statement. We are interested in how you **generally** feel.

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5

_____ 1. I tend to devalue myself.
_____ 2. I am highly effective at the things I do.
_____ 3. I am comfortable with myself.
_____ 4. I am almost always able to accomplish what I try for.
_____ 5. I am secure in my sense of self-worth.
_____ 6. It is sometimes unpleasant for me to think about myself.
_____ 7. I have a negative attitude toward myself.
_____ 8. At times, I find it difficult to achieve the things that are important to me.
_____ 9. I feel great about who I am.
_____ 10. I sometimes deal poorly with challenges.
_____ 11. I never doubt my personal worth.
_____ 12. I perform well at many things.
_____ 13. I sometimes fail to fulfil my goals.
_____ 14. I am very talented.
_____ 15. I do not have enough respect for myself.
_____ 16. I wish I were more skilful in my activities.

Domain-Specific Self-Views
(close relationships, social acceptance, physical attractiveness, mastery, autonomy)

The following set of questions deals with how you feel about yourself and your life. Please remember that there are no right or wrong answers. Please write the number next to each statement that best represents your feelings, using the scale below. [*Items marked with an asterisk were retained in the mastery scale for analysis.]

Disagree Strongly 1	Disagree somewhat 2	Disagree slightly 3	Agree slightly 4	Agree somewhat 5	Agree Strongly 6

___ 1. Sometimes I change the way I act or think to be more like those around me.
___ 2. I easily get in touch with new people.
___ 3. In general, I feel I am in charge of the situation in which I live.
___ 4. Maintaining close relationships has been difficult and frustrating for me
___ 5. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.
___ 6. I have the feeling that a lot of people accept me.
___ 7. The demands of everyday life often get me down.
___ 8. I often feel lonely because I have few close friends with whom to share my concerns.
___ 9. My decisions are not usually influenced by what everyone else is doing.
___ 10. I often am involved in the plans of other people.
___ 11. I do not fit very well with the people and the community around me.
___ 12. I feel that others would consider me to be attractive.
___ 13. I enjoy personal and mutual conversations with family members or friends.
___ 14. I tend to worry about what other people think of me.
___ 15. There are a lot of people who care for me.

___ 16. I am quite good at managing the many responsibilities of my daily life.*
___ 17. It is important to me to be a good listener when close friends talk to me about problems.
___ 18. Being happy with myself is more important to me than having others approve of me.
___ 19. I am often alone.
___ 20. I often feel overwhelmed by my responsibilities.*
___ 21. I don't have many people who want to listen when I need to talk.
___ 22. I tend to be influenced by people with strong opinions.
___ 23. I feel welcome in social situations.
___ 24. If I were unhappy with my living situation, I would take effective steps to change it.
___ 25. I'm not as nice looking as most other people.
___ 26. I feel like I get a lot out of my friendships.
___ 27. People rarely talk me into doing things I don't want to do.
___ 28. I sometimes feel that other people avoid interacting with me.
___ 29. I generally do a good job of taking care of my personal finances and affairs.*
___ 30. It seems to me that most other people have more friends than I do.
___ 31. It is more important to me to "fit in" with others than to stand alone on my principles.
___ 32. I feel like I'm not always included by my circle of friends.
___ 33. I find it stressful that I can't keep up with all of the things I have to do each day.*
___ 34. People would describe me as a giving person, willing to share my time with others.
___ 35. I have confidence in my opinions, even if they are contrary to the general consensus.
___ 36. I don't often get invited to do things with others.
___ 37. I am good at juggling my time so that I can fit everything in that needs to get done.*
___ 38. I feel confident that my physical appearance is appealing to others.
___ 39. I have not experienced many warm and trusting relationships with others.
___ 40. I judge myself by what I think is important, not by the values of what others think is important.
___ 41. If I wanted to have lunch with someone, I could easily find someone to join me.
___ 42. My daily life is busy, but I derive a sense of satisfaction from keeping up with everything.*
___ 43. I often feel like I'm on the outside looking in when it comes to friendships.
___ 44. It's difficult for me to voice my own opinions on controversial matters.
___ 45. No one I know would throw a birthday party for me.
___ 46. I get frustrated when trying to plan my daily activities because I never accomplish the things I set out to do.*
___ 47. I know that I can trust my friends, and they know they can trust me.
___ 48. I often change my mind about decisions if my friends or family disagree.
___ 49. People often seek out my company.
___ 50. My efforts to find the kinds of activities and relationships that I need have been quite successful.
___ 51. I am satisfied with the way I look.
___ 52. I find it difficult to really open up when I talk with others.
___ 53. I am not the kind of person who gives in to social pressures to think or act in certain ways.
___ 54. I often feel like an outsider in social gatherings.
___ 55. I have difficulty arranging my life in a way that is satisfying to me.
___ 56. My friends and I sympathize with each other's problems.
___ 57. I am concerned about how other people evaluate the choices I have made in my life.
___ 58. If I want to socialise with my friends, I am generally the one who must seek them out.
___ 59. I have been able to build a home and a lifestyle for myself that is much to my liking.
___ 60. Most people see me as loving and affectionate.
___ 61. I feel unattractive compared to most people my age.

Appendix B: Pretest for Feedback-Seeking Items

Materials

We would like you to rate questionnaire items in terms of the extent to which they assess a person's characteristics in four important areas of life: close relationships, social acceptance, mastery, and autonomy. Descriptions of these four areas are:

Close Relationships
The extent to which someone can develop and maintain close, positive, open, trusting friendships and relationships with other people. This includes close relationships with friends, romantic partners, and family members.

Social Acceptance
The extent to which someone is generally liked, valued, and accepted by people around them. Social acceptance includes within relationships and with acquaintances as well as when meeting people for the first time.

Mastery and General Competence
The extent to which someone is generally competent and masterful in everyday life, maintaining control over the range of events that they experience and succeeding in tasks that they undertake.

Autonomy and Self-Reliance
The extent to which someone regulates and determines their feelings, thoughts and behaviour from within themselves, rather than through other people. This includes the extent to which someone is influenced by others, or relies on others, when forming opinions, making decisions, and undertaking tasks.

On the following pages you will be shown questions that could be asked about another person's personality. For each question, please rate how relevant the answer would be to that person's close relationships, social acceptance, mastery, and autonomy.

Important: Do not think about responses to the questions for yourself or for any particular individual – simply consider typical answers.

1. Please rate, using the scale below, the relevance of responses to each question to the four areas of life, by writing a number in each of the four columns provided.
Response scale: 1 (not at all relevant) to 5 (extremely relevant)

2. Now please rate the extent to which each question is focused on a person's strengths or **positive** characteristics, versus a person's weaknesses or **negative** characteristics. Use the following rating scale:
Response scale: -2 (very negative) to 2 (very positive)

Pretest Results ($N = 29$)

	Relevance				Valence
Item	Close Rels	Social Acc	Mas-tery	Auto-nomy	
Close Relationships					
*What makes this person particularly good at maintaining close relationships?	4.96	3.17	1.38	1.79	1.42
What makes this person a good friend or relationship partner?	4.58	3.54	1.42	1.71	1.54
Why might this person be especially good at caring for other people?	3.71	3.46	1.92	1.75	1.38
**Why might this person be successful in developing friendships?	3.00	4.38	1.38	1.50	1.38
*What makes this person especially able to build trust with those close to him/her?	4.79	2.33	1.54	1.96	1.08

Item	Relevance				Valence
	Close Rels	Social Acc	Mas-tery	Auto-nomy	
*What problems might this person have with intimacy and closeness?	4.75	1.96	1.25	2.17	-1.00
*What is this person's main problem in close relationships or friendships?	4.79	3.71	1.25	1.79	-1.42
Why might this person have difficulty developing friendships?	2.79	4.04	1.50	2.00	-1.42
*Why might this person find it difficult to compromise within a relationship?	4.46	1.92	1.75	2.42	-1.17
Why do you think this person might have problems caring for others?	2.92	3.08	1.75	1.88	-1.38
Why might this person have difficulty maintaining close relationships or friendships?	4.00	3.13	1.38	1.83	-1.58
Social Acceptance					
What are this person's most likeable characteristics?	2.46	4.13	1.63	1.67	1.67
What makes this person likely to be invited out socially?	2.50	4.71	1.38	1.75	1.08
*What makes other people value and accept this person?	2.54	4.67	1.71	1.83	1.50
What qualities or traits of this person make others like him/her?	2.63	4.50	1.83	1.71	1.29
*Why might other people enjoy spending time with this person socially?	2.33	4.83	1.21	1.58	1.58
*Why might other people form a favourable opinion of this person when meeting him/her?	2.17	4.67	1.92	1.71	0.96
*Why might other people form a negative opinion of this person when meeting him/her?	2.04	4.58	1.79	1.83	-1.83
What makes you think that other people would judge this person unfavourably?	2.29	4.38	1.54	2.00	-1.42
What makes you think this person might feel uncomfortable in social environments?	2.17	4.63	1.67	1.83	-1.21
What about this person makes him/her hard to like?	2.25	4.13	1.83	1.96	-1.42
*What makes this person unlikely to be invited out socially?	2.17	4.75	1.33	1.58	-1.42
What about this person might make others reject him/her?	2.13	4.42	1.71	1.92	-1.58
*What are this person's least likeable characteristics?	2.46	4.25	1.54	1.58	-1.71
Mastery					
What makes this person able to approach everyday challenges positively?	1.71	1.38	4.50	2.46	1.46
What about this person makes him/her succeed at work?	1.71	1.75	4.79	2.13	1.42
Why might this person perform well at tasks that he/she undertakes?	1.33	1.21	4.71	2.33	1.25
What makes this person particularly competent in everyday life?	1.67	1.75	4.83	2.63	1.13
*Why might this person be especially confident about managing a busy lifestyle?	1.75	1.42	4.79	2.17	0.75
*What about this person makes him/her successful in achieving personal goals?	1.46	1.38	4.88	2.33	1.50
*What makes this person able to deal effectively with everyday challenges?	1.63	1.46	4.88	2.29	1.29
*What makes this person unable to achieve his/her goals?	1.38	1.67	4.67	2.38	-1.46
What about this person makes you think he/she would have problems at work?	1.42	2.13	4.33	2.58	-1.13
What skills does this person lack to competently manage everyday life?	1.58	1.63	4.58	2.42	-1.54

Item	Relevance				Valence
	Close Rels	Social Acc	Mas-tery	Auto-nomy	
*Why might this person be unsuccessful in tasks that he/she undertakes?	1.29	1.58	4.25	2.46	-1.46
Why might this person find everyday challenges troublesome?	1.38	1.17	4.42	2.29	-1.29
Why might this person often face difficulties in acquiring new skills?	1.04	1.25	4.58	2.08	-1.29
*Why might this person have difficulty coping with the demands of everyday life?	1.75	1.58	4.33	2.29	-1.33
Autonomy					
*What makes this person able to maintain his/her views regardless of popular social opinion?	1.75	2.21	2.17	4.50	1.00
**What makes you think this person would base important decisions on his/her own judgement rather than relying on other people?	1.50	1.92	2.50	4.38	0.21
Why might this person be able to confront problems alone rather than asking for help?	1.63	1.46	4.25	3.42	0.67
What makes this person especially self-reliant?	1.67	1.33	4.21	3.54	0.96
**What makes this person good at working or studying independently?	1.25	1.21	4.25	3.33	1.50
What makes you think this person can effectively resist social pressures?	1.67	2.83	2.46	3.79	0.83
*What problems might this person have with relying on others too much?	2.38	2.17	2.21	3.83	-1.13
Why might this person conform to social norms too much?	1.38	3.13	1.58	4.00	-1.33
What makes you think this person would be easily influenced by social pressure?	1.46	3.33	1.67	3.92	-1.25
What makes this person unable to work without seeking help?	1.46	2.04	3.79	2.75	-1.13
**What makes you think this person tends to sway his/her views to conform to popular social opinion?	1.50	3.17	1.46	3.67	-1.25
What makes you think this person might struggle to tackle problems without the help of others?	1.33	1.75	3.88	2.83	-1.13
*Why might this person particularly rely on others to help make important decisions?	1.88	2.50	1.75	4.25	-0.88

Note. Items were selected for inclusion in the feedback-seeking measure based on maximizing both (a) the relevance to the appropriate domain in comparison with other domains, and (b) the extremity of valence. Paired and one-sample *t*-tests were used to aid this decision, with the criteria that an item should have a significantly higher rating for its intended domain than all other domains and that it should be rated significantly different from zero on valence. Physical attractiveness items were not pre-tested because they were taken from Swann, Wenzlaff, et al.'s (1992) Feedback-Seeking Questionnaire.

*Items marked with an asterisk were used in the feedback-seeking measure.
**Items marked with two asterisks were adapted slightly to increase distinctiveness of either valence or domain (see Appendix C for final wording).

Appendix C: Materials for Study 2 (Chapter III)

Adult Attachment: Experiences in Close Relationships Scale (Brennan et al., 1998)
See Appendix A.

Self-Esteem: Self-Liking/Competence Scale Revised (Tafarodi & Swann, 2001)
See Appendix A.

Filler Measure

How often do you do each of the following activities in your spare time? Circle a number next to each activity listed.

	Every day	Several times a week	Once a week	Once/ twice a month	Less often	Never
A. Watch TV	1	2	3	4	5	6
B. Go to the cinema	1	2	3	4	5	6
C. Play team sports	1	2	3	4	5	6
D. Play individual sports	1	2	3	4	5	6
E. Go shopping for clothes	1	2	3	4	5	6
F. Play computer or video games	1	2	3	4	5	6
G. Go to a pub	1	2	3	4	5	6
H. Go out for something to eat	1	2	3	4	5	6
I. Listen to music at home	1	2	3	4	5	6
J. Go to a friend's house	1	2	3	4	5	6
K. Go out to a disco or club	1	2	3	4	5	6
L. Watch live sports (e.g. football)	1	2	3	4	5	6
M. Go out on day trips	1	2	3	4	5	6
N. Surf on the internet	1	2	3	4	5	6
O. Go for a walk outside	1	2	3	4	5	6
P. Listen to the radio	1	2	3	4	5	6
Q. Go to a live music concert/gig	1	2	3	4	5	6
R. Read a novel/fiction book	1	2	3	4	5	6
S. Rent a video or DVD	1	2	3	4	5	6
T. Go to the gym or an exercise class	1	2	3	4	5	6

Now think about the activities you *prefer* to do in your spare time. Choose the four from the list that you most prefer to engage in, and rank them in order of preference, from 1 (most preferred) to 4 (fourth preferred). Then in the space below, write down the letter associated with the activity you have chosen (e.g., if you chose "Listen to the radio", you would write the letter "P" in the space below).

Rank	Activity (letter)
1.	_____
2.	_____
3.	_____
4.	_____

Openness to Feedback (Title: How My Friends See Me: Section 1)

Instructions: Please imagine that a fairly close friend (who is the same sex as you and taking the same college/university course as you) is asked a number of questions about you, and that you can overhear his/her answer without him/her knowing. This friend knows you quite well, and so he or she is able to give accurate information about your personality and qualities. For each question, **rate the extent to which you would want to overhear a friend's answer about you by circling a number below it.** Please note that "this person" refers to you.

I would DEFINITELY NOT want to overhear			Neutral/ Mixed			I would want to overhear VERY MUCH
1	2	3	4	5	6	7

1. Why might other people form a negative opinion of this person when meeting him/her?
2. What makes this person able to maintain his/her views regardless of popular social opinion?
3. Why might this person have little confidence in his/her appearance?
4. What problems might this person have with intimacy and closeness?
5. What makes this person unable to achieve his/her goals?
6. What is this person's main problem in close relationships or friendships?
7. What makes this person particularly good at maintaining close relationships?
8. What makes this person able to base decisions on his/her own judgement without relying on other people?
9. What makes other people value and accept this person?
10. What problems might this person have with relying on others too much?
11. What is this person's least attractive physical feature?
12. What makes this person good at independently working or studying without asking for help?
13. What makes this person unlikely to be invited out socially?
14. Why might other people enjoy spending time with this person socially?
15. Why might this person be especially confident about managing a busy lifestyle?
16. Why might other people form a favourable opinion of this person when meeting him/her?
17. Why might others find this person physically attractive?
18. Why might this person find it difficult to compromise within a relationship?
19. Why might this person be unsuccessful in tasks that he/she undertakes?
20. What makes you think this person changes his/her views readily to conform to popular opinion?
21. What is this person's most attractive physical feature?
22. Why might this person be successful in developing close relationships?
23. What about this person makes him/her successful in achieving personal goals?
24. Why might this person particularly rely on others to help make important decisions?
25. What makes this person able to deal effectively with everyday challenges?
26. What might this person want to improve about his/her looks?
27. What are this person's least likeable characteristics?
28. Why might this person have difficulty coping with the demands of everyday life?
29. What makes this person particularly attractive?
30. What makes this person especially able to build trust with those close to him/her?

Positivity of Feedback Choice (adapted from Swann, Wenzlaff, et al., 1992) (Title: How My Friends See Me: Section 2)

Instructions: Imagine that a friend has answered some questions about your personality, your strengths, and your weaknesses, and has written down his or her answers. Imagine that now you are able to find out what your friend said about you, but you can only read some of your friend's responses. For each group of six questions below, please circle the TWO to which you would choose to read the answers about yourself.

[Items were grouped by domain]

Appendix D: Materials for Study 3 (Chapter IV)

Phase 1 Measures (completed online)

Adult Attachment: Experiences in Close Relationships Scale (Brennan et al., 1998)
See Appendix A.

Self-Esteem: Self-Liking/Competence Scale Revised (Tafarodi & Swann, 2001)
See Appendix A.

Phase 2 Measures (Lab Session)

Interpersonal Task: Structured Discussion

Instructions: For the next 8 minutes, you are asked to spend your time talking naturally about some of the following topics.

Work your way down the list of discussion topics; spend some time talking about each one. Don't skip over the questions too quickly, but aim to discuss a few different topics. If there is a topic one of you does not want to discuss, leave it out. It is most helpful if both individuals speak a roughly equal amount, so give each other a turn! The researcher will return to the room when 8 minutes have elapsed.

Discussion Topics

1. Why did you each choose to come to the University of Southampton to study? What do you think of the city and campus?
2. What was the last film you each saw? Discuss the positive and negative aspects of each.
3. What would you each do if you had a year off working (a "gap year")? If either of you have taken a gap year, what did you do and was it valuable?
4. Is there such a thing as being either a "dog person" or "cat person"? (i.e., someone who only likes dogs or cats) Are they mutually exclusive?
5. If you attend the London Olympics, which sport/s would you most want to watch and why?
6. How do you think the language and spelling used in text messages and emails will affect the English language, if at all?
7. What is your favourite time of the year?
8. What do you think society will be like in 50 years? 100 years?
9. Do you think it is easier or harder for single adults to meet potential dating partners than it used to be? Why?
10. What do you think about global warming? Is it over-hyped, irrelevant to us, or a genuine problem?

Competence (Problem-Solving) Task Instructions (Citations are bogus)

The Kelvin-Savage (1995) Task

INSTRUCTIONS

OBJECTIVE: **To construct a bridge between two tables that will support the greatest possible weight**

MATERIALS: **Materials provided on the table (newspaper and sellotape)**

WEIGHT: **There are five different weights (A – E)**
You may decide how many, and which, weights you attempt to support on the bridge

TESTING: **Test your bridge by attempting to support your chosen weight(s) continuously for one minute.**

TIME LIMIT: **You have 20 minutes in which to plan, build and test the bridge. You will be given a warning 10 minutes and 5 minutes before the end. You may not finish early.**

RULES

- You must not move the tables or use any materials other than those provided.
- Both participants must contribute to all stages of the task and agree on all design and implementation decisions.
- During testing:
  - The bridge must not touch anything other than the tables and weights.
  - Weights may be positioned anywhere on the bridge, but must not be on the table, and must not be fixed to the bridge.
  - For a successful test, the bridge must support the chosen weight(s) continuously and simultaneously for 1 minute without being touched.
- You may make multiple test attempts. If one test is unsuccessful you may try again. If the 1st test successfully holds 1 weight, you may modify the bridge and/or try again with more or different weights.

SCORING

The planning and construction process will be evaluated.

The scoring system (Kelvin & Savage, 1995) emphasises the process as well as considering the success of test(s). Bridges that can support greater weight simultaneously will receive more points.

Aim to communicate your ideas and thoughts throughout the task, as the processes of making and communicating decisions are scored and you are more likely to do well if your thought processes are clear.

Points are also available for the efficiency with which you utilise the resources (i.e., newspaper and sellotape) and for aesthetics.

Phase 2 Measures (completed individually after the lab tasks)

Cover Story

Presented to participants on a laminated sheet; order of the two sections was counterbalanced. All citations are bogus.

Scoring Your Daily Competence and Interpersonal Qualities

As you know, the session you have just completed was recorded on video so the researchers can evaluate your performance. In order to obtain objective data for the research, the video tape will be sent to two labs for coding:

Competence and Work Skills

To evaluate your individual competence and work-related skills, your tape will be sent to two employment and management experts who are trained in the standardised Kelvin-Savage (1995) task scoring system.

The scoring system assesses problem-solving, mastery, and ability to think independently, which have implications for daily competence and work skills.

Task scores have been shown to predict IQ, success in employment assessment centres, and daily ability to set and meet goals (e.g., Kenny & Mohr, 2001; Savage et al., 1998). Note that your task scores are based only on your individual performance, and are not affected by the performance of the other participant.

Interpersonal and Relationship Qualities

To evaluate your interpersonal and relationship qualities, your tape will be sent to two students at another university. One will be male and one female, both matched to your age and ethnic background. They will rate you using the Interpersonal Interaction Coding Scheme (IICS; Rowe & Cole, 1999).

The IICS assesses likeability, interpersonal skills, how much people want to become close to you, and your qualities in close relationships.

IICS scores have been shown to predict relationship satisfaction and longevity, friends' and partners' ratings of their relationship with a target, and social support network size and quality (e.g., Campbell & Park, 2000; Rowe, 2002). Ratings will be based on the entire session (both discussion and problem-solving task).

As part of the coding process, the raters in each lab use your scores to generate **short summaries of your attributes/qualities in specific areas** (to be used in this research).

Studies (e.g., Lee, 2004) have shown that participants find it interesting and valuable to view the summaries that are generated about them. Therefore, because we appreciate the time you have put into this study, we are able to send you some of your summaries by post. Due to limits on resources (cost of coding and posting), however, we cannot send you all the information about yourself.

The two envelopes on the table contain option sheets, which allow you to consider the evaluative summaries of yourself that will be available and select which summaries you will receive.

Please read and complete the **Competence and Work Skills** option sheet first. Then complete the **Interpersonal and Relationship Qualities** option sheet. Once you have completed each sheet, place it back inside its envelope.

Feedback-Seeking Measure

The two sections (competence and interpersonal) were presented to participants on separate sheets of different coloured paper with an official-looking header. The format of both sheets was identical and order of completion was counterbalanced.

Instructions:

The expert coders will generate short summaries of your attributes in key areas of [competence/ interpersonal qualities]. You now have the opportunity to indicate how much you want to receive each specific summary, and then to select which summaries in each area will be sent to you. There are 6 summaries available in each area. Each summary answers a specific question about your [skills/qualities]. For example, for "What makes me unable to achieve my goals?" the summary would describe your individual competence qualities that might make you unable to achieve your daily goals.

Below are listed the specific summaries available to you. Please indicate how much you want to see each one. Using the following rating scale as a guide, write a number (1-9) next to each summary.

I do not want this summary at all...								...I completely want this summary
1	2	3	4	5	6	7	8	9

Daily Mastery

_____ 1. What makes me unable to achieve my goals?
_____ 2. Why might I be especially confident about successfully undertaking demanding tasks?
_____ 3. Why might I be unsuccessful in tasks that I undertake?
_____ 4. What about me makes me successful in achieving personal goals?
_____ 5. What makes me able to deal effectively with everyday challenges?
_____ 6. Why might I have difficulty coping with the demands of everyday life?

Autonomy (Independence)

_____ 1. What makes me able to maintain my views regardless of other people's opinions?
_____ 2. What makes me able to base decisions on my own judgement without relying on others?
_____ 3. What problems might I have with relying on other people too much?
_____ 4. What makes me good at working or studying independently, without asking for help?
_____ 5. What makes you think I am easily influenced by other people's opinions?
_____ 6. Why might I particularly rely on others to help make important decisions?

Likeability and Social Acceptance

_____ 1. Why might other people form a negative opinion of me when meeting me?
_____ 2. What makes other people value and accept me?
_____ 3. What makes me less likely to be invited out socially than other people?
_____ 4. Why might other people form a particularly favourable opinion of me when meeting me?
_____ 5. Why might other people enjoy spending time with me socially?
_____ 6. What are my least likeable characteristics?

Close Relationship Qualities

_____ 1. What problems might I have with intimacy and closeness?
_____ 2. What is my main problem in close relationships or friendships?
_____ 3. What makes me particularly good at maintaining close relationships?
_____ 4. Why might I find it difficult to build trust within a close relationship?
_____ 5. Why might I be successful in developing close relationships?
_____ 6. What makes me especially able to build trust with those close to me?

We are able to send you **two** summaries from each section. Please indicate, for each section, which two summaries from the list above you want to receive. Write the numbers (1–6) corresponding to your two chosen summaries in the spaces provided below.

Daily Mastery
Chosen Summaries: [ ] [ ]

Autonomy (Independence)
Chosen Summaries: [ ] [ ]

Likeability and Social Acceptance
Chosen Summaries: [ ] [ ]

Close Relationship Qualities
Chosen Summaries: [ ] [ ]

Choice of Interpersonal versus Competence Feedback

If you had to choose between them, which set of summaries would you prefer to receive?

Interpersonal and Relationship Qualities [ ]
OR
Competence and Work Skills [ ]

Prior Acquaintance between Dyads

How well did you know the other participant before taking part in the study? Tick one.

0. Never met before ______
1. Knew their face but not name ______
2. Acquaintance ______
3. Friend ______
4. Close friend ______
5. Partner or best friend ______

Funnel Debriefing Questionnaire

Instructions: Before we explain to you the full purposes, research questions, and predictions of this study, we are interested to find out what you thought of it. We would therefore like to ask you a couple of quick questions about your experience of the study.

Please complete the questions in order and do not go back to earlier questions.

1. What do you think the aim or purpose of this study was?
2. Did anything about this study strike you as strange, or fail to make sense to you?
3. Were you suspicious about anything in this study?
4. Was there anything in this study that you did not believe?
5. If we told you that the purpose of this study was not in fact to evaluate the effects of personality and interpersonal qualities on problem-solving ability and work-related skills, what do you think the purpose really was?

[All questions were open-ended with space provided to write an answer.]

Appendix E: Pretest for Everyday Feedback Events

Feedback Training Sheet

Everyday Feedback Experiences: What do we Mean by Feedback?

During the course of everyday life, we encounter many different types of events and experiences. Often, these convey an evaluation of ourselves—i.e., provide us with **feedback**. This feedback can be either positive or negative. Often, feedback can evoke emotions and make us feel better or worse about ourselves. Feedback can convey an evaluation in a **direct** way, or an **indirect,** implicit way.

Definition: Feedback is an event, experience, or piece of information originating from a source external to you or from something you do, which conveys, explicitly or indirectly, either a positive or negative evaluation of some aspect of yourself.

Some examples of explicit/direct feedback
Someone tells you that your hair looks nice today... you get a good or bad mark on a piece of work... a friend tells you that you mean a lot to them... a supervisor praises your work... you have an argument with a partner and they criticise you... you are unsuccessful in auditioning for a play.

Some examples of indirect feedback
Someone asks you out on a date... you give a presentation and it goes well... a group of friends go out to lunch but don't invite you... you spend hours working on an essay but can't get enough written... you go to a partner with a problem but he/she doesn't listen to you.

Note that in each situation, the important thing is **not** whether **other people** think they are giving you feedback, but whether **you** perceive it to convey some evaluation of you.

In this study, we are aiming to explore the feedback that people experience in everyday life. It is important that we make sure you understand the differences between feedback experiences and other experiences. Please read the brief descriptions below and tick the boxes next to the events that you think provide you with feedback.

[ ] 1. You have an argument with a friend and tell him that he is inconsiderate.
[ ] 2. You have an argument with a friend and he tells you that you are inconsiderate.
[ ] 3. You have a meeting with a project supervisor and discuss ideas for your project.
[ ] 4. You have a meeting with a project supervisor; she dismisses your ideas.
[ ] 5. A first date goes really well and you have a lot of fun.
[ ] 6. A first date goes really well; your date says he/she would really like to see you again.
[ ] 7. You spend an afternoon at home feeling bored and watching TV.
[ ] 8. You assemble some flat-pack furniture; after a long time you finish it and feel proud.

The answer is that the *even* numbered items refer to feedback experiences. The odd number items may be positive or negative experiences, but the description does not specify whether the event **conveyed a positive or negative evaluation of you**. This is the crucial element of feedback.

Feel free to re-read the above examples and descriptions again to make sure you understand what we mean by feedback experiences. **Please** ask the researcher now if you are unsure or have any questions.

Recent Feedback Experiences

Now we would like to ask about recent experiences of feedback that you have had. To identify a range of different experiences, we want to hear about two types of feedback:

Social feedback

Feedback about your personality, relationships, attractiveness, social skills, how much you are accepted or liked by others, etc., which might come from friends, family, romantic partners, or other people

- *Direct* social feedback includes somebody saying something flattering or critical about your personality, attractiveness, their opinion of you, etc.
- *Indirect* social feedback includes people's body language, subtle reactions, or actions that convey an evaluation of you

Competence feedback

Feedback about how successful or talented you are, your skills and weaknesses, or how much you have achieved or failed, etc., which might come from other people or your own experiences of success/failure

- *Direct* competence feedback includes university grades, or somebody praising or criticising your skills or achievements
- *Indirect* competence feedback includes your own experiences of success or failure, or comparing your results/achievements to personal goals/standards or to other people

Instructions

Spend a few minutes thinking about your social and competence experiences in the past three days. Think about your interactions with other people, any time you spent on studying, work or hobbies, and times you have felt particularly good or bad.

In the spaces on the next page, please write a brief description of six social and six competence feedback experiences you have had in the past three days – 3 positive and 3 negative for each.

- Some might be specific moments or things people said, while others might be longer experiences (e.g., a whole exam / night out).
- One or two sentences will probably be enough, but feel free to give as much detail as you wish, and mention how the event made you feel, to help describe it.
- We won't ask you to label feedback events as direct or indirect, but please try to think about both.
- If you get stuck, think about all the positive and negative moments and events you have experienced recently and whether they conveyed an evaluation or made you feel better / worse about yourself.
- Feel free to go back more than 3 days, or to tell us that you can't think of any more – we want to know about your experiences anyway.
- If you are unsure whether a particular event would count as 'feedback', please include it anyway, and give enough detail so that we can understand the experience and judge for ourselves.

Remember, your responses are anonymous.
Please turn over to describe your recent feedback experiences on the next page.

[Participants were given one sixth of a page to describe each event, for a total of 12 events]

Pretest Results

The 30 participants generated brief descriptions in each of the four categories. I organized the descriptions into thematic groups and labeled them to identify the most common and representative feedback experiences. Below are the groups generated, with an example event and number of events. Events that were not purely one domain or the other were not categorized.

Type of Feedback	Frequency	Example Feedback Event
	Positive Interpersonal	
Direct attractiveness	26	Boss told me I looked nice when I wore some new clothes to work
Direct feedback about personality/relational qualities	16	A friend told me I'm a good listener, which made me feel trusted
Direct feedback about closeness from close others	9	Someone told me I was a really good friend
Direct feedback about relational actions	6	My friends bought me flowers to say thank you for supporting them through a tough time
Invitations / social inclusion	5	I was invited to a party and asked to promise to attend
Behavioural/social support (indirect acceptance feedback)	4	I told my friends I had a cold and they gave me sympathetic hugs
Indirect attractiveness	4	I was winked at by a bloke in a car
Approval from family	3	My mother telling me how proud she is of me
	Negative Interpersonal	
Direct criticism of personality	22	My brother told me I was selfish
Indirect / nonverbal social	11	I felt girls were giving me dirty looks when I walked into a pub on my own
Direct attractiveness	9	A friend told me I do not have very good dress sense, upset me because I try hard to look good
Negative reaction/body language	8	A friend's boyfriend saw me and looked away and carried on walking
Criticism of actions (social)	7	I was being quite loud in lecture and got disapproving looks from people around
Social exclusion or rejection	6	A very close friend told other people about a problem but not me
Criticism of behaviour (close)	4	A friend told me off for not ringing her recently
Close others - indirect non-acceptance	3	I tried to talk to my mum about a problem and she didn't listen
Lack of social support	3	Feeling lonely and need someone to confide in, but no-one being there
Indirect attractiveness	2	I couldn't do up a pair of trousers from last summer

Type of Feedback	Frequency	Example Feedback Event
	Positive Competence	
Good university grades	18	Achieved a mark of 80 on mid-term exam
Praise for specific academic achievements	13	Praised by tutor of English teaching class for my contribution
Achieving personal goals / success	12	Completing lab report on time and feeling I had done well on it
Praise for non-academic abilities (e.g., hobbies)	12	After cooking my friends a curry I was told I was a good cook
Downward social comparison	7	Gained reasonable mark on coursework, higher than all my friends
Better than expected	6	Got good grade on essay I didn't think I'd done well on
Praise for general competence	4	Being told I was very organised
Praise for long-term achievements / attributes	3	I was told I had done very well to get to grade 8 flute
Improvement / temporal comparison	3	Improved a lot in recent exam, compared to the first one I did
Objective recognition	2	I got a job acceptance
Indirect academic feedback	2	I participated in a group project and the others took on board my comments
Indirect feedback about competence	2	I was told by my old manager if I ever wanted to leave my job I could work for her
	Negative Competence	
Low achievement or disappointed in academic grades	16	I only got 58% on an exam, I was disappointed as thought I had done better
Felt unsuccessful in non-academic areas of life	12	My mistake in a football match resulted in a goal for the opposing side
Negative academic comments	10	I was told I talked too fast in a presentation and was not speaking clearly/concisely
Felt unsuccessful/failed to achieve academic goal	10	I wasn't happy with a piece of coursework I handed in this morning
Upward social comparison - academic grades	9	Results for my essay were good but not as good as some of my friends
Criticism or mockery in hobby/life skills	6	Examiner was critical of my techniques in lifeguard tests
Upward social comparison	5	Yesterday I was unable to get all my work done and my flatmate managed to finish all hers
Criticism of actions with implications for ability	4	At work I was unable to concentrate and my boss noticed and told me
Indirect disapproval/rejection of competence/ability	4	I suggested an idea for a group assignment but several members criticised the idea
Objective demonstration of failure	2	I got sacked
Criticism of overall competence/ability	2	Someone told me I was stupid

Appendix F: Materials for Study 4 (Chapter V)

Introductory Session Materials

Feedback Training Sheet
See Appendix E.

Feedback Definition Cheat-Sheet
Participants were given this sheet to keep and refer to at any point during the study.

Feedback Diary 'Cheat Sheet': Definitions and Examples

Feedback is... an event, experience, or piece of information originating from any external source or from something you do, which conveys, directly or indirectly, a positive or negative evaluation of some aspect of yourself.

In the diary, you will be asked to think about feedback that you receive each day in two areas of life: social and relationship encounters, and competence or work situations.

Social / Relationship Feedback

Feedback about your personality, relationships, attractiveness, social skills, how much you are liked by others, overall worth as a person, etc., which may come from friends, family, romantic partner, or any other people in social interactions including phone/text/email communications.

Includes: any word or action coming from another individual that evaluates you as a person
body language or facial expressions conveying an evaluation
actions that show acceptance, love or respect (or lack of these)
someone avoiding you or picking an argument with you
information suggesting an evaluation of your personality or qualities in relationships
flattery, insults, compliments, criticisms, etc.....

Competence / Work Feedback

Feedback about how successful / talented you are, your skills / weaknesses, how much you have achieved, etc., which may come from people, objective sources like tests, or your own experiences of success/failure. This includes work settings but also hobbies or everyday tasks (e.g., driving, cooking, exercise...).

Includes: grades and feedback from university work
successes or failures (even minor ones)
experiences conveying evaluation of your non-academic abilities (e.g., hobbies, sports, cooking, driving, dancing, singing, etc...)
feedback from a boss/colleague/customer/client about your work in a paid job

Remember, some feedback is indirect and could not easily be sensed by someone else – or in a different situation you might not perceive it as feedback.

The bottom line is, if you feel like it's evaluating you positively or negatively (even if that evaluation is wrong), or if it made you feel better or worse about yourself even momentarily, it's feedback.

Participant Commitment Form
See next page.

Personal Record Form

In this study, we ask you to complete one diary record each evening for 14 days, starting tonight. Complete each diary before you go to bed. If you are going out for the evening, complete the diary before you go out. Complete it in private.

You are a vitally important part of this research. In order to study feedback in daily life, we need everyone to provide accurate, honest responses and to complete the diary every day. If you forget one evening, you may complete it the next morning when you get up, but please make a note that you did it late. If you remember the following evening, do not complete the previous diary – just continue from that day. It's human to forget sometimes, so it's understandable if you miss one or two.

To help you keep on course and ensure our data is accurate, please come to the Psychology building a few times while you are on campus during the next 2 weeks, to return all the diaries you've completed so far. There will be a box outside my office (room 3079) for this purpose. Together we'll decide which days are convenient for you and note them on the schedule below. We'll meet in 2 weeks' time for debriefing.

We need to work together to make this research a success, so we'll help you fulfil your part in the study by sending regular reminders via text message, email or phone.

Credits and Rewards

In return for your commitment to this study you will earn 21 credits (as long as you complete at least 10 diaries on time and attend the debriefing session). In addition, for every diary you return on time (as agreed below), you will get a ticket for a cash prize draw with 4 prizes: you could win £50, £20, £10 or £5. Every time you return a diary you increase your chance of winning!

Schedule [Ps listed 6 days to return diaries]

Debriefing Session: ____________________ Location: ____________________

Statement of Commitment

Participant:

As a collaborator in this research, I understand that my participation is vital to the success of the project and that Erica and the other participants are depending on me to fulfil my part. I agree that I may be contacted via text message/email for regular reminders to complete and return diaries.

I pledge my commitment to complete the following:

- To complete one diary every evening for the next 14 evenings, starting tonight
- To return completed diaries to room 3079 on the days listed in the schedule
- To attend my debriefing session at the time and place listed above
- To respond honestly and openly to the best of my ability throughout the study

Signed: ______________________ Date: ______________________

Name: ______________________ Study Participant ID: ____________

Researcher:

As a collaborator in this research, I pledge my commitment:

- To help the above participant by providing reminders via email or text
- To respond to all questions and queries as soon as possible
- To award participant 21 credits (as long as 10 diaries completed on time)
- To award participant a prize draw ticket for every diary returned on time
- To draw 4 tickets at end of study and exchange winning tickets for cash

Signed: ______________________ Date: ______________________

Name: *Erica Hepper*

Background Measures

Adult Attachment: Experiences in Close Relationships Scale (Brennan et al., 1998)
See Appendix A.

Self-Esteem: Self-Liking/Competence Scale Revised (Tafarodi & Swann, 2001)
See Appendix A.

Depressive Symptoms: Center for Epidemiological Studies Depression Scale – Short Form (Cole et al., 2004)

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past **two weeks**. Circle a number following each statement.

	Rarely or none of the time	**Some or a little of the time**	**A moderate amount of time**	**Most or all of the time**
1. I felt my life had been a failure.	0	1	2	3
2. I felt fearful.	0	1	2	3
3. I felt that I was just as good as other people.	0	1	2	3
4. People were unfriendly.	0	1	2	3
5. I felt that I could not shake off the blues even with the help from my friends or family.	0	1	2	3
6. I was bothered by things that usually don't bother me.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I felt lonely.	0	1	2	3
10. I had trouble keeping my mind on what I was doing.	0	1	2	3

Daily Measures (in A5 Diary Booklet)

Daily Self-Esteem (adapted from Tafarodi & Swann, 2001)

Feelings About Myself *Today*	*strongly disagree*								*strongly agree*
1. I feel comfortable with myself	1	2	3	4	5	6	7	8	9
2. I feel highly effective at the things I do	1	2	3	4	5	6	7	8	9
3. I have a negative attitude toward myself	1	2	3	4	5	6	7	8	9
4. I feel able to accomplish what I try for	1	2	3	4	5	6	7	8	9
5. I feel secure in my sense of self-worth	1	2	3	4	5	6	7	8	9
6. I feel I am failing to fulfil my goals	1	2	3	4	5	6	7	8	9

Daily Relationship Quality

Feelings About My Romantic Relationship *Today* (if in relationship / dating)

	not at all								*extremely*
7. I felt satisfied with the relationship	1	2	3	4	5	6	7	8	9
8. I felt committed to the relationship	1	2	3	4	5	6	7	8	9
9. I trust my partner	1	2	3	4	5	6	7	8	9

Daily Feedback Checklist

Instructions: Below are some feedback events that people typically experience. For each item, indicate whether you experienced this event today with a ✓(yes) or X (no) in column A. For each event you ticked, write a number (1-9) in column B to show what effect the feedback had on how you felt about yourself at the time.

Checklist Items:

1. I was invited to spend time with, or felt very included by, a group of friends or date
2. Somebody criticised or mocked something about my appearance
3. People around me at university or work responded positively to my contribution
4. I struggled with an everyday task
5. Somebody in authority praised my work or academic abilities/achievements
6. I had a positive or successful session at my job or other non-academic activity
7. I was unsuccessful/failed to achieve a personal daily goal (e.g., health, fitness, studies)
8. Somebody close to me acted as though they disapproved or did not care about me
9. I got the sense that I looked attractive (e.g., mirror, outfit made me look or feel good)
10. I achieved a personal daily goal (e.g., health, fitness, studies)
11. A friend, acquaintance, or partner picked a fight or argument with me
12. I obtained a university grade that I was unhappy or disappointed with
13. I had an especially positive interaction with a friend, acquaintance, or partner
14. Someone reacted negatively/indifferently to me (e.g., body language, not pleased to see me, did not enjoy being with me)
15. Somebody rejected my efforts to communicate/spend time with them (e.g., talking/phone/text)
16. I got the sense that I looked unattractive (e.g., mirror, outfit made me look or feel bad)
17. I successfully completed a challenge or piece of work
18. Somebody indirectly conveyed the sense that my work/ability was not good enough
19. I was not invited to spend time with friends, or felt excluded during a social gathering
20. Somebody praised something about my personality or relationship qualities
21. Other people did better than me in a university or non-academic achievement
22. I obtained a university grade that I was pleased with
23. Somebody criticised something about my personality or relationship qualities
24. Somebody complimented something about my appearance
25. A friend, acquaintance, or partner went out of their way to help me
26. Somebody in authority criticised my work or academic abilities/achievements
27. Somebody criticised or mocked my abilities in non-academic areas of life
28. Somebody close to me expressed affection or how much I mean to them
29. Someone reacted positively to me (e.g., body language, flirting, happy to see me, enjoyed being with me)
30. I had a negative or frustrating session at my job or other non-academic activity
31. I did better than other people in a university or non-academic achievement
32. Somebody praised my abilities in non-academic areas of life
33. Other feedback event:

If you are in a romantic relationship or dating someone:

34. My partner provided me with positive feedback today — not at all 1 2 3 4 5 6 7 8 9 very much

35. My partner provided me with negative feedback today — not at all 1 2 3 4 5 6 7 8 9 very much

Self-Reported Reactions: Most Positive and Negative Feedback Events Today

The remaining 4 pages ask about the most positive and negative feedback events you experienced today in **(a) social/relationship** and **(b) competence/work** areas.

Think about all the feedback events you experienced today, including those on the checklist and any others. Refer to your cheat-sheet for reminders of definitions of feedback events.

Now, go through the next 4 pages and write a brief description of the feedback event indicated on each page. If possible, include (i) **what** the feedback was about, (ii) **who or what** it came from, and (iii) the main reason **why** you think you received the feedback.

When you've done this, answer the questions about your personal experience of that event. All questions simply require you to circle a number between 1 and 9. Complete the pages in any order that suits you. If you honestly think you did not receive a particular type of feedback today, please tell us in the box on that page.

For Each Feedback Event:

Describe the event:

How much did you experience the following **feelings or emotions** at the time?

Item											
*happy OR sad/depressed	not at all	1	2	3	4	5	6	7	8	9	extremely
*accepted OR rejected	not at all	1	2	3	4	5	6	7	8	9	extremely
*proud OR disappointed in myself	not at all	1	2	3	4	5	6	7	8	9	extremely
*relieved OR hurt	not at all	1	2	3	4	5	6	7	8	9	extremely
guilty	not at all	1	2	3	4	5	6	7	8	9	extremely
angry/irritated	not at all	1	2	3	4	5	6	7	8	9	extremely
anxious	not at all	1	2	3	4	5	6	7	8	9	extremely
What effect did the feedback have on **how you felt about yourself**?	extremely negative	1	2	3	4	5	6	7	8	9	extremely positive
Did this feedback **change how you see yourself**?	not at all	1	2	3	4	5	6	7	8	9	very much
How **important** was the feedback event to you?	unimportant	1	2	3	4	5	6	7	8	9	very important
Is the **main** cause something about you, or other people/situation?	due to me	1	2	3	4	5	6	7	8	9	due to other cause
In the future, in similar situations, will this cause be present again?	never	1	2	3	4	5	6	7	8	9	always
Does this cause affect just this situation, or also other areas of life?	just this situation	1	2	3	4	5	6	7	8	9	all situations
For **how long** did you think about this feedback after it happened?	just a few seconds	1	2	3	4	5	6	7	8	9	a few hours +

Note. The first emotion was included after positive feedback and the second after negative feedback.

Exit Measures

1. How typical was the last 14 days for you? (If you circled 4 or above, could you tell us what made this fortnight unusual for you?)
2. How easy or difficult did you find it to remember to complete the diary each evening?
3. How easy or difficult did you find it thinking about your feedback experiences and responding to the questions? (If you circled 4 or above, what made the diary difficult to fill in?)
4. How many days, of the 14, did you complete the diary on time (i.e., during that evening)? _____
5. In general, how accurate do you think you were in reporting the feedback events you experienced each day (i.e., in the checklist, and describing most positive and negative events)?
6. About how long did it take you to complete the diary each evening? ___________

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