

Attachment in preschoolers with disruptive behavior: A comparison of clinic-referred and nonproblem children

MATTHEW L. SPELTZ, MARK T. GREENBERG, AND
MICHELLE DEKLYEN
University of Washington

Abstract

This study tested the hypothesis that preschool-aged children with significant externalizing behavior problems are more likely to have insecure attachment relationships than nonproblem peers, as measured by separation/reunion behavior at the time of clinic referral. Fifty children (ages 3-6) and their mothers participated: 25 referred to a child psychiatry clinic for one of the DSM-III-R Disruptive Behavior Disorders, and 25 matched comparison children without behavior problems. Using two new attachment coding systems for children of this age, we found that 84% of the children in the clinic group were classified as insecure, whereas only 28% of the comparison group were so classified ($p < .001$). Clinic children were also found more frequently to protest their mother's departure and to search for her more often during the separation. The implications of these results for the validity of separation/reunion behavior as an index of attachment at this age are discussed, as well as the methodological and conceptual problems that complicate our study of the link between attachment and behavior disorder.

Disruptive or "externalizing" behavior (e.g., aggression, noncompliance, impulsivity, hyperactivity) is the primary referral problem for preschool children brought to child psychiatry clinics (Richman, 1985). Several investigations have shown that the early emergence of such problems has clear predictive significance for subsequent maladjustment (Campbell, Ewing, Breaux, & Szumowski, 1986; Halvorson & Waldrop, 1976; Lerner, Inui, Trupin, & Douglas, 1985). However, it is not clear what factors predict the continuity or transience of these problems or what form(s) that psychopathology may take.

As the empirical study of disruptive preschoolers has relied heavily upon operant learning conceptualizations of behavior disorder (e.g., Forehand & McMahon, 1981; Wahler, 1976), most comparisons of children with and without problems have focused on microanalyses of specific child problem behaviors (e.g., noncompliance,

aggressive acts) and specific parental (usually, maternal) antecedents and consequences. Clinic-referred children have been found to be less compliant, more aggressive, and more disruptive than their non-clinic peers during freeplay and structured task situations (Campbell, Breaux, Ewing, & Szumowski, 1984; Campbell & Cluss, 1982; Forehand, King, Peed, & Yoder, 1975). The mothers of clinic-referred children have been found to be more directive and critical (Robinson & Eyberg, 1981; Forehand et al., 1975) and less likely to initiate interactions with the child or to respond when the child initiates interaction with them (Barkley, Karlsson, & Pollard, 1985).

Although the social learning model has dominated the applied study of disruptive children since the late 1960s, outcome research on behavioral parent training has produced mixed results with reports of limited generalization and maintenance (e.g.,

competence in children.
Press of New England.
unities and discontinuities
fsky (Ed.), *Handbook of*
id ed.) (pp. 1256-1296).

r, M. J. (1975). Reproduc-
um of caretaking casualty.
1. Hetherington, S. Scarr-
gel (Eds.), *Review of child*
ol. 4, pp. 187-244). Chica-
o Press.

Barocas, B., Zax, M., &
scores of 4-year-old chil-
dren on risk factors. *Pediat-*

D. F. D., & Rutter, M.
disorders in crippled chil-
dren with and
Developmental Medicine
, 563-573.

Individual patterns of adapta-
school. In M. Perlmutter
Journal of child psychology
Isdale, NJ: Erlbaum.

Birch, H. (1968). *Tempera-
ments in children*. New
York: Brunner.

S. (1982). *Vulnerable but
children come of age*. New

Bernal, Klinnert, & Schultz, 1980; Patterson, 1985). A number of investigators have emphasized the need for an integration of social learning and developmental theories (e.g., Robinson, 1985; Harris & Ferrari, 1983; Speltz, 1990). Greenberg and Speltz (1988) proposed a developmental-organizational model in which disruptive behavior is conceptualized as the preschooler's attempt to regulate the proximity and attention of caregivers who have been unresponsive or unpredictable, due to their own limitations and/or child or environmental conditions that severely tax the caregiver's capacity to provide optimal care. Attachment theory with its focus on the development and maintenance of close relationships is expected to make an important contribution to understanding such patterns of behavior. However, as numerous theorists have discussed (Bates & Bayles, 1988; Greenberg & Speltz, 1988; Rubin & Lollis, 1988), attachment is likely to be only one of a variety of factors involved in the etiology and conceptualization of disruptive behavior. Other contributing factors might include child biologic factors (e.g., temperament and health status), parental disciplinary strategies, social-ecological factors, and parent personality factors. In the present investigation, we focus on the nature of attachment relations in clinic-referred children with disruptive behavior problems and a matched comparison group.

Research on attachment has identified reliable and valid patterns of individual differences during infancy (Ainsworth, Blehar, Waters, & Wall, 1978). These patterns of attachment security (secure, insecure-avoidant, insecure-resistant) and a more recently noted fourth pattern, disorganized-disoriented (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Main & Solomon, 1990; O'Connor, Sigman, & Brill, 1987), have been assessed through the laboratory-based "Strange Situation." Assessment of concurrent home behavior has demonstrated the transcontextual validity of the three major patterns (Ainsworth et al., 1978; Bates, Maslin, & Frankel, 1985; Belsky, Rovine, &

Taylor, 1984; Grossmann, Grossmann, Spongler, Suess, & Unzer, 1985).

The predictive validity of infant security to later functioning is of significant import in demonstrating a conceptual link between attachment and later behavior problems. In studies using the Strange Situation in the 12- to 24-month age range, insecure attachment classification has predicted in 2-year-olds less persistence, enthusiasm, and compliance; greater negativism and frustration in problem-solving tasks (Erickson & Farber, 1983; Matas, Arend, & Sroufe, 1978); less positive affect in freeplay (Main, 1973); and higher levels of conflictual mother-child interaction (Maslin & Bates, 1982). Insecure infant attachment has also been linked to lower sociability and higher avoidance in later interactions with other adults (Londerville & Main, 1981; Thompson & Lamb, 1983). During the preschool years, infant security has been associated with higher ego resiliency as assessed by teacher Q-sorts (Sroufe, Fox, & Pancake, 1983) and better peer relations (LaFreniere & Sroufe, 1985).

In summary, infant attachment security has been related to positive parent-child interaction and interactions with other adults, measures of healthy personality functioning, and desired preschool social behavior. Furthermore, the quality of early attachment has been specifically related to behaviors that are later associated with clinic referrals for treatment (e.g., whining, noncompliance, negative attention seeking) and that often serve as "target" behaviors in parent training programs. Thus, it has been hypothesized that insecure infants may be more at risk for behavior disorders in the preschool years. This idea has recently received some support from two studies that directly addressed the relationship between early attachment and behavior problems in 3- to 6-year-olds.

Lewis, Feiring, McGuffog, and Jaskir (1984) reported a significant association for boys between infant attachment and mother's reports of both internalizing and externalizing types of behavior problems in their 6-year-olds. It was found that 40% of the insecure group, compared to only 6%

of the secure group scored above the 90th percentile on the CBCL Problem Total score. However, no such effects were found for girls. A parsimonious explanation for this major sex difference was not obvious.

Bates et al. (1985) studied 120 children from early infancy to 3 years. At age 3, 1-year attachment ratings significantly predicted anxiety problems and showed a moderate relationship to mother's ratings of hostility. However, no relationships were found between teacher ratings of behavior problems and earlier attachment status. At age 6, infant attachment security was not related to parent report of behavior problems (Bates and Bayles, 1988); but it was related to child impulsivity and teacher ratings of behavior problems. Finally, Sroufe (1988) and Sroufe and Egeland (1989) recently reported a significant association between insecure infant attachment and teacher rating of lower peer competence and high anxiety in third grade.

In these studies, infancy measures of attachment were related to later variations in ratings or observed frequencies of behavioral and emotional problems. However, these studies have not permitted an assessment of how attachment variables might be related to clinically significant levels of problem behavior: that is, to "caseness" or a clinical diagnosis of disorder. Given the low baserates of clinic referral (5-10%), there have been few children with clinic-referral status in the existing longitudinal attachment studies; conversely, in cross-sectional studies of clinic-referred children, the child's attachment security has not been considered.

From its inception, Bowlby considered attachment to be a construct of importance across the lifespan (Marvin, 1977). However, it was not until quite recently that empirical work has focused on periods of life after infancy (Armsden & Greenberg, 1987; Cassidy, 1988; Cicchetti, Cummings, Greenberg, & Marvin, 1990; Kobak & Sceery, 1988; Main, Kaplan, & Cassidy, 1985). It is believed that particular organizations of infancy attachment behavior are maintained at both the behavioral and rep-

resentational levels (Cassidy, Marvin, & MacArthur Working Group, 1987; Main et al., 1985). These cognitive-affective representations have been labeled the individual's "working model." The child's working model is believed to derive from the parent's sensitivity to the child's needs and desires, their physical and psychological availability, as well as their facilitation of the child's exploration and mastery of the environment. The working model includes the child's expectations regarding intimacy and care from others and is believed to selectively affect perception, cognition, and motivation (Sroufe & Fleeson, 1986). Thus, although the behaviors that reflect these underlying strategies will change, it should be possible to assess them at any age, given age-appropriate assessments (Main et al., 1985).

Recently, classification systems for studying separation and reunion behavior have been developed for the age periods of 3 to 4 years (Cassidy et al., 1987) and 5 to 6 years (Main & Cassidy, 1988). These systems are utilized in laboratory situations and—as during infancy—focus primarily on the child's response to reunion with their caregiver, as reunion behavior has generally been shown to be a more sensitive indication of relationship factors than separation responses (e.g., Belsky & Rovine, 1987; Suomi, 1987). These coding systems use expanded criteria that are developmentally sensitive not only to the physical indices of attachment regulation but also to the verbal interactions that precede and follow separation and reunion. In both systems, a 9-point rating of attachment security as well as classifications are utilized; major classification groups include secure, insecure-avoidant, insecure-dependent, and insecure-controlling.

These new classifications and rating systems have proved quite promising. Research on two stable middle-class samples has shown infant attachment to be highly predictive of attachment at 6 years in two separate samples (Main & Cassidy, 1988; Wartner & Grossmann, 1987). Further, 6-year reunion findings have been significantly re-

lated to measures that assess the child's working model of attachment in a semiprojective storytelling task (Main et al., 1985). Additionally, the 6-year classifications have high 2-week test-retest reliability as well as significant association with concurrent measures of self-esteem (Cassidy, 1988). In a study of 5-year-olds, Slough and Greenberg (in press) found that 5-year reunion classifications were related to both frustration tolerance and a representational assessment of attachment using a semiprojective story task. In the first study to use the 3- and 4-year old attachment coding system, Bretherton, Ridgeway, and Cassidy (1990) showed a significant relationship between security of attachment as assessed by reunion behavior and through a doll play assessment of the child's working model. These coding systems, then, permit the assessment of a preschooler's attachment status at the time of clinic referral and, thus, provide a new tool for understanding how an aspect of close relationships may relate to the early manifestations of psychopathology.

In the present study, we used the two new coding systems with a sample of preschoolers referred to a child psychiatry clinic for disruptive behavior disorder and a sample of matched comparison children without reported problems. The primary objectives of this investigation were: (1) to test the feasibility of the separation/reunion paradigm in a clinic setting with highly disruptive children; (2) to test a hypothesis critical to the Greenberg and Speltz (1988) model—that clinic children are more likely to have insecure attachment relationships, as indicated by their response to a separation/reunion assessment at the time of referral; and (3) to generate other, more specific hypotheses for longitudinal research.

Method

Subjects

Clinic subjects were 25 consecutive eligible referrals to an urban, university-affiliated child psychiatry outpatient clinic in a chil-

dren's hospital. These subjects were not specially recruited, but rather represented the usual clientele of this clinic, a mixture of parent-, teacher-, or physician-referred children. To be eligible, clinic subjects had to meet the following criteria: (1) referral request focusing on evaluation or treatment for symptoms associated with one of the DSM-III-R Disruptive Behavior Disorders (i.e., Oppositional Defiant Disorder, Attention Deficit Hyperactivity Disorder, Conduct Disorder); (2) assessment by a child clinical psychologist confirming that Oppositional Defiant Disorder (ODD) was the *primary* diagnosis; (3) no evidence of significant developmental delay or disability. The diagnosis of ODD was based upon a semistructured interview with both child and parent present, in which questions were organized in relation to the DSM-III-R criteria for the Disruptive Behavior Disorders.

The comparison group for this study was drawn from a larger project involving normal preschoolers and their mothers. These children were recruited through posters in medical and community settings. Each comparison child was case-matched to a clinic-referred child on the basis of sex, age, mother's education level, and family status (married or single parent). Comparison children had received no previous evaluation or treatment for a behavior problem or developmental delay or disability.

All mothers in the study were asked to complete a child behavior checklist to determine problem behavior levels. Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983) data were available for 38 of the 50 subjects (all 25 clinic children and 13 of the 25 comparison group children) and 12 mothers of comparison children completed a similar problem behavior checklist developed by the second author.¹ All comparison subjects had behavior checklist scores less than 1 *SD* above the mean of their respective standardization samples. An analysis of group differences

1. This behavior checklist is available from the second author.

among the 38 subjects with CBCL data indicated that clinic subjects had significantly higher total, externalizing and internalizing *t* scores (all *F*s > 75, all *p*s < .0001). Table 1 shows the characteristics of the subjects in both groups, including mean CBCL *t* scores.

Attachment classification

The quality of parent-child attachment was coded utilizing videotaped interactions between mother and child during a 3-minute separation and 3-minute reunion period. The coders only viewed the segment of the tape beginning with the last 30 seconds of separation. Because of the wide age range of the children, it was necessary to use two different coding systems. For those children 5 years or older, the tapes were coded according to a system developed for rating 5- and 6-year-olds (Cassidy, 1988; Main & Cassidy, 1985). For children under age 5, a newly developed system (Cassidy et al., 1987) was utilized. In both systems, physical proximity and contact as well as the nature of verbal exchanges were used in classifications and ratings. Although the criteria for coding and the designation of subgroups are somewhat different for the two systems, both their rating scales and the major attachment classifications are constructed in a similar manner. Both coding systems include five main classifications: secure, insecure-avoidant, insecure-controlling, insecure-ambivalent, and insecure-other.

A brief description of the classifications follows. Complete versions of these systems are available elsewhere (Cassidy et al., 1987; Main & Cassidy, 1985).²

Secure. The child initiates positive interaction (nonverbal or verbal), proximity or contact with the parent or responds posi-

tively to initiations by the parent. The child appears to have a special relationship with the parent, is pleased to see the parent, and is relaxed throughout the reunion. One distinction between the two coding systems in this classification is that older children are more likely to discuss personal information or spontaneously share what they did during the separation; this is not necessarily characteristic of younger children. During reunion, the very secure child initiates interaction or contact with the parent that is affectionate and warm. There is virtually no avoidance or ambivalence. There are a number of subcategories that can be characterized as moderately secure. *Secure-reserved* covers patterns of behavior that meet criteria for security but may contain one of a variety of forms of mild avoidance or ambivalence. The child may show initial reserve upon the parent's reunion. However, such reserve (quick gaze avert, play with the toys, slow conversational reply) is short-lived and replaced by warm behavior by the child. Alternatively, the child may be verbally responsive but shows moderate amounts of avoidance of visual and/or physical proximity. In another subcategory, *secure-immature/dependent*, the child is generally secure, but shows elements of immature, dependent, or ambivalent behavior. There is little direct hostility or fear, and the parent's presence provides a positive influence that leads to recovery of positive interaction. The child is often quite distressed by the separation and highly aroused at the reunion.

Insecure-avoidant. There is a great similarity across age groups in this pattern. In both systems, the child displays a strategy of maintaining *neutrality* with the parent. This may be accomplished in a variety of ways including maintaining or increasing physical distance, ignoring parental behavior and initiations, the absence of spontaneous and/or personal conversation, or continuing engagement with the toys. The child may occasionally orient to the mother or reply, but the child's responses are short, minimal, and neutral in affective content.

2. The present research project utilized the 1987 version of the 3-4-year system. Recently, a revised version of this system was completed (Cassidy et al., 1987).

Table 1. Sample characteristics

| | Clinic Group (n=25) | Comparison Group (n=25) |
|-----------------------------|------------------------|----------------------------|
| Sex | 72% male | 72% male |
| Age (months) | 55.2 (10.3) | 53.9 (9.2) |
| Two parents | 76% | 80% |
| SES ^a | 2.5 (1.1) | 2.5 (1.2) |
| First born | 48% | 60% |
| Family size | 2.6 (1.0) | 2.4 (1.2) |
| Race | 88% white | 84% white |
| CBCL Externalizing <i>t</i> | 72.8 (8.4) | 48.5 (8.0) ^b |
| CBCL Internalizing <i>t</i> | 69.5 (6.6) | 48.7 (7.3) ^b |

^aHollingshead 4-factor/social strata ranging from 1 to 5: (1) *business and professional* to (5) *unskilled labor*.

^bn = 13.

Insecure-ambivalent/dependent. The child appears excessively dependent upon the parent. This may include displays of immature behavior (e.g., whining), wanting to be picked up or held, but then displaying resistant behavior (wriggling away or other signs of discomfort), and passivity. Immature behavior may be accompanied by direct and open hostility, petulance, willfulness, or temper tantrums. The child is often upset by the separation and appears preoccupied with the parent at the expense of exploration. This pattern differs from the "C" pattern of infants not only in terms of new behavioral patterns (e.g., talking like a baby, acting coy, emphasizing immaturity), but also because mild-to-moderate avoidance may also occur (especially in the eldest children).

Insecure-controlling. The dominant characteristic is that the child takes direct control of the interaction upon reunion. This role-reversal, in which the child assumes a role more appropriate for the parent, is shown in two quite different subpatterns. In the *controlling-punitive* subcategory, the child acts in a punitive or hostile manner that is humiliating or rejecting of the parent. This might include patterns on reunion such as telling the parent to leave or ordering the parent around. This hostile, angry behavior is differentiated from that of the *insecure-ambivalent* child in that it does not highlight the child's dependency. The second

subcategory, *controlling-caregiving*, is marked by overly solicitous behavior in which the child attempts to take care of the parent. This pattern may be accompanied by overly bright greetings, extreme cheerfulness, and nervousness on the part of the child. This is to be distinguished from the secure child who may also be helpful and cooperative. In the 3-4-year system, one additional subcategory, *controlling-general*, is scored when the child takes control of the interaction in a way that is not clearly either punitive or caregiving, or that is a combination of both.

Insecure-other (unclassified). This category is utilized to describe the behavior of children who are clearly insecure but do not fit the avoidant, ambivalent, or controlling classification descriptions. This may be either because the child shows unusual behaviors (e.g., extreme fearfulness, depression, sexualized behavior) or because they show a combination of insecure patterns.

Rating of attachment security

Both the 3-4-year and 5-6-year system utilize a 9-point scale to rate security of attachment, ranging from (1) *very insecure* to (9) *very secure*. The coding was conducted separately for the two samples. The second author coded all clinic-referred subjects, while the third author independently coded 60% of this sample. Exact agreement for

secure versus insecure (dichotomous) classification was 80%. For the five major classifications, exact agreement was 67%. The majority of disagreements were between insecure-avoidant and secure-reserved. This borderline has been often noted to lead to lowered reliability in both infant and preschool classifications (Main & Cassidy, 1988). Additionally, when children classified as insecure-other were force-classified into one of the other four major categories (as done by Main & Cassidy, 1988), reliability rose to 80%. Coder reliability was $r = .82$ for the security ratings. For the comparison sample, all tapes were coded by another observer, with the second author coding 60% of these tapes independently. Exact agreement was 80% for the secure-insecure classification and 73% for the five classifications. Coder reliability for the security ratings was $r = .84$. Observers were blind to the subject's case history, diagnosis, and behavior checklist score as well as family background information and other observational data. All three observers were trained to better than 75% agreement on the five major categories, using training materials and 20 criterion tapes provided by the authors of the system.³

Preseparation and separation behavior

Two measures were used to assess the relative impact of the separation itself on clinic versus nonproblem children: (1) a four-category classification of the child's verbal response to mother's announcement of her departure (agrees, agrees with nonverbal resistance, disagrees, no agreement or disagreement) and (2) the observed frequency of child "search behavior" in relation to the mother during her absence (defined as looking out the door or trying to look through the observation window). The primary coders of preseparation and separation behavior were blind to the attachment scoring discussed earlier. Interrater agree-

ment was assessed by having a reliability coder view 37 of the 50 videotapes (74%). Exact agreement for the preseparation classification was 83% and for the separation measure, 94%.

Questionnaire data

Parents in both the clinic and comparison groups completed a family information form that asked for parent education and occupation, family size and structure, child birth order, and parental concerns about the child's behavior and development. As noted earlier, mothers also completed a child behavior checklist prior to the observational assessment.

Procedure

Eligible clinic families were informed about the study at the conclusion of a routine intake in which the child's diagnostic status was determined. All eligible families agreed to participate. The observational assessment was conducted prior to the initiation of treatment. Assessment of clinic families took place in the psychiatry clinic of a children's hospital; comparison families were assessed at a similar clinic affiliated with a nearby university hospital.

Clinic and comparison dyads were observed in very similar rooms at the two sites (approximate size, 10' x 15') with the same types of toys and other materials in the room (magazines, Fisher-Price house and figures, building blocks, etc.). Videotaping was done through an observation window. After a 5-minute warm-up/freeplay period (in which the dyad was told to do whatever they wished), printed instructions regarding the separation/reunion were given to the mother. These instructions described the sequence of events (i.e., that mother would be cued to leave the room in a few minutes and would be absent for 3 minutes, unless she wished to return sooner) and informed the mother that she could tell her child anything that she wished about her departure.

At the conclusion of this assessment, families were debriefed. Clinic families were

3. The training tapes came from several laboratories for use by the MacArthur Working Group on Attachment during the Preschool Years.

given treatment recommendations and offered appropriate services or referral.

Results

Attachment measures

Figure 1 shows the attachment classifications for clinic and comparison groups. In the clinic group, 84% of the children were classified as insecure, whereas only 28% of the comparison group were so classified, a difference that was statistically significant, $\chi^2(1, n=50)=15.9, p<.001$. The frequency distribution of the five major classifications also significantly differed between groups, $\chi^2(4, n=50)=17.9, p<.001$, with a greater frequency of clinic children with insecure-controlling classifications (40% vs. 12% in the comparison group) and classifications of insecure-other (16% vs. 0% in the comparison group).

Security ratings ranged from 1.5 to 7.0 ($M=3.3$) in the clinic group and from 2.0 to 9.0 ($M=5.6$) in the nonproblem group. Mean security ratings differed significantly between groups, $F(1, 49)=19.5, p<.001$, with comparison children having higher ratings ($M=5.6, SD=2.2$) than clinic children ($M=3.2, SD=1.4$).

Child preseparation/separation behavior

Classification of the child's verbal response to mother's departure announcement is shown in Table 2. The frequencies of the four categories differed significantly between groups, $\chi^2(3, n=50)=9.7, p<.05$. Clinic children were significantly more likely to disagree with mother's plan for the brief separation. The occurrence of child search behavior during mother's absence also differed between the two groups, $\chi^2(1, n=50)=4.0, p<.05$, with 72% of the clinic children (vs. 40% in the comparison group) searching. In combining the two groups, an analysis of search behavior frequency by attachment security (secure vs. insecure) indicated that 71% of the 28 children classified as insecure engaged in search behavior, whereas 36% of the 22 children

classified as secure did so, a difference that was significant, $\chi^2(1, n=50)=4.8, p<.05$.

Gender analyses

Dichotomous reunion classification, pre-separation classification, and the presence/absence of child search behavior were analyzed with gender as an independent variable, combining the two groups into one sample. Chi-square analyses found no significant effect for gender on any variable (all $ps>.10$). For reunion classification, 58% of the boys (21 of 36) received an insecure classification, as compared with 50% of the girls (7 of 14). Among boys, 58% searched for their mother; among girls, 50% did so. With respect to child verbal response to maternal departure, 47% of the boys and 44% of the girls agreed with the departure announcement, and 64% of the boys and 56% of the girls were classified in one of the remaining verbal response categories (agree with resistance, disagree, no response). Despite the very small number of girls, an exploratory analysis of dichotomous reunion classification by group was conducted for each sex separately. Among boys, 95% of the clinic group was classified as insecure (17 of 18) and 23% of the comparison group (4 of 18), a difference that was significant, $\chi^2(1, n=36)=16.5, p<.001$. For girls, 57% of the clinic group was classified as insecure (4 of 7) and 43% of the comparison group (3 of 7), a difference that was not significant ($p>.10$).

Analysis of CBCL by attachment classification

One-way ANOVAs were used to examine differences in CBCL Externalizing and Internalizing scale scores between the 12 children classified as securely attached and the 26 classified as insecurely attached (among the 38 children in the study for whom CBCL data were available). Although this analysis is confounded with the main effect of clinic status, we wanted to explore the relationship between reunion classification and mother reports of child problems. Se-

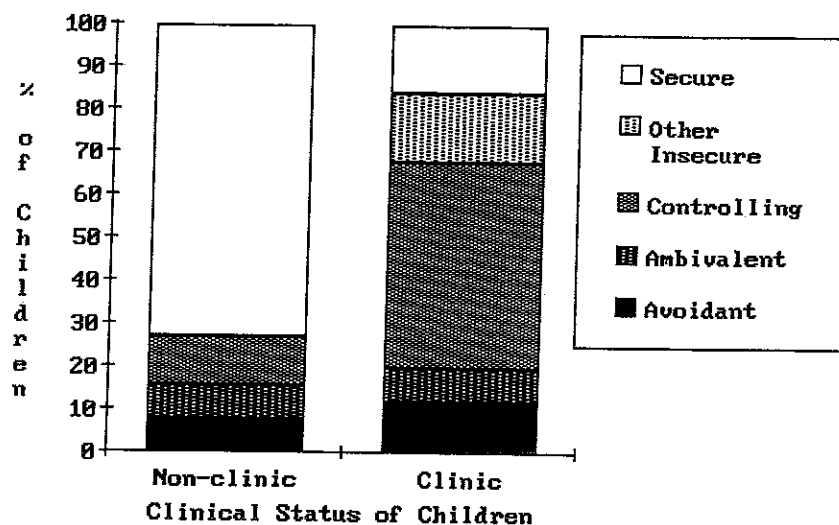


Figure 1. Attachment classification of clinic and comparison children.

Table 2. Child verbal response to maternal departure announcement

| | Clinic Group | | Comparison Group | |
|----------------------------------|-----------------------|------|-----------------------|------|
| | <i>n</i> ^a | % | <i>n</i> ^a | % |
| Agrees | 9 | (36) | 14 | (56) |
| Agrees with nonverbal resistance | 1 | (4) | 3 | (12) |
| Disagrees | 10 | (40) | 1 | (4) |
| No agreement or disagreement | 5 | (20) | 7 | (28) |

^a*n*=25.

curely attached children had lower Externalizing scores ($M=54.5$, $SD=12.5$) than insecurely attached children ($M=68.7$, $SD=12.9$), a difference that was significant, $F(1, 35)=9.8$, $p<.01$. A significant difference was also found in Internalizing scores, $F(1, 35)=6.03$, $p<.05$, with securely attached children again having lower scores ($M=55.4$, $SD=10.3$) than insecurely attached children ($M=65.3$, $SD=11.8$).

Discussion

To our knowledge, this study is the first reported effort to compare the separation/reunion responses of children having clinically significant levels of psychopathology with those of well-functioning peers. We have shown that clinic boys are more likely to show patterns of reunion behavior

characterized by controlling forms of behavior, whereas nonclinic boys are more likely to initiate positive interaction with the mother or respond positively to her initiations. No such difference was found for girls. This gender difference in reunion classification is tentative (given the very small number of girls), but consistent with the findings of Lewis et al. (1984), who found that infancy security predicted later behavior problems only for boys. There were also group differences in some aspects of pre-separation and separation behavior: clinic children were more likely to protest their mother's departure verbally and to search more for her during the separation itself.

Taken together, one might interpret these findings as evidence for the validity of the attachment construct at this age and as support for the link between insecurity and

behavior disorder. However, the study of attachment beyond infancy—and its relationship to psychopathology—is marked by several methodological and conceptual hazards that need to be considered carefully at this early stage of research. Further, the pilot nature of the present study necessitated several procedural limitations that require close examination. These issues will serve as the focus of the following discussion so as to benefit future comparative studies of clinical populations from a developmental perspective.

Observer bias

As noted earlier, the second and third authors served as observers for the attachment classifications and, given the use of two evaluation sites, differences in room characteristics provided cues as to subjects' group status. However, observer bias is unlikely to account for the study's major findings, given the degree of variation found in both attachment classifications and security ratings in the clinic group, the size of the group differences in these measures, and the fact that attachment classification was related to both separation protest and search behavior. These latter measures were taken by different observers who would have been much less influenced by room differences, as they were completely blind to the nature of the study (including the use of two comparative groups). Nevertheless, a replication of these findings is required with classifications by completely blind observers of parent-child interactions recorded in the same setting.

Demand characteristics

Another problem associated with the use of two sites is the possibility of setting-specific conditions and expectations that might have contributed in some way to the differences found in separation and reunion behaviors. For example, the attachment needs of clinic children may have been activated more strongly by being evaluated in a hospital—a place many children associate

with aversive medical procedures—or simply in a place where one is the focus of psychiatric evaluation. The first factor was probably not a significant problem in this study, as the medical clinic in which comparison group children were observed was nearly identical to the hospital in terms of its activities and physical features. The second factor may have been influential but is difficult to correct: the process of being brought to a clinic because of one's "bad" or problematic behavior is inextricably confounded with the independent variable of clinic status. The effects of this difference on demand characteristics might be minimized in future research by having both groups observed in a "neutral" site not associated with previous treatment for either group and by giving preobservation instructions to parents that would standardize what the children in both groups are told as to the purpose and nature of the observational session.

Clinical status and diagnosis

The diagnosis of the children in this study was based upon a semistructured interview with the parent and child in which the focus was on the confirmation of parents' referral requests for evaluation of an externalizing behavior problem. Thus, the diagnosis centered on establishing the centrality of Oppositional Defiant Disorder among the disruptive behavior disorders. We did not formally assess for co-occurring anxiety disorders, although both the results of the separation/reunion procedure and the CBCL internalizing data would suggest that some of these children may have met DSM-III criteria for an anxiety disorder as well. In a replication effort, a structured interview procedure in which there is a broad review of DSM childhood disorders (e.g., the Diagnostic Interview for Children and Adolescents; Welner, Reich, Herjanic, Jung, & Amado, 1987) should be used so as to allow for an analysis of parent-child interactions associated with different combinations of diagnoses (e.g., children with

disruptive behavior *and* anxiety disorders vs. disruptive behavior alone).

Another diagnostic problem indigenous to this age is the tremendous weighting of caregiver reports—especially mothers’—in the process that leads to clinic referral and the subsequent definition of psychopathology. Factors that affect maternal tolerance of difficult preschool behavior (e.g., maternal depression; see Brody & Forehand, 1986) may have more to do with clinic referral than the child’s level of disruptiveness, as measured “objectively” (Campbell, 1985). Although clinical diagnosis by an experienced clinician was used to confirm the caregivers’ labeling of the child’s behaviors, we did not assess clinician reliability of diagnosis and, like many studies in this area, comparison group children were not formally diagnosed—this despite the possibility that if DSM-III Disruptive Behavior Disorder criteria were applied to normative groups of preschoolers, very high rates of prevalence might be found (Richman, 1985).

Our group differences, then, might be interpreted more conservatively as indicating that parents who initiate the referral of their child to a clinic—and who are perhaps relatively intolerant of child “misbehavior” at this age—are more likely to have children who show insecure patterns of reunion behavior, rather than these findings demonstrating a direct link between reunion behavior and psychopathology. Of course, these may not necessarily be two alternative interpretations: the construct of “psychopathology” reflects in large part the process by which caregivers designate certain behaviors as “unwanted,” as well as the problematic behaviors themselves (Ullmann & Krasner, 1975). This is a difficult issue to resolve because of the very different definitions of “abnormality” implied by a disease, or medical model, perspective and a developmental approach, in which psychopathology is viewed as developing not within the child, but within the child’s relationships with significant others (Cicchetti & Braunwald, 1984; Sameroff & Emde, 1989). Suffice it to say for now that in fur-

ther research, comparative groups should be determined by multiple criteria (mother, father, and teacher reports; structured diagnostic interview of both clinic and comparison group families), a strategy that would clarify the independent variable of clinic status until further normative data on the clinical diagnosis of preschoolers are available.

Measurement of attachment

Notwithstanding the several factors that have potentially limited the internal validity of the study, the question remains of whether attachment was adequately measured by the separation/reunion procedure at this age. Have we really measured “attachment,” as it is commonly understood in relation to the period of infancy and beyond? To answer this question, we must consider the following: (1) the characteristics that generally define attachment and distinguish it from other aspects of parent-child relations; (2) the nature of attachment beyond infancy in terms of its continuing transformations and associations with the child’s developing competencies; and (3) the specific conditions under which the core components of attachment can be measured during the preschool years, given (1) and (2). Cicchetti et al. (1990) have defined the “essential features” of attachment in terms of its *function* (to protect children from danger), *outcome* (to regulate proximity to an attachment figure), and the child’s “*set goal*” (to establish a cognitive/affectual state of “security”).

Although the logistics of the separation/reunion paradigm to some extent require the behavioral outcome of proximity (i.e., at least some proximity adjustment is “forced” by the rejoining of the dyad after separation), the function of the child’s behavior will vary in relation to the child’s perception of danger or risk. The set goal of the preschool child’s behaviors is more difficult to understand, as it becomes increasingly more subtle and less subject to direct observation with advancing age. The infancy concept of “secure base” must

therefore be extended to allow for critical developmental changes in cognition and affect that would naturally transform the process and nature of proximity regulation. Cicchetti et al. (1990) discussed several such changes in this regard:

These developments include children's increasing cognitive abilities to represent and anticipate the dynamic moment-to-moment changes in the organization of physical proximity, to utilize internal talk to regulate one's felt security (e.g., "I'm okay"), to utilize communicative strategies in the service of continuing distal contact with the caregiver, and the increasing desire for independent mastery and individuation. (p. 24)

From a theoretical perspective, these emerging attachment behaviors and cognitive-affectual events are not seen as replacing physical proximity, but rather as supplemental strategies and internalized processes that mark new organizations of the attachment system. From an empirical standpoint, little is known about the relative importance of physical and more distal or internalized regulators of attachment at different ages and the possible hierarchical arrangements of these different strategies under varying conditions of stress or perceived danger. Nevertheless, both theory and preliminary research on the reunion behaviors of older children and adults (Cassidy et al., 1987) would suggest that during the preschool years overt proximity seeking or maintenance may have limited use as an *exclusive* measure of the attachment system, without supplemental indices of internalized events.

The adequacy of the separation procedure in this study to measure postinfancy attachment can be evaluated in terms of (a) the stressfulness of the situation and (b) the extent to which cognitive-emotional events or representational models were measured. Although separation distress was not directly assessed, we can infer from the relatively high rate of play interruption to search for mother in both groups (nearly 60%) that the 3-minute separation was at least moderately stressful. As reported, the relative

frequency of searching in the two groups differed significantly (72% vs. 40%), introducing the possibility that our group comparison of the quality of reunion response was influenced by differential attachment "thresholds." That is, the nonproblem children may have perceived less "danger" in the separation situation than the clinic children. Perhaps clinic and nonclinic children differ in both their perception of what Bowlby (1973) termed "natural clues of danger"—as influenced by representations or *past* attachment relationships—as well as currently manifested patterns of reunion behavior. In future studies, direct measures of child separation distress and generalized anxiousness about natural separations from parent may be helpful in understanding the relation between individual thresholds for attachment system activation and reunion behavior at this age. Although reunions have provided better information than separations in several studies (most with infants), this issue should probably be reexamined with each new age and sample in which attachment behaviors are studied.

With respect to this study's measurement of representational data, to some extent the classification categories themselves assess some overt manifestations of internalized processes. For example, both the content and process of language is examined within the 3-4-year and 5-6-year coding systems for indications of function, intimacy, comfort, fluidity, interest in mother's thoughts and feelings, and so on. Similar indications of affectual variation are coded. However, such measurement of representation during reunion only does not go far enough in capturing the set-goal component of the attachment system. Cicchetti et al. (1990) reviewed several innovative approaches in the preschool measurement of internal working models that focus on the child's verbal and nonverbal responses to photographs, stories, and story completion tasks that depict parent-child separations (e.g., Main et al., 1985; Slough & Greenberg, in press; Usher, Ridgeway, Barrett, Nitz, & Wagner, 1988). An important next step in research comparing young disordered and

healthy children is to conduct multimethod assessments of attachment that include these other types of representational measures.

One other issue relevant to this discussion is the finding that the majority of insecure classifications in the clinic group (40%) were characterized by controlling (and in many cases, controlling/punitive) patterns of reunion response. Perhaps, then, the reunion behaviors of the clinic children were simply manifestations of the presenting problems that led to their referral—thus, what we observed in the clinic group were “symptoms” and not “insecure attachments.” The resolution of this issue depends in part on how one defines psychopathology in the early years of life (Campbell, 1985). We have argued elsewhere (Greenberg & Speltz, 1988) that many of the behaviors commonly labeled in our culture as “symptoms” of disruptive behavior disorder operate for some children as primary strategies for gaining the physical or psychological proximity of caregivers. Thus, the distinction between attachment and disorder in this context may be, in part, an artifact of the inferential process involving two hypothetical constructs: some of the behavioral indicators of insecure attachment overlap to some extent with behaviors that serve as the basis for inferring child behavior disorder, at least from the perspective of psychiatric nosology. Although, for several reasons, disorder is not synonymous with the construct of insecure attachment (e.g., not all children with insecure attachments show significant problems; Erickson, Sroufe & Egeland, 1985), some forms of *one component* of the attachment system (e.g., overt proximity regulation) may serve as the basis for attributions of externalizing disorder in young children.

The distinction between attachments and disorder is further demonstrated by our finding that four of the clinic-referred children received secure attachment classifications. Perhaps in these cases, recent severe stressors or life event changes have led to temporary exacerbations of age-related op-

positional responses, in the context of secure and predictable family relationships. Although the number of these children in this study is too small to permit meaningful subgroup analyses, this issue is important for subsequent research; both in terms of how securely attached problem children and their families differ from clinic-referred peers and the possibility that the former are children with a reduced probability of continuing disorder over time.

Conclusions

Have our results validated the attachment construct at this age and have we demonstrated a conclusive link between attachment and behavior disorder? The answers at this early point in our research are unclear. As we have suggested, problems in both the definition of the independent variable (presence or absence of behavior disorder) and the exclusivity of reunion classification and rating as measures of attachment (at an age when the representational aspects of attachment are important) limit the interpretation of the group differences found in reunion behavior. Although the quality of reunion patterns would seem to distinguish children brought to clinics for behavior problems from those regarded by their parents as well behaved, we cannot yet say that insecure attachment, as it is fully conceptualized, is a critical discriminating factor in children with and without externalizing behavior disorder. The reunion difference is an important preliminary finding, however, as it extends our knowledge about the differences between these two groups of children beyond those related to immediate parental contingencies and child compliance and supports the continued study of early behavior problems from a developmental-organizational perspective. Whether this difference is related to attachment as conceptualized at the preschool level will be determined by future research that employs both multiple criteria of behavior disorder and, importantly, multiple measures of both the overt and internalized characteristics of the attachment system.

References

- Achenbach, T. M., & Edelbrock, C. S. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Ainsworth, M. D. S., Belhar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Armsden, G., & Greenberg, M. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16, 427-454.
- Barkley, R. A., Karlsson, J., & Pollard, S. (1985). Effects of age on the mother-child interactions of ADD-H and normal boys. *Journal of Abnormal Child Psychology*, 13, 631-637.
- Bates, J. E., & Bayles, K. (1988). Attachment and the development of behavior problems. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 235-239). Hillsdale, NJ: Erlbaum.
- Bates, J. E., Maslin, C. A., & Frankel, K. A. (1985). Attachment security, mother-child interaction, and temperament as predictors of behavior-problem ratings at age three years. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, 50, 167-193.
- Belsky, J., & Rovine, M. (1987). Temperament and attachment security in the Strange Situation: An empirical reproachment. *Child Development*, 58, 787-795.
- Belsky, J., Rovine, M., & Taylor, D. G. (1984). The Pennsylvania Infant and Family Development Project, 3: The origins of individual differences in infant-mother attachment: Maternal and infant contributions. *Child Development*, 55, 718-728.
- Bernal, M. E., Klinnert, M. D., & Schultz, L. A. (1980). Outcome evaluations of behavioral parent training and client-centered parent counseling for children with conduct problems. *Journal of Applied Behavioral Analysis*, 13, 677-691.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2 Separation*. New York: Basic.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). The role of internal working models in the attachment relationship: An attachment story completion task for 3-year-olds. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention*. Chicago: University of Chicago Press.
- Brody, G. H., & Forehand, R. (1986). Maternal perceptions of child maladjustment as a function of the combined influence of child behavior and maternal depression. *Journal of Consulting and Clinical Psychology*, 54, 237-240.
- Campbell, S. B. (1985). Hyperactivity in preschoolers—Correlates and prognostic implications. *Clinical Psychology Review*, 5, 405-428.
- Campbell, S. B., Breaux, A. M., Ewing, L. J., & Szumowski, E. K. (1984). A one-year followup study of parent-referred hyperactive preschool children. *Journal of the American Academy of Child Psychiatry*, 23, 243-249.
- Campbell, S. B., & Cluss, P. (1982). Peer relationships of young children with behavior problems. In K. H. Rubin & H. S. Ross (Eds.), *Peer relationship and social skills in childhood* (pp. 323-352). New York: Springer-Verlag.
- Campbell, S. B., Ewing, L. J., Breaux, A. M., & Szumowski, E. K. (1986). Parent-referred problem three year olds: Followup at school entry. *Journal of Child Psychology and Psychiatry*, 27, 473-488.
- Carlson, V., Cicchetti, D., Barnett, C., & Braunwald, K. (1989). Disorganized/disoriented attachment relationships in maltreated infants. *Developmental Psychology*, 25, 525-531.
- Cassidy, J. (1988). Child-mother attachment and the self in 6 year olds. *Child Development*, 59, 121-134.
- Cassidy, J., Marvin, R. S., & MacArthur Working Group on Attachment (1987). *Attachment organization in three and four year olds: Coding guidelines*. Unpublished scoring manual.
- Cicchetti, D., & Braunwald, K. (1984). An organizational approach to the study of emotional development in maltreated infants. *Infant Mental Health Journal*, 5, 172-182.
- Cicchetti, D., Cummings, E. M., Greenberg, M. T. & Marvin, R. S. (1990). An organizational perspective on attachment beyond infancy: Implications for theory, measurement, and research. In M. Greenberg, D. Cicchetti, & E. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention* (pp. 3-49). Chicago: University of Chicago Press.
- Erickson, M. F., & Farber, E. A. (1983). *Infancy to preschool: Continuity of adaptation in high-risk children*. Paper presented at the Society for Research in Child Development, Detroit.
- Erickson, M. F., Sroufe, L. A., & Egeland, B. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, 50 (1-2, Serial No. 209).
- Forehand, R., King, E., Feed, S., & Yoder, P. (1975). Mother-child interactions: Comparison of a non-compliant clinic group and a non-clinic group. *Behavior Research and Therapy*, 13, 79-84.
- Forehand, R., & McMahon, R. J. (1981). *Helping the noncompliant child: A clinician's guide to parent training*. New York: Guilford.
- Greenberg, M. T., & Speltz, M. L. (1988). Attachment and the ontogeny of conduct problems. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 177-218). Hillsdale, NJ: Erlbaum.
- Grossmann, K., Grossmann, K. E., Spangler, G., Suess, G., & Unzner, L. (1985). Maternal sensitivity and newborns' orientation responses as related to quality of attachment in northern Germany. In I. Bretherton & E. Waters (Eds.), *Growing points of attachment theory and research. Monographs of the Society for Research in Child Development*, 50, 233-256.
- Halverson, C. F., & Waldrop, M. F. (1976). Relations between preschool activity and aspects of intellectual and social behavior at age 7 1/2. *Developmental Psychology*, 12, 107-112.

- Harris, S. L., & Ferrari, M. (1983). Developmental factors in child behavior therapy. *Behavior Therapy*, 14, 54-72.
- Kobak, R., & Sceery, A. (1988). Attachment in later adolescence: Working models, affect regulation, and perceptions of self and others. *Child Development*, 59, 135-146.
- LaFreniere, P. J., & Sroufe, L. A. (1985). Profiles of peer competence in the preschool: Interrelations between measures, influence of social ecology, and relation to attachment history. *Developmental Psychology*, 21, 56-69.
- Lerner, J. A., Inui, T. S., Trupin, E. W., & Douglas, E. (1985). Preschool behavior can predict future psychiatric disorders. *Journal of the American Academy of Child Psychiatry*, 24, 42-48.
- Lewis, M., Feiring, C., McGuffog, C., & Jaskir, J. (1984). Predicting psychopathology in six year olds from early social relations. *Child Development*, 55, 123-136.
- Londerville, S., & Main, M. (1981). Security of attachment, compliance, and maternal training methods in the second year of life. *Developmental Psychology*, 17, 289-299.
- Main, M. (1973). *Play exploration and competence as related to child-adult attachment*. Unpublished doctoral dissertation. Johns Hopkins University, Baltimore, MD.
- Main, M., & Cassidy, J. (1985). *Assessments of child-parent attachment at six years of age*. Unpublished scoring manual.
- Main, M., & Cassidy, J. (1988). Categories of response to reunion with the parent at age 6: Predictable from infant attachment classifications and stable over a 1-month period. *Developmental Psychology*, 24, 415-426.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, 50, 66-104.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situations. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*. Chicago: University of Chicago Press.
- Marvin, R. S. (1977). An ethological-cognitive model for the attenuation of mother-child attachment behavior. In T. M. Alloway, L. Krames, & P. Piner (Eds.), *Advances in the study of communication and affect: Vol 3. The development of social attachments* (pp. 25-60). New York: Plenum.
- Maslin, C. A., & Bates, J. E. (1982). *Anxious attachment as a predictor of disharmony in the mother-toddler relationship*. Paper presented at the International Conference on Infant Studies, Austin, TX.
- Matas, L., Arend, R., & 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.
- O'Connor, M. J., Sigman, M., & Brill, N. (1987). Disorganization of attachment in relation to maternal alcohol consumption. *Journal of Consulting and Clinical Psychology*, 55, 831-836.
- Patterson, G. R. (1985). Beyond technology: The next stage in the development of parent training. In L. L'Abate (Ed.), *Handbook of family psychology and psychotherapy* (pp. 1344-1379). Homewood, IL: Dorsey.
- Radke-Yarrow, M., Cummings, E. M., Kuczynski, L., & Chapman, M. (1985). Patterns of attachment in two-and-three-year-olds in normal families and families with parental depression. *Child Development*, 56, 884-893.
- Richman, E. A. (1985). Disorders of preschool children. In M. Rutter & L. Hersov (Eds.), *Child and adolescent psychiatry: Modern approaches*. Boston: Blackwell Scientific Publications.
- Robinson, E. A. (1985). Coercion theory revisited: Toward a new theoretical perspective on the etiology of conduct disorders. *Clinical Psychology Review*, 5, 1-29.
- Robinson, E. A., & Eyberg, S. (1981). The dyadic parent-child interaction coding system: Standardization and validation. *Journal of Consulting and Clinical Psychology*, 49, 245-250.
- Rubin, K. H., & Lollis, S. P. (1988). Origins and consequences of social withdrawal. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment*. Hillsdale, NJ: Erlbaum.
- Sameroff, A. J., & Emde, R. N. (Eds.) (1989). *Relationship disturbances in early childhood*. New York: Basic.
- Slough, N. M., & Greenberg, M. T. (in press). Attachment and mental representations of self in 5 year-olds. In I. Bretherton & F. Watson (Eds.), *New directions for child development*. San Francisco: Jossey-Bass.
- Speltz, M. L. (1990). Contributions of attachment theory to the treatment of preschool conduct problems. In M. T. Greenberg, D. Cicchetti, & M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*. Chicago: University of Chicago Press.
- Sroufe, L. A. (1988). The role of infant-caregiver attachment in development. In J. Belsky & T. Nezworski (Eds.), *Clinical implications of attachment* (pp. 177-218). Hillsdale, NJ: Erlbaum.
- Sroufe, L. A., & Egeland, B. (1989, April). *Early predictors of psychopathology*. Symposium presented at the Biennial Meeting of the Society for Research on Child Development, Kansas City.
- Sroufe, L. A., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hartup & Z. Rubin (Eds.), *Relationships and development*. Hillsdale, NJ: Erlbaum.
- Sroufe, L. A., Fox, N. E., & Pancake, V. R. (1983). Attachment and dependency in developmental perspective. *Child Development*, 54, 1615-1627.
- Suomi, S. (1987). Genetic and maternal contributions to individual differences in rhesus monkey biobehavioral development. In N. Krasnegor, E. Blass, M. Hofer, & W. Smotherman (Eds.), *Prenatal development: A psychobiological perspective*. New York: Academic.
- Thompson, R. A., & Lamb, M. E. (1983). Security of attachment and stranger sociability in infancy. *Developmental Psychology*, 19, 184-191.
- Ullmann, L. P., & Krasner, L. (1975). *A socialpsychological approach to abnormal behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Usher, B., Ridgeway, D., Barrett, K., Nitz, K., & Wagner, E. (1988, April). *Maternal correlates of children's communication about emotions*. Wash-

- ington, DC: Poster at the International Conference on Infant's Studies.
- Wahler, R. G. (1976). Deviant child behavior within the family: Developmental speculations and behavior change strategies. In H. Leitenberg (Ed.), *Handbook of behavior modification and behavior therapy* (pp. 516-543). Englewood Cliffs, NJ: Prentice-Hall.
- Wartner, U. G., & Grossmann, K. (1987) *Stability of attachment patterns and their disorganizations from infancy to age 6 in South Germany*. Unpublished manuscript.
- Welner, Z., Reich, W., Herjanic, B., Jung, K. G., & Amado, H. (1987). Reliability, validity, and parent-child agreement studies of the Diagnostic Interview for Children and Adolescents (DICA). *Journal of the American Academy of Child and Adolescent Psychiatry*, 26, 649-653.