

Chapter 4

What Are Attachment Working Models?

In this chapter we discuss one of the central concepts regarding attachment—internal working models (IWMs). Since Bowlby's (1969/1982) early writings on the concept of IWMs, much attention has focused on developing a comprehensive understanding of IWMs. We begin the chapter by explaining the concept of IWMs with an emphasis on their content and structure. We then review research concerning the associations between attachment style and the content and structure of attachment working models.

WHAT ARE ATTACHMENT INTERNAL WORKING MODELS?

Attachment working models are the internalized mental representations (ie, ideas, thoughts, attitudes, expectations, and beliefs) that individuals hold about the self and others (Bowlby, 1973). The model of self represents the extent to which an individual perceives him or herself as worthy of love and support. The model of others refers to the extent that attachment figures (and others more generally) are perceived as reliable, responsive, and trustworthy in meeting one's attachment needs. These attachment needs may relate to desiring comfort and support in the face of distress or the receipt of encouragement in situations of personal growth and achievement (eg, Collins & Feeney, 2000; Feeney, 2004; Feeney & Thrush, 2010).

In describing attachment mental representations as IWMs, Bowlby drew on psychoanalytic concepts such as internalization and object representations but reframed these concepts using theories in cognitive psychology that were current at the time of his writings. Specifically, Bowlby (1969/1982) borrowed the term *internal working models* from Craik (1943) and Young (1964) to describe the cognitive underpinnings of the attachment behavioral system. Craik defined IWMs as “small-scale” representations of external reality—representations that make it possible to evaluate the probability of certain outcomes as a function of executing certain behaviors. Bowlby emphasized the ‘working’ aspect of attachment mental models to reflect the idea that these representations are not static; they can be manipulated to find optimal solutions to specific problems, such as obtaining the attention of a caregiver. He also emphasized that they can be updated or revised in light of new information. If working models become outdated, or

if they are only partially revised after drastic change in one's environment, then emotional difficulties and mental health problems may ensue (Bowlby, 1988). Bowlby suggested that the conscious processing of model content was indeed necessary to facilitate their extension and revision (Bretherton, 1992).

To date, much of the theoretical and empirical work on attachment working models has focused on their content and structure. Content relates to the cognitive and affective components that are contained as part of IWMs; and structure reflects the organization of these attachment working models in memory.

Unpacking IWMs

One's history of interactions with attachment figures shapes the development of IWMs (Bowlby, 1969/1982; Bretherton, 1990). As a result of these interactions, individuals can vary in the extent that they hold positive or negative mental representations of themselves and others. Individuals that consistently experience support, love, and comfort from attachment figures purportedly develop positive views of the self. The self is viewed as valued and loved, and as competent and capable of dealing with stressful events and life challenges. Positive interactions with attachment figures are also assumed to result in positive views of others, in which people are perceived as caring and trustworthy, and the world is viewed as a safe place.

In contrast, individuals that experience inept or inconsistent care and support, or experience constant rejection, may develop a negative view of the self in which they perceive themselves as not worthy of the love and support of others. They may also develop negative views of others, perceiving others as untrustworthy, and as either unlikely or unable to provide comfort, support, and validation. Furthermore, negative models are likely to exacerbate concerns regarding rejection by attachment figures and people in general. As a function of these negative models, individuals may deem their relationships to be unsatisfying and of limited longevity, and perceive the world to be a lonely and unwelcoming place (eg, Bartholomew & Horowitz, 1991; Kirkpatrick & Davis, 1994).

To this point, we have described IWMs as encompassing two mental representations (models of self and others) and that these representations may be either positive or negative in nature. However, this does not reveal much about the components of IWMs. According to Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994), IWMs are thought to be comprised of four attachment-related building blocks: (1) memories, (2) beliefs, attitudes, and expectations, (3) goals and needs, and (4) plans and strategies. In the sections that follow, we describe each of these building blocks.

Memories

Attachment-related memories include recollections of specific episodes or interactions as well as people's interpretations of these episodes. These memories contain reflections regarding one's own behavior as well as that of others

involved in the interactions. It is important to emphasize that attachment-related memories do not reflect general beliefs, attitudes, or expectations about attachment relationships (see later). Rather, these memories reflect people's interpretation of specific relationship interactions at given points in time.

Beliefs, Attitudes, and Expectations

Beliefs, attitudes, and expectations relate to the knowledge and evaluations that individuals hold about themselves and others. Attachment-related beliefs pertain to principles about oneself, others, and relationships that are perceived as true. An example of a belief is "relationships are a lot of hard work." Attachment-related attitudes pertain to the evaluations that people hold about themselves, others, and their relationships generally. An example of such an attitude is "There's no need for me to waste time with relationships." Attachment-related expectations are future-oriented assumptions regarding one's self, partner, or relationship; an example of such an expectation is "my romantic partner will reject me." According to Collins and Allard (2001), the knowledge inherent in our beliefs, attitudes, and expectations varies in abstraction as a function of the concreteness of social experiences. The more concrete or tangible the social experience, the less abstract the belief, attitude, or expectation that corresponds to the social experience. Further, the concreteness of a social experience is enhanced by: (1) repeated exposure to the social experience (eg, interactions with a caring person) and (2) the time spent reflecting on and reevaluating the social experience.

Goals and Needs

Attachment-related goals and needs reflect highly specific objectives that orient individuals to behave in certain ways that help them obtain their needs for love and comfort (eg, Gillath et al., 2006). The goal of the attachment system is to attain felt security. According to Pietromonaco and Barrett (2000), the achievement of felt security is, in part, dependent upon subgoals (ie, more proximal or immediate goals) that individuals develop about their relationships. Examples of subgoals include seeking intimacy or closeness; maintaining independence and autonomy; and protection of the self from hurt, betrayal, and rejection (see also Gillath et al., 2006). These subgoals could reflect the pursuit or approach of relationship rewards (ie, approach goals) and the avoidance of relationship punishments (ie, avoidance goals, see Gable, 2012). These contrasting subgoals are believed to develop as a function of how successful or unsuccessful a person has been in the past in achieving a state of felt security in attachment relationships. As a result, the individual may develop subgoals that are about minimizing dependence or enhancing one's self-reliance. Individuals whose attachment figures reject them are likely to downplay the importance of having attachment needs met, and thus place these needs lower in priority relative to other social and emotional needs, such as experiencing fun, noncommitted sexual relations, or achieving outcomes at work. To this end, interactions with attachment figures are of critical importance to individuals' attachment-related goals and needs.

Plans and Strategies

Plans and strategies refer to patterns of behavior geared toward the attainment of a particular goal. Collins and Allard (2001) propose that specific plans and strategies for achieving attachment-related goals and needs are encoded as part of working models. As with attachment-related goals and needs, the development of plans and strategies is in part determined by an individual's relationship experiences with attachment figures (Main, 1981). These plans and strategies are varied in nature but can include means for soliciting help (eg, reaching out to another, crying, asking for help) as well as pursuing intimacy, regulating emotional distress, and maintaining independence. Thus, plans and strategies reflect procedural knowledge that individuals maintain about how to navigate their relationships as well as the behaviors necessary to achieve attachment-related goals.

Summary

Attachment working models are mental representations of the self and others. Individuals vary in the degree to which they hold positive or negative views of themselves and others. Furthermore, IWMs are thought to be comprised of four interrelated building blocks: (1) memories, (2) beliefs, attitudes, and expectations, (3) goals and needs, and (4) plans and strategies.

How Are Attachment Internal Working Models Structured?

Do individuals hold one generalized set of mental representations that are indiscriminately applied to all relationships? Or do they hold multiple IWMs that are specific to particular relationships and partners? According to Baldwin, Keelan, Fehr, Enns, and Koh-Rangarajoo (1996) and Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994) people are likely to hold multiple IWMs as a function of the different interactions, people, and relationships that they experience across their social contexts (eg, families, peers, romantic relationships). Moreover, possessing multiple IWMs is thought to be adaptive as they can help facilitate interactions with different people (eg, Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Collins & Read, 1994; Fraley, Heffernan, Vicary, & Brumbaugh, 2011). Not all people interact with us in the same way, and thus, it is adaptive to generate working models that reflect the nuances associated with different relationships (Overall, Fletcher, & Friesen, 2003). To this end, harboring multiple attachment working models is likely to reflect people's propensity to adapt to the threats and rewards associated with forming and maintaining relationships with different people.

A Hierarchical Approach to the Structure of IWMs

Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994) proposed that attachment mental representations may best be conceptualized as a semantic network of related models that are hierarchically organized. The

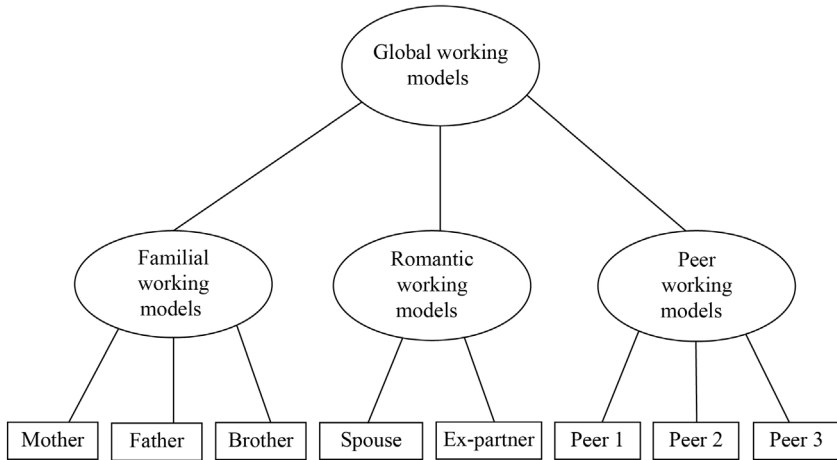


FIGURE 4.1 A depiction of Collins and colleagues' hierarchical structure of attachment IWMs.

proposed hierarchical structure of IWMs is presented in Fig. 4.1. As shown in this figure, at the top of the hierarchy exist people's most general or abstract representations of themselves and others. These *global* IWMs are purportedly derived from relationship experiences across multiple contexts. The common assumption is that these global representations can be considered as a person's default set of IWMs in that they are accessed and guide behavior across diverse social situations including the formation of new relationships with novel individuals. Put another way, theoretically, global working models are activated and govern behavior in the absence of more specific knowledge about a given individual or situation.

Nested under these general IWMs are mental representations that relate to a particular category of relationships. For example, people may hold one set of representations for relationships with family members, another set of representations pertaining to their romantic partners, and yet another pertaining to their peers. At the next level of the hierarchy are highly specific mental representations that pertain to particular individuals within a given relationship category. That is, while individuals may hold a set of familial working models, these are likely to further differentiate into mental representations of one's mother, one's father, one's sibling(s), and other familial relationships such as one's grandmother and grandfather. Likewise, individuals may hold a different set of working models for different friends, and different models for their current romantic partner as well as past romantic partners. Therefore, it is plausible for an individual to hold differentiated mental representations of self and other across specific relationships (eg, secure with one's mother and insecure with one's father). Then again, some people may experience similar relationships with different people (eg, loving and rewarding relationships with their romantic partner and

peers) and thus hold more homogeneous mental representations across relationships (Fraley et al., 2011a,b).

The hierarchical conceptualization of attachment working models proposed by Collins and colleagues (eg, Collins & Allard, 2000; Collins & Read, 1994) provides an elegant way of thinking about how IWMs are organized. However, Collins and Allard (2001) noted that “models within the network are probably linked through a rich set of associations and are likely to share many elements” (p. 68). That is, the structure of IWMs is likely to be significantly more complicated than the depiction in Fig. 4.1. So what could this complex structure look like? Given that all forms of IWMs, be they global or specific, reflect knowledge structures about attachment relationships, it may be that models at all levels share direct associations. For example, working models for different relationship types may share direct associations, so too may global working models share direct links with relationship-specific models. In this way, the structural organization of working models may not be strictly hierarchical in nature.

We illustrate some of these possibilities in Fig. 4.2. As can be seen, both figures are hierarchically structured, such that global working models reflect the highest level of abstraction regarding attachment mental representations. Both figures also represent working models tied to different relationship categories as nested at different levels of specificity. However, as part of Fig. 4.2, we add one additional level of specificity pertaining to working models—the level of the interaction. That is, specific interactions with a given individual

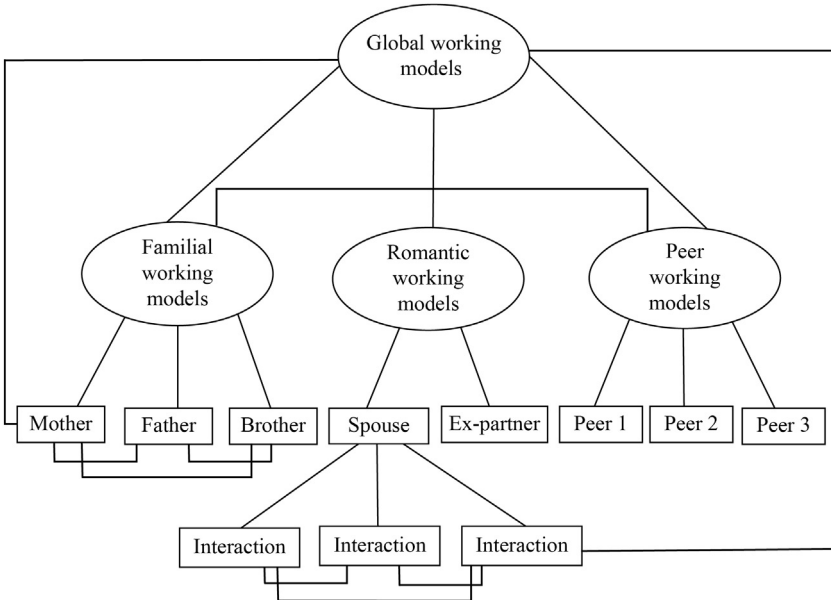


FIGURE 4.2 An additional interpretation of Collins and colleagues’ hierarchical structure of attachment IWMs.

may yield distinct knowledge structures about how working models of self and other vary from one interaction to another with this individual. Furthermore, in Fig. 4.2, we propose that relationship-specific working models within a given level of the hierarchical structure may share direct associations. For example, working models about family may share associations with working models about romantic partners. Likewise, working models related to one's attachment relationship with one's father may share associations with working models of one's mother and one's brother (this is illustrated in Fig. 4.2; however, similar associations may exist among relationships nested under romantic partner or peer working models). It is also plausible that working models at any level of the hierarchy share direct associations with one's global working models. In Fig. 4.2 we represent this by illustrating a link between the most specific level of working models (ie, the level of the interaction) and the global working models (though other direct associations are just as plausible across different levels of specificity).

A Connectionist Approach to the Structure of IWMs

One potential limitation of the hierarchical conceptualization of attachment working models is that it does not provide a framework for understanding how specific relationship experiences might coalesce into organized representational patterns. It provides an abstract *description* of how working models of various degrees of specificity are organized. As an alternative framework, Fraley (2007) proposed a connectionist model for understanding the development of working models and how different knowledge structures may emerge as a function of interpersonal experiences.

Although the connectionist framework is similar to the hierarchical framework in several respects, it differs in two ways: First, it assumes that global representations are not separate “things” from relationship-specific representations. Instead, global representations represent an emergent feature of the way in which specific representations are constructed and used in social cognition. Second, and more important for the present purposes, the connectionist framework suggests that, when people are in new situations (eg, interacting with a new potential partner), they do not necessarily rely upon global representations to draw inferences. Instead, they rely on representations of specific others from one's knowledge base that are activated by surface-level (and potentially superficial) similarities between the new target and those specific representations. Those activated specific representations, in turn, are likely to shape the way in which the person relates to a new target.

Regardless of whether attachment IWMs are hierarchical or connectionist in nature, what is clear is that people hold multiple IWMs that are associated through a complex and rich set of interconnections. To this end, we can think of multiple attachment working models that people possess as being distinct but nonetheless related.

What Does Research Reveal About the Content and Structure of Attachment Internal Working Models?

There exists a significant body of research regarding attachment IWMs. Rather than provide an exhaustive review of this body of research, we provide an overview of key findings, and highlight what is or is not known about working models. It is important to note that research on working models is often motivated by the assumption that differences in the cognitive contents and functioning of working models are what give rise to differences in the attachment styles that are typically assessed in social-personality studies. Therefore, in reviewing this work, we emphasize the ways in which the content and structure of IWMs vary across people with different attachment styles.

In terms of the content of IWMs, some research has taken a fine-grained approach by attempting to understand the content contained within each of the building blocks of attachment mental representations (ie, memories; beliefs, attitudes, and expectations; goals and needs; and plans and strategies). In contrast, other research focuses on the content of the working models of self and other without distinguishing between the building blocks of these mental representations. In the sections that follow we draw on both types of studies.

Attachment Styles and the Working Model of Self

Research into the associations between adult attachment and model of the self has focused on: (1) determining the direct associations between attachment style and people's appraisals of the self as related to self-esteem (ie, perceptions of self-worth) and self-efficacy (ie, sense of self-competence or ability) and (2) the cognitive processes used in deriving self-evaluations. A wide array of cognitive processes have been investigated (eg, Wei & Ku, 2007), but the majority of the research has focused on people's attributions and tendencies for verifying information about the self. These cognitive processes can be thought of as mechanisms that help to explain how attachment style is associated with self-evaluations. In this section, we review research on self-esteem, self-efficacy, and the cognitive processes of self-attribution and self-verification.

Self-Esteem and Self-Efficacy

It is generally reported across studies that attachment security (positive model of self) is positively associated with self-esteem and self-efficacy (eg, Corcoran & Mallinckrodt, 2000; Onishi, Gjerde, & Block, 2001; Pietromonaco & Carnelley, 1994; Strodl & Noller, 2003); whereas attachment anxiety (negative model of the self) is negatively associated with both these constructs (eg, Gentzler & Kerns, 2004; Strodl & Noller, 2003). For example, in a large self-report study involving in excess of 1400 participants, Brennan and Morris (1997) found that the higher an individual's attachment security, the higher their ratings of self-esteem; whereas the higher an individual's attachment anxiety, the lower their ratings of

self-esteem. Likewise, in a study involving adults across three populations (individuals diagnosed with agoraphobia, individuals diagnosed with depression, and adults with no mental health problems), Strodl and Noller (2003) found that irrespective of population, attachment security was positively associated with self-efficacy while attachment anxiety was negatively associated with self-efficacy.

In terms of attachment avoidance, in studies employing categorical assessments of attachment, individuals classified as avoidant (positive model of self) tend to report higher self-esteem or self-efficacy than individuals classified as anxious (eg, McCarthy, 1999; Salzman, 1996), but appear to be no different from individuals classified as secure (eg, Bringle & Bagby, 1992; Bylsma, Cozzarelli, & Sumer, 1997). For example, Bringle and Bagby (1992) found that young adults classified as secure or avoidant did not differ in achievement-related self-esteem, suggesting that avoidant individuals hold positive views of the self that resemble those of securely attached individuals. Similar findings are reported for self-efficacy (eg, Cozzarelli, Sumer, & Major, 1998; Taubman-Ben-Ari, Findler, & Mikulincer, 2002).

Mikulincer and Shaver (2005, 2007a,b) suggested that an explanation for the positive correlation between avoidance and self-esteem relates to individuals high on attachment avoidance having a propensity for *defensive self-enhancement*. Defensive self-enhancement is thought to emerge as a function of an avoidant individual's tendencies to be compulsively self-reliant as a function of life experiences in which their self-worth has been compromised through rejection and neglect. As such, individuals high on attachment avoidance are forced to cope with stressors on their own. Thus, viewing the self as highly competent, efficacious, and as harboring a high level of self-esteem may create or strengthen the capacity to deal with difficulties alone. In turn, this may lead to overly positive views of the self or perceptions of the self as highly capable.

Various studies point to avoidantly attached individuals' defensive-self enhancement. For instance, research by Mikulincer (1995) in which participants undertook a Stroop task and were exposed to words representing positive and negative self-adjectives, found that individuals with an avoidant attachment style demonstrated a much faster reaction time to positive traits than negative traits. Mikulincer also revealed that avoidant individuals did not integrate different aspects of the self (especially negative personal qualities) particularly well into their self-concept. Thus, they could not articulate how different aspects of the self fitted together or influenced the development of one's self-concept. In contrast, individuals with a secure attachment style responded with reaction times that reflected an acceptance of both positive and negative aspects of the self and a well-integrated sense of self. Similarly, other studies have shown attachment avoidance to be positively associated with high self-esteem and a lack of clarity regarding the self (eg, Pietromonaco & Barrett, 1997).

Some studies, however, find a negative association between attachment avoidance and self-esteem and self-efficacy (eg, Alexander, Feeney, Hohaus, & Noller 2001; Cash, Theriault, & Annis, 2004; Davila, Hammen, Burge, Daley, &

Paley, 1996). For example, in a prospective study of married couples expecting their first child, Alexander et al. (2001) found that attachment avoidance in both men and women was negatively related to self-esteem. The authors suggested that in high-stress situations such as the transition to parenthood, attachment insecurities are heightened to the extent that even avoidant individuals are likely to experience attenuations in self-worth. Yet other studies find no association between avoidance and self-esteem (eg, Gamble & Roberts, 2005; Klohnen, Weller, Luo, & Choe, 2005; Strodl & Noller, 2003).

As a way to reconcile these inconsistencies, we provide two possible explanations. One explanation is that these inconsistencies may simply be a function of studies using different methods to assess attachment and outcomes of self-esteem and self-efficacy. So the inconsistencies observed may be an artifact of measurement imprecision. However, if this were the primary reason underlying the inconsistencies in attachment avoidance, we would expect to see similar inconsistencies in findings pertaining to attachment anxiety and attachment security. Thus, while measurement issues may play a role in the findings related to attachment avoidance, this cannot be the sole explanation for these inconsistencies.

Another explanation is that the inconsistencies related to attachment avoidance may be due to differences in the life domains in which self-esteem or efficacy are studied. Closer inspection of the literature suggests that attachment avoidance is not always associated with self-esteem or efficacy in noninterpersonal contexts (eg, Keating, Tasca, & Hill, 2013; Strodl & Noller, 2003). However, attachment avoidance is often negatively associated with self-efficacy and competence when studied within an interpersonal context (eg, Collins & Read, 1990; Corcoran & Mallinckrodt, 2000; Wei, Vogel, Ku, & Zakalik, 2005). It may be that the interpersonal context taps into questions of self-worth and competence that are at the heart of the insecurities experienced by individuals high on attachment avoidance. That is, the underlying source of their doubts regarding self-worth and competence may be tied to their troubled (and often invalidating) relationships with others rather than domains that sit outside the relationships realm.

Cognitive Processes

While the research reviewed earlier suggests that evaluations of self-worth and competence are tied to individual differences in attachment, this research does not speak to the cognitive processes that securely and insecurely attached people use to arrive at perceptions of the self. To this end, some research has focused on understanding the mechanisms by which attachment style is tied to self-esteem and self-efficacy. In the following sections we outline two mechanisms that have received considerable attention—attributions and self-verification.

Attributions

Research suggests that insecurely attached people, especially those high in attachment anxiety, seem to maintain self-defeating attributions such that they view themselves as hopeless and lacking the skills and abilities to navigate their

relationships in a constructive way (Gamble & Roberts, 2005; Kennedy, 1999; Sumer & Cozzarelli, 2004; Williams & Riskind, 2004). This is in line with anxiously attached individuals' negative views of themselves, and their concerns regarding self-worth. In regards to attachment avoidance, some studies have found a positive association between attachment avoidance and self-defeating attributions (Gamble & Roberts, 2005; Sumer & Cozzarelli, 2004; Wei & Ku, 2007), whereas other studies have found that avoidant individuals were less likely to perceive themselves as responsible for negative events compared to securely attached individuals (Man & Hamid, 1998). These findings may again reflect avoidant individuals' tendency to engage in defensive strategies aimed at maintaining a positive (or less negative) view of the self.

Self-Verification

Other studies have investigated the extent to which attachment style is associated with people's tendencies to seek out information that is consistent with (or verifies) their self-appraisals. Interestingly, studies have found that, relative to secure people, insecurely attached individuals (especially individuals high on attachment anxiety) have a preference to receive and endorse negative feedback rather than positive feedback about the self (Brennan & Bosson, 1998; Brennan & Morris, 1997; Cassidy, Ziv, Mehta, & Feeney, 2003). Some studies also find that individuals high on attachment avoidance (ie, dismissing) tend to seek positive feedback from others with regards to one's autonomy (eg, Hepper & Carnelley, 2010). The findings appear to support Swann's (1990) self-verification theory, which assumes that people seek information from others—even negative information—that is in line with their own views of the self. People who are high on attachment anxiety may seek out negative feedback because such feedback reinforces the negative working models they already hold about themselves. For highly avoidant individuals, the seeking out of positive feedback regarding autonomy may feed into established self-perceptions regarding independence and self-reliance, but may also reflect their propensity to engage in defensive self-enhancement.

Attachment Style and Model of Others

As with model of the self, research into the associations between adult attachment and model of others has focused on: (1) determining the direct associations between attachment style and people's appraisals of others and (2) identifying the cognitive processes that shape these evaluations. In terms of the cognitive processes underpinning appraisals of others, research has most commonly investigated partner attributions and self-other distinctiveness.

Perceptions of Others

Studies examining the associations between attachment style and people's perceptions of significant others have largely focused on perceptions of one's parents, romantic partners, and peers. Hazan and Shaver's (1987) seminal work on

adult attachment provided the first evidence to suggest that people with an insecure attachment style (either anxious or avoidant attachment) perceive others in a negative light whereas people with a secure attachment style view others in a positive manner. Since this early work, a wide range of correlational, experimental, and longitudinal studies have found that individuals that hold an insecure attachment style report negative perceptions of parents, romantic partners, peers, and even people in general. Specifically, insecurely attached individuals (especially avoidant individuals) view others as untrustworthy and can access memories of trust violations faster than securely attached individuals, perceive others as more distant, rejecting, and hurtful, and as harboring more negative traits and emotions than securely attached individuals (eg, Cyranowski et al., 2002; Hofstra, van Oudenhoven, & Buunk, 2005; Feeney, 2003; Luke, Maio, & Carnelley, 2004). Insecurely attached individuals (especially anxious individuals) also generally perceive others as less supportive, faithful, and dependable than those who are securely attached (eg, Collins & Read, 1990; Feeney & Noller, 1992; Holtzworth-Munroe, Stuart, & Hutchinson, 1997).

Cognitive Processes

Partner Attributions

In general, this research has found that insecurely attached individuals attribute negative partner behavior to more stable and internal characteristics of the partner as opposed to less enduring situational factors. For instance, in an observational study of couples, Pearce and Halford (2008) found that attachment insecurity was positively associated with endorsing negative attributions regarding partner behavior when undertaking problem-solving discussions. In two experimental studies by Collins, Ford, Guichard, and Allard (2006), attachment anxiety was positively associated with endorsing relationship-threatening attributions in hypothetical situations in which partners had engaged in a relationship transgression. In contrast attachment avoidance was more positively associated with endorsing pessimistic attributions in relation to a hypothetical partner's positive behavior compared to a partner's transgressions.

However, it is important to note that while attachment insecurity is generally associated with negative partner attributions, the attributions made by anxiously attached individuals seem to be influenced by contextual factors, namely, mood and relationship satisfaction. Specifically, studies have found that anxiously attached individuals propose less negative or pessimistic explanations for the behavior of others as a function of relationship satisfaction or when not in a negative mood (Collins et al., 2006; Pereg & Mikulincer, 2004). In contrast, the explanations for partner's behavior provided by avoidantly attached individuals appear not to be a function of mood or relationship satisfaction.

For example, in a mood induction study, Pereg and Mikulincer (2004, Study 2) had participants randomly divided into either a neutral affect condition or a negative affect condition in which they either read a story about the development of kites or about a car accident resulting in a girl's death. Participants

were then asked to undertake an attribution task involving a scenario detailing a negative relationship event with a hypothetical romantic partner. Individuals high in attachment anxiety exposed to the negative affect prime engaged in more negative attributions of partner behavior than participants exposed to the neutral affect prime. The mood induction, however, did not moderate the association between attachment avoidance and partner attributions.

Self–Other Distinctiveness

Research has also examined the extent to which people’s attachment style is associated with how similar to or different from themselves they view others. This research has generally found that attachment anxiety is associated with viewing others as encompassing similar characteristics to oneself, while attachment avoidance is associated with highlighting distinctions between oneself and others (Gabriel, Carvallo, Dean, Tippin, & Renaud, 2005; Lopez, 2001; Mikulincer, Orbach, & Iavnieli, 1998). According to Mikulincer and Shaver (2007a,b), these perceptual biases may reflect false consensus and uniqueness effects. That is, anxious individuals’ desires for validation, love, and acceptance may work to bias their perceptions of others toward heightened similarity, thereby fostering greater connectedness and closeness with others. In contrast, avoidant individuals’ desires for independence and their emphasis on excessive self-reliance may bias their perceptions such that they see themselves as sharing fewer qualities with others, and thus view oneself as highly distinctive and unique from those around them.

In relation to attachment security, the studies cited earlier suggest that people are less likely to hold perceptions of others that are biased either toward similarity or distinction from oneself. That is, securely attached individuals appear to hold more accurate perceptions of others. Recall that securely attached individuals balance autonomy with relatedness and as such have no desire or motivation to perceive others in a way that makes them feel more similar and close or more unique and distant from oneself. Thus, the lack of such biases means that securely attached individuals can develop relatively accurate perceptions of those around them. This is in line with findings that have demonstrated that attachment security is associated with viewing the self in an authentic and honest way (Gillath, Sesko, Shaver, & Chun, 2010).

Building Blocks of IWMs

Up to this point we have provided an overview of research as it pertains to models of self and others in a general sense. Next, we provide a brief overview of research pertaining to the four aspects of IWMs, according to Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994).

Memories

Attachment research into memory has generally been conducted in two spheres. The first has investigated the contentions that attachment working models entail

a strong cognitive component (Collins & Allard, 2001; Collins & Read, 1994; Pietromonaco & Barrett, 1997). The second has investigated the extent to which individual differences in attachment shape cognitive processes regarding the encoding or retrieval of memories.

The Affective Content of Memories

Research conducted from a social-personality perspective has provided important insights into the emotions that are associated with people's attachment memories. Using a response latency paradigm (methods in which reaction times to the presentation of stimuli are recorded), Mikulincer and Orbach (1995) found that individuals with different attachment styles had different recall times in accessing the emotions attached to childhood experiences. Specifically, people were asked to recall childhood experiences when they felt angry, sad, anxious, and happy. Participants were also asked to rate the extent to which they experienced emotions of anger, sadness, anxiety, and happiness in each of the recalled memories. The time taken to recall the memory was used as a measure of cognitive accessibility (ie, the speed with which a particular thought is brought to mind). The dominant and nondominant emotions associated with each memory were recorded.

The results demonstrated that avoidant people showed the slowest reaction time to sad and anxious memories compared to secure and anxious individuals. In relation to the emotions experienced for each memory, avoidant individuals reported the dominant emotion (eg, sadness when recalling a sad memory) and the nondominant emotion (eg, anger when recalling a sad memory) as far less in intensity than securely attached people. Anxious individuals demonstrated the fastest reaction times to sad and anxious memories, but reported experiencing sadness, anger, happiness, and anxiety as intense across all recalled memories. Securely attached individuals demonstrated reaction times that fell between anxious and avoidantly attached individuals, but reported the dominant emotion as the most intense emotion in a given memory. In terms of the content of the childhood experiences, the findings demonstrated that securely attached individuals were quicker to recall positive as opposed to negative memories, while the reverse association was found for anxiously attached individuals (see Mikulincer, 1998 for a related study).

The studies by Mikulincer and colleagues (Mikulincer, 1998b; Mikulincer & Orbach, 1995), and others (eg, Gentzler & Kerns, 2006; Sutin & Gillath, 2009) provide evidence for the contentions put forward by Pietromonaco and Barrett (2000) that the IWMs include affective content that is intricately woven into the interpersonal memories of individuals. However, these studies also raise questions as to whether attachment style differences in the cognitive-affective processing of memories are associated with the encoding or retrieval of memories. That is, does attachment style influence how a specific event is recorded within one's mind or how it is recalled? In the next section, we describe research that has attempted to address these questions.

Encoding and Retrieval

In terms of the encoding and retrieval of memories, research has largely focused on attachment avoidance in order to understand whether the recording and recalling of interpersonal events reflect defensive cognitive processes. Following on from the work of Mikulincer and Orbach (1995), Fraley, Waller, and Brennan (2000) investigated whether individuals high on attachment avoidance demonstrate difficulty recalling the emotional content associated with memory. In particular, Fraley et al. (2000) examined whether the difficulties experienced by avoidant individuals were due to defensive processes. Specifically Fraley and colleagues were interested in whether cognitive defenses either prevented avoidant individuals from directing attention to the processing of emotional information, prevented the encoding of emotional information, or prevented further elaboration on already encoded information. In other words, Fraley et al. were interested in whether avoidant individuals' defensive processing would cause a reduction in the information encoded and/or the information recalled.

In two studies, individuals were instructed to listen to an interview about attachment-related issues and were asked to recall details from the interview either immediately after listening to the recording (Study 1) or at variable delays (up to 21 days) after listening to the recording (Study 2). Using forgetting curve methodologies, Fraley and colleagues showed that avoidance was associated with defenses at the level of encoding. Specifically, avoidant individuals, when exposed to the same information as everyone else, were less likely to retain information after variable delays (eg, a day vs. weeks).

In a similar study, Fraley and Brumbaugh (2007) found that, after listening to an emotionally evocative recording, avoidant individuals recalled fewer details than nonavoidant individuals, even when monetary incentives were associated with the memory recall task. Again the findings suggest that difficulties in memory recall are due to the defensive exclusion of affective content at the level of encoding rather than retrieval.

A study by Simpson, Rholes, and Winterheld (2010) investigated how both attachment anxiety and avoidance were associated with changes in people's memories regarding their own actions during discussions with their romantic partners on a conflictual topic. It was found that individuals high on attachment avoidance who were distressed recalled being less supportive of their partners 1 week post the conflict discussion than they had reported immediately after the discussion. The reverse was found for individuals low on attachment avoidance. In relation to attachment anxiety, individuals high on attachment anxiety who were distressed recalled being more emotionally close 1 week after the conflict discussion than immediately following the discussion. Again the opposite effect was found for individuals low on attachment anxiety. Simpson and colleagues suggest that, because the recollections of support behaviors differed over time (ie, a 7-day period), individuals' attachment styles "twisted" the memory of the interaction upon retrieval rather than at the stage of encoding the interaction.

The findings outlined in this section demonstrate how individual differences in attachment may influence the encoding or retrieval of memories—both in terms of the details of these memories as well as their affective content. In particular, the findings point to the idea that individuals high on attachment avoidance tend to limit the encoding of attachment-relevant or emotionally charged episodes and this is largely a result of their defensive cognitive processes. However, it also appears that individual differences in attachment (both attachment anxiety and avoidance) may play a role in the retrieval of memories. As Simpson, Rholes, & Winterheld (2010) note: “In conclusion, what individuals respond to in relationships is not what they actually said or did during an interaction with their partner; rather, what they respond to is memories of the interaction filtered through their working models” (p. 257).

Beliefs, Attitudes, and Expectations

In relation to beliefs about the self and others, research has identified that attachment style is linked to people’s beliefs of how central or peripheral certain positive and negative characteristics are in themselves and others. Specifically, Clark, Shaver, and Calverley (1994; as described in Clark & Shaver, 1996) found that while secure adults endorsed positive and negative features regarding their self-concept, the positive features were deemed more central and the negative features more peripheral. In contrast, individuals high on attachment anxiety and avoidance (individuals classified as fearfully attached) demonstrated the complete inverse pattern. These negative beliefs that insecurely attached individuals have about themselves have also been revealed in studies examining people’s discrepancies regarding their actual selves and desired selves, as imposed by their own ideals or the ideal of others. In particular, Mikulincer (1995) found that securely attached individuals reported smaller discrepancies between their actual selves and their ideals as noted by oneself and others. Again, the opposite findings were true for insecurely attached individuals.

In relation to expectations, various studies have suggested that individuals store knowledge about their attachment relationships as if–then propositions, and thus reflect the expectations that people have of themselves and others when engaging in social situations. Some of the earliest work to examine the propositional nature of IWMs was conducted by Baldwin, Fehr, Keedian, Seidel, and Thomson (1993). Across a series of experimental studies using explicit as well as implicit (ie, response times to lexical decision-making tasks) assessments of expectations, Baldwin et al. (1993) found that individuals with a secure attachment style held more positive expectations (ie, if–then propositions) and less negative expectations regarding a partner’s behavior than both avoidant and anxiously attached individuals. Individuals with a secure attachment style also demonstrated faster response times, and thus great accessibility to positive partner behaviors than negative partner behaviors—a finding that was reversed for insecurely attached individuals. Thus, it appears that people with a secure attachment style not only hold more positive expectations of others’ behaviors than

insecurely attached individuals, but they are also able to access these positive representations faster than those who are insecurely attached. In contrast, insecurely attached people not only hold more pessimistic expectations of others, but these negative expectations are accessed faster than positive expectations. Similar results are reported by numerous other researchers (eg, Mikulincer & Arad, 1999; Rowe & Carnelley, 2003; You & Malley-Morrison, 2000; Whiffen, 2005).

However, some studies find that when delineating between attachment anxiety and avoidance, negative expectations are somewhat distinct. Anxious individuals report expectations of fear that others will be rejecting combined with expectations that others should provide love and support. In contrast, avoidant individuals doubt the reliability and responsiveness of others to meet their needs (Florian, Mikulincer, & Bucholtz, 1995; Shaver, Schachner, & Mikulincer, 2005).

Goals and Needs

It is assumed that anxious individuals' desire for closeness and validation may manifest in goals and needs geared toward developing very intimate relationships, while avoidant individuals' discomfort with closeness and excessive self-reliance may manifest in goals and needs that downplay closeness and intimacy. Moreover, these goals and needs may influence how insecurely attached people in particular perceive various relationship events such as those that involve self-disclosure or relationship conflict.

Indeed, individuals high in attachment anxiety view high-conflict situations more positively than individuals who do not place such a high premium on intimacy-related goals and needs (Fishtein, Pietromonaco, & Barrett, 1999; Pietromonaco & Barrett, 1997). Pietromonaco and Barrett (2000) suggested that these findings reflect anxiously attached individuals being attuned to the intimacy-promoting aspects of conflict situations. That is, while conflict interactions may be unpleasant on the one hand, they do provide a context to engage with one's partner and to elicit their response that can entail personal disclosure and the expression of emotion—responses that in the eyes of anxiously attached individuals may be deemed as meeting their needs and goals for intimacy and closeness.

In a diary study investigating the associations between attachment style and goals, Locke (2008) investigated four relationship goals (relationship closeness, relationship distance, asserting opinion and views in relationships, and being submissive within relationships). These goals were evaluated in terms of people's tendencies to approach (ie, work toward these goals) or avoid (ie, steer clear from working on these goals). Locke found that attachment avoidance was associated with the avoiding (and not approaching) goals of closeness and submission. The findings pertaining to attachment anxiety revealed an inconsistent goal orientation, specifically, anxiety was associated with avoiding distance but less with enhancing closeness. Moreover, at the individual (ie, within-person)

level, attachment anxiety was associated with significant variability. That is, attachment anxiety predicted people's fluctuations in goals related to approaching distance, avoiding closeness, avoiding assertion, and avoiding submission.

In a series of experimental studies of relationship goals regarding self-disclosure and the seeking of support Gillath et al. (2006) found that attachment avoidance was negatively associated with goals pertaining to self-disclosure and the seeking of support from others. In contrast attachment anxiety was positively associated with goals regarding the seeking of emotional support, and while anxiety was unrelated to goals regarding self-disclosure, anxiety was associated with faster responses to self-disclosure items, suggesting less conflict about self-disclosure.

The research to date on goals seems to support Pietromonaco and Barrett's (2000) perspectives regarding how subgoals (ie, proximal goals or more immediate goals) are linked with attachment style to facilitate the achievement of the primary goal of the attachment system (ie, felt security). For example, subgoals around intimacy and independence facilitate the achievement and maintenance of felt security. For anxiously attached individuals, the subgoal of intimacy appears to be activated chronically to provide every possible chance that felt security is achieved. In contrast, for avoidantly attached individuals, subgoals around maintaining independence are chronically activated as a means of suppressing feelings of inadequacy and insecurity (an indirect method for achieving a sense of felt security according to Pietromonaco and Barrett). In contrast, securely attached individuals are likely to harbor subgoals around intimacy and independence, but balance the activation of these goals in a manner that ensures the achievement of felt security as well as continued functioning as an autonomous individual.

Plans and Strategies

The literature on plans and strategies is quite vast, as it largely involves self-report and observational studies in which plans and strategies are operationalized as attachment behaviors—that is the behavioral outputs of the attachment system. Put another way, people's self-reported or observed behaviors are taken as the enactment of people's attachment plans and strategies. From this perspective, research into adult attachment has investigated the associations between attachment style and people's strategies in relation to coping with relationship stressors and stressors in general (eg, Birnbaum, Orr, Mikulincer, & Florian, 1997; Karantzas, Feeney, Bale, & Hoyle, 2015a), support giving and seeking (eg, Collins & Feeney, 2004; Karantzas & Cole, 2011; Mallinckrodt & Wei, 2005; Simpson, Rholes, & Phillips, 1996), relationship conflict (eg, Feeney, Noller, & Callan, 1994; Karantzas, Feeney, McCabe, & Goncalves, 2014; Shi, 2003), sexual functioning (eg, Gillath & Schachner, 2006; Schachner & Shaver, 2004), the formation and dissolution of relationships (eg, Brumbaugh & Fraley, 2010; Collins & Gillath, 2012; Klohnen & Lou, 2003; Pietromonaco & Carnelley, 1994), and more recently, attempts to regulate a partner's behavior

(Simpson & Overall, 2014). Given that we review research on a number of these topics in chapters: *How Stable Are Attachment Styles in Adulthood?*; *What are the Effects of Context on Attachment?*, in this section, we specifically focus on literature that directly speaks to people's cognitions regarding plans and strategies.

Research into plans and strategies as they pertain to working models can be grouped into three types of research. One set of studies (largely experimental) has investigated people's narrative descriptions of how they would respond to a particular relationship situation or scenario. Across these studies participants are asked to read various vignettes and describe their response to the given social situation(s). For instance, Collins (1996) asked participants to read a series of vignettes in which their romantic partner behaved in a manner that could be interpreted as negative (eg, "imagine that your partner didn't respond when you tried to cuddle"). Participants were then required to describe in detail how they would respond to the various social interactions. Coding of the descriptions revealed that secure individuals reported less punishing behavior than insecurely attached individuals (see also Gillath & Shaver, 2007).

Other studies have employed implicit experimental methods (specifically lexical decision-making tasks) to assess people's mental accessibility of plans and strategies. For instance, Mikulincer (1998b, Study 5) investigated how attachment style was associated with people's response to trust violations in relationships. Findings demonstrated that individuals with a secure and anxious attachment style responded faster to approach words, such as "talk," when primed with a trust violation compared to individuals with an avoidant attachment style, who responded faster to avoidance words, such as "escape."

In recent years, researchers have used various explicit and implicit experimental methods to examine the extent to which people hold procedural "script-like" knowledge regarding attachment relationships. This script-like knowledge is considered to encompass people's plans and strategies when interacting with attachment figures. This research has focused on unpacking the script-like knowledge of secure and insecurely attached individuals. The first of these studies focused on people's procedural knowledge contained within their "secure-base script" (Bretherton, 1990; Waters, Rodrigues, & Ridgeway, 1998; Waters & Waters, 2006). In short, the secure-base script reflects people's procedural knowledge regarding their history of secure-base support (Waters & Rodrigues-Doolabh, 2004). If the secure-base support received in the past has been consistent, sensitive, and responsive then a coherent, consolidated, and readily accessible script develops regarding one's plans and strategies of how to deal with situations in which the attachment system is activated and the individual needs to work toward reestablishing felt security (see Steele et al., 2014). However, if the secure-base support received in the past has been inconsistent, inept, or ineffective, then the secure-base script is incoherent, and a nonconsolidated script emerges that is likely to be less readily accessible (Steele et al., 2014; Waters & Waters, 2006). In concrete terms, the prototypic secure-base script

is conceptualized as a series of if–then propositions, that can reflect the three modules/components of Mikulincer and Shaver’s (2003, 2007a) behavioral systems model of attachment dynamics.

The first if–then proposition relates to whether when distress is experienced, an individual can seek out a significant other (ie, a parent, romantic partner, or peer) for assistance (“If I am faced with a challenge or experience distress, I can turn to someone who I know will be available to provide me with support”). The second of these if–then propositions relates to the confidence an individual has in a significant other to be available and provide appropriate support (“If I seek help from someone, then they are likely to be available and provide the support I need”). The third of these if–then propositions relates to the extent that the individual will experience comfort and/or relief as a result of calling upon a significant other to assist in achieving attachment security. To this end, the attachment system is deactivated, and the individual can reengage in daily life (“If I receive support from a significant other, this support will reduce my distress and help me feel better to the extent that I can go back to doing other things”).

Thus, the secure-base script provides a coherent plan and strategy for how an individual can/should deal with distressing situations through seeking the help of an attachment figure—whether they be a parent, romantic partner, or peer, or any other person classified as an attachment figure. In many ways, the secure-base script reflects a highly constructive way of dealing with difficult/challenging situations that helps to restore emotional balance (Epstein & Meier, 1989; Mikulincer & Shaver, 2007; Mikulincer, Shaver, Sapir-Lavid, & Avihou-Kanza, 2009). Individuals with a secure attachment style are thought to possess a more accessible, elaborate, and coherent secure-base script than individuals with an insecure attachment style. Actually, some researchers argue that the hallmark of secure attachment is a well-developed secure-base script (Mikulincer & Shaver, 2007; Waters & Rodrigues-Doolabh, 2004; Waters & Waters, 2006).

While developmental research has found support for the secure-base script concept and identified theoretically consistent associations between attachment styles and the content of individuals’ secure-base scripts (eg, Dykas, Woodhouse, Cassidy, & Waters, 2006; Steele, Phibbs, & Woods, 2004), little research has explored the secure-base script from the social-personality perspective. However, work by Mikulincer et al. (2009) provided new insights into the content and accessibility of the secure-base script. Across a series of eight studies, Mikulincer and colleagues investigated many of the cognitive aspects of the secure-base script including accessibility and how it effects the processing of attachment-relevant information and memory recall. Their findings suggested that individuals with a secure attachment style were able to more quickly access their secure-base script when asked to engage in a story completion task involving an assumed distressing event or when experiencing a distressing dream compared to individuals with an insecure attachment style (ie, attachment anxiety and/or avoidance). Further, they found that securely attached individuals

generated more elaborate and detailed secure-base content as part of their scripts compared to insecurely attached individuals.

When asked to read a fictitious story comprising the main components of the secure-base script (active support seeking, support availability, distress reduction), secure individuals were also found to recall more secure-base script content days after reading the story compared with insecurely attached individuals. In a series of judgment and decision-making tasks in which individuals again read a story that featured secure-base script content, secure individuals were found to more quickly decide whether the characters in the story possessed secure-base qualities and whether arguments about the story were related to the secure-base script compared to individuals who were insecurely attached. Finally, Mikulincer and colleagues demonstrated that when asked to read a fictitious story involving secure-base script content while engaging in a cognitively demanding task (suppress thoughts of a white bear, Wegner, Schneider, Carter, & White, 1987), securely attached individuals could automatically process secure-base script story content more so than insecure individuals.

In complementary research, Ein-Dor, Mikulincer, and Shaver (2011a, 2011b) investigated the extent to which scripts alternative to the secure-base script captured the procedural knowledge associated with the plans and strategies of insecurely attached individuals. In doing so, this research went beyond suggesting that attachment insecurity is associated with less of a secure-base script. In particular, Ein-Dor et al. (2011a) investigated how script-like mental representations guided the processing of and reactions to threatening situations. Across a variety of threatening situations, attachment avoidance was associated with what Ein-Dor and colleagues referred to as the “rapid fight–flight schema” which contains a script involving “... (a) minimize the importance of threatening stimuli; (b) when danger is clearly imminent, take quick self-protective action, either by escaping the situation or by taking action against the danger; and (c) at such times, not worry about coordinating one’s efforts with those of other people” (Ein-Dor et al., 2011a, p. 3). In line with this cognitive script, a subsequent study by Ein-Dor et al. (2011b) found that avoidant individuals demonstrated the most rapid response to threat by either fleeing from the threat or confronting the danger, depending on how imminent the threat was.

Ein-Dor et al. (2011a) found that attachment anxiety, in contrast, was associated with a “sentinel” script. The content of this script involves “... (a) to remain vigilant with respect to possible threats, especially in unfamiliar or ambiguous situations; (b) to react quickly and strongly to early, perhaps unclear cues of danger; (c) to alert others about the imminent danger; (d) if others are not immediately supportive, to heighten efforts to get them to provide support; and (e) to minimize distance from others when coping with a threat” (p. 2). Consistent with the sentinel script, Ein-Dor et al. (2011a) found that although anxious individuals were able to detect a threat, they were less likely to respond in an effective manner. Ein-Dor and colleagues suggest that the ineffective behavioral

responses of anxious individuals are a product of their sentinel knowledge structure, which includes “catastrophizing, directing attention to threat-related information, expressing needs and vulnerabilities, and desperately seeking other people’s proximity, support, and comfort” (p. 13).

Empirical Support for the Hierarchical Organization of Attachment Working Models

Some of the first work aimed at understanding the structure of attachment IWMs was conducted by Baldwin et al. (1996) in which substantial within-person variability was identified when participants were required to report on the mental representations individuals hold about close others. Specifically, Baldwin and colleagues found people’s self-reported attachments style varied considerably when assessed in response to thinking about a specific close other. Moreover, the number of known acquaintances with different attachment orientations varied significantly as a function of whether these connections were romantic or nonromantic in nature. Specifically, insecurely attached individuals (ie, high on attachment anxiety or avoidance) reported a significantly lower percentage of secure romantic relationships than nonromantic relationships. In contrast, securely attached individuals reported high percentages for both romantic and nonromantic relationships of a secure characterization. Therefore, this early work provided some evidence that individuals have the capacity to hold differentiated working models when it comes to attachment relationships.

Since this early research, other studies have demonstrated that the structure of IWMs is such that it consists of global and relationship-specific attachment representations. For instance, Cozzarelli, Hoekstra, and Bylsma (2000) and Pierce and Lydon (2001) found that relationship-specific mental representation made a greater contribution in explaining people’s perceptions of the quality and intimacy of their social interactions with others, and their self-reported life satisfaction, than global IWMs. These findings suggest that individuals’ IWMs are organized in such a manner that people distinguish between generalized cognitions of oneself and others and more relationship-specific or nuanced IWMs. However, these studies do not attend to the issue of whether IWMs are hierarchically organized.

Few studies have formally attempted to study the proposed hierarchical structure of attachment working models put forward by Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994). The first study to investigate this proposed hierarchical structure of attachment working models was conducted by Overall et al. (2003). Overall and colleagues contrasted three models of how attachment mental representations may be structured. The first model conceptualized attachment representations encompassing a single global working model. The second model conceptualized IWMs as comprising three sets of mental representations reflecting different types of relationships—one for family, another for friends, and another again for romantic partners. The third

model was the most complex of all three models and conceptualized IWMs as consisting of mental representations that reflected working models for each attachment figure, and that these were nested under working models that related to specific types of relationships (ie, family, peer, romantic partner), and these, in turn, were nested under global mental representations.

Statistical comparisons across all three models found that the third and most complex model best represented the hierarchical structure of IWMs for both attachment dimensions: attachment anxiety and attachment avoidance. Further, the hierarchical structure of the third model did not differ as a function of gender or relationship status. Specifically, men and women as well as people in relationships and those that were single appeared to structure their IWMs by way of relationship-specific mental representations nested under general mental representations.

Using a multilevel modeling approach, Sibley and Overall (2008) extended the work of Overall et al. (2003) by examining within- as well as between-person variability in the hierarchical structure of attachment working models. Their findings suggested that relationship-specific IWMs (ie, models of romantic partner, mother, and best friend) were more strongly associated with mental representations of close others that fell into the same relationship type than another type of relationship. That is, relationship-specific models related to a romantic partner were more strongly associated with the representations participants had of different romantic partners than with representations of different peers.

In another study by Klohnen et al. (2005) some relationship-specific mental representations were more alike than others. Specifically models of parents (ie, mother and father) were very similar to each other as were working models of different peers (friends and romantic partner) compared to all other relationship-specific mental representations. Furthermore, models of self demonstrated less variability across relationships than models of other. When examining the relations between specific and global working models, the mental representations relating to romantic partners and friends made the most significant and independent contribution to global working models, and romantic relationship length was found to moderate the association between mental representations of IWMs pertaining to romantic partners and general IWMs. Specifically, the longer individuals had been in a relationship the greater the association between romantic and general IWMs. In relation to the contributions that general and specific models made to self-relevant outcomes, general as well as mother IWMs were associated with emotional stability, self-esteem, and ego-resiliency, while IWMs of romantic partners were associated with emotional stability and self-esteem. In terms of relationship quality (ie, a composite score involving relationship outcomes such as positive relationship experiences, satisfaction, conflict, closeness, and role involvement) associated with each relationship type, only IWMs regarding one's romantic partner were associated with relationship outcomes.

In acknowledging the role of specific attachment relationships to relationship outcomes, mental health, and well-being, Fraley et al. (2011a,b) developed a measure of attachment to assess attachment styles across relationship domains. Termed the Experiences in Close Relationships—Relationship Structures (ECR-RS) questionnaire, the measure yields dimensional assessments of attachment to one's mother, father, romantic partner, and best friend. Using this measure, Fraley et al. (2011a, Study 2) found that all relationship-specific measures of attachment demonstrated greater associations with people's scores on depression and relationship commitment than global measures of the attachment dimensions. Furthermore, the study also investigated whether differentiation in working models (the extent to which people hold heterogeneous or homogeneous attachment mental representations across relationships) was associated with the experience of less satisfaction in relationships and depression. While differentiation appeared to be associated with less relationship satisfaction and more depression, these findings were best explained as being due to insecurity in general: people who are more differentiated are also more likely to be insecure across multiple relational domains.

Fraley and Brumbaugh (2007) investigated the extent to which relationship specific and global IWMs would be activated when individuals are exposed to fictitious people that ideographically resemble either one's parent or current romantic partner. They found that targets that reflected the qualities of a romantic partner were more strongly associated with specific IWMs—those related to romantic partners rather than parents or global IWMs. When exposed to relationship targets that did not exhibit features related to one's parent or romantic partner, global IWMs were found to play an important role (especially IWMs related to attachment anxiety) in addition to IWMs of romantic partners and parents.

In a similar study by Brumbaugh and Fraley (2006) that specifically focused on romantic relationships, participants were exposed to potential dating partners that either did or did not resemble a past romantic partner. In both situations, participants' application of their IWMs for romantic partners was assessed. Results revealed that participants more readily applied their mental representations toward a partner that resembled their past romantic partner. Furthermore, participants experienced more attachment anxiety and less attachment avoidance toward the dating partner who resembled a past relationship. The findings from Brumbaugh and Fraley (2006) and Fraley and Brumbaugh (2007) provide further support regarding the presence and function of both general and specific IWMs, but importantly, provide an understanding regarding the transference of attachment patterns to new or emerging relationships.

Summary

Numerous studies have investigated whether individuals hold general and specific working models of attachment. Research to date provides consistent

evidence that individuals maintain differentiated working models that encompass both global and specific IWMs. Findings demonstrate that specific working models make a greater contribution to explaining people's attitudes and behaviors in situations involving a particular type of close relationship compared to global models. That is, in specific relational contexts such as interactions with one's romantic partner, IWMs of romantic relationships are better suited to explaining people's attitudes and behaviors than global working models. Research into the organization of working models is however limited. The research that exists provides some evidence to support a hierarchical structure regarding the organization of working models. But nonetheless, these studies have not tested all plausible organizational structures to equivocally determine whether the hierarchical model as proposed by Collins and colleagues (Collins & Allard, 2001; Collins & Read, 1994) does indeed represent the most appropriate structural mapping of IWMs.

CHAPTER SUMMARY

In this chapter we provided a comprehensive account of the concept of IWMs and research into the content and structure of attachment mental representations. Our social-cognitive discussion of IWMs highlights that attachment mental structures are multifaceted, with models of self and others encompassing at least four components: (1) memories, (2) beliefs, attitudes, and expectations, (3) goals and needs, and (4) plans and strategies. In terms of the structure of attachment mental representations, research suggests that IWMs demonstrate a degree of differentiation such that people harbor multiple IWMs. We also reviewed alternative theoretical models on the structure and organization of working models by focusing on hierarchical and connectionist frameworks, and the evidence associated with these organizational frameworks.