

## Autonomy and relatedness in adolescent-family interactions as predictors of young adults' states of mind regarding attachment

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### Abstract

This study examined the extent to which the diverging pathways taken by adolescents and their parents in establishing autonomy and relatedness in their interactions at age 14 served as stage-specific markers of underlying attachment processes that could help predict states of mind regarding attachment of the adolescents 11 years later as young adults. Adolescents in two-parent families ( $N = 73$ ) and their parents, originally selected from either a high school sample or a psychiatrically hospitalized sample, participated in a revealed differences family interaction task when adolescents were 14 years of age. At age 25, subjects were reinterviewed using the Adult Attachment Interview, which yielded ratings of specific states of mind and overall organization of models of attachment relationships. After accounting for the prior psychiatric history of the sample (which was highly related to attachment insecurity) and global indices of functioning in both adolescence and young adulthood, coherence/ security in adults' states of mind regarding attachment was predicted from maternal behaviors promoting adolescent autonomy and relatedness 11 years earlier. One indicator of adult preoccupation with attachment relationships, passivity of thought processes, was predicted from adolescents' autonomy-inhibiting behaviors, specifically from the presence of enmeshing behaviors and the absence of distancing behaviors. Results are interpreted as suggesting that establishing autonomy and relatedness with parents may be an attachment-related, developmental task for both normal and at-risk adolescents, and that serious psychopathology and difficulties establishing autonomy and relatedness in adolescence may represent two independent pathways to insecure attachment models in young adulthood.

The role of the attachment system in social development is becoming increasingly well-documented in studies of infancy, childhood, and adulthood, although the developmental pathways that connect these periods are just beginning to be explored. Lifespan and inter-generational continuities have now been demonstrated from security in infant-parent at-

tachments to social functioning in preschool and early elementary school, and from parents' states of mind with respect to attachment to the attachment organization of their offspring (Benoit & Parker, 1994; Fonagy, Steele, & Steele, 1991; Fonagy, Steele, Moran, Steele, & Higgitt, 1993; Main, Kaplan, & Cassidy, 1985; Matas, Arend, & Sroufe, 1978; Sroufe, 1983; Waters, Wippsman, & Sroufe, 1979).

In contrast to the growing body of research examining predictors and outcomes of infant attachment status, continuities in attachment processes from adolescence into young adulthood have received little attention in normal populations and virtually no attention in at-risk populations, in which the relation of attachment processes to other developmental

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processes may be brought into particularly sharp focus. Serious psychopathology in adolescence, for example, has been found to mark one pathway to insecure attachment organization in young adulthood (Allen, Hauser, & Borman-Spurrell, 1996). In adolescence, research suggests that maladaptive patterns of family interactions may reflect current insecurity, although it is unclear whether these patterns in adolescence have long-term implications for future attachment status (Carlson, 1990; Kobak, Ferenz-Gillies, & Fleming, 1993). What is also unclear is whether disturbed family interactions and serious psychopathology reflect two different pathways to the same insecure adult outcome (e.g., equifinality), or whether they are largely redundant markers of the same pathway toward future attachment difficulties. In either case, understanding the full range of stage-specific manifestations of attachment processes in adolescence as they predict future adult attachment organization is critical to successfully mapping the developmental transformations of the attachment system across the lifespan (Sroufe & Jacobvitz, 1989).

Several studies have begun to identify qualities of adolescent-mother interactions as stage-salient markers of qualities of adolescent attachment models. Carlson (1990) has linked insecure-preoccupied adolescent states of mind in a modified Adult Attachment Interview (AAI) to lower levels of adolescent-reported trust and communication and higher levels of alienation from mothers. Kobak et al. (1993), using the Adult Attachment Q-sort, report that secure (vs. insecure) adolescents participated in maternal-adolescent interactions with a greater balance of maternal and adolescent assertiveness, less dysfunctional anger, and less avoidance of problem solving. Adolescents' use of repressing attachment strategies in the AAI (associated with avoidant/dismissing models of attachment) was also linked to maternal dominance and to higher levels of dysfunctional anger in the interaction. Kobak and colleagues interpret these findings as reflecting the import, for secure adolescents, of a "goal-corrected partnership" in problem solving between mother and adolescent.

Kobak's focus upon the goal-corrected partnership between adolescents and mothers suggests that the pathways taken by both parents and adolescents in negotiating the major developmental tasks of this relationship may provide an important window into the functioning of the attachment system in adolescence. One of the primary tasks of this relationship is for the adolescent to establish autonomy while maintaining relatedness in interactions with parents (Allen, Hauser, Bell, & O'Connor, 1994; Collins, 1990; Grotevant & Cooper, 1985; Hill & Holmbeck, 1986; Moore, 1987; Steinberg, 1990). Although autonomy and relatedness have sometimes been placed at opposite ends of a continuum, research is increasingly suggesting that for optimal social development, parent-adolescent relationships should incorporate both qualities, a state that Bowlby has termed "autonomous relatedness" (Allen et al., 1994; Bowlby, cited in Murphey et al., 1963; Collins, 1990; Grotevant & Cooper, 1985; Moore, 1987).

In important respects, the pursuit of autonomy and relatedness in interactions with parents may be adolescent-era analogues of attachment processes that are observed with infants and caregivers. The adolescent's task of establishing autonomy while maintaining positive relationships with parents is functionally similar to the infant's task of exploring the environment from the secure base of the parent-infant relationship (Bowlby, 1980). In assessing attachment in adulthood, security is seen in states of mind that are defined as "autonomous with respect to attachment: freely valuing yet objective" (Main & Goldwyn, in press). Thus, we might expect the adolescent's autonomy (or lack thereof) in interactions with parents to be linked to later attachment models. Given associations between maternal sensitivity to an infant's developmental needs and that infant's attachment status (Sroufe, 1985), we might also predict that maternal sensitivity to the adolescent's need to establish autonomy and relatedness with parents will be linked to an adolescent's attachment security.

One arena in which issues of autonomy and relatedness consistently emerge in adoles-

cence occurs when parents and teens must handle a difference of opinion. Autonomy in this arena can be seen in behaviors that differentiate a person from others, reflecting independence of thought and self-determination in social interaction. Relatedness can be seen in behaviors displaying interest, involvement, and validation of another person's thoughts and feelings (Allen et al., 1994). Adolescent-family interactions not characterized by autonomous relatedness may deviate from this ideal in several ways, each of which may potentially mark different pathways toward insecure attachment organization in young adulthood (i.e., equifinality).

First, members of a dyad may display low levels of autonomous relatedness, verbally withdrawing from discussing their difference of opinion. In mother-adolescent interactions, these behaviors have been concurrently linked to insecurity in adolescents' attachment models (Kobak et al., 1993).

Second, family members may actively and directly inhibit their own and others' autonomy, for example, by actively eameshing themselves in an argument, or by distancing themselves from it. The use of eameshing behaviors—such as overpersonalizing disagreements—to inhibit autonomy closely resembles the confusion and mental entanglement with attachment figures found in adults with insecure/preoccupied models of attachment relationships (Allen, Hauser, Borman-Spurrell, & Worrell, 1991; Main & Goldwyn, in press). In contrast, use of distancing behaviors to inhibit autonomy—such as quickly recanting one's beliefs to avoid an argument—would appear to reflect a more insecure/dismissing approach to attachment relationships. Finally, family members may actively inhibit relatedness within dyads by making hostile comments or by pointedly ignoring the other member of the dyad. Relatedness-inhibiting behavior appears likely to be associated with insecurity in adolescent or adult models of attachment, but the precise nature of this association is difficult to predict from prior research. Studies in infancy and adulthood have linked angry conflict to preoccupation and ambivalence (Cassidy & Kobak, 1988; Crittenden, 1992; Lewis, Feiring, McGuffog,

& Jaskir, 1984; Schneider-Rosen, 1990), whereas in adolescence, dysfunctional anger in a mother-adolescent dyad has been related to repressing/dismissing adolescent states of mind (Kobak et al., 1993).

Each of these paths taken in addressing the developmental challenge of establishing autonomy and relatedness in adolescent-parent interactions (exhibiting autonomous relatedness, inhibiting autonomy, and inhibiting relatedness) can thus be theoretically linked to adolescent attachments. Yet, empirical support for these links depends almost entirely upon a few cross-sectional studies examining mother-adolescent interactions at the dyadic level (Carlson, 1990; Kobak et al., 1993). This dyadic approach, while acknowledging the interdependence of maternal and adolescent behaviors, has not considered potential role differences within dyads (e.g., adolescent strivings for autonomy vs. maternal provision of a secure base supporting autonomy and relatedness). Similarly, within families, both maternal and paternal behaviors potentially serve similar functions, yet fathers' roles have received little scrutiny. Also, no prior research has examined long-term continuities from adolescent-family interactions to states of mind regarding attachment field in young adulthood. Finally, research has not yet considered whether pathways leading from adolescent psychopathology to young adult attachment insecurity and from adolescent-family interactions to young adult attachment models represent different paths to the same outcome, with little overlap between them (equifinality), or whether they actually represent the same pathway as viewed through a different lens (i.e., effects of severe psychopathology are almost totally confounded with effects of family processes).

This study examined theoretically predicted continuities between adolescent-family interactions and attachment processes later in the lifespan by observing adolescents interacting with their parents at age 14 years and then assessing their states of mind with respect to attachment 11 years later as 25-year-old young adults. Individuals at two very different levels of functioning in adolescence were assessed: a high school sample and a sample of

adolescents who were psychiatrically hospitalized at age 14.

The central hypothesis underlying this study was that maternal-adolescent interactions supporting autonomous relatedness would predict security assessed both as coherence and as an overall secure organization in young adults' states of mind regarding attachment. Possible similar functions of paternal-adolescent interactions were also examined, although prior research did not support specific hypotheses about these interactions. Additionally, we assessed the role of behaviors inhibiting autonomy, via *enmeshing* and distancing statements, as predictors or preoccupied or dismissing adult states of mind (respectively). Within the family, adolescents' autonomy-inhibiting behaviors were hypothesized to be most predictive of later attachment difficulties, given their opposition to developmental trends, although parents' behaviors were also assessed. Finally, in more exploratory fashion, we assessed whether any qualities of adolescent-parent interactions were predictive of dismissing adult attachment strategies.

The two-group design of the study allowed assessment of family interaction predictors of future attachment models while also considering its interaction with an identified major functional predictor of attachment insecurity—prior psychiatric hospitalization (Allen et al., 1996). We sought to gain maximum information about different potential pathways to security and insecurity in young adulthood from the two-group design of the study by assessing the extent to which observed continuities were specific to attachment and family processes versus being reflections of underlying psychopathology. We began by capitalizing on variation between the two groups, assessing continuities using the combined sample (after examining potential interactions of subsample with relevant continuities). This approach is used to detect meaningful continuities across extreme groups that may not be apparent or easily detected within normal populations, especially across long periods of time (Hinde & Dennis, 1986; Kagan, Reznick, & Gibbons, 1989). Additionally, by clarifying what occurs when certain develop-

mental processes do versus do not proceed smoothly, this approach can help illuminate the basic function of these developmental processes (Cicchetti, Cummings, Greenberg, & Marvin, 1990).

We followed these initial analyses with a more conservative strategy examining whether the constructs of autonomy and relatedness added anything to long-term predictions of attachment *over and above* prior psychopathology. This second approach yields information about whether autonomy and relatedness in adolescent-family interactions predict attachment across two samples with a wide range of levels of functioning, without in any way capitalizing on the variation between these samples. Finally, we re-examined the same models while *additionally* covarying both an adolescent and an adult index of general functioning: adolescent ego development at age 16, a widely used global index of psychosocial development (Frank & Quinlan, 1976; Hauser, 1976; Loevinger, 1976, 1979; Rosznafsky, 1981), and global psychological distress at age 25, a widely used measure of adult symptomatology (Allen et al., 1996; Derogatis, 1983; Jones, Cumming, & Horowitz, 1983; Tangney, Wagner, & Gramzow, 1992). Inclusion of these covariates allowed us to examine whether specific continuities observed were unique to attachment and family processes, or whether they could be explained simply as reflections of continuities in overall levels of functioning. All later, more conservative analyses were conducted only when earlier stages yielded significant findings.

This approach thus assessed whether predictions from adolescent psychopathology and from dysfunctional adolescent family interactions represent distinct, independent pathways to the same outcome of insecure young adult attachment, or whether psychopathology and dysfunctional family interactions are so highly confounded that they should be considered part of the same pathway. Similarly, while the pathway between severe adolescent psychopathology and later attachment insecurity has been found to be relatively direct and nonvarying, we nevertheless expected to find variability in the coherence of attachment

models (which roughly corresponds to the degree of security or insecurity) within the formerly hospitalized group and within the insecure range of attachment models. And, we expected that these variations in coherence would bear the same general relations to prior family interactions in the psychiatric group as in normal families. In other words, while severe adolescent psychopathology was expected to be associated with both higher levels of dysfunctional family interactions and higher later attachment insecurity, relations between these interactions and later insecurity were still expected to exist in a disturbed sample.

## Method

### Subjects

Seventy-three adolescents (40 female and 33 male) and their two parents participated in this study (Total  $N = 219$ ). Each family included an adolescent who was selected as a high school freshman ( $N = 38$ ) or a similar-aged, nonpsychotic, nonorganically impaired, psychiatrically hospitalized adolescent ( $N = 35$ ;  $M = 14.7$  years). Adolescents were re-interviewed as young adults 11 to 12 years after their initial interviews ( $M = 25.3$  years). These 73 young adults were originally part of a sample of 77 adolescents in two-parent families interviewed at age 14 (a 95% reinterview rate). Of the four adolescents not re-interviewed, one was deceased, and the other three were recontacted but refused to participate. The small number of noncontinuing subjects precluded formal attrition analyses.

Hospitalized adolescents carried a range of DSM-III-R (American Psychiatric Association, 1987) diagnoses, obtained via chart reviews, including oppositional defiant disorder (21%), conduct disorder (19%), major depression (19%), other mood disorders (8%), and a diverse assortment of other disorders (33%). Specific adolescent diagnoses within this group have not been found to differentially predict long-term attachment outcomes suggesting that homogeneity with regard to presence of severe pathology may have been more salient for this group than heterogeneity

with regard to diagnosis (Allen et al., 1996). Nevertheless, for analyses, depression and mood disorders were grouped into internalizing disorders (29%) and conduct and oppositional defiant disorders were classified as externalizing disorders (41%). For these larger groupings, there was 92% agreement between groupings based on DSM-III-R diagnoses and those based upon original DSM-II diagnoses made for subjects.

All families in both groups were White, and were predominantly upper and upper middle-class (Mean Hollingshead, 1975 socioeconomic status = 2.01,  $SD = 1.05$ ). Subjects and their families were paid \$30.00 for participating in the family session at age 14 years. High school subjects were recruited from the freshman class of a large suburban high school, with approximately 1/3 of the class ultimately participating in a larger study (see Hauser, 1991 for further detail) from which the current sample of two-parent families was drawn. Hospitalized subjects were recruited from successive admissions of 14-year-olds to a private psychiatric hospital, excluding those with thought disorder or organic impairment. Young adults were paid \$120 for participating in the follow-up data collection, which included a 3-hr battery of measures.

Subjects from the high school and psychiatrically hospitalized groups did not significantly differ in terms of age, gender, birth order, or number of siblings, and differed only slightly (though significantly) in social class (higher for the high school sample). Potential interactions of history of hospitalization with findings of continuity from adolescence to young adulthood (i.e., significant differences in the nature of continuities across the two groups) were examined and are discussed below.

### Setting and procedure

Individual adolescent subjects and families were assessed at age 14 in private offices at either the hospital (for the psychiatrically hospitalized sample) or their school (for the high school sample). Family interaction data were collected in the third of three sessions (spaced 1 month apart) conducted as part of a larger

study (Hauser et al., 1984). Prior sessions involved collection of self-report and semistructured interview data from family members. Family interaction data were generated from a revealed differences task (Strodbeck, 1951) in which family members were first interviewed separately about their opinions about hypothetical moral dilemmas (Colby & Kohlberg, 1987), and then brought together to discuss issues about which they were identified by researchers to have disagreed. Family members were asked to take up to 10 min to discuss the first disagreement presented to them, and if possible, to arrive at a family consensus. Families were then presented with a new disagreement to discuss. This procedure continued for 30 min, with disagreements presented in order to alternate which family member was in the minority in a disagreement.

Ego development assessments were obtained at age 16 in private offices at the research site for all subjects, as one in a series of assessments conducted with subjects and their families between the ages of 14 and 17 years.

In young adulthood, subjects were interviewed to obtain attachment data and a measure of global psychological distress, in private offices either at the research site, or for subjects living at a distance who preferred not to travel, in private offices in hotels, libraries, and similar sites near subjects' residences.

### Measures

**Autonomy and Relatedness Coding System.** The Autonomy and Relatedness Coding System (Allen et al., 1991; Allen et al., 1994) builds upon constructs described by Grotevant and Cooper (1985) and examines speeches promoting or inhibiting autonomy and relatedness in the family. The system codes 10 different types of speech which can then be summed into 3 major scales for behaviors: (1) *exhibiting autonomous relatedness*, which sums specific subscales for expressing and discussing reasons behind disagreements, confidence in stating one's positions, validation/agreement with another's position, and attending to the other person's statements; (2)

*inhibiting autonomy*, which sums subscales for overpersonalizing a disagreement, recanting a position without appearing persuaded that the position is wrong (thus ending the discussion), and pressuring another person to agree (other than by making reasoned arguments); and (3) *inhibiting relatedness*, which sums subscales for expressing hostility, and interrupting/ignoring the other person.

Codes were obtained by reviewing transcripts and audiotapes of family interactions. A 0-4 rating is obtained for each subscale, using half-point intervals and concrete behavioral anchors of the meaning of each full point of the subscale. The three overall scale scores are created by summing the individual subscales for a given overall scale. Each family members' behavior toward each other family member was coded. For example, a separate scale is obtained for adolescents' exhibition of autonomous relatedness with each parent and for each parent's behavior toward the adolescent.

Interrater reliabilities for the three overall autonomy and relatedness scales were calculated using intraclass correlation coefficients, which differ from Pearson correlations in that they incorporate information both about the simple linear relation among multiple ratings and any mean differences between raters (Pearson correlations only consider the former, allowing mean differences between raters to go undetected). Cicchetti and Sparrow (1981) have determined using biostatistical models that reliabilities above .60 can be considered good, and those above .75 be considered excellent when using intraclass correlations. In our sample, intraclass correlations were .84, .82, and .70 for exhibiting autonomous relatedness, inhibiting relatedness and inhibiting autonomy, respectively, placing all scales in the good to excellent range.

Mean internal consistencies (Cronbach's alpha) for the three scales were .82, .55, and .31 for exhibiting autonomous relatedness, inhibition of relatedness and inhibition of autonomy, respectively. Given the functional differences already described among behaviors that inhibit autonomy by distancing oneself from an argument versus enmeshing oneself in it, and the concomitant low internal consis-

tencies for the inhibiting autonomy scale, we also considered the likelihood that specific behaviors inhibiting autonomy (overpersonalizing a disagreement, recanting a position prematurely, and pressuring another person), might differentially predict some attachment outcomes. Scales for these three behaviors had interrater reliabilities of .68, .66 and .54, respectively. Thus, only the subscales for overpersonalizing and recanting behaviors met the Cicchetti and Sparrow (1981) criteria for good interrater reliability and were used further. Analyses using these two subscales are reported and discussed below only if they yielded results that differed from those obtained for the overall inhibiting autonomy scale.

Exhibiting autonomous relatedness was virtually uncorrelated with either inhibiting autonomy or inhibiting relatedness (mean  $r$ 's across dyads were -.08 and -.13, respectively). Inhibiting autonomy and inhibiting relatedness were moderately positively correlated (mean  $r$  across dyads = .34). Construct validity and psychometric adequacy of each of this system has been demonstrated in prior research that has linked all three scales to concurrent measures of adolescent ego development and self-esteem and to changes over a 2-year period in both measures, all in accord with theoretical expectations (Allen et al., 1994).

**Adult Attachment Interview.** This structured interview (George, Kaplan, & Main, 1984) probes individuals' descriptions of their childhood relationships with parents in both abstract terms, and with requests for specific supporting memories. For example, subjects were asked to list five words describing their early childhood relationships with each parent, and then to describe specific episodes that reflected those words. Other questions focused upon specific instances of upset, separation, loss, trauma, and rejection. Finally, the interviewer asks subjects to provide more integrative descriptions of changes in relationships with parents and the current state of those relationships. Each interview lasted 1 hour on average. Interviews were audiotaped and transcribed for coding.

The AAI Coding System (Main & Goldwyn, in press), was used to provide codes for specific aspects of individuals' states of mind with respect to attachment. A scale for subjects' overall coherence in the transcript reflects the clarity, internal consistency, orderliness, and relevance of subjects' descriptions of attachment relationships. This 9-point scale, using half-point intervals, is considered the single best continuous indicator of the security implicit in an adult's models of attachment relationships (Main & Goldwyn, in press). Additionally, two scales reflecting preoccupied states of mind: *passivity of thought processes* and *involved anger*, and three scales reflecting dismissing states of mind: *idealization of parents*, *insistence upon lack of recall*, and *derogation of attachment* were assessed. Prior research has demonstrated highly significant relations of these scales to the theoretically linked overall classifications (Rosenstein, 1992) and to external indices of functioning, including strange situation behavior of offspring (Allen et al., 1996; Cowan, Cohn, Cowan, & Pearson, 1996; Pearson, Cohn, Cowan & Cowan, 1994; Fonagy et al., 1991). Continuous state of mind scales were used because they offer the advantage of allowing finer grained assessment of individual differences and of variation within overall classifications that were also assigned (e.g., between moderately and highly incoherent individuals in the previously hospitalized sample; Pearson et al., 1994).

Additionally, interviews were classified into one of four categories for overall state of mind with respect to attachment: (a) Secure—Autonomous yet Freely Valuing of Attachment; (b) Insecure—Dismissing of Attachment Relationships; (c) Insecure—Preoccupied with Attachment Relationships; and (d) Insecure—Unresolved with Respect to Past Loss or Trauma. These classifications parallel the infant classifications of secure, insecure/avoidant, insecure/ambivalent, and insecure/disorganized, respectively. They have been related to parenting behaviors and to the security of interviewees' infant offspring in Strange Situation procedures (Crowell, Feldman, & Ginsberg, 1988; Fonagy et al., 1991; 1993; Main, Kaplan, & Cassidy, 1985). A

number of interviews contained types of insecurity that did not clearly fit one of these classifications. These were not forced into classifications, but were labeled "cannot classify" and set aside in analyses using overall classifications. However, as the "cannot classify" rating refers only to a lack of clear fit to an overall insecure classification, and not to technical problems in transcription or in the interviews, it was possible to assign and use state of mind scale scores for these subjects.

All interviews were rated by a co-leader of the Adult Attachment Institute Workshops (E. Hesse), who was blind to all other data from subjects. Interrater reliability of overall classifications was established using two additional blind raters (J. Crowell & U. Wartner) who classified an additional 15 and 21 transcripts, respectively, with a combined level of 83% agreement with the primary rater on overall classifications ( $\kappa = .79$ ). Interrater reliabilities for scales were calculated for the one reliability rater who had been explicitly trained in use of these scales (U. Wartner) and were deemed adequate (i.e.,  $r > .65$ ) for scales assessing overall coherence, passivity of thought, insistence upon lack of recall of childhood, and derogation of attachment ( $r$ 's = .72, .67, .77, and .86, respectively). These somewhat low scale reliabilities may reflect the difficulty in rating a highly disturbed sample, or simply that our reliability raters were trained prior to the point at which increased emphasis was placed upon reliability of scale scores (vs. overall classifications). The primary coder of all transcripts, E. Hesse, was fully trained in reliably coding scales. Low reliabilities would tend to attenuate observed relations to other variables in the study.

**Ego development.** The assessment of ego development, constructed by Loevinger and her associates (Loevinger & Wessler, 1970; Loevinger, Wessler, & Redmore, 1970), utilized a 36-item sentence completion test and theoretically derived scoring system. Item-sum scores were obtained by summing each subject's 36-item scores. There is much evidence for the reliability and validity of this instrument as an indicator of overall psychosocial maturity (Hauser, 1976, in press; Loevinger,

1979, 1985). Interrater reliabilities within this data set (using intraclass correlations) have ranged from .70 to .92.

**Psychological distress.** The Hopkins Symptom Checklist 90-R (SCL90-R; Derogatis, 1983) was used to provide an index of global psychological distress, based upon the mean rating across 90 items describing symptoms commonly identified by psychiatric and medical patients using a 4-point Likert scale.

## Results

### Preliminary analyses

$T$  tests and  $\chi^2$  tests for effects of subject gender on adolescent-family interaction measures and on young adult attachment measures revealed only the number of effects expectable by chance (none more significant than  $p = .02$ ). There were no statistically significant interactions of subject gender with any of the relations reported in this study.

Preliminary analyses of the relation of age 16 ego development to adult attachment indices reveal correlations only with overall coherence ( $r = .39$ ,  $p < .003$ ), with secure (vs. insecure) overall attachment organization ( $p < .006$ ) and a trend toward a negative correlation with passivity of thought regarding attachment. Age 25, global distress was related only to derogation of attachment ( $r = .35$ ,  $p < .006$ ).

### Effects of prior psychiatric history

Table 1 presents means and/or frequencies for all measures used in the study separately for the high school and psychiatric groups. Similar data for adolescent-family interaction measures and for attachment measures on slightly different samples from this study have previously been presented in Allen et al. (1994, 1996).

$T$  tests and  $\chi^2$  tests revealed a number of significant effects of history of psychiatric hospitalization at age 14. As previously reported with a larger sample from which this sample was derived (Allen et al., 1996), there was a clear effect of psychiatric history on



Table 1. Means and frequencies of all scales

	High School (N = 38)	Psych. Hosp. (N = 35)	Total N (%)
Breakdown of overall attachment classification			
Secure/autonomous	19	2	21 (29)
Insecure/dissmissing of attachment	3	5	8 (11)
Insecure/preoccupied	6	8	14 (19)
Insecure/unresolved	7	10	17 (23)
Unable to classify overall	3	10	13 (18)
Attachment rating states of mind			
Overall coherence	4.50*** ± 2.07	2.34 ± 1.50	
Passivity of thought processes	2.64*** ± 2.18	3.50 ± 2.03	
Overall derogation of attachment	1.32* ± 0.85	2.31 ± 2.22	
Lack of recall	3.59+ ± 2.03	4.49 ± 2.22	
Family interactions			
Mother → adolescent			
Autonomous relatedness	2.52+ ± 0.59	2.30 ± 0.43	
Inhibiting autonomy	0.93 ± 0.63	0.94 ± 0.50	
Inhibiting relatedness	0.47 ± 0.71	0.48 ± 0.54	
Father → adolescent			
Autonomous relatedness	2.78*** ± 0.42	2.30 ± 0.65	
Inhibiting autonomy	0.84 ± 0.60	1.05 ± 0.53	
Inhibiting relatedness	0.58 ± 0.78	0.58 ± 0.71	
Adolescent → mother			
Autonomous relatedness	2.50*** ± 0.67	1.30 ± 0.64	
Inhibiting autonomy	0.34 ± 0.30	1.05 ± 0.74	
Inhibiting relatedness	0.72+ ± 0.84	1.12 ± 1.12	
Adolescent → father			
Autonomous relatedness	2.56*** ± 0.55	1.75 ± 0.72	
Inhibiting autonomy (overall)	0.96 ± 0.68	1.16 ± 0.68	
Overpersonalizing	1.63 ± 1.23	2.00 ± 1.40	
Recanting positions	0.64 ± 0.32	0.99 ± 1.04	
Inhibiting relatedness	0.96 ± 0.92	1.25 ± 1.16	
Psychosocial Functioning			
Ego development (age 16)	169.1*** ± 19.4	144.4 ± 24.2	
Global symptomatology (Age 25)	0.57* ± 0.37	0.39 ± 0.62	

Note: Values are mean ± SD. \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; + $p < .10$ . For overall attachment classifications,  $\chi^2$  test of group effect was highly significant,  $p < .001$ . Significance levels for means are from *t*-test comparisons of means across groups.

young adult attachment classification. As Table 1 shows, this effect was seen most clearly in the lack of secure classifications in the previously hospitalized group (50% secure in high school sample vs. 5% secure in psychiatric sample). Psychiatric history was also related to lower levels of expressed autonomous relatedness by the adolescent toward both mother and father and by fathers toward adolescents. Table 1 also includes means for subscales of the inhibiting autonomy scale for adolescents' interactions with fathers, because these subscales were used in several analyses below. Prior hospitalization was also related

to both lower ego development at age 16 and higher concurrent global distress at age 25. No effects were found for type of diagnosis of adolescents (internalizing vs. externalizing) on any outcome measures assessed, consistent with prior findings with this sample (Allen et al., 1996).

In contrast to the main effects of psychiatric history, psychiatric history did not interact with any of the family variables assessed to predict any of the attachment outcomes described below. Within the obvious power limitations imposed by the small sample sizes observed, this finding indicates that the patterns

of prediction from family interactions to later attachment models described below did not differ significantly across the high school and psychiatrically hospitalized samples. This finding also indicates that combining these two subsamples in subsequent analyses to maximize the power of the analyses would not obscure significant differences in patterns of relations between groups. In other words, the subsamples differ in their overall levels of attachment security and family interactions, but the relations between family interactions and attachment models are *not* significantly different across samples. To maximize power, samples were thus combined for subsequent analyses.

#### *Predicting overall coherence*

*Interactions with mothers.* Coherence in adults' descriptions of their attachment histories was hypothesized to be predicted from qualities of autonomy and relatedness in mother-adolescent interactions. Initial regression analyses in which the two groups were simply combined without including covariates yielded findings revealing that demonstrations of autonomous relatedness by mothers or by adolescents toward their mothers, predicted later coherence. These initial models each accounted for 15 to 20% of the variance in later coherence.

As planned, these significant analyses were then followed by hierarchical regressions assessing whether either mothers' or adolescents' behaviors in adolescent-family interactions were predictive of later coherence after first accounting for the psychiatric history of half the sample. Only mothers' behaviors (not adolescents') significantly added to predictions of coherence in regression equations as depicted in Table 2. Mothers' promotion of autonomous relatedness in interactions significantly predicted later coherence in young adult interviews. Table 2 also presents simple correlations of maternal behaviors with coherence within the high school sample. These reveal a correlation of  $r = .37, p < .05$ , in which mothers' behavior promoting autonomous relatedness in interactions predicted adolescents' coherence in the AAI at age 25, consis-

tent with results of regression equations for the entire sample.

Finally, analyses also were conducted in which both age 16 ego development and age 25 global distress were included along with a dummy variable for prior psychiatric history as the first step in a hierarchical regression. Inclusion of these additional covariates did not alter the direction or the significance of any of the findings, including simple correlations reported in Table 2. Thus, maternal promotion of teen autonomy and relatedness continued to add to the prediction of young adult coherence even after accounting for the group effects and for both an adolescent and an adult marker of overall development and functioning. These results are not labeled separately both to avoid redundancy and because missing data on the additional measures resulted in a smaller sample for these analyses ( $N = 56$ ). Similarly, no differences in the role of behaviors inhibiting autonomy were found in any of the above analyses if the two inhibiting autonomy subscales were substituted for the overall inhibiting autonomy scale used in analyses.

*Interactions with fathers.* When analyses examined predictions from adolescent-father interactions, significant predictions of coherence were obtained in models with no covariates, with both adolescent and paternal autonomous relatedness predicting later coherence. However, none of these predictions remained significant in models including psychiatric history.

#### *Predicting indicators of insecure states of mind*

*Passivity of thought.* Predictions from family interaction measures to adults' passivity of thought processes were assessed next. In these analyses, consistent with existing theory regarding preoccupied attachments and autonomy, different behaviors inhibiting autonomy displayed different (and opposite) relations to later passivity and were thus examined separately rather than as part of a single scale. Passivity of thought processes was not significantly related to prior psychiatric history in

Table 2. Regressions predicting coherence in AAI (age 25) from autonomy and relatedness in mother-adolescent interactions (age 14)

Age 14 Predictors	Coherence (Age 25)			Correlation within High School Sample <i>r</i>
	$\beta$	Total $R^2$	$\Delta R^2$	
Step I				
History of psychiatric hospitalization at 14	-.45***			—
Statistics for Step I		.27***	.27***	
Step II				
Mothers' behaviors toward adolescents				
Autonomous relatedness	.27**			.37*
Inhibiting autonomy	-.02			.17
Inhibiting relatedness	-.11			-.07
Statistics for Step II		.35***	.08*	

Note:  $N = 73$  for regression equation and 38 for high school sample correlations.

\*\*\* $p \leq .001$ ; \*\* $p \leq .01$ ; \* $p \leq .05$ ;  $\cdot p \leq .10$ .

any analyses. The three levels of analysis used (i.e., no covariates, covarying psychiatric history only, and covarying psychiatric history, ego development, and global distress) all yielded highly similar results. Data from analyses covarying psychiatric history are presented below (again, because these analyses were based upon the largest sample). However, all significant findings reported in Table 3 remained significant in analyses that also included ego development and global psychological distress as covariates.

Significant predictions in all models were obtained from adolescents' behaviors toward parents, but not from parents' behaviors toward adolescents. Table 3 presents results of regressions predicting passivity of thought from adolescents' behaviors in adolescent-family interactions.

Results in Table 3 indicate that adolescents who did not recant their position in interactions with their mothers displayed greater passivity of thought 11 years later. Adolescents' interactions with fathers were also predictive of future passivity. A combination of adolescents' overpersonalizing disagreements, not recanting their positions, and inhibiting relatedness in interactions with fathers was predictive of future passivity, accounting for 27% of the variance in this measure. Overall, these results indicate that passivity was predicted by behaviors that enmesh oneself in

disagreements by overpersonalizing them, and by the absence of behaviors that distance oneself from a disagreement by recanting a position. Behaviors recanting a position were not related to either overpersonalizing behaviors nor to behavior-inhibiting relatedness ( $r$ 's = .01 and .13, respectively). Overpersonalizing behaviors were slightly positively related to behavior-inhibiting relatedness ( $r = .24, p = .05$ ).

*Derogation of attachment and insistence of lack of recall.* Analyses predicting dismissing states of mind (e.g., derogation and insistence on lack of recall) did not yield significant predictions from any family interaction measures in either univariate analyses or in regression equations, at any of the levels of analysis examined in this study.

#### Predicting attachment classifications

Next, analyses were conducted to examine predictions of the classification of the overall organization of adults' states of mind with respect to attachment. For these analyses, a MANOVA design was used in which autonomous relatedness, the two specific scales assessing behaviors inhibiting autonomy, and the overall scale for inhibition of relatedness were used to predict adult attachment classifications.

When no covariates were included, analy-

Table 3. Regressions predicting passivity of thought in AAI (age 25) from autonomy and relatedness in adolescent-family interactions (age 14)

Age 14 Predictors	Passivity of Thought Processes (Age 25)							
	Equation for Interactions With Mothers				Equation for Interactions With Fathers			
	$\beta$	( <i>r</i> )	Total $R^2$	$\Delta R^2$	$\beta$	( <i>r</i> )	Total $R^2$	$\Delta R^2$
Step I								
History of psychiatric hospitalization at 14	.15	(.20+)			.10	(.20+)		
Statistics for Step I			.04	.04			.04	.04
Step II								
Adolescents' behaviors toward parent								
Autonomous relatedness	-.12	(-.22+)			-.20	(-.23+)		
Inhibiting autonomy								
Overpersonalizing	.16	(.19+)			.23*	(.30**)		
Recanting positions	-.34**	(-.25*)			-.34**	(-.24*)		
Inhibiting relatedness	.16	(.24*)			.27*	(.29**)		
Statistics for Step II			.21**	.17**			.27***	.22***

Note:  $N = 73$ ; *r*s are from univariate correlations for entire sample (used because psychiatric history showed no relation to passivity).

\*\*\* $p \leq .001$ ; \*\* $p \leq .01$ ; \* $p \leq .05$ ; + $p \leq .10$ .

ses revealed a significant MANOVA for adolescents' interactions with their mothers (Wilks's Lambda = 0.611, Approximate  $F(3, 74) = 2.06$ ,  $p = .05$ ) and fathers (Wilks's Lambda = 0.611, Approximate  $F(3, 74) = 2.58$ ,  $p < .016$ ). Follow-up ANOVA's revealed significant attachment effects for both adolescents' exhibition of autonomous relatedness and overpersonalizing statements toward both parents. However, post hoc analyses of means revealed clear group differences only for behaviors toward fathers. These findings are presented in Table 4 below. Young adults who were classified as secure/autonomous with respect to attachment exhibited more autonomous relatedness toward their fathers than did those classified as insecure/dismissing. Individuals later classified as insecure/preoccupied displayed significantly more overpersonalizing statements toward fathers than did individuals classified as insecure/dismissing. Secure/autonomous young adults fell between these two groups in overpersonalizing statements.

When prior psychiatric status was included as a covariate (either alone, or in conjunction with ego development and global distress),

only the ANCOVA predicting dismissing versus preoccupied attachment status from overpersonalizing statements remained significant. However, when separate overall MANCOVAs were examined with psychiatric status (or psychiatric status, ego development and global distress) as covariates, these MANCOVAs were not significant.

When 4-way classifications (including insecure-unresolved organizations) or 5-way classifications (including "cannot classify" organizations) were assessed, no significant findings were obtained.

#### Discussion

This study found continuities from qualities of observed adolescent-family interactions in a combined sample of normal and disturbed adolescents at age 14 to theoretically linked states of mind regarding attachment held 11 years later as young adults. Pathways leading to young adults' coherence/security in attachment interviews were marked by maternal promotion of autonomy and relatedness in adolescence. Pathways leading to young adults' passivity of thought processes (an indicator

Table 4. Mean adolescent-father interaction scores by young adult attachment classification

Adolescents' Behaviors Toward Fathers	Adult Attachment Classification			ANOVA <i>F</i> (2, 40)	Post Hoc Means Comparisons
	Secure ( <i>N</i> = 21)	Preoccupied ( <i>N</i> = 14)	Dismissing ( <i>N</i> = 8)		
Exhibiting autonomous relatedness	2.63 (0.58)	2.04 (0.99)	1.81 (0.75)	4.49*	Sec. > Dis.
Overpersonalizing disagreement	1.49 (1.31)	2.32 (1.26)	0.75 (0.93)	4.34*	Preocc. > Dis.
Recanting position prematurely	0.89 (0.94)	0.61 (0.79)	1.35 (0.98)	NS	—
Inhibiting relatedness	0.94 (0.98)	1.23 (1.17)	1.08 (0.81)	NS	—

Note: Standard deviations are presented in parentheses below means. Post hoc comparisons are significant at  $p < .05$  level using Tukey Post hoc comparison test. Only the finding regarding overpersonalizing disagreements was significant when prior hospitalization was entered (either alone or in conjunction with ego development and global distress) as a covariate in ANCOVA models.

\* $p < .05$ .

of insecure/preoccupied attachment models) were marked by adolescents' autonomy-inhibiting behaviors (specifically by the presence of overpersonalizing, enmeshing behaviors, and the absence of distancing, avoidant behaviors). These continuities were found across an 11-year timespan, across different assessment techniques, and across different individuals (from mothers' behavior to young adults' states of mind). Both prior psychopathology and maladaptive family interactions were independently predictive of later attachment security, suggesting equifinality with respect to attachment insecurity (i.e., psychopathology and family interactions may represent two distinct pathways to the same insecure outcomes). Findings regarding predictions of overall attachment organization (i.e., classifications) were far less robust, appearing primarily in analyses that capitalized on variation between the two samples in the study. The implications of these findings for our understanding of attachment dynamics in parent-adolescent interactions are discussed below along with consideration of the limits of these data.

Mothers who displayed high levels of autonomous relatedness in interactions with their adolescents at age 12 had young adult offspring who were more coherent in discussing past attachment relationships 11 years later, providing descriptions that were con-

cise, consistent, and that appropriately balanced evaluative distance and episodic detail. Such coherence is considered the hallmark of security in adult attachment organization (Main & Goldwyn, in press) and can predict future infant attachment classifications even coded from interviews conducted prior to the birth of a child (Fonagy et al., 1991). These findings resemble findings from infancy research (e.g., Ainsworth, et al., 1978) in that mothers of both infants and adolescents with secure offspring facilitated the exploration of their child's autonomy while working to maintain the secure base of a positive relationship. These findings suggest a developmental transformation in adolescence in which the physical secure-base attachment relationship in infancy becomes a cognitive and emotional secure base in adolescence. Maternal handling of teen strivings for autonomy and relatedness may be a stage-specific marker of the functioning of the attachment system in adolescence that can help explain one important link (from adolescence to young adulthood) in a chain of connections among attachment phenomena across the lifespan.

Predictions from displays of autonomous relatedness to adult coherence were also found for adolescents' and fathers' behaviors, but only in initial analyses that capitalized on the large variation between the two groups in

the study. These results suggest that fathers' and adolescents' behaviors may have long-term links to attachment processes at the extremes of security and insecurity, or in ways that overlap with links predicted from serious adolescent psychopathology. The lack of predictions from fathers' and adolescents' behaviors in analyses that did not capitalize on between group variation are not surprising given that existing research had identified continuities only for mother-adolescent relationships examined cross-sectionally (Carlson, 1990; Kobak et al., 1993); fathers had not been considered in this earlier research.

The prediction of passivity of thought and of preoccupied (vs. dismissing) states of mind in young adulthood from adolescents' overpersonalizing behaviors toward fathers indicates continuities from enmeshed ways of discussing disagreements in adolescence to enmeshed ways of thinking about attachment relationships in young adulthood. These predictions are important because preoccupied states of mind regarding attachment in adolescence and young adulthood are increasingly being linked to affective and internalizing disorders (Kobak & Sceery, 1988; Kobak, Sudler, & Gamble, 1991). These findings may reflect long-term continuities in patterns of behavior and thought that serve to mentally entangle adolescents and parents with each other. It is important to note that young adult passivity is not coded as a characteristic of the past relationships described in the AAI, rather, passivity reflects ongoing entanglement and confusion in the quality, not the content, of interview responses.

Young adult passivity of thought was also predicted by the relative absence of adolescent recanting behaviors, a finding consistent with the avoidant character of these behaviors in reducing the level and intensity of an interaction. As coded, recantations represent a conscious, active choice on the part of the speaker (e.g., "OK, I'll give in.") that appears self-protective in reducing the level of conflict and ending a potentially unpleasant interaction. Although recantations also inhibit the speaker's autonomy within the dyadic interaction, they do so in a way that appears to leave the speaker more distant rather than more preoccupied with their partner. This is not to say

that recantations reflect security—no evidence suggests they do—only that they reflect a state of mind that is not preoccupied by attachment relationships.

Passivity of thought was also predicted by relatedness-inhibiting behavior in adolescence. This finding resembles the higher levels of overt anger found in insecure/ambivalent infants in the strange situation (Ainsworth et al., 1979). It indicates that adults who are passively preoccupied with attachment relationships may, as adolescents, have easily become angry and hostile in the face of minor disagreements or strains in these relationships. This would be consistent with theoretical explanations of the workings of the attachment behavioral system that suggest that individuals with preoccupied attachment organizations may be hypervigilant and easily upset about any potential disruption in attachment relationships (Bowlby, 1980).

Overall, findings suggest multiple pathways toward young adult passivity of thought regarding attachment. In particular, overpersonalizing behaviors and absence of recanting behaviors were completely uncorrelated, but each linked to passivity. It is thus likely that different individuals are participating in these two different types of interactive behavior, each of which leads toward later passivity, a further indication of equifinality with respect to attachment processes in these data. In fact, absence of recanting behaviors is generally seen as a positive factor developmentally (Allen et al., 1994). One explanation is that not simply backing down in arguments is related to positive outcomes such as higher levels of ego development because it suggests a strong degree of engagement in the process of establishing autonomy with parents. Yet, there may well be multiple branches from this same basic process (Sroufe & Jacobvitz, 1989). When it is proceeding smoothly, it may predict high levels of ego development and positive functioning; when it proceeds with difficulty, and the adolescent struggles unsuccessfully to establish autonomy but continues struggling in a futile, frustrated fashion, failure to back down in arguments may increase the likelihood of adopting enmeshed ways of thinking about relationships with parents.

The long-term continuities found in this

study remained even after accounting for two covariates, ego development and global psychological distress, that have previously been linked to numerous psychosocial outcomes (Derogatis, 1983; Hauser, 1976). This provides further evidence that the observed continuities were not simply reflections of stability in overall levels of functioning, but rather, of specific links between attachment organization and family interaction patterns. This also suggests the presence of multiple pathways to attachment security and insecurity, some of which are associated with overall levels of functioning and social development, and others of which reflect specific processes of family interactions that are observable in adolescence. Prior psychiatric history had been previously identified as marking one pathway to insecure attachment in young adulthood (Allen et al., 1996), but disturbed family interaction patterns clearly added a different, at least partially independent, pathway to the same final outcome.

The continuities observed did not interact with adolescents' prior psychiatric history in formal interaction analyses. The fact that substantial continuities emerged in the combined sample, after carefully accounting for the psychiatric grouping factor, suggests a degree of robustness in the links between autonomy and relatedness and young adults' states of mind regarding attachment: these findings clearly emerge in individuals at widely varying levels of functioning. This is not to say that psychiatric history was unimportant. In this study as in prior research on this sample (Allen et al., 1996), it was a main effect predictor of lack of coherence. Rather, the patterns of predictions observed from adolescence into adulthood were not discernibly different for adolescents from the high school and psychiatric groups. Although the power of the study to detect such differences was low, and such detection was not a primary goal, any undetected differences between groups were clearly overshadowed by the substantial continuities that emerged across both groups. Thus, in spite of their differences, the two groups also displayed some common developmental pathways, for example, with lack of maternal autonomy and relatedness with her teen predicting lower coherence in that teen's

attachment interview as a young adult. To be more precise, given the main effect of psychiatric status, it might be more accurate to describe two parallel pathways—a "high road" leading to differences in coherence within the mainly secure range in the normal group, and a "low road" leading to differences in coherence within the mainly insecure range in the psychiatric group. Our analyses demonstrated that these pathways were not significantly different with respect to the nature of the relationship between maternal behavior and later coherence, though the level at which these paths were travelled (high vs. low promotion of autonomy and relatedness and later coherence) did differ across groups.

Although the findings presented appear robust within the overall sample over a period of more than a decade and are largely consistent with predictions from existing research, this study had several noteworthy limitations. First, the unusual nature of the sample presents a clear need for replication studies with more broadly representative and socioeconomically diverse samples. Second, although the continuities observed inevitably raise questions about the causal influence of both parents' and adolescents' behaviors, these questions cannot be answered in naturalistic longitudinal studies such as this one. Finally, several lines of analysis within this study yielded weak or minimal findings. For example, few findings were obtained regarding overall attachment organization after covarying psychiatric status. These null findings may reflect a lack of power due to small cell sizes for classification analyses or due to the relatively homogeneity in classifications within the psychiatric group (i.e., lack of secure individuals). Null findings may also reflect the fading of influences over time, or the attenuation of findings due to low interrater reliabilities of several attachment and family interaction measures that, while fairly typical of these types of measures, suggest room for substantial error of measurement. It may also be that some specific states of mine (e.g., coherence) may be more sensitive markers than overall classifications, and may be useful in making distinctions within groups even when most individuals share a similar overall attachment classification (Pearson et al., 1994).

In sum, this study demonstrated substantial, though far from complete, continuities between the pathways travelled by families in addressing adolescents' needs for autonomy and relatedness and the attachment organization of young adults a decade later. Further, these data suggested that both insecurity and passivity in adult states of mind regarding attachment could be arrived at via at least several independent routes (including psychopathology and several indices of problematic adolescent-parent interactions). Given the observed intergenerational links from security of adults' states of mind to security of the offspring of those adults (Benoit & Parker, 1994; Fonagy et al., 1991; 1993), predicting even

some of these adult states from adolescent-parent interactions is an important step toward understanding the development transformations that facilitate the intergenerational transmission of attachment organization across one critical phase of the lifespan. Although this study provides little support for the notion that any single adolescent predictor will invariably lead to a given attachment outcome in young adulthood, it suggests the value in pursuing models that allow for multiple pathways, beginning with those identified in this study, to explain the transformations in attachment processes from adolescence to young adulthood.

## References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Allen, J. P., Hauser, S. T., Bell, K. L., & O'Connor, T. G. (1994). Longitudinal assessment of autonomy and relatedness in adolescent-family interactions as predictors of adolescent ego development and self-esteem. *Child Development*, *65*, 179-194.
- Allen, J. P., Hauser, S. T., & Borman-Spurrell, E. (1996). Attachment insecurity and related sequelae of severe adolescent psychopathology: An eleven-year follow-up study. *Journal of Consulting and Clinical Psychology*, *64*, 244-263.
- Allen, J. P., Hauser, S. T., Borman-Spurrell, E., & Worrell, C. M. (1990). *The autonomy and relatedness coding system: A scoring manual*. Unpublished manuscript, University of Virginia, Charlottesville, VA.
- American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders, Third Edition—Revised: DSM-III-R*. Washington, DC: Author.
- Benoit, D., & Parker, K. (1994). Stability and transmission of attachment across three generations. *Child Development*, *65*, 1444-1456.
- Bowlby, J. (1980). *Attachment and loss: Vol. 1: Loss, sadness and depression*. New York: Basic Books.
- Carlson, E. A. (1989). *Individual differences in quality of representational organization of attachment of high risk adolescent mothers*. Unpublished doctoral dissertation, Columbia University, New York, NY.
- Cassidy, J., & Kobak, R. (1988). Avoidance and its relation to other defensive processes. In J. Beisky & T. Nezworski (Eds.), *Clinical implications of attachment*. Hillsdale, NJ: Erlbaum.
- Cicchetti, D., Cummings, E. M., Greenberg, M. T., & Marvin, R. S. (1990). An organizational perspective on attachment beyond infancy. In M. T. Greenberg, D. Cicchetti & E. M. Cummings (Eds.), *Attachment in the Preschool Years* (pp. 3-9). Chicago: University of Chicago Press.
- Cicchetti, D. V., & Sparrow, S. A. (1981). Developing criteria for establishing interrater reliability of specific items: Applications to assessment of adaptive behavior. *American Journal of Mental Deficiency*, *86*, 127-137.
- Colby, A., & Kohlberg, L. (1987). *The measuring of moral judgement*. (Vol. 1). New York: Cambridge.
- Collins, W. A. (1990). Parent-child relationships in the transition to adolescence: Continuity and change in interaction, affect, and cognition. In R. Montemayor, G. R. Adams, & T. P. Gullotta (Eds.), *From childhood to adolescence: A transitional period? Advances in Adolescent Development, Volume 2* (pp. 35-106). Newbury Park: Sage.
- Cowan, P. A., Cohn, D. A., Cowan, C. P., & Pearson, J. L. (1996). Parents' attachment histories and children's externalizing and internalizing behaviors: Exploring family systems models of linkage. *Journal of Consulting and Clinical Psychology*, *64*, 53-63.
- Crittenden, P. M. (1992). Quality of attachment in the preschool years. *Development and Psychopathology*, *4*, 209-241.
- Crowell, J. A., Feldman, S. S., & Ginsberg, N. (1988). Assessment of mother-child interaction in preschoolers with behavior problems. *Journal of the American Academy of Child and Adolescent Psychiatry*, *27*, 303-311.
- Derogatis, L. R. (1983). *Description and bibliography for the SCL-90-R and other instruments of the Psychopathology Rating Scale Series*. Unpublished manuscript, Johns Hopkins University School of Medicine, Baltimore, MD.
- Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development*, *62*, 891-905.
- Fonagy, P., Steele, M., Moran, G., Steele, H., & Higgs, A. (1993). Measuring the ghost in the nursery: An empirical study of the relation between parents' mental representations of childhood experiences and their infants' security of attachment. *Journal of the American Psychoanalytic Association*, *41*, 957-989.
- Frank, S., & Quintan, D. M. (1976). Ego development and female delinquency: A cognitive-developmental approach. *Journal of Abnormal Psychology*, *85*, 505-510.



- George, C., Kaplan, N., & Main, M. (1984). *Attachment interview for adults*. Unpublished manuscript, University of California, Berkeley.
- Grotevant, H. D., & Cooper, C. R. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. Special Issue: Family development. *Child Development*, 56, 415-423.
- Hauser, S. T. (1976). Loevinger's model and measure of ego development: A critical review. *Psychological Bulletin*, 83, 923-955.
- Hauser, S. T., with Powers, S. L., & Noam, G. G. (1991). *Adolescents and their families: Pains of ego development*. New York: Free Press.
- Hauser, S. T., Powers, S. L., Noam, G. G., Jacobson, A. M., Weiss, B., & Follansbee, D. I. (1984). Familial contexts of adolescent ego development. *Child Development*, 55, 195-213.
- Hill, J. P., & Holmbeck, G. N. (1986). Attachment and autonomy during adolescence. *Annals of Child Development*, 1, 145-159.
- Hinde, R. A., & Dennis, A. (1986). Categorizing individuals: An alternative to linear analysis. *International Journal of Behavioral Development*, 9, 105-119.
- Hollingshead, A. F. (1975). *Four-factor index of social status*. Working paper, Department of Sociology, Yale University.
- Jones, E. E., Cumming, J. D., & Horowitz, M. J. (1983). Another look at the nonspecific hypothesis of therapeutic effectiveness. *Journal of Consulting and Clinical Psychology*, 51, 43-55.
- Kagan, J., Reznick, J. S., & Gibbons, I. (1989). Inhibited and uninhibited types of children. *Child Development*, 60, 338-345.
- Kobak, R. R., Cole, H., Ferenz-Gillies, R., Fleming, W., & Gamble, W. (1993). Attachment and emotion regulation during mother-teen problem-solving: A control theory analysis. *Child Development*, 64, 231-245.
- Kobak, R. R., & Sorely, A. (1983). Attachment in late adolescence: Working models, affect regulation and representations of self and others. *Child Development*, 54, 135-146.
- Kobak, R. R., Sudler, N., & Gamble, W. (1991). Attachment and depressive symptoms during adolescence: A developmental pathways analysis. *Development and Psychopathology*, 3, 261-270.
- Lewis, M., Feiring, C., McGuffog, C., & Jaskir, J. (1984). Predicting psychopathology in six-year-olds from early social relations. *Child Development*, 55, 123-136.
- Loevinger, J. (1976). *Ego development*. San Francisco: Jossey-Bass.
- Loevinger, J. (1979). Construct validity of the ego development test. *Applied Psychological Measurement*, 3, 281-311.
- Loevinger, J. (1985). Revisions of the sentence completion test for ego development. *Journal of Personality and Social Psychology*, 48, 429-477.
- Loevinger, J., Wessler, R. (1970). *Measuring ego development, vol. 1: Construction and use of a sentence completion test*. San Francisco: Jossey-Bass.
- Loevinger, J., Wessler, R., & Redmore, C. (1970). *Measuring ego development, vol. 2*. San Francisco: Jossey-Bass.
- Main, M., & Goldwyn, R. (in press). Adult attachment rating and classification systems. In M. Main (Ed.), *A typology of human attachment organization assessed in discourse, drawings and interviews* (working title). New York: Cambridge University Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In L. Bretherton & E. Waters (Eds.), *Growing Points in Attachment Theory and Research*. Monographs of the Society for Research in Child Development, 50(66-104, Serial No. 209).
- Matas, L., Arend, R. A., & Sroufe, L. A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development*, 49, 547-556.
- Moore, D. (1987). Parent-adolescent separation: The construction of adulthood by late adolescents. *Developmental Psychology*, 23, 298-307.
- Murphy, E. B., Silber, E., Coelho, G. V., Hamburg, D. A., & Greenberg, L. (1963). Development of autonomy and parent-child interaction in late adolescence. *American Journal of Orthopsychiatry*, 33, 643-652.
- Pearson, J. L., Cohn, D. A., Cowan, P. A., & Cowan, C. P. (1994). Earned-and continuous-security in adult attachment: Relation to depressive symptomatology and parenting style. *Development and Psychopathology*, 6, 359-373.
- Rosenstein, D. S. (1992). *Attachment, personality and psychopathology in adolescence*. Unpublished doctoral dissertation, Department of Psychology, University of Pennsylvania.
- Roznatsky, J. (1981). The relationship of level of ego development to Q-sort personality ratings. *Journal of Personality and Social Psychology*, 41, 99-120.
- Schneider-Rosen, K. (1990). The development reorganization of attachment relationships. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the Preschool Years* (pp. 185-220). Chicago: University of Chicago Press.
- Sroufe, L. A. (1983). Infant-caregiver attachment and patterns of adaptation in pre-school: The roots of maladaptation and competence. In M. Perlmutter (Ed.), *Minnesota symposium on child psychology* (Vol. 16, pp. 41-81). Hillsdale, NJ: Erlbaum.
- Sroufe, L. A. (1985). Attachment classification from the perspective of infant-caregiver relationships and infant temperament. *Child Development*, 56, 7-14.
- Sroufe, L. A., & Jacobvitz, D. (1989). Diverging pathways, developmental transformations, multiple etiologies and the problem of continuity in development. *Human Development*, 12, 196-203.
- Steinberg, L. (1990). Interdependency in the family: Autonomy, conflict, and harmony in the parent-adolescent relationship. In S. Feldman & G. Elliott (Eds.), *At the threshold: The developing adolescent*. Cambridge, MA: Harvard University Press.
- Srodbeck, F. (1951). Husband-wife interaction over revealed differences. *American Sociological Review*, 16, 263-273.
- Tangney, J. P., Wagner, P., Gramzow, R. (1992). Proneness to shame, proneness to guilt, and psychopathology. *Journal of Abnormal Psychology*, 101, 469-473.
- Waters, E., Wippman, J., & Sroufe, L. A. (1977). Attachment, positive affect, and competence in the peer group: Two studies in construct validation. *Child Development*, 50, 321-329.