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The Coherence of Dyadic Behavior across Parent-Child and Romantic Relationships as Mediated  
by the Internalized Representation of Experience

Glenn I. Roisman

Stephanie D. Madsen

Katherine H. Hennighausen

L. Alan Sroufe

W. Andrew Collins

Institute of Child Development

University of Minnesota

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### Abstract

Attachment theory suggests, first, that patterns of dyadic behavior cohere across salient relationships and, second, that such linkages are mediated by working models, defined as cognitive/emotional representations of relationships abstracted from dyadic experience. In this longitudinal study, adolescents' (age 19) Adult Attachment Interview (AAI) coherence and classifications (e.g., working model proxies) were related prospectively to their observed dyadic behaviors with romantic partners in young adulthood (age 20-21). Results demonstrated significant associations between adolescents' representations of their childhood relationships with parents and the later quality of their interactions with romantic partners. Next, a model was tested whereby participants' working models, as inferred from the AAI, mediate the across-time correlation between a sub-set of observationally assessed parent-child dyadic behaviors (age 13) and the romantic relationship behaviors of these participants eight years later in young adulthood (age 20-21). Results of mediational analyses were consistent with the fundamental tenet of the organizational-developmental model that salient parent-child experiences are internalized and carried forward into adult relationships.

## The Coherence of Behavior across Parent-Child and Romantic Relationships as Mediated by the Internalized Representation of Experience

A cornerstone premise of the organizational model of human development (Sroufe & Waters, 1977; Sroufe, 1979), a neo-Eriksonian formulation of Bowlby's (1969/1982) attachment theory, is that working models or "representations" of relationships (1) are abstracted from prior dyadic experience and (2) guide both expectations about and observable behavior within future intimate relationships (Sroufe & Fleeson, 1986; Collins & Sroufe, 1999). To provide a severe test of the hypothesis that salient parent-child experiences are indeed internalized and carried forward into adult relationships, in this paper we propose and analyze a mediational model whereby late adolescent (age 19) representations of past experiences with parents account for the across-time correlation between observed adolescent-parent dyadic behaviors (age 13) and the romantic relationship behaviors of these participants eight years later in young adulthood (age 20-21). Evidence of the validity of this mediational proposal is important in that this hypothesis is no less than a guiding principle of attachment theory and research.

Though working models are complex mental organizations and therefore challenging to identify, researchers have commonly used the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) to infer and describe individual differences in how adolescents and adults represent their earlier relationships with parents. Specifically, the AAI was developed to map the intergenerational transmission of relationship experience from parents to their children and, by any research standard, has enjoyed great success in achieving that end (see van IJzendoorn, 1995; Hesse, 1999). Across a wide variety of samples, parents' AAI classifications consistently have been shown to relate to the quality of their own infants' attachments as inferred from the Strange Situation, the premiere behavioral assessment of attachment in infancy (Ainsworth, Blehar, Waters, & Wall, 1978).

Since the AAI was developed, however, only a handful of empirical reports have used it to demonstrate concurrent and longitudinal relations between working models of early experience and secure base-relevant behavior within parent-child and other developmentally salient relationships in adolescence and adulthood (e.g., Kobak, Ferenz-Gillies, Everhart, & Seabrook, 1994; Allen & Hauser, 1996; Cohn, Silver, Cowan, Cowan, & Pearson, 1992; Tyrrell & Dozier, 1999). Recently, in fact, Waters and Cummings (2000) specifically cited the relative neglect of the secure base concept and its behavioral assessment in adult relationships as a principal error of emphasis in current adult attachment research. As Waters and Cummings observed, attachment theory is in large part a developmental account of individual differences in and the coherence of secure base phenomena (e.g., behaviors that support or undermine security) across time and relationships. Stated another way, the “inner goal” of felt security follows from (and in turn reciprocally engenders) supportive secure base experiences in relationships. Thus, empirically derived knowledge relevant to both working models and secure base behavior, but especially their interconnections through time, is vital to a complete account of attachments and their coherence across development.

Available empirical evidence, while limited, nevertheless points to connections between working models of early experience and adult-adult as well as adolescent-parent relationship behaviors in ways predicted by Bowlby and Ainsworth (cf. Ainsworth, 1989). For example, using a specific, theoretically guided focus on dyadic emotion regulation, Kobak, Ferenz-Gillies, Everhart, and Seabrook (1994) have shown linkages between parents’ attachment security as measured by the AAI and observed parent-adolescent interactions. Consistent with expectations, they found that mothers with preoccupied/insecure styles had difficulty regulating their emotions during conversations with their teenagers; these parents were more anxious and intrusive than other mothers. Interestingly, the same laboratory also reported that adolescents’ own attachment

representations were linked concurrently to adolescent-parent dyadic conflict behaviors, revealing gender-moderated relations between adolescent deactivation (dismissing/insecure-like discourse) during the AAI and dysregulated, emotionally explosive parent-child exchanges (Kobak, Cole, Holland, Ferenz-Gillies, Fleming, & Gamble, 1993).

Complementing Kobak and colleagues' cross-sectional evidence, similar results have been replicated in our own lab. Using a longitudinal design, it was shown that the quality of parent-child interactions observed when participants were 13 predicts AAI security status at age 19 (Ogawa & Weinfield, 1997; see also Roisman, Padrón, Sroufe, & Egeland, under review). Perhaps even more compelling, Allen and Hauser (1996) reported that coherence/security in adults' states of mind regarding attachment could be predicted from maternal behaviors promoting their autonomy and relatedness in adolescence 11 years earlier. These longitudinal data, though sparse, are cumulatively important in that they serve to substantiate Bowlby's insight that working models are a reflection of actual experiences, not merely the product of the intrapsychic reconstruction and confabulation of past events (see also Waters, Hamilton, & Weinfield, 2000). In addition, these studies bolster evidence that the AAI taps representations of relationships with parents that are intimately tied longitudinally to observable secure-base relevant behavior in parent-child interactions beyond the first decade of life.

Attachment processes have also been theorized to have relevance for intimate relationships in adulthood and, in recent years especially, adult attachment research has expanded and redirected its empirical focus toward better understanding the implications of working models of experience with parents for the development of intimacy with romantic partners (Ainsworth, 1989; Bretherton, 1995; Collins & Sroufe, 1999). Leading the way in an important attachment monograph, Owens, Crowell, Pan, and Treboux (1995) demonstrated significant (though modest) overlap between participants' AAI classifications and their working models of romantic relationships as inferred

from the Current Relationship Interview, a measure designed to parallel conceptually the AAI (Crowell & Owens, 1996). These early data thus showed partial support for the “prototype hypothesis” that early relationships may function as models for behavior in future romantic relationships.

Cross-sectional analyses such as these have been extended to behavioral assessments of the quality of romantic relationships as well. For example, AAI representations appear to be associated with marital behaviors, with security among men being associated with less conflictual, more positive marital interactions (Cohn, Silver, Cowan, Cowan, et al., 1992). Building on this evidence, Tyrrell and Dozier (1999) recently linked AAI classifications to romantic relationship behaviors in dating couples, showing that security also appears related to higher quality caregiving/support provision as well as greater comfort in and ease of reliance on partners (see also Gao & Waters, 1998).

We have consistently emphasized that socioemotional development, though by no means continuous in any obvious or necessarily linear way, is always a joint function of current circumstances and developmental history (Sroufe, Egeland, & Kreutzer, 1990; Sroufe & Egeland, 1991). We therefore regard evidence of linkages of romantic relationship quality to individuals’ working models of relationships as important evidence toward substantiating the organizing role of early experience. We hasten to add, however, that in the absence of ethically sound experimental designs, only longitudinal evidence will suffice to provide crucial, severe, and above all complete tests of the viability of working models as a mechanism for the transmission of earlier experiences across time and relationships. Specifically, longitudinal mediational analyses will play an important role in the rigorous testing of whether representations of experience maintain patterns of behavior within and across relationships through time.

Drawing on data from a longitudinal study of development in a high-risk sample, in this study we prospectively related observationally assessed parent-adolescent (age 13) dyadic variables to the also observationally assessed quality of these individuals' romantic relationships in young adulthood (age 20-21). Consistent with the mediational hypothesis at hand, we hypothesized that the across-time correlations between the dyadic variables would be significantly attenuated after controlling for the predictive relations of the AAI to the romantic relationship outcomes (Baron & Kenny, 1986). We emphasize that this test is a temporally accurate mediational model as the age 19 AAI's were administered in the intervening years between our observational assessments.

Waters and Cummings' (2000) timely suggestions for attachment research in the new millenium focused our hypotheses more specifically to behaviors most relevant to the secure base control system in adulthood. Given the relatively discriminant relations between working models of experience and secure base behaviors in adult relationships anticipated by attachment theorists (e.g., Ainsworth, 1989), it was our expectation that dyadic variables tapping these fundamental relational dynamics would be likely candidates to manifest coherence across parent-child and romantic relationships. Furthermore, we expected that these variables in particular would have specific (and perhaps unique) relations to representations of experience as inferred from the AAI.

A few words on the assessment of secure base behavior in romantic partnerships are warranted before moving forward. Simply stated, the assessment of attachment-relevant behavior in adult relationships is just beginning in earnest. Although there appears to be general consensus that such behavior should be considered on the basis of observations of dyadic interaction in the context of moderately stressful tasks (e.g., having couples discuss an area of disagreement in their relationship), current coding systems diverge substantially with regard to the unit of analysis targeted for assessment. For example, following up on the Ainsworth assessment tradition, one promising rating system of secure base behavior emphasizes individual skills that support or

undermine caregiving provision and receipt (Crowell, Gao, Pan, & Waters, 1997). In some contrast, our research, relying on an historical conceptualization and measurement of secure base behavior as an emergent property of the dyad, focuses instead on the quality of the process by which couples co-regulate both positive and negative emotions while jointly exploring and attempting to resolve areas of conflict. To be sure, both assessment strategies emphasize that not all behavior that occurs in relationships is relevant to attachment. For example, few familiar with Bowlby's theory would predict that levels of negative affect per se (dyadic or individual) would function as a reasonable proxy for the processes underlying secure base support provision or signaling. As always, key to developmentally relevant assessment is reliably inferring the organization and psychological meaning of behavior, not in documenting, however carefully, overall levels of any particular behavior (see Waters, 1978, for an excellent attachment-relevant example).

More specifically, in this paper we adopt a distinctly dyadic view on the assessment of secure base phenomena because the organizational-developmental model emphasizes the coherence of patterns of dyadic interaction (e.g., relationships), not merely the continuity of individual behavior in relationships, across time. This is not to say that individual-focused secure base behavior rating systems are irrelevant to the questions explored in this report. Quite the contrary, researchers using such rating systems are poised to provide complementary, microanalytic information regarding the processes by which individuals provide and receive support from partners as well as the deep structure and organization of the attachment control system as manifest in adulthood. The goal of this paper is somewhat distinct from these issues, however, seeking to offer initial evidence of the coherence of dyadic behavior across salient relationships, which by definition necessitates a focus on the emotion-related co-regulation of behavior.

To this end, this paper is oriented around four complementary empirical questions: (1) Are representations of parent-child relationships veridical with earlier parent-child experiences? (2) Do



late adolescent representations of relationships with parents (e.g., AAI security and coherence) relate prospectively to individual differences in romantic relationship couple behaviors in young adulthood? (3) Are early adolescent parent-child behavioral patterns linked to the romantic relationship behavioral patterns of young adulthood? and, if so, (4) Do individuals' representations of their relationships with parents in late adolescence provide a viable mechanism for this across-time linkage?

## Method

### Participants

One hundred seventy young adults participate in the ongoing Parent-Child Longitudinal Project. From birth until the current age of 25, the project has followed these individuals who were born into poverty and therefore considered developmentally at-risk (see Egeland & Brunquell, 1979, for an early report). Mothers of the current participants were recruited in 1975-1977 at Minneapolis public health clinics where they received prenatal care. The mothers were young, ranging in age from 12-34 years at the birth of their children ( $M = 20.6$ ,  $SD = 3.57$ ). Fifty eight percent of the children are European American, 16% have mixed racial backgrounds (European American, African American, Latino and/or Native American), 14% are African American, 3% are Native American or Latino, and 9% are unclassifiable due to missing data on their fathers' race. By age 20, 80% of the participants had graduated from high school or an equivalent program. Sixty-five percent were not in school, 25% were in college, 6% were in technical or trade schools, 2% were enlisted in armed services, and 2% were enrolled in high school or equivalency programs. Seventy-two percent were currently working.

At ages 20-21, participants were invited to complete a romantic relationship assessment with their partners of four months or longer. Seventy-three heterosexual couples (36 male participants with their girlfriends and 37 female participants with their boyfriends) completed the entire

assessment (no participant identified him or herself as gay or lesbian). The demographics of the participants in this sub-sample have been elsewhere demonstrated to be comparable to those of the entire sample (Hennighausen, 1999). The sub-set of this romantically involved cohort that participated in both the 13-year parent-child observational and the 19-year relationship representation assessments was the focus of the current study ( $n = 61$ ).

### Age 13: Parent-Child Observation

#### Procedure

At age 13, participants completed a videotaped protocol with their primary caregiver. Tasks involved creating an anti-smoking campaign, completing a puzzle with the caregiver blindfolded, discussing results of imaginary events, and collaborating on a Q-Sort of the ideal person.

#### Measures

Graduate research assistants coded videotapes of the parent-child interactions using eleven dyadic rating scales of behavior and affect (J. Sroufe, 1991). These rating scales included Anger, Conflict, Conflict Resolution, Confrontive-Attacking, Emotional Engagement, Hostility, Negative Affect, Positive Affect, and three “Balance” scales focusing on the degree to which relationships (1) entailed acceptance and expression of, as well as responsiveness to, individual feelings and ideas, (2) served to scaffold personal development, and (3) helped individuals meet task demands. The first of the three Balance scales is behaviorally manifest by the spontaneity of expression of the participants (e.g., can the child take a position and comfortably hold to it even in the face of parental disagreement). Intraclass correlations ( $\rho_1$ 's) for these rating scales ranged from .60 to .70 ( $p$ 's < .001).

A principal components analysis (Varimax rotation) was run to reduce the number of variables for mediational analyses. To bolster the reliability of the solution, the principal components analysis was applied to the entire sample of individuals available in the assessment ( $n =$

173). Two components emerged: Parent-Child Process (Balance I, Balance III, Emotional Engagement, and Positive Affect;  $\alpha = .83$ ) and Parent-Child Negative Affect (Anger, Conflict, Confrontive-Attacking, and Hostility;  $\alpha = .89$ ). Scales that significantly cross-loaded ( $<.20$  difference in loadings) were dropped from further analysis; the remaining scales were composited via averaging (see Appendix for description of composited rating scales).

### Age 19: Relationship Representation Assessment

#### Procedure

At age 19, participants completed the Adult Attachment Interview (AAI), a semi-clinical, semi-structured protocol used to assess individuals' current state of mind with respect to past parent-child experiences (George, Kaplan & Main, 1985). Detailed information on the administration of the AAI to this sample is available in Weinfield, Sroufe, and Egeland (2000).

#### Measures

Based on verbatim records created from audiotapes of the AAI's, participants received primary classifications of secure-autonomous, insecure-dismissing, insecure-preoccupied, or unresolved with respect to loss or abuse from AAI coders trained by and reliable with Mary Main and Erik Hesse. The four classifications were grouped into two categories: secure and insecure. For the purposes of this study, we classified unresolved participants as insecure, regardless of their secondary classification (see Waters, Hamilton, & Weinfield, 2000, for rationale)<sup>1</sup>. Percent agreement for the insecure/secure split was 87.8% ( $\kappa = .72$ ,  $p < .001$ )<sup>2</sup>.

To add statistical power to mediational analyses, two continuous variables were considered as proxies for security in the AAI: coherence of transcript and coherence of mind. These nine-point scales were designed by Main and her colleagues to measure the coherence of the narratives

<sup>1</sup> As a check, analyses were also run classifying unresolved/secure transcripts as secure. The pattern of results remained unchanged.

<sup>2</sup> The kappa reported is based on the full sample of AAI's coded for this longitudinal cohort ( $n = 170$ , 29% double coded). Thirty-one percent of the AAI's of the sub-sample in the current study were double-coded to ensure sample-specific reliability (percent agreement = 94.7%,  $\kappa = .88$ ,  $p < .001$ ).

produced by interviewees about their early experiences. Coherence of transcript assesses the internal consistency and narrative integrity of interviews. Violations of any of Grice's (1975) maxims of conversation (quality, quantity, relation, and manner) are considered as negative indicators of participants' coherence of transcript ( $\rho_1 = .72, p < .001$ ). Coherence of mind further accounts for the "nature of the subjects' apparent belief systems in comparison to the judge's own assessment of reality" (Main & Goldwyn, 1994, p. 108;  $\rho_1 = .71, p < .001$ ). These scales are viewed theoretically as the single best indicators of security in the AAI and are also highly empirically related in this sample and others with the secure classification (for this sample  $r = .83, p < .001$  [transcript],  $r = .79, p < .001$  [mind]).

#### Ages 20-21: Romantic Relationships Observation

##### Procedure

Beginning at age 20, participants in relationships of four months or longer completed a videotaped observational protocol with their partners. Tasks included discussing a couple-identified problem in their relationship and collaborating on an ideal couple Q-sort.

##### Measures

Graduate research assistants coded videotapes of the couple interactions using ten dyadic rating scales of behavior and affect developed to parallel the parent-child rating scales used at age 13 (Aguilar, Christian, Collins, Cook, Hennighausen, Hyson, Levy, Meyer, Roisman, Ruh, Sesma, Vogeler-Knopp, & Wellman 1997). These scales included Anger, Conflict Resolution, Dyadic Negative Affect, Hostility, Overall Quality, Secure Base, Shared Positive Affect, and three "Balance" scales that corresponded with those used in the 13-year parent-child assessment. Coders were blind to the identity of the original participants within the couples. Interrater reliabilities were high for these ratings with intraclass correlations ( $\rho_1$ 's) ranging from .81 to .95 ( $p$ 's < .001).

As in the parent-child assessment, a principal components analysis (Varimax rotation) was run to reduce the number of variables for mediational analyses using the full sample available for the assessment ( $n = 73$ ). Once again, two components emerged: Romantic Relationship Process (Balance I, Balance II, Conflict Resolution, Overall Quality, Secure Base, and Shared Positive Affect;  $\alpha = .95$ ) and Romantic Relationship Negative Affect (Anger, Dyadic Negative Affect, and Hostility;  $\alpha = .91$ ). Rating scales were averaged to form composites (see Appendix for a description of the composited rating scales). Scales that significantly cross-loaded ( $<.20$  difference in loadings) were dropped from further analysis.

### Results

Descriptive data on the behavior rating scale composites are presented in table 1. Note that although the majority of participants in this high-risk sample were coded as insecure at age 19 (65.6%), the AAI coherence of transcript and mind variables demonstrated adequate variability. The remaining analyses are organized by the set of questions outlined at the end of the introduction <sup>3</sup>.

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Insert table 1 about here

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#### Are representations of parent-child relationships veridical with earlier parent-child experiences?

Replicating earlier work with this sample (Ogawa & Weinfield, 1997), t-tests and correlations presented in tables 2 and 3 demonstrate that AAI security and coherence were associated with higher mean level ratings of parent-child process in observations conducted seven years earlier. It is interesting to note that the composite tapping co-regulation processes yielded stronger relations than the negative affect composites, which were not significantly related to AAI security status or coherence in this study.

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Insert table 2 about here

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Do late adolescent representations of relationships with parents relate prospectively to individual differences in romantic relationship couple behaviors in young adulthood?

Tables 2 and 3 reveal that security and coherence in the AAI were associated higher quality relational process within romantic relationships in young adulthood. As with the parent-child analyses, participants' security status at age 19 did not differentiate romantic couples on ratings focusing on the negative affective tone of their interactions (see table 2). In some contrast, AAI coherence of transcript and mind were significantly associated with less observed negative affect in romantic relationships (see table 3).

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Insert table 3 about here

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Are early adolescent parent-child behavioral patterns linked to the romantic relationship behavioral patterns of young adulthood?

The intercorrelation matrix (table 3) reveals that parent-child process at age 13 was correlated with both romantic relationship process ( $r = .26, p < .05$ ) and negative affect ( $r = -.29, p < .05$ ) eight to nine years later. In line with the theoretical rationale developed in the introduction, these results thus cumulatively presented a correlation across time between parent-child and romantic relationship process that might be mediated by the AAI security and coherence variables.

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Insert table 4 about here

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<sup>3</sup> Although small cell sizes precluded examining results within sex, preliminary analyses using interaction terms revealed no significant sex differences in any of the results reported here.

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Do individuals' representations of their relationships with parents in late adolescence provide a viable mechanism for the across-time linkage between parent-child dyadic behavior and romantic relationship dyadic behavior?

Baron and Kenny (1986) have described four steps in establishing statistical mediation. The first three steps require that the predictor variable, putative mediator, and outcome measures are correlated with one another. The analyses just reported reveal that these conditions hold for the parent-child process (predictor), romantic relationship process (outcome), and AAI security and coherence variables (prospective mediators).

Baron and Kenny's (1986) fourth and final step in establishing mediation is to test whether the path between the predictor variable (parent-child process) and the outcome (romantic relationship process) is reduced to non-significance with the prospective mediator (AAI security, coherence) present in a regression model. In addition, the prospective mediator should share a unique relationship with the outcome after controlling for the effect of the predictor variable (e.g., its  $\beta$  should be significant in the model). Simultaneous regressions (regressing the outcome on the mediator and predictor variable) can test the viability of this fourth step.

Following the logic developed by Baron and Kenny (1986), we estimated a set of three simultaneous regression equations (see table 4). Results demonstrated that AAI coherence of transcript and mind did indeed share a unique relationship with romantic relationship process after controlling for the effect of parent-child process ( $p = .009$  and  $p = .004$ , respectively). The unique relation between AAI security status and parent-child positive process was marginally significant ( $p = .09$ ). Consistent with our mediational hypothesis, in all regression analyses the path between parent-child process and romantic relationship process was reduced to non-significance after

controlling for the relations of the AAI mediator variables to romantic relationship process ( $p$ 's ranged from .12 to .23).

### Discussion

Using an at-risk longitudinal sample, the preliminary analyses of this paper extended previously published work on the relation between young adults' working models of early experiences and their behavior in salient adolescent and adult relationships. Specifically, we began by replicating earlier work (e.g., Kobak et al., 1993; Allen & Hauser, 1996; Ogawa & Weinfield, 1997) demonstrating that representations of past experiences correspond (e.g., are developmentally veridical) with actual experiences in parent-child dyads observed seven years earlier in adolescence. Next, we confirmed prospective links between adolescents' working models of their early experience with parents and their dyadic behavior with romantic partners in later life (longitudinally replicating findings similar to published analyses by Cohn et al., 1992, as well as unpublished work by Gao & Waters, 1998, and Tyrrell & Dozier, 1999). We then went on to present one of the first explicit tests of the implicit mediational model so central to attachment theory and research— that working models of past experience with parents carry one's relationship history forward. Cumulatively, the results of this paper provide some of the first systematic evidence that developmentally salient organizations of behavior do indeed cohere across time and relationships as mediated by the internalized representation of experience (Sroufe & Fleeson, 1986).

Several issues remain, however, due to limitations of the current study. First, in any romantic relationship, partners co-construct the dynamic fabric of their relationship and transform previously adapted patterns of behavior over time. We maintain that it is unlikely that one could truly comprehend any romantic relationship without first deeply understanding both individuals' relationship histories as well as the history of that dyad's partnership. Thus, developmental data gathered from both partners should increase precision in predicting couple behaviors. In this study,



for example, we fully recognize that the effects observed may have been attenuated lacking developmental data on both partners. We look toward longitudinal studies of engaged and married couples now underway (e.g., by Waters, Crowell and their colleagues) to provide critical insights into attachment processes in adult-adult relationships to complement those presented in this report. Data from such studies will focus on what both partners bring into their relationship from the past, not merely on the product of one individual's developmental history.

Due to sample size restrictions, a second limitation was that this study could only broadly examine the distinction between individuals with insecure and secure working models of past experience. Future research should examine the particular kind of insecurity displayed by partners (dismissing, preoccupied, unresolved) and, perhaps even more critical, the match between partners' attachment histories in the prediction of couple behaviors. In line with Kobak's theoretical discussions and empirical findings, we speculate that insecure working models (e.g., dismissing versus preoccupied styles) are each associated with different emotion regulation patterns that may have relatively specific and unique behavioral signatures in dyadic interaction. Reliably identifying these patterns will represent a fundamental step forward in demystifying the mechanisms that may facilitate change in distorted expectations about and destructive behaviors in salient adult relationships.

More generally, we believe firmly that the basic problem of the coherence of behavior across relationships is rooted in a set of very complex questions whose ultimate answers cumulatively lie in the interpretation of large body of research yet to be completed. Where our study hints at connections between relationship behaviors as mediated by internalized relational schemas, future work may complicate matters by identifying variables that moderate continuities in behavior across salient adult relationships. Moreover, attachment theory provides merely one of many potentially useful means by which to conceptualize and empirically examine the transmission of

relationship experiences. Psychoanalytic concepts, family systems perspectives, and social psychological theories will all likely provide mutually informing avenues through which to explore these issues. Simply put, the analyses presented here await systematic attempts at replication through different theoretical lenses and in other samples in order to provide convergent evidence for the phenomena and processes of coherence described in this report.

Despite the clear limitations of this study, the results obtained were indeed remarkable with respect to their support of targeting secure-base relevant phenomena in attachment research as well as in their consistency with regard to our a priori expectations. As hypothesized, working models of relationships assessed using the AAI at age 19 were most clearly related to dyadic behaviors relevant to the secure base dynamics in both parent-child and romantic relationships (e.g., relationship “balance”). In contrast, we observed few correlations between our representational measures and observed levels of dyadic negative affect. At once, these findings point to the importance of keeping the secure base construct “front and center” in attachment research and its theoretical formulations (Waters & Cummings, 2000) while also empirically demonstrating the importance of assessing behaviors within their relational and developmental context. Starting with the groundbreaking work by Mary Ainsworth in the development of her maternal sensitivity scales, attachment researchers have continually emphasized that tallies of behaviors divorced from context simply cannot serve to index salient relationship processes per se; rather, judgments regarding the meaning that behaviors take on within relationships are essential for tapping the deep structure of dyadic experience.

Though we do not wish to merely recapitulate here the excellent theoretical lessons available in Waters and Cummings (2000) recent Child Development article, we emphasize also (here empirically) that neither working models of experience nor secure base behavior should be neglected in future research on adult attachment. As aforementioned, a complete understanding of

developmental coherence (e.g., continuity and lawful discontinuity) requires good assessment and sound theory regarding both. Moreover, attachment researchers must be careful to keep in mind that not all dyadic behavior is likely to be relevant to attachment. Thoughtful attention to what aspects of behavior ought to be measured in studies of adult attachment must be heeded if Bowlby's theory is to continue to provide insights into close relationships through the new millennium and beyond.

In sum, this paper presented one of the first explicit and successful mediational tests of the viability of adolescent working models as a specific mechanism for the coherence of secure base relevant behavior across parent-child and romantic relationships. The implications of this work are notable in that they make suggestions about the far-reaching influence of one's past in organizing expectations about and ultimately behavior in adult relationships. These data also stir new questions. To what extent does our early experience play out in our adult relationships? Further, do adult romantic relationships, as they progress and become more permanent, reconfigure the expectations we have about significant adult partnerships? Most important, how can we overcome past negative relationship experiences, once identified, to go on to engage in satisfying adult relationships? These questions look to future research for thoroughgoing answers. What these data suggest, however, is that though we may be done with the past, the past is by no means done with us.

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## Appendix

Brief Description of Rating Scales that Compose Each Composite (in order of loading)

1. Parent-Child Process ( $\alpha = .83$ )
  - I. Balance I: Degree of willingness to express individual ideas freely
  - II. Positive Affect: Amount of reciprocal personal regard and pleasure
  - III. Emotional Engagement: Level of emotional connectedness
  - IV. Balance III: Ability of the parent-child dyad to meet task demands
2. Parent-Child Negative Affect ( $\alpha = .89$ )
  - I. Conflict: Frequency and intensity of disagreements
  - II. Confrontive-Attacking: Use of challenging or judgmental statements
  - III. Anger: Degree and pervasiveness of direct anger, irritation, and fighting
  - IV. Hostility: Degree and pervasiveness of coldness, rejection, and hurtfulness
3. Romantic Relationship Process ( $\alpha = .95$ )
  - I. Balance I: Degree of willingness to express individual ideas freely
  - II. Conflict Resolution: Ability to resolve conflict in a way that leads to mutual satisfaction
  - III. Balance II: Degree to which the relationship serves individual development
  - IV. Overall Quality: Global rating of mutual caring, emotional investment, and trust
  - V. Secure Base: Ability to seek or provide care in a timely, contingent manner
  - VI. Shared Positive Affect: Amount of reciprocal personal regard and pleasure
4. Romantic Relationship Negative Affect ( $\alpha = .91$ )
  - I. Dyadic Negative Affect: Amount of reciprocal tension and irritability
  - II. Anger: Degree and pervasiveness of direct anger, irritation, and fighting
  - III. Hostility: Degree and pervasiveness of coldness, rejection, and hurtfulness

Table 1

Descriptive Statistics (n=61)

<u>Measure</u>	<u>Min</u>	<u>Max</u>	<u>M</u>	<u>SD</u>
Parent-Child Process	3.00	6.75	4.92	.79
Parent-Child Negative Affect	1.00	4.50	2.05	.79
Romantic Rel. Process	1.17	6.33	3.95	1.25
Romantic Rel. Negative Affect	1.00	6.00	2.04	1.24
AAI Coherence (Transcript)	1.00	7.00	4.16	1.60
AAI Coherence (Mind)	1.00	8.00	4.11	1.73

Note. Parent-child observation was conducted at 13, AAI administered at 19, and romantic relationship observation occurred at age 20-21.



Table 2

Means and t-tests for Analyses of AAI Security Status Explaining Parent-Child and Romantic Relationship Behavior Rating Scale Composites

<u>Outcome</u>	<u>M (SD)</u>		<u>t</u>	<u>df</u>	<u>p</u>
	<u>Secure</u> ( <u>n=21</u> )	<u>Insecure</u> ( <u>n=40</u> )			
Parent-Child Process	5.20 (.61)	4.77 (.83)	2.10	(1,59)	.04
Parent-Child Negative Affect	2.09 (1.02)	2.03 (.66)	0.22	(1,29)	.83†
Romantic Relationship Process	4.42 (1.34)	3.71 (1.14)	2.18	(1,59)	.03
Romantic Relationship Negative Affect	1.79 (1.17)	2.17 (1.27)	1.12	(1,59)	.27

† As Levene's test for inequality of variances was significant for this analysis, the  $t$  statistic reported does not assume equal variances across groups. The results remain unchanged if equal variances are assumed.

Note. Parent-child observation was conducted at 13, AAI administered at 19, and romantic relationship observation occurred at age 20-21.

Table 3

Intercorrelations Among Parent-Child and Romantic Relationship Behavior Rating ScaleComposites and AAI Coherence of Transcript and Mind Ratings (n = 61)

<u>Measure</u>	1	2	3	4	5	6
1. Parent-Child Process	--	-.37**	.26*	-.29*	.27*	.30*
2. Parent-Child Negative Affect		--	-.10	.11	-.03	-.08
3. Romantic Relationship Process			--	-.75***	.38**	.41**
4. Romantic Relationship Negative Affect				--	-.26*	-.28*
5. AAI Coherence of Transcript					--	.95***
6. AAI Coherence of Mind						--

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

Note. Parent-child observation was conducted at 13, AAI administered at 19, and romantic relationship observation occurred at age 20-21.

Table 4

Summary of Simultaneous Regression Analyses for Parent-Child Process and AdultAttachment Interview Mediator Variables Predicting Romantic Relationship Process (n = 61)

<u>Variable</u>	AAI Mediator Variable											
	Secure/Insecure				Coherence (Transcript)				Coherence (Mind)			
	<u>B</u>	<u>SE B</u>	$\beta$	<u>p</u>	<u>B</u>	<u>SE B</u>	$\beta$	<u>p</u>	<u>B</u>	<u>SE B</u>	$\beta$	<u>p</u>
P-Child Process	.33	.20	.21	.12	.28	.20	.17	.17	.24	.20	.15	.23
AAI Mediator	.57	.34	.22	.09	.26	.10	.33	.009	.27	.09	.37	.004

Note.  $R^2$ 's for full models range from .11-.19. Parent-child observation was conducted at 13, AAI administered at 19, and romantic relationship observation occurred at age 20-21.