

## **Attachment-related mental representations: introduction to the special issue**

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Bowlby's concept of mental working models of self, attachment figures, and the social world has been theoretically generative as a bridge between early relational experience and the beliefs and expectations that color later relationships. Contemporary attachment researchers, following his example, are applying new knowledge of children's conceptual development to their study of attachment-related mental representations in children and adults. The contributors to this special issue highlight recent advances in how the mental representations arising from attachment security should be conceptualized and studied, and identify a number of important directions for future work. This paper introduces the special issue by summarizing the major ideas of Bowlby and his followers concerning the nature and development of mental working models, points of theoretical clarity and uncertainty, and challenges in assessing these representations, as well as profiling each of the contributions to this issue.

**Keywords:** internal working models; attachment representations; attachment security; Bowlby

Starting, we may suppose, towards the end of his first year, and probably especially actively during his second and third when he acquires the powerful and extraordinary gift of language, a child is busy constructing working models of how the physical world may be expected to behave, how his mother and other significant persons may be expected to behave, how he himself may be expected to behave, and how each interacts with all the others. Within the framework of these working models he evaluates his situation and makes his plans. And within the framework of the working models of his mother and himself he evaluates special aspects of his situation and makes his attachment plans. How these models are built up and thenceforward bias perception and evaluation, how adequate and effective for planning they become, how valid or distorted as representations they are, and what conditions help to hinder their development, all these are matters of great consequence for understanding the different ways in which attachment behaviour becomes organised as children grow older (Bowlby, 1969/1982, p. 354).

### **Introduction**

Bowlby's concept of mental working models of the relational environment in which attachments develop is one of the most original, innovative features of attachment theory. Overlooked for many years when attachment research focused on infancy, internal working models (IWMs) attracted fresh attention more than two decades ago with

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growing interest in attachment representations in older children and language-based approaches to assessing adult attachment “states of mind” (e.g., Main, Kaplan, & Cassidy, 1985). It is now one of the most conceptually generative concepts in attachment theory.

It is easy to understand why. The development of mental working models of attachment figures, the self, and relationships constitutes a crucial bridge between a child’s experience of sensitive or insensitive care and the beliefs and expectations that color later relationships. Developing IWMs help to explain how relational experience “goes underground” to influence social expectations, self-referential beliefs, relationship schemas, and personality. As attachment researchers have identified a widening range of social-cognitive correlates of attachment security (including differences between secure and insecure children in emotion understanding, social problem-solving skills, self-concept, conscience, emotion regulation, attributional biases, and memory; see Thompson, 2008), the influence of attachment-related mental representations has become more apparent. The heuristic value of IWMs is also evident outside of attachment theory, where scholars in social psychology, counseling and clinical practice, communication studies, and other fields have enlisted this concept to understand the therapeutic process, communication dysfunction, and the growth of close adult relationships. Dweck and London (2004) argue that understanding the influence of mental representations is one of the crucial challenges for social development researchers, and Bowlby’s conception of integrated relationally-based, affectively-colored, early-developing mental working models is an important contribution of attachment theory to that challenge.

Growing attention to IWMs and their development has been accompanied, however, by criticism of the breadth of this concept. Hinde (1988, p. 378) was the first to note that “in the very power of such a model lies a trap: it can too easily explain anything,” and his concerns were echoed by Belsky and Cassidy’s (1994) charge that IWMs could constitute a “catch-all, post hoc explanation” for any research finding linking attachment security to other behavior (see also Rutter & O’Connor, 1999; Thompson & Raikes, 2003). The problem (as Bowlby recognized) is that the general idea of mental working models is only the beginning of the systematic theoretical work required to make this idea a predictive construct. Without this theoretical development, but guided by a general view that a secure attachment should be associated with more positive developmental outcomes, attachment researchers have often used the IWM metaphor as a conceptual umbrella for broadening constructions of the developmental impact of attachment relationships (Thompson, 2008).

At the same time, there have been important efforts to clarify the nature and development of attachment-related mental representations, and these are reflected in the articles of this special issue. Like Bowlby, who relied on Piaget’s developmental theory, recent attachment theorists have also borrowed from contemporary ideas about the growth of conceptual understanding in young children (see Bretherton, 1991, 1993; Bretherton & Munholland, 1999). From research on event representation and autobiographical narrative (e.g., Nelson, 2007; Nelson & Fivush, 2004), for example, attachment researchers are exploring how secure representations in preschoolers are constructed and maintained through processes of parent–child conversational discourse. Advances in understanding developing theory of mind (e.g., Wellman & Lagattuta, 2000) have led to ideas about how preschoolers’ working models of attachment figures progressively incorporate the caregiver’s perspective, and whether IWMs can be understood as a “theory of attachment.” New research on psychologically-oriented self-awareness in young children (e.g., Measelle, Ablow, Cowan, & Cowan, 1998) has contributed to new inquiry about the content and

origins of self-referential working models and their associations with attachment security. These provocative new directions do not exhaust the range of applications of contemporary developmental science to the IWM concept, and help to bridge attachment theory with other approaches to understanding developing mental representations and their social origins.

This special issue concerns “attachment-related mental representations”: children’s developing internal working models, adults’ attachment representations, and the network of developing representations that reflect children’s IWMs (such as emotion understanding and self-concept). Taken together, these mental representations reflect the varied ways that early relational experience influences children’s developing understanding of themselves and their social worlds. Nearly 10 years ago, this journal published an influential special issue on “Internal Working Models Revisited” (Grossmann, Zimmermann, & Steele, 1999), and the continuing vigor of research interest in this topic has warranted another. The seven articles of this special issue, based on a pair of symposia presented at the meeting of the Society for Research in Child Development, focus on diverse topics, including mother–child conversation about attachment-related issues, emotion understanding and the security of attachment, children’s prediction of the attachment strategies of their mothers and other parents and children, self-concept and attachment security, and family interactions and children’s attachment representations. The authors, drawing from their programs of research, were asked to focus on advances in the conceptualization and assessment of attachment-related representations and directions for future work in this area. Together, our hope is that this special issue will be a catalyst to the development of theoretical clarity and empirical insight into how mental representations of attachment-related issues develop, change, and can be assessed. In this introductory paper, I profile some of the broader issues that frame this special issue and this area of research inquiry.

### **Mental working models in attachment theory**

Bowlby’s (1969/1982, 1973, 1980) concept of internal working models, developed over the three volumes of his *Attachment and Loss* trilogy and in other papers, incorporated two different theoretical perspectives (Grossmann, 1999). One was the psychoanalytic tradition that attachment theory is built upon: Bowlby’s description of mental working models was, in his view, an updated portrayal of the Freudian dynamic unconscious and of the introjection of good or bad representations of caregivers (i.e., “objects”) within object relations theory (Bowlby, 1973, pp. 204–205). This theoretical affinity is particularly evident when Bowlby discussed working models in relation to psychopathology and therapy, when the influence of conflicting mental working models, defensive processes in maintaining maladaptive models, and therapeutic transference were underscored. In this conceptualization, therefore, IWMs emerge early in the processes by which close interaction with a caregiver is interpreted through the perceptual-affective schemas of infancy, creating prelinguistic models that can have enduring influence but are largely inaccessible to conscious reflection.

The other theoretical perspective that influenced Bowlby’s portrayal of mental working models was cognitive psychology, particularly new ideas of mental models, Piaget’s developmental theory, and cybernetic control systems theory. In this formulation, IWMs are more sophisticated, consciously accessible, and explicit: they are tested against the evidence of experience, evaluated for internal consistency and the accuracy of their predictions, and used to evaluate, represent, and retrieve further information (Bowlby, 1969/1982, pp. 81–82). This theoretical approach undergirds Bowlby’s portrayal of the

development of IWMs as he relied on Piaget's studies of the growth of schemas, social discriminations, egocentrism, and perspective-taking (although current developmentalists can perceive hints in his formulations of contemporary theory-theory, mental event representation theory, script theory, and other ideas). In this conceptualization, therefore, IWMs develop consistently with the growth of conceptual skills associated with the encoding, interpretation, and memory for relational experience and are (wholly or at least partly) consciously accessible and changing over time.

These dual theoretical undercurrents of Bowlby's theory of mental working models are very different in their implications for the functioning of IWMs, their development, the potential for change over time, and assessment. Attachment theorists have struggled with how to reconcile these different portrayals of mental working models (see Grossmann, 1999, for one example). In this issue, Steele, Steele, and Croft report that infant-mother attachment was associated with performance on a measure of emotion recognition at 6 years old, with somewhat attenuated associations with emotion recognition when children were 11 years old. They argue that these effects may be due to the initial organization of a young infant's IWMs in the exchange of emotional messages with the mother in face-to-face play, together with the possible effects of such experiences on early neurobiological organization. They note, however, that their conclusion is not inconsistent with the subsequent effects on developing IWMs of parent-child emotion-related discourse and other aspects of child-parent interaction in later years. Developing an empirically-grounded theoretical view of the development of attachment-related mental representations that addresses the divergent (and sometimes inconsistent) theoretical affinities of Bowlby's IWM concept is an important challenge for future attachment researchers who seek to study these mental processes.

Bowlby's formulations have been theoretically generative: Sroufe and Fleeson (1988), Bretherton (1991, 1993; Bretherton & Munholland, 1999), Crittenden (1990), Main (1991; Main et al., 1985), and Thompson (2006a; Thompson, Laible, & Ontai, 2003) have each offered contemporary extensions of Bowlby's formulations. Taken together, there has emerged from these perspectives a general portrayal of IWMs as emerging early in life in the form of rudimentary expectations for the accessibility and responsiveness of caregivers. These social expectations permit immediate forecasts of the adult's responsiveness (hence the security of attachment), but are elaborated with the young child's growing appreciation of the caregiver's goals, perspectives, and other psychological attributes that eventually contributes to what Bowlby (1969/1982) called a "goal-corrected partnership." At the same time, young children also internalize conceptions of themselves from early relational experience that form the basis for IWMs of the self and their association with self-concept and other self-referential beliefs.

According to many attachment theorists, IWMs constitute interpretive filters through which children and adults reconstruct their experience of new relationships in ways that are consistent with past experiences and expectations arising from secure or insecure attachments. IWMs also provide implicit decision-rules for how to relate to others. As a result, people choose new partners and behave with them in ways that are consistent with, and thus help to confirm, the expectations incorporated into attachment-related IWMs. Insecurely-attached children may so anticipate another's unfriendliness that they remain distant and unengaged and, in so doing, evoke the response they expect, while secure children, guided by different IWMs to expect people to respond warmly to them, act in such a positive manner as to create more intimate relationships with others. In portraying the functioning of mental working models in this way, attachment theorists add to the *predictive* purpose of IWMs in infancy (i.e., forecasting the behavior of attachment figures)

an *interpretive* function (i.e., construing the behavior of others in ways that are consistent with the expectations of IWMs) and a *self-regulatory* function (i.e., acting in a manner concordant with expectations). These multiple functions of IWMs help to explain their influence on the development of new relationships, social construal, and personality. This portrayal of the functioning of mental working models also underscores the inseparability of the relational information incorporated into IWMs and the affect associated with that information, which is one way that Bowlby's IWM concept differs from many other formulations of mental representations of the social world.

Mental working models can affect behavior in many ways, but two influences have been emphasized in attachment theory.<sup>1</sup> First, the *content* of IWMs affect behavior as mental working models bias expectations for others, self-representations, relational schemas, social attributions, and other domains of understanding, as described above. An extensive research literature documenting the association of attachment security with differences in self-concept, attribution biases, and emotion understanding suggests that the content of the mental working models associated with secure and insecure attachments significantly influences these knowledge structures concerning others and the self (Thompson, 2008). Second, IWMs also influence information *processing* as they bias access to or the interpretation of attachment-relevant information. In this regard, attachment theorists have advanced two models of biased information processing. In the defensive exclusion model, children and adults are unconsciously motivated to restrict access to information that would be disturbing or threatening if consciously processed (Bowlby, 1980, pp. 69–70; Main et al., 1985). Children who are insecurely-attached are especially prone to defensive exclusion because they are more likely to encounter experiences of care that are painful or upsetting. Alternatively, in the schema-congruent model, information that is consistent with preexisting mental representations is more likely to be attended to and processed, while incompatible information is more likely to be ignored (Bowlby, 1980, pp. 230–231; Cassidy, Ziv, Mehta, & Feeney, 2003). Children who are insecurely-attached are more likely to remember negative attachment-related events; securely-attached children are more likely to recall positive events (Belsky, Spritz, & Crnic, 1996). There is limited empirical support for each view, and thus a need for greater understanding of the functioning of mental working models in information processing (Thompson, 2008).

Contemporary attachment theorists have agreed with Bowlby's view that there are multiple mental working models associated with specific attachment figures, the self, patterns of relational interaction (possibly at different levels of specificity and particular contexts), and for some individuals multiple working models of each attachment figure and the self. However, there is little theoretical clarity about how these multiple working models are organized, associated with each other, or relevant to other developing belief systems. There is, in short, much theoretical work remaining in clarifying the nature and development of internal working models.

### **New directions**

In recent years, attachment theorists have sought to build on Bowlby's theoretical outline to provide new perspectives on the development of attachment-related mental representations and better integrate attachment theory with contemporary developmental science. One of these efforts, the development of methods for examining script-like attachment representations in adolescents and adults, has been the focus of another recent special issue for this journal (Vaughn, Waters, Coppola, Cassidy, Bost, & Verissimo, 2006).

Several other initiatives focused on exploring attachment-related mental representations in younger children are the focus of the articles of this special issue.

### *IWMs and conceptual development*

Several attachment theorists have sought to expand Bowlby's integration of cognitive developmental theory with his portrayal of mental working models by exploring the post-Piagetian research literature. Preeminent among these is Bretherton (1991, 1993; Bretherton & Munholland, 1999), who enlisted concepts from script theory, mental event representation theory, and research on constructive memory to elucidate how IWMs are co-constructed from early experiences of parent-child interaction (see also Nelson, 1999). She has particularly emphasized the importance of the more "open, fluid communication" that is shared by securely-attached children with their caregivers that enables emotional sharing and discussion, particularly of negative emotions that young children may experience as more troubling, disturbing, or confusing, as an important influence on developing more coherent and accessible IWMs. Building on Bretherton's work, Thompson (2000, 2006a; Thompson et al., 2003) has offered a developmental account that associates the growth of IWMs with other allied conceptual advances in early childhood, such as implicit memory and social expectations in infancy, the development of event representation and episodic memory in early childhood, the emergence of autobiographical memory and psychologically-oriented self-understanding in the preschool years, and the development of specific social-cognitive skills later in childhood. Thompson's argument is not that these developing capacities are isomorphic with IWMs, but rather that each is part of the developing representational capacities of the IWM: understanding other people (including attachment figures), representing experience (particularly in close relationships), self-concept, and understanding how to relate socially with others.

Taken together, these approaches to the mental working models concept have contributed to a focus on parent-child conversations as a source of secure representations in early childhood. This focus derives from several research literatures that emphasize the co-construction in conversational discourse of young children's generalized representations of everyday events, memory for specific experiences, autobiographical self-representations, social-cognitive understanding, and other mental representations that are associated with Bowlby's IWM concept (see Thompson, 2006b, for a review). These research literatures also underscore the significance of differences in the quality of maternal discourse and their influence on the content and quality of young children's understanding. Mothers who are more richly elaborative in their conversational style when discussing shared experiences with young children have offspring with more detailed and accessible memory representations; mothers who talk more about emotions and other mental phenomena have young children who are more advanced in emotion understanding, mental state understanding, and even conscience development (see Thompson, 2006a, 2006b). Further, evidence that mothers of securely-attached preschoolers speak in a richer, more elaborative fashion with their children, which helps to account for why secure children are more advanced in emotion understanding, strengthens the relevance of this research literature to attachment theory (Laible, 2004; Ontai & Thompson, 2002). Taken together, research findings from many literatures are providing support for Bretherton's portrayal of the benefits of secure relationships in fostering parent-child communication that permits emotional sharing, understanding, and support, or in the words of Koren-Karie and her colleagues (2008), a "psychological secure base."

Several papers in this special issue build on these ideas and help to advance them. Studying a high-risk sample of families in economic distress, Raikes and Thompson examined the conversational dynamics of 3-year-olds and their mothers when discussing emotional events. In longitudinal analysis, they found that young children's capacity to label emotional states in these conversations was predicted by the security of attachment assessed a year earlier, and in turn predicted children's performance in independent assessments of emotion understanding. Maternal discourse in these conversations was also an important influence on children but was negatively affected by the economic and emotional stresses of family life. The findings of this study suggest that for both mothers and children in socio-demographic difficulty, a secure attachment was a constructive, buffering influence on their conversations about emotion. In their middle-income sample, Goodvin, Meyer, Thompson, and Hayes (2008, p. 433–450, this issue) found complementary results in their study of self-understanding in 5-year-olds. The security of attachment assessed a year earlier was associated with more positive self-concept in young children and greater consistency in self-understanding over time, but an index of maternal depressive symptomatology and stresses (also obtained a year earlier) had the opposite associations independently of attachment security.

Other papers in this special issue help to elucidate the maternal characteristics associated with creating a "psychological secure base" in which positive self-esteem and emotion understanding can develop. Reese (2008, p. 451–464, this issue) also studied young children's self-concept, and found that mothers with greater coherence in their responses to the Adult Attachment Interview were more elaborative and confirming in conversations with their children, and had children with more positive self-concept. She suggests that mothers who are more coherent in discussing their own childhood experiences may be more capable of talking openly and constructively with children about their experiences and fostering positive self-regard. Koren-Karie, Oppenheim, and Getzler-Yosef (2008, p. 465–483, this issue) offer a similar view in their study of conversations about emotional events by mothers who were sexually abused as children. Using their Autobiographical Emotional Events Dialogue procedure, these researchers found that mothers who were more resolved about their own childhood trauma participated in more sensitive, cooperative, and coherent conversations with their children.

These and other findings have potentially important implications for attachment theory. First, they suggest that as mental working models evolve developmentally from a network of perceptual-affective representations and implicit knowledge structures of infancy to more explicit knowledge and representational processes of early childhood, the ways that caregivers contribute to secure mental working models expand. In addition to the responsiveness and accessibility that has been important from infancy, young children also obtain security from deriving understanding and being understood psychologically in parent-child interaction, especially conversation (see also Oppenheim & Koren-Karie, *in press*). Much more remains to be understood about how young children become secure or maintain security with this representational shift, and the parental characteristics (including capacities for mentalization) that foster security, but current research offers a good foundation for future work on these issues. Second, these findings suggest that the development of working models in early childhood is even more deeply collaborative and co-constructive than in infancy. Influenced by an attachment history and the sophisticated representational systems it has influenced (as are their parents), young children approach parent-child interaction with their own contributions to the coherence, richness, cooperativeness, and affective quality of their shared communication (for further evidence, see Cyr & Moss, 2008; Newcombe & Reese, 2004). This creates opportunities and

challenges for understanding the collaborative construction of security in early childhood and beyond.

Indeed, the study by Dubois-Comtois and Moss (2008, p. 415–431, this issue) suggests that the collaborative construction of working models in childhood may extend beyond the mother–child dyad. They found that a measure of children’s attachment representations at age 8–9 years was significantly predicted by measures of family interaction during mealtime, even with earlier assessments of mother–child interaction at 5 years old controlled. This study of attachment in middle childhood underscores the importance of the quality of family emotion communication that is open, positive, and balances the needs of individual family members in the development of secure mental working models of self and close relationships.

### *Theory of mind*

One of the most influential ideas to emerge from cognitive developmental research of the post-Piagetian era is that young children construct progressively more adequate intuitive theories of the mental states of people. Research on theory of mind has flourished during the past 15 years, and because Bowlby’s theoretical description of IWMs describes their systematic properties (e.g., evaluated against experiential evidence, striving for internal consistency, and accurate predictions), it has been natural for attachment researchers to explore the connections between these concepts.

Delius, Bovenschen, and Spangler (2008, p. 395–414) propose that internal working models can be viewed as a child’s developing “theory of attachment” with characteristics resembling theory of mind. Using a series of picture-book story prompts with attachment themes, their findings indicate that with increasing age, children exhibit greater understanding and more coherent evaluations of alternative attachment strategies of children and parents. These findings are the start of a potentially rich inquiry concerning the organization of attachment-related mental working models. Of course, a theoretical understanding of a domain of knowledge consists of more than gradually increasing understanding. In addition, theoretical knowledge is coherent (internally consistent) and organized, it is based on identifiable assumptions or commitments, and it makes predictions that can be tested (and which can improve the theory when refuted) (Wellman, 1990). Because these attributes of intuitive theories so closely resemble some of Bowlby’s formulations for internal working models, further exploration of whether these are characteristics of networks of attachment-related mental representations seem worthwhile.

There is another sense, however, in which theory of mind research is relevant to understanding the development of mental working models. As Bowlby borrowed Piaget’s ideas concerning the growth of perspective-taking and diminishing egocentrism in childhood to frame his description of an emerging “goal-corrected partnership” between child and parent, contemporary attachment researchers have focused on theory of mind research for understanding how young children gradually comprehend the caregiver’s mental states in their relationship. It is certainly true that attachment relationships become more genuinely mutual as young children become capable of understanding the adult’s goals, interests, viewpoints, and needs and how they differ from the child’s own. The remarkable advance in theory of mind research has been the realization of how early this process begins. Before the end of the first year, for example, infants exhibit a rudimentary awareness of human intentionality that flourishes in the second year as toddlers become capable of participating in the goal-directed activity of others, such as helping another’s



failed efforts (e.g., Meltzoff, 1995; Sommerville & Woodward, 2005; Toomasello, 2007). During the second and third years, they exhibit rapidly developing understanding of the associations between emotions (fulfilled or frustrated), desires, perceptions, and expectations (see Thompson, 2006a, for a review). Taken together, long before children are capable of succeeding on false-belief tasks, they exhibit an early and progressively expanding appreciation that other people have a variety of subjective mental states that are different from their own. The significance of this for the young child's understanding of the psychological experience of the caregiver in the context of attachment relationships remains to be understood. If very young children have a nascent appreciation of the intentionality and goals underlying a caregiver's actions, how does this influence the rudimentary mental working models underlying a secure or insecure attachment?

### *Assessment*

Finally, the contributions to this special issue illustrate the range of methodological approaches for assessing attachment-related mental representations. In light of the multifaceted characteristics of internal working models (especially the combination of implicit and explicit knowledge systems) and the theoretical work-in-progress of this feature of Bowlby's formulations, it is unsurprising that attachment researchers have used a variety of methods for assessing them. Dubois-Comtois and Moss, like many other attachment researchers, assessed attachment representations through children's responses to short story vignettes meant to evoke attachment themes, and enacted through dolls and the experimenter's evocative narrative. This semiprojective procedure is designed to elicit attachment-related representations through the manner in which children complete the story, with both the content (what is included and what is not) and the affective quality of the story endings important. A similar strategy is used in the MacArthur Story-Stem Battery (Bretherton, Oppenheim, Buchsbaum, Emde, & the MacArthur Narrative Group, 1990) and the Attachment Story Completion Task (Bretherton, Ridgeway, & Cassidy, 1990). Semiprojective methods have a long history in psychology, but they can be interpretively challenging because of the variety of influences incorporated into children's and adults' responses. Careful evaluation of these methods (one of the goals of the Dubois-Comtois and Moss study) is essential. Delius, Bovenschen, and Spangler also used attachment-oriented story stems in a similar manner, but their strategy was somewhat different: rather than evaluating the security of attachment representations through the content of children's semiprojective responses, they were instead interested in the nature and variety of the behavioral strategies that children could identify. This is consistent with their interest in the developing organization of attachment-relevant understanding, and reduces the interpretive burdens of their analysis of children's responses.

By contrast, other contributors to this special issue used methods that less directly assessed children's internal working models. Two of these contributors (Steele, Steele, & Croft, 2008, p. 379–393, this issue; Raikes & Thompson, 2008, p. 359–377, this issue) focused on emotion understanding because of its centrality to attachment-related mental representations of self, other people, and relationships. Other contributors (Goodvin, Meyer, Thompson, & Hayes, 2008, p. 433–450, this issue) focused on early developing self-concept for the same reasons. In each case, the goal was to use well-validated measures of emotion understanding or self-awareness to assess aspects of understanding that are central to, and are thus likely to be directly influenced by, the content of children's mental working models. Such an approach has been enlisted by others in a broad research literature

examining the social-cognitive, attributional, and memorial correlates of attachment security (Thompson, 2008). Because this strategy is indirect, inferences concerning the nature and development of mental working models must be made cautiously.

There are, of course, strengths and weaknesses to each strategy (interestingly, as Bretherton, 1999, has noted, researchers have not studied parents' discussion of attachment issues with their children). The purpose of highlighting them here is to underscore the uncertain association of construct with index. Long ago, an expanding research literature on infant attachment indexed early security using the Strange Situation procedure, and conclusions concerning early attachment security were based consistently on infant behavior in this standardized, well-validated procedure. Assessing internal working models of attachment is a much more complex endeavor and, until there is greater theoretical clarity about what internal working models are and how they develop, it is likely that there will be a proliferation of measures and assessment strategies that reflect the efforts of the community of attachment researchers to model this complicated and elusive phenomenon.

## Conclusion

This is therefore a good time for a special issue devoted to the working models concept. At a time when theoretical clarity is needed for refining the predictive claims of attachment theory and guiding methodology, there is currently expanding knowledge of early conceptual growth that some creative researchers are applying to their understanding of attachment-related mental representations. As the contributors to this special issue suggest, there are many further avenues to pursue in better understanding the nature and development of internal working models. In this atheoretical, data-driven era it is difficult, unfortunately, to devote time and attention to theory development and major funding is not awarded for this effort. Yet this is not activity to be pursued at some indeterminate future occasion "in an ideal world." Bowlby's internal working models concept risks losing its originality and clarity unless current attachment theorists, following his example, use the best knowledge of the developing mind to understand how early relationships shape children's emerging conceptions of themselves, their attachment figures, and the social world in which they live.

## Note

1. I am grateful to Rebecca Goodvin for drawing my attention to these issues.

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