3 Infant-Caregiver Attachment and Patterns of Adaptation in Preschool: The Roots of Maladaptation and Competence*

L. Alan Sroufe
Institute of Child Development
University of Minnesota

It has long been accepted that effectiveness of work with young children in educational and therapeutic settings is enhanced by an understanding of the individual child. If we can understand a particular child's world view and his/her unique needs and concerns, we can better promote educational growth and healthy development. Such an understanding of the personalities of children is a major goal underlying the preschool research described in this chapter.

The problem of defining meaningful individual differences in young children is indeed a challenging one. To be sure, individual differences are obvious to any teacher. Children differ in countless ways, each child being unique. But which of these differences are vital to the functioning of the child? Which require special note for planning and intervention? Equally important, while each child is unique, groups of children also share similarities. In fact, any two children may be grouped together on some basis. So how do we determine the crucial bases for grouping; that is, which

children require a common approach from the teacher or therapist in contrast to a very different approach for another group of children? Teachers commonly decide to let one child engage in a minor rule infraction for a time, while another child is promptly limited. Such decisions must be based on the idea that these children have different requirements (at least at this point in time). Currently, variations in educational approach and intervention on the part of a given practitioner are largely intuitive. In my opinion these intuitive approaches tend to be remarkably appropriate in the case of good teachers, no doubt because they get to know the children and understand the dynamics of their behavior. But, still, as developmental researchers we should be able to offer more. One objective of the current developmental research is to evolve more powerful ways of comprehending individual differences so that these heretofore intuitive approaches to education and intervention may be sharpened.

Even before introducing formal theoretical considerations, it may be useful to present some common-sense ideas that underlie this research. The first set of ideas has to do with the aspects of behavior to address. The assessment of intelligence, for example, has had a limited place in my research. Essentially, it is a modulator variable, something to be controlled. This is because well functioning children may be relatively high or low on intelligence, and many severely troubled children have adequate intelligence. Weikart (this volume) has shown that children experiencing quality preschool intervention regress to the same IQ as a control group; nonetheless, they show dramatically better adjustment to the school situation and to life. Being bright may well be an advantage in facing the challenges of the preschool classroom, but it is neither necessary nor sufficient to insure healthy functioning. Also, assessments of IQ can always be added to assessments of quality of adaptation for a more complete picture.

Similarly, temperament, as it is usually understood, has received limited emphasis in our work. I believe that temperament is a useful concept, that is, that infants and children differ in terms of preferred tempo and so forth. However, such temperamental differences are encompassed by our interest in quality care, because good quality care involves responding to the particular nature and characteristics of a given child. I believe also that more meaningful individual differences are best captured by other concepts. Well functioning children, at times may be described as energetic, busy, and active, and at other times as calm, easy-going, and unflappable. Emotional health comes in many different forms. Moreover, characteristics such as undue reliance on adults, tendency to withdraw in the face of stress, isolation, good frustration tolerance, empathy, and curiosity are not well captured by temperament concepts, as our research shows. And these are the characteristics we seek to capture. These are the dimensions of behavior that underlie what I am calling *meaningful* individual differences. In contrast to IQ and

temperament, this variation is not viewed as largely inborn; it is assumed to derive from the child's developmental history.

The second set of ideas concerns the way we view behavior. It is clear that simple frequency counts cannot do justice to the complexity of the child. The meaning of the behavior, as inferred from the behavioral and situational context, is essential. Two children may engage in an equivalent frequency of aggression. But in one case this may be rather uniformly associated with a flailing out in the face of frustration or disappointment (a tower falls, a toy is stepped on, etc.). The other child, in contrast, may engage in systematic victimization of other children, especially those who are vulnerable or who respond to attack by becoming very upset. Surely, these contextual differences are of equal importance to the sheer frequency of aggressive acts. More generally, children may "act out" in a variety of ways and for a variety of reasons. Determining that a child is an "externalizer" (e.g., Achenbach, 1966) is only the beginning of understanding. The frequency of acting out may indicate a problem, but, in addition, our goal is to understand the particular *nature* of the problem.

Likewise, some children may be frequently engaged with others; other children may engage very little. But a high social participation score is not nearly as meaningful as the quality of the interaction, the degree of reciprocity, the sensitivity to the other's signals, and so forth. Social competence cannot be adequately indexed by frequency of interaction. Even solitary behavior has vastly different meanings, as a function of the situations in which it occurs, what the child does while solitary, and so forth.

Use of molar concepts, such as self-direction, sensitivity, flexible management of impulses, and self-confidence requires that the observer take context into account when recording behavior. And the use of molar constructs is essential in order to deal adequately with the complexity of social/emotional behavior. I prefer such complex, context-dependent variables to more discrete behavioral variables, despite the difficulty of operationalizing them. A suitable solution to the problems involved in operationalizing molar constructs often is to assess both discrete and molar variables and support each set with the other. This was our approach in the Minnesota Preschool Project.

But even molar measures or ratings fall short of the richness we would like to capture. Therefore, in our assessments we attempted to develop profiles of behavioral organization—patterns of adaptation—across contexts and across levels of analysis. That is, what we really wanted to understand was the particular way the child put together his approach to the world, his orientation and style. A child's pattern of adaptation included his expectations, fears and hopes; his beliefs about himself and others; his orientation to adults and peers and his preferred ways of relating; his ways of coping with stressful and emotionally arousing situations, as well as more specific

capacities, such as physical abilities. The Blocks' (1979) concepts of ego control and ego-resiliency come very close to what we had in mind when we talked about behavioral profiles, in that they are addressed to the management of impulses and feelings. Two dimensions, of course, cannot capture the entire complexity of individuals, but the Block dimensions do as well as any two might. And their work encouraged the expectation that meaningful and coherent individual differences in personality patterns could be assessed.

HISTORY OF THE PROBLEM

Our developmental approach to individual differences in social and emotional development is tied historically to psychoanalytic theory. From the beginning Freud acknowledged a central role for affect and emphasized the control and expression of impulses and feelings. He argued also that early experiences continued to affect the individual and that maladaptation resulted from ongoing conflict.

The metaphorical language in which Freud originally described his insights is now no longer considered acceptable. The assumption that behavior is motivated primarily by the goal of keeping tension at the lowest possible level (drive reduction) has been thoroughly discredited, and Freud's mechanistic model yielded a passive view of the person and a static view of development. Individuals are not pushed back to earlier stages of functioning, and development does not stop (fixate on a single issue). Rather, individuals evolve and organize (hierarchically) strategies for dealing with crises and opportunities in the environment, and they carry forward earlier strategies to subsequent periods of development.

As Bowlby (1969) and others have pointed out, the basic insights in psychoanalytic theory are not tied to drive reduction or the mechanistic model. Loevinger (1976) traces Freud's own changing metapsychology from an early position based on trauma and repression of affect to an increasing emphasis on the quality of significant early relationships and on how prototypes or characteristic ways of coping with conflict evolve within these. In this evolved position, anxiety, and therefore symptomatology, is not the result of dammed-up drive, but is a signal to the individual that there is a threat of a significant interpersonal loss (and ultimately a threat to the self). In varying degrees such anxiety is common to all individuals, but experiential history determines the degree and circumstances of anxiety, characteristic ways for dealing with anxiety, and vulnerability to disorganization in the face of anxiety. This position is integrated readily with a modern biological perspective.

Many investigators have contributed to the continuing evolution of psychoanalytic theory (e.g., Breger; 1974, Erikson, 1963; Klein, 1976,

Loevinger, 1976; Mahler, Pine & Bergman, 1975; Sander, 1975; Sullivan, 1953). I have discussed this progress elsewhere (Sroufe, 1979). Here, I can present only a brief overview of a current perspective.

Four assumptions are central to this modern perspective, which is actually an integration of psychoanalytic, evolutionary, and organismic theory (cf. Breger, 1974):

1. Individuals are biologically disposed to form intimate (attachment) relationships, and development takes place in the context of these relationships.

2. The earliest relationship(s) are of special significance because they provide the context for the emergence of the self and because they represent prototypes for later relationships.

3. Early prototypes are carried forward through attitudes and expectations the child forms concerning the availability and likely responses of others and the outcome of his/her own efforts to cope with stress.

4. A prototype behavioral organization will be manifest in different, though coherent forms, in different circumstances and at different points in development.

For example, some infants learn early that in times of strong emotional arousal others will *not* be available. Based on these salient experiences (and not sheer frequency of contact) they learn *not* to seek people in these contexts and, in fact, even to avoid emotionally laden situations more generally, including close personal relationships. In general, they may cope with strong arousal by withdrawal, with perhaps occasional outbursts of intense feelings, or they may develop a hostile, guarded stance toward the interpersonal world. But, because it is based in the child's biology, the underlying need for intimacy does not abate. The child's dependency needs will continue to be manifest, though perhaps in distorted ways or in restricted circumstances. For example, given sustained opportunity in a comfortable setting, such a child may show striking dependency. The child did not learn *not* to need people; rather, a certain set of expectations has been learned that shapes his/her patterns of response.

This framework for looking at individual differences is quite distinctive from traditional trait and milestone viewpoints. (Its distinction from an operant perspective will become obvious.) This framework differs from a trait perspective in that the emphasis is not on isolated characteristics of the individual (aggressiveness, dependency), but on behavioral organization—the way the person approaches and copes with changing circumstances. Morever, particular characteristics are not expected to be manifest consistently across situations; neither are they necessarily stable over time. Linear models of development are rejected. In certain developmental circumstances infants who were quite vigorous and active

may end up being very passive as preschoolers. In predictable circumstances cuddly babies very well may be among the more independent young children. Individuals are viewed as actively structuring their experience, based on evolving orientations to the environment. Understanding these orientations will enable prediction of how children will handle subsequent developmental issues. In the end, individuals may have characteristic ways of dealing with impulses and feelings, and indeed, this is a major assumption underlying our research. But these styles of coping result in quite different behaviors at different times and in different contexts, though even within this change there is coherence. Behavior is predictable, though not necessarily stable.

In contrast to the milestone/stage view of individual differences, here little emphasis is placed on the age at which some developmental step is achieved. Instead, following Erikson (1963), Sander (1975), and others, development is viewed in terms of a series of issues *faced by each individual.* All infants become attached, all toddlers individuate, all preschool children relate to others and develop concepts of themselves as boys or girls. All children learn to control and express impulses. Of interest is the quality of adaptation with respect to these issues. Stages are not passed or failed. Rather, the behavioral organization evolved with respect to an early developmental issue lays the ground work for subsequent behavioral organizations. A child with a secure attachment relationship (that is, where a flexible balance is achieved between exploration and contact-based security) will later be more confident in autonomous problem solving, as we and others have shown (Main, 1973; Matas, Arend & Sroufe, 1978; Sroufe & Rosenberg, 1980). The nature of the earlier behavioral organization, with attachment promoting exploration, makes the smooth movement to more autonomous functioning virtually inevitable. The age at which first signs of attachment appeared is of much less importance. And whether a flexible, effective organization of attachment behavior or some maladaptive organization was evolved, no child's development is arrested at the attachment phase. Rather, the quality of attachment is carried forward. Each child faces the issues involved in solving problems on its own, learning to control impulses, and developing relations with peers. A healthy pattern of adaptation is one which promotes a flexible, effective behavioral organization with respect to subsequent issues; an unhealthy pattern is one which does not. But development continues and each child in our culture proceeds through the same series of developmental issues.

Research Background

The immediate foundation for this research program is the work of Bowlby (1969, 1973, 1980) and Ainsworth (Ainsworth, Blehar, Waters & Wall,

1978) on attachment. Bowlby provided a theoretical framework and Ainsworth a method for capturing individual differences in early behavioral organization. In contrast to previous views of attachment (dependency), individual differences here were not conceptualized in terms of degree or intensity. All infants will become attached, Bowlby argued, whether abused, haphazardly treated, or nurtured. Our biology guarantees that. All that is required is a regularly-available conspecific who interacts with the infant. What will vary is not the occurrence, but the quality of the attachment, the efficiency of the signaling and contact maintaining systems evolved by infant and caregiver, and their effectiveness in serving the infant's regulation of affect and behavior.

Two important hypotheses were derived from Bowlby's theory: (1) individual differences in the quality of attachment are the result of the quality of early care, in particular the psychological availability and responsiveness of the caregiver. Infants who experience ready access to the caregiver and prompt and reliable responses to their signals of need or distress are secure in their attachment (i.e., will develop confident expectations concerning the caregiver and the environment more generally); (2) the quality of the attachment relationship lays the foundation for the sense of self (efficacy, internal locus of control, curiosity) and, in particular, the way the person deals with intimate relationships. This includes the manner of meeting dependency needs, nurturing others and dealing with loss or separation.

Ainsworth focused primarily on the first hypothesis (Ainsworth, et al., 1978). She found that the caregiver's sensitivity to the infant's signals (prompt, effective response) and their understanding and respect for the infant's autonomy (as manifest by "cooperative" care as opposed to intrusive, interfering care), assessed at each quarter of the first year, predicted the quality of attachment at 12-months. She also found that rejection in the context of the infant wanting to be picked up (but not total amount of time holding) distinguished a particular pattern of attachment characterized by avoidance of the mother following a brief separation. Infant behaviors assessed during the first quarter did not predict later attachment; indeed, they were highly unstable even within that quarter (Blehar, Lieberman & Ainsworth, 1977). Within the longitudinal study begun by Byron Egeland, this relationship between maternal sensitivity at 6-months and quality of attachment at 12-months has been replicated. In the case of avoidant 12-months-olds, an extensive examination of infant temperamental characteristics in and after the newborn period failed to reveal predictive differences.

My own research has been addressed mainly to a broadened version of the second hypothesis; namely, that quality of infant-mother attachment would be related to later personal and interpersonal competence. (We have studied mothers primarily because in the original middle class study all

mothers stayed home and all fathers worked, and in the current Egeland, Deinard & Sroufe sample few of the mothers have had stable male partners.)

Waters (1978) first showed that Ainsworth's attachment patterns were stable from 12-to-18-months. We next showed that toddlers (24-months) who had been secure in their attachments as infants showed a more competent pattern of autonomous functioning than did children who had anxious attachments (Matas, Arend & Sroufe, 1978). In particular, when we assessed them in a problem solving situation, designed to take each child beyond his/her own capacities to cope, secure children approached the problems with more enthusiasm and positive affect (less negative affect), were more persistent, and were more effective in using maternal assistance (cooperated more, opposed and ignored less) than anxiously attached children. This pattern was obtained despite the fact that children came to the limits of their abilities and showed normal two-year negativism in other contexts. It was the behavioral organization, the flexible use of the mother when their own goal attainment capacities were exhausted, that distinguished secure from anxious children. All of this was an explicit confirmation of Bowlby's hypothesis and Mahler's (Mahler, et al., 1975) idea that individuation is influenced by the quality of the earlier symbiosis.

In two subsequent studies (Arend, Gove & Sroufe, 1979; Waters, Wippman, & Sroufe, 1979) we were able to predict from attachment at 15-to-18-months to broad measures of functioning in the preschool and kindergarten. Thus, while the quality of adaptation originally resided in the dyad, ultimately it was revealed in assessments of the child apart from the mother. Securely attached infants were later described (via teachers and observer Q-sorts) as more socially competent and more ego-resilient (flexible, self-reliant, curious, involved) than anxiously attached infants. The Blocks' (Block & Block, 1979) laboratory battery (curiousity box, Lowenfeld mosaics, delay of gratification, level of aspiration, etc.) confirmed the Q-sort data.

These studies provided striking demonstrations of the power of attachment assessments to predict later behavior and of the coherence of individual development. One reason for success was that individuals were assessed in terms of salient developmental issues using molar, integrative measures. Another reason is that the Ainsworth laboratory attachment assessments were anchored upon hundreds of hours of home observation.

The early demonstrations, however, leave us far from other goals of the research; namely, providing a sufficiently comprehensive understanding of individual children and groups of children to aid education and intervention efforts. Our molar outcome variables leave out much concerning more specific characteristics of competent children and what they do to achieve their perceived status with peers/teachers. Moreover, in our previously

published studies we have found little difference in the subsequent adaptation of Ainsworth's two distinct patterns of maladaptive attachment (Table 3.1). Children in one of these groups (Group C) were overtly anxious (with much crying), resistant to contact upon reunion, and/or angry (C_1) in her strange situation or were strikingly passive (C_2). They had in common great difficulty being settled, even after one brief separation. Children in the other maladaptive group (Group A) showed little explicit distress. They tended to separate readily and were rarely upset when left with a stranger. When left alone they commonly were readily settled by a stranger. Most significant, however, is that following separation they tended to snub or avoid the mother upon her return, and they did this all the more following a second brief separation. Clearly, these are profoundly different patterns (though occasional children mix these behaviors); yet, in our early work we found little in the way of documented differences in the subsequent adaptation of these two groups. At age two neither group showed enthusiasm in problem solving, neither was effective in using maternal assistance, neither was self reliant; at age 3½-5-years neither was viewed by the teachers as socially competent or ego-resilient.

Some initial progress has been made on this problem. In the kindergarten follow-up of the original middle class sample there was a significant (but small in absolute terms) tendency for the avoidant infants to be overcontrolled and the resistant (ambivalent) infants to be undercontrolled on the Block Q-sort measure, an intuitively appealing finding. More recently, Gove, in his dissertation research, has discriminated As' and Cs' behavior patterns at 24-months in the Egeland, Deinard, and Sroufe poverty sample. This research is especially promising because the discriminations were based on profile and cluster analyses. That these profiles discriminated the groups, even though the individual behaviors and ratings upon which they were based generally did not, is an important clue for ongoing research. Both groups of anxiously attached children show maladaptive behavior (dependency, aggression, negative acting out, non-compliance), but the manner and circumstances in which these behaviors are manifest differ. For example, resistant infants directed more of their anger directly at the mother in our tool problem situation, whereas avoidant infants showed it through object directed behaviors and more subtle non-compliance. The resistant children appeared to have the goal of engaging mother in power struggles, whereas the avoidant children seemed to want to stay outside of her influence. The meaning of the anger and negativistic behavior was different.

Our main objective for the Minnesota Preschool Project was to carry this work forward. By observing in detail the daily functioning of a sizeable number of children with known attachment histories, we hoped to trace the individual patterns of adaptation of competent and incompetent children.

TABLE 3.1

Patterns of Attachment
(Adapted from Ainsworth, Blehar, Waters & Wall, 1978)

Secure Attachment
A.   Caregiver is a secure base for exploration
  1.   readily separate to explore toys
  2.   affective sharing of play
  3.   affiliative to stranger in mother's presence
  4.   readily comforted when distressed (promoting a return to play)
B.   Active in seeking contact or interaction upon reunion
  1.   If distressed
    a) immediately seek and maintain contact
    b) contact is effective in terminating distress
  2.   If not distressed
    a) active greeting behavior (happy to see caregiver)
    b) strong initiation of interaction

Anxious/Resistant Attachment
A.   Poverty of exploration
  1.   Difficulty separating to explore, may need contact even prior
       to separation
  2.   wary of novel situations and people
B.   Difficulty settling upon reunion
  1.   may mix contact seeking with contact resistance (hitting, kicking,
       squirming, rejecting toys)
  2.   may simply continue to cry and fuss
  3.   may show striking passivity

Anxious/Avoidant Attachment
A.   Independent exploration
  1.   readily separate to explore during preseparation
  2.   little affective sharing
  3.   affiliative to stranger, even when caregiver absent
       (little preference)
B.   Active avoidance upon reunion
  1.   turning away, looking away, moving away, ignoring
  2.   may mix avoidance with proximity
  3.   avoidance more extreme on second reunion
  4.   no avoidance of stranger

The project, of course, provided a rich opportunity to document fully the way in which secure attachment relationships and anxious attachment relationships are carried forward to the preschool. Domains such as dependency, aggression, prosocial behavior, affective expressiveness, status with peers, and classroom deportment had not been addressed in our previous outcome research in the preschool years. But, in addition, the project provided an opportunity to once again tackle the vexing problem of tracing coherent patterns of maladaptation. Does the particular quality of the early

infant-caregiver relationship predict the unique adaptation of the individual child, beyond the general degree of disorder?

The Problem of Prediction: Coherence vs. Stability

In introducing her report on the 15 year follow-up of Shirley's (1931) babies, Neilon (1948) cogently summarized the problem of predicting from infancy to later behavior: "Even assuming continuity of personality patterns, the individual who cries a great deal as an infant would not necessarily be expected to cry a great deal as an adult. The personality characteristic which caused the excessive crying . . . might persist in a different manner . . . The same infant who cries a great deal might be subject to severe temper tantrums at preschool age, and have an inclination to impulsiveness and emotionality in adulthood (p. 175)." Despite this complexity, judges in the Neilson study were able to match, above chance level, infant "sketches" to independently created adolescent "sketches" which presented overviews of the individual's functioning.

A central postulate of our underlying model (Sroufe, 1979) is that continuity in development takes the form of *coherence across transformations.* It is predicted, for example, that some avoidant infants are hostile and/or aggressive later, even though such explicit aggressiveness was not seen in these infants. That such hostile, acting out children may show schizoid or schizophrenic patterns of adaptation in later life is likewise compatible. Indeed, follow-up studies by Robbins (1966) and others find that schizophrenia is not well predicted by shy, withdrawn, internalizing symptoms in children, but rather by acting out, antisocial (externalizing) symptoms. Such transformations in manifest behavior likely are the rule, rather than the exception.

Not only must one predict heterotypic continuity, but one must allow for diverse outcomes as well. Even in Ainsworth's scheme there are eight, not three, specific patterns of attachment behavior. And there are, of course, many more than eight kinds of infant attachment relationships. Moreover, as development proceeds, even more diversity might be expected. No one would predict that all avoidant infants would look alike as preschoolers, even in general terms. However, *a reasonable and testable prediction is that the various patterns of adaptation shown by avoidant infants represent meaningful developmental outcomes and that the set of adaptational patterns shown by avoidant children are distinct (probabilistically) from the set of patterns shown by resistant infants.* This is true despite a relative absence of differences on particular, discrete variables and ratings. For example, *A*s and *C*s may be disciplined with equal frequency by teachers, may be equally low in popularity, may be rated equally high on dependency, may as frequently interact with others, and so forth. Some children in both groups will

show externalizing symptoms and some will show internalizing symptoms. But the form, quality, and organization of their behavior, will differ.

At the outset, we expected avoidant children to show some combination of the following patterns: (1) hostile/antisocial; (2) socially and emotionally isolated, withdrawing in the face of stress; and (3) disconnected, psychotic-like. All of this follows from the defensive posture developed within a relationship with a rejecting, emotionally unavailable (perhaps depressed) caregiver. There is a fundamental difficulty in relating, and an underlying anger which the child has not learned to express directly at its source. The resistant children, on the other hand, were expected to show one of two patterns: (1) impulsive, overtly anxious or tense, easily over-stimulated and low frustration tolerance or (2) passive, weak, infantile, adult oriented, fragile. These patterns, it was speculated, are the product of over-involved or ambivalent/inconsistent relationships.

It can be seen that withdrawal from other children, high dependency, aggression, and acting out are consistent with both sets of patterns. For example, the impulsive Cs flail out in frustration; and the aggressive As seek to harm another. Both groups show aggression. But the meaning of the behavior varies—an expression of anxiety and tension (undercontrol) vs. a re-direction of underlying hostility. Likewise, the passive Cs appear in ways similar to the isolated/withdrawn As. Both of these groups of internalizing children are low on peer interaction and certainly low on leadership. But they differ in terms of social orientation and, perhaps especially, orientation toward the teacher. And while some As, as well as Cs, are highly active socially, the social behavior of the Cs has a frenetic quality while that of the As is hostile or disconnected (that is, they may be with other children but without reciprocally participating in or understanding the affective give and take of the interaction).

Many of these distinctions are very challenging to assess but they are, we believe, conceptionally clear. If valid, they have important implications for those who work with preschool children and those who treat psychopathology.

DESCRIPTION OF THE PRESCHOOL PROJECT

We were able to include a total of 40 children in two consecutive classes. The first class lasted 12 weeks (15 children) and the second class lasted 20 weeks (24 children plus 1 replacement). Subjects for the larger, second class were actually recruited first, the first class being viewed as a pilot study. Children were selected on the basis of attachment history, and groups were equated in terms of age, IQ, race, and, in the second class, sex.

In the second class there were originally 24 preschool-aged ($\bar{X}$ = 48.7

mo.; S = 3.9) children, equally divided among secure (B), avoidant (A), and resistant (C), and equally divided according to gender. Twenty-one of the children had shown stable attachment classifications from 12-to-18-months. In the three cases where attachment changed (A-C, B-C, and C-A), our 24 month assessment (from the tool problem situation) was consistent with the 18 month assessment. One male, C child moved after the 10th week of the class. He was replaced by a B male, partly because no stable C males were available and partly because we had learned that the ratio of disturbed to well functioning children was too extreme (that is, partly this was a pragmatic decision). This subsample is not completely representative of the larger Egeland, Deinard and Sroufe sample. First, more than 50% of the infants from the larger sample were securely attached at 12-or-18 months (vs. the 33% here). Second, only 62% of the larger sample showed stable attachments. Selection was deliberate, however, to reduce error in the predictor, to promote contrasts between the A and C groups, and to increase the likelihood of continuity across this substantial age span. In many ways, this poverty sample, with their dramatically and continually changing life circumstances, was not ideal for testing our hypothesis. Selection of subjects with stable attachments, in part, countered all of these disadvantages.

The first (pilot) class had 15 children, 6 girls and 9 boys, ranging in age from 47-months to 57-months at the start of the session. Seven of the children had shown stable secure attachments, two had been stable As, one changed from A to C and one from C to A,[1] and four were "mixed"; that is, not classified consistently as secure or anxious.

Comment on the Suitability of Competence-Mixed Classrooms

What began as a research convenience—suitable representation of well functioning and poorly functioning children—came to be valued in its own right. In contrast to mainstreaming, where a disabled child is potentially isolated, and in contrast to a "special" class, where developing competence in peer relations may not be possible, our "integrated" classroom had many advantages. Some disturbed children are ready for meaningful peer contact; others can be helped to become ready. Other disturbed children can have growth enhancing experiences at a level short of fully reciprocal exchange; for example, frequently playing with cars and trucks in parallel. Children of similar competence levels and tolerance can, and do, find each other. At the same time such a therapeutic preschool class need not be disadvantageous

---

[1]Where used in A-C comparisons the child was grouped in terms of his 18 month classification.

for relatively healthy children. These children, too, can profit from clinically sensitive teachers. All children have emotional problems. An experience interacting with children with a wide variety of capacities and weaknesses, within a safe and well supervised context, may serve them well in the future.

Classroom Procedures and Routine

None of the parents of our subjects could provide transportation for their children. Therefore, a van and (in the second class) a car were used to transport the children. This service insured excellent attendance, which was maintained throughout the year, but it also created certain problems. In both classes, children arrived and departed at different times. The entire class was together for only about 1 hour each day; children were with their smaller group (or transportation sub-group) more than two additional hours. In both classes, we were able to match early and late arriving groups for attachment, sex, and IQ, but in the second class, we were not able to match within vehicle (car or van). The size of the second class, and the extended contact for children within vehicles, encouraged friendship patterns based heavily on propinquity, and interfered with the formation of a single group structure. This influenced many aspects of our data.

The routine for both classes was similar. The children who arrived first had outdoor (or indoor) later motor play and small group table activity. When the second group arrived there was 50 minutes of free play for all. After snack (and in the first class large circle time), the first group of children departed, and the second group had small groups and finally outdoor play. For the first class there was a single large circle time (songs, games, sharing). For the second class, early and late groups had large circle separately (before small group time). Again, this probably worked against formation of a single group structure in the second class.

A group of very gifted teachers worked with the children. There was a head teacher, another full time teacher, one full time assistant, and three part time assistant teachers. There was generally a ratio of at least one teacher per six children present. Although the teachers differed greatly in terms of style, classroom rules and procedures were clear and coherent. Inevitably, of course, different children became more closely involved with different teachers and vice versa.

ASSESSMENT OF ADAPTATION IN THE PRESCHOOL

In keeping with the broad-band, integrative approach to assessment underlying this research, a wide variety of data at different levels of abstraction was obtained. At the most integrative level, teachers made rankings, ratings, and Q-sorts based on their entire experience with the children

throughout the preschool term. At the most discrete level, frequencies of looks and glances, agonistic behaviors, and peer contacts, and so forth were tallied. We also employed more molar behavior categories, and utilized child sampling and scanning, as well as time sampling. For example, in one procedure observers watched a particular child for 5 minutes and then completed a checklist (see Appendix A) which went well beyond discrete behaviors (e.g., made successful bid for leadership, withdrew in the face of stress, etc.). In all, 30 different observers participated in the research.

Teacher Data

The full time teachers had extensive opportunity to observe each child daily in a variety of contexts. In addition, unlike other observers, they directly interacted with the children. Therefore, they were in an ideal position to provide rich data concerning the child's overall behavioral organization, typical mode of coping, and manner of expressing and managing impulses and feelings. The fact that the three independent assessments could be compiled reduced the possibility of biased or idiosyncratic data. Information from teachers was considered our primary data source; behavioral observations were used to corroborate these data. Data obtained from teachers were of several types: Q-sorts, rankings, ratings, checklists, and nominations. Teachers also described each child in a single, written phrase. Teachers were blind to attachment history and to specific hypotheses.

A teacher-based Q-sort index of adequate functioning was the principal outcome measure for the entire project. The three teachers independently sorted the Block California 100-item Q-sort deck for each child following standard procedures.[2] (For 72% of the cases the average intercorrelation among the teacher Q-sorts was above .50.) The composited sorts for each child were then correlated with the Blocks' "ego-resiliency" criterion sort. This criterion was based on a composited sort by three clinical psychologists asked to describe an ego-resilient (flexible in managing feelings and impulses) child. These correlations became scores. A similar criterion is available for the Block's other dimension, ego control. Waters has provided a self-esteem Q-sort criterion (the composited Q-sort for self-esteem of more than a dozen developmental psychologists), which was also used. The

---

[2]The cards were placed in 9 categories following a quasi-normal distribution. The 5-items that were least characteristic of a child were placed in category 1, for example, and the 5 most characteristic items in category 9. There were 18 items in category 5, the neutral category. The following were example items: "uses and responds to reason," "teases other children," "shows recognition of others feelings," "is easily victimized by other children," "tends to become rigidly repetitive under stress," "is persistent, does not give up easily," "is self-reliant, confident," "tries to take advantage of others" "is inhibited and constricted," "enjoys solitary activities," "over reacts to minor frustrations," "makes social contacts slowly," "cries easily," "tends to go to pieces under stress," "is eager to please."

Block Q-sort data also can be used to generate scores on sets of items (category ranks simply being combined). Such a mega-item was available for empathy, and we (Nancy Schaeffer) created our own dependency mega-item.

In addition to Q-sort descriptions, the teachers also rank ordered the children in each class on the following: emotional health/self esteem, self-confidence, social competence, social dominance, dependency, and their liking of the child. Brief paragraphs describing these constructs were provided.

The teachers made ratings of agency, compliance, social skills, ego control, negative affect, and positive affect (7 point scales developed by Don Rahe). Several different ratings of dependency were utilized, one developed by Don Rahe, one developed within the preschool project, and the eight dimensions developed by Beller (1955). The teachers were also asked to list each child's friends. The teachers also filled out a revised and extended version of the child behavior checklist devised by Behar and Stingfield (1974).

Peer Behavior and Peer Group Structure

A variety of measures pertinent to understanding the child's status in the peer group were obtained. An attention structure measure, based on the number of looks received from other children, was obtained both indoors and outdoors (c.f., Vaughn & Waters, 1980). Success in object and position struggles, frequency of social participation, and frequency of agonism were time-sampled. In addition, observers made judgments of friendship pairs, and sociometric status was determined using a combination of standard nomination procedures (c.f. Asher, Singleton, Tinsley, & Hymel, 1979) and forced groupings.

Observations of Child-Teacher and Teacher-Child Behaviors

One group of observers "teacher-sampled". They watched each primary teacher for 3 minutes (5 minutes in the Fall class), and coded the following behaviors for children: seeking nurturance, seeking attention, physical help seeking, cognitive help seeking, and social help seeking. They also coded frequency with which the teacher gave support or guidance or discipline to the children. In addition to these data, maps were made of the children's seating in large group, and physical contact between children and teachers and lapsitting were noted.

Affective Expressiveness, Coping with Stress, Impulse Control, and Negative Behavioral Signs

Many aspects of functioning that were of special interest in this study were either represented by low frequency events or required consideration of con-

text. For example, determining that aggression was unprovoked, that a child *smoothly* joined an ongoing group, or withdrew in the face of stress, generally could not be done on the basis of brief time sampling procedures. The observer had to watch the event unfold. Certain characteristics, such as diffuse behavior or wandering, also involved a time dimension. Other behaviors, such as empathy or bizarre behaviors, were quite rare and required context considerations. Typically, licking the wall would be considered bizarre, but not if for some reason the children had created a game in which this was included. A 5 minute child sampling procedure was used to code 60 such behavioral categories, developed by Edward Schork. The codings included aspects of *positive affect* (affectively positive initiation or response to another, positive affect used to sustain an ongoing activity, shows pride in accomplishment, etc.), *negative affect* (becomes very angry, negative response to approach, whines or cries in absence of injury, etc.) and *impulse control* (falls to pieces in face of stress, throws objects, etc.). The entire check list and the definitions of the categories are appended (Appendix A).

Influence of Classroom Ecology on the Data Obtained

Some aspects of the data obtained were heavily influenced by the classroom ecology. In the first pilot class, which was small and included a substantial proportion (50%) of well functioning children, all of the above data collection procedures yielded meaningful results. For example, the time sampled measure of looks and glances yielded a coherent attention structure that was stable across contexts (indoor and outdoor play) and that correlated with other measures in ways consistent with previous research (e.g., Vaughn & Waters, 1980). The correlation between attention rank and sociometric status was .65, and between attention rank and teacher rankings of social competence it was .69. Likewise, while the data on affect and impulse expression were thin in this pilot class, a crude composite of all positive and all negative items distinguished the attachment groups. In addition, indices of dependency from our observational data correlated with teacher rankings of dependency.

In the second class, however, some of the indoor observational data was made less meaningful by the large class size (24), the high proportion of children with emotional and behavior problems (67% were predicted), and the separation of children into transportation groups. The whole class was together for only 1 hour; transportation groups were together for 3 hours.

One of the more obvious effects of these factors was in the indoor attention structure. An integrated, coherent structure simply did not emerge. As a result, attention structure correlated only modestly with other indices of social competence (.37 with sociometric status and .52 with teacher rankings of social competence). Quite strikingly, the child that was highest on

popularity was lowest on indoor attention rank, a most paradoxical finding. We assumed this finding was due to the large class size and chaotic classroom circumstances. This is implied by the fact that findings from class 1 were so coherent, and it is also supported by the subgroups data (outdoor and large motor room) from Class 2. Large motor play groups consisted of only 12 children. Here again, coherent attention structures emerged which had reasonable correlates. The high popularity child mentioned above was ranked number 1 in the attention structure outdoors. In this context she showed the social skill and involvement that underlay her popularity. Unfortunately for our attachment outcome assessments, outdoor attention structure was heavily determined by transportation vehicle.

Similarly, we believed that the indoor affect and impulse control data were affected heavily by classroom ecology. In the second class there was little discrimination of attachment groups by this scale indoors. We reasoned that some competent children were spending more time by themselves in productive, solitary activity. Thus, the positive social exchanges we had expected had fewer opportunities to be manifest. Here, where the assessments were individual-based (in contrast to attention structure), the subgroup data was not contaminated by transportation group (it was not the number of contacts but the quality that was assessed), and provided a test of the classroom ecology interpretation. As presented in the following section, subgroup (outdoor and large motor room) data on affect and impulse expression strongly discriminated children with different attachment histories.

Because of these classroom ecology considerations the presentation of findings presented emphasizes data that cut across contexts (all teacher data, peer sociometric) and observational data from the subgroup settings. The teacher data, for a variety of reasons (3 skilled teachers, daily contact, direct interaction) would be expected to be the most robust and outcome relevant data. Subgroup observation provides ample opportunity to corroborate teacher evaluations and determine the extent of any halo effects.

FINDINGS

Secure vs. Anxious Attachment Groups

Ego resiliency. Three and one half years after our infant assessments, children who had been securely attached were found to be much more flexible in the management of impulses and feelings. The teacher Q-sort, ego-resiliency composite findings represent a replication of previous research (Arend *et al.,* 1979) and our strongest outcome prediction to date. As found previously, children who as infants had been secure in their attachments had significantly more positive correlations with the ego-resiliency criterion than

did the anxiously attached children (F (2,33) = 7.73, $p < .01$), with Bs significantly different from both As and Cs and As and Cs not different from each other. In fact, across the two classes the average correlation (of the composited teacher Q-sort with the ego-resiliency criterion) of the securely attached children was $+.50$, and all 16 correlations were positive (see Table 2). The mean correlation for the avoidant subjects was $-.13$, with 9 of 11 subjects having a negative correlation (i.e., being ego-brittle). The mean of the nine resistant subjects was a modest .07, with four large positive correlations and three large negative correlations. Some children who were anxiously attached as infants were viewed as doing relatively well based on this assessment, but the majority were doing quite poorly. The clear majority of secure infants were doing quite well as preschool children.

Self-esteem and Emotional Health

Results using Water's self esteem Q-sort criterion were identical. (Indeed the average correlation between these 2 scores was .85.) That is, the securely attached children more closely fit ideal descriptions of children high on ego-resiliency (flexibility and resourcefulness) or high on self-esteem.

TABLE 3.2

Individual Correlations Between Composited
Teacher Q-sorts and the Blocks' Ego-resiliency Criterion

CLASS 1			
Secure	*Avoidant*	*Resistant*	*Mixed*
.752	−.219	.089	.290
.702	−.452		.202
.646	−.460		−.030
.472			−.2341
.316			
.211			
.041			
CLASS 2			
Secure	*Avoidant*	*Resistant*	
.741	.729	.647	
.722	.654 (.221)	.466 (−.001)	
.686	−.154	.311 (.087)	
.417	−.167	.283 (−.072)	
.413	−.221	−.131	
.356	−.374	−.373	
.091	−.466	−.384	
.086	−.488	−.402	
.052			

( ) Head teacher's Q-sort, taken alone

The Q-sort data were corroborated by the teachers' rankings and ratings. In class 1, where 7 of the 15 children were securely attached (with 4 anxious and 4 mixed), the six highest rankings on emotional health/self esteem, the most comprehensive assessment of functioning, went to securely attached children. The probability of this occurrence by chance alone is 1 in 1000. The same trend was seen in the second class, though here the most clear result was seen in looking at the bottom of the ranking. The final eight children were all anxiously attached (p = .012). Securely attached children were also rated higher on the agency scale (t = 3.28, $p < .002$), which conceptually is closely related to self-esteem.

Although the bulk of the behavior observation data is presented in later sections, certain support for the teacher judgments concerning emotional health is pertinent here. Securely attached children showed fewer problem behaviors and fewer behavior aberrations. For example, only nine children were ever observed to exhibit "bizarre" behavior; all nine were anxiously attached ($p < .01$). Securely attached children less often aimlessly "wandered" ($t = -2.04$, $p < .05$), and less often were "vacant" ($t = -1.84$, $p = .079$) or showed specific "mannerisms" ($p > .10$). Taken together these signs strongly discriminated the groups. Other aspects of emotional ill health are presented in the following sections.

Dependency

Both groups of anxiously attached children, whether they had been easily distressed and difficult to settle (resistant) or avoidant of mother upon reunion, were highly dependent in the preschool. Only one secure child was in the top eight (of 15) ranks (rank 5) in the first class. In the second class (N = 25) there was only one secure child in the first 13 ranks (rank 10), with 8 of the 9 secure children in the bottom half (i.e., independent)[3]. Both of these results are highly significant and quite notable when taken together.

All three dependency ratings (those developed for this project, those devised by Don Rahe, and the overall Beller (1955) dependency rating), as well as the Q-sort mega item for dependency, favored the securely attached children (all $p < .01$). Rating results for the specific Beller dependency scales were quite noteworthy. Anxious children were significantly higher on the subscales having to do with frequency of seeking help in self-management, social management, and seeking attention in negative ways. They were significantly *lower* on seeking attention in positive ways (i.e., secure children showed more *positive* attention seeking). In addition, there was no significant difference on being near the teacher; that is, *it was not*

---

[3]The exact ranks of Classroom 2 were as follows: C, C, A, A, C, A, C, A, A, B, C, A, C, B, B, C, B, B, A, A, C, B, B, B

the frequency of teacher contact that was most revealing, but the nature of the contact that was of greatest importance. Children who were secure as infants were, of course, involved with the teachers, but they were involved in positive ways, which did not compromise their autonomy or budding peer relations.

Large group seating data. The teacher dependency data was corroborated by observations in subgroup song and story time ("large" group). Three scores were computed to represent contact-seeking in large (song time) group in the second class: (1) the proportion of times a child did *not* sit by a teacher (i.e., sat with other children); (2) the proportion of times the child sat on a teacher's lap, and (3) a weighted score in which 1 point was assigned for sitting next to a teacher, 2 points for making contact with a teacher, and 3 points for sitting on the teacher's lap. All were corrected for attendance and were based on 50 or more observations per child. Nonparametric analyses of all three indices revealed that the securely attached children were less dependent on teachers than anxious children in this context. Only the weighted score was properly distributed for parametric analysis and this analysis yielded a significant difference between secure and anxious groups. The weighted index correlated signficantly with the composited teacher rank ordering on dependency (rho = .62). The weighted scores were .71, .86, and .24 for As, Cs and Bs, respectively. In sum, *both As and Cs were found to be highly dependent based on these measures,* despite their different forms of maladaptive attachment in infancy.

Expression of Affect and Impulses

Having experienced a relationship with an emotionally responsive adult, securely attached children were expected to be affectively positive as preschoolers, to enjoy themselves, and to engage and respond regularly to other children with positive affect. Similarly, having had a history in which their emotional needs were met, they were expected to be less frequently angry, tantrumy, or aggressive, and, in general, less affectively negative. Affect measures have been powerful discriminators of securely attached children at younger ages (e.g., Matas et al., 1978; Waters et al., 1979).

All of the relevant data confirmed these predictions. For both classes the teachers rated the securely attached children as significantly higher on positive affect and lower on negative affect. For the first class a Q-sort mega-item for affect also discriminated the groups. The avoidant and resistant groups were never different from each other.

The affect and impulse expression checklist data supported these teacher assessments. Based on subgroup (outdoor) data in the second class, securely attached children more commonly initiated, responded to, and sustained in-

teractions with others using positive affect. The molar composite of these ("positive social engagement") was significant ($t = 2.84$, $p < .01$). Moreover, securely attached children showed less whining ($t = -2.30$, $p = .031$) and negative affect in general ($t = -3.15$, $p < .005$); less aggression ($t = -1.97$, $p = .061$), and fewer negative responses to initiation ($t = -1.72$, $p < 10$). Negative affect distinguished the secure from the anxious group, even based on the indoor (total group) observations ($t = 2.40$, $p = .025$).

Social Competence

Teacher rankings of social competence favored the secure children in each class, and were significant for the two classes combined. Likewise the rating of social skill for the two classes combined favored the securely attached children ($t = 2.53$, $p < .02$), and the teachers ranked the secure children higher in terms of number of friends ($X^2 = 7.56$, $p < .01$). The findings on affect, presented above, are congruent with these teacher assessments of social competence.

In addition, although sociometric status is not a pure measure of social competence, it is an important aspect of preschool adaptation, and it is based on an independent source of information—the children themselves. It also was found to correlate with teacher rankings of social competence .56 and .85 in the first and second classes, respectively. The securely attached children held the majority of the high rank positions on popularity in both classes, and for the two classes combined this was significant ($X^2 = 7.56$, $p < .01$). Given the positive initiations and responses to peers of the secure children, this result is not surprising.

There were no significant differences on any of these measures between avoidant and resistant groups.

Classroom Department

Securely attached children are expected to pose fewer management problems for teachers given their ability to meet their needs for attention in positive ways and their expectations concerning the availability, dependability, and believeability of adults. They would be expected to engage teachers positively and to accept limits readily.

Overall, the teachers rated the securely attached children as more compliant ($t = 2.24$, $p < .05$), two classes combined). The behavioral data (teacher–child contacts) suggested that this result was due to a small number of anxiously attached children. In Classroom 2, four children were extremely high in terms of frequency of discipline (3 sds above the mean). No other children were more than 1 SD above the mean. Two of these children were

As and two were Cs. Likewise, the three high discipline children in Class 1 were one A, one C and one mixed child (a B who became a C at 18 months). Thus, not all anxiously attached children later showed acting out, behavior problems, but a young child manifesting such problems in an extreme form is likely to have a history of an avoidant or resistant attachment relationship.

Empathy

Prediction of emphatic behavior in preschool children is of great theoretical importance. Parallel to the prediction of independence for those children who had a close, secure attachment relationship in infancy, the prediction here is that these same children, having experienced responsive (empathic) care, and having developed a sense of trust (c.f. Erikson, 1963), will have a functional capacity for empathic response to others. In stark contrast, children from an avoidant attachment relationship, having experienced unavailability or rejection in time of emotional need, should be unlikely to have functional empathic capacity and, in some cases, should even show pleasure (or taunting) to the distress of others. (This would not necessarily indicate a lack of cognitive role taking skill. In fact, to victimize requires as much role taking skill as to empathize). Resistant children would be expected to show limited empathy because of the extent of their disorganization, anxiety, or need; that is, their own preoccupations would interfere. They would not be *un*empathic.

Results for the Q-sort mega item for empathy came out exactly in accord with these hypotheses. Empathy was "characteristic" for the secure group, "uncharacteristic" for the avoidant group, and the resistant group fell between. The appropriate F test for this prediction was highly significant ($F (1,22) = 8.238$, $p < .01$).

We have not yet analyzed our video tape records or scanning data for empathy. As is well known, instances of empathy in the natural context are rare. But, during scanning periods (two weeks) and on weekly film days, we focused on children's reactions to any instance of injury or emotional upset. These data should provide a sufficient base for examining the behavioral support for the teacher judgments.

DISTINGUISHING AMONG PATTERNS OF MALADAPTATION

Although the empathy results are intriguing, up to this point the other findings presented have pertained to the differences between children with a history of secure attachment and those with a history of anxious attach-

ment, regardless of the particular pattern. The differences presented have been at times dramatic and they have cut across behavior domains, procedures of data collection, and methods of analysis. In the preschool, children with a history of anxious attachment are less ego-resilient (have lower self-esteem), are more dependent, show more negative affect and negative behavioral signs, show less positive affective engagement with others, and are less popular with peers. In general, they are emotionally less healthy than children with a history of secure attachment. The present data provide the strongest support to date for continuity in competence (or maladaptation) across the early years. Still, it remains for us to address the second, and more challenging, objective of this research: to what extent do children with different histories of early maladaptation show different patterns of maladaptation in the preschool? What differences can be demonstrated *between* the avoidant and resistant groups?

Most of the measures reported to this point really are not suitable for discriminating the avoidant (A) and resistant (C) groups. Neither group A nor group C should be ego-resilient, and both groups would be expected to have low self-esteem and marked dependency problems. Both groups would be expected to be low on popularity, low on social competence, and to be unable to cope with stress, but for different reasons. Both groups should present educational and classroom management problems. But these problems should be manifest in different ways.

Even the Block's (1979) ego-control dimension, based on teacher Q-sorts, failed to distinguish between As and Cs; 3 of 8 Cs and 2 of 8 As were highly undercontrol may be associated with either pattern of anxious attachment. expressions of behavior (seeing the "explosion" and not the immediateness or directness), rather than to the child's attempts to screen out the feelings or impulses prior to the expression. More subtle analyses of our videotape material may yet show the avoidant children to be more controlled in dealing with desires and impulses. It is, of course, possible that the avoidant and resistant patterns, which both are so strongly correlated with ego-brittleness (negatively correlated with resiliency) are orthogonal to the ego-control dimension. Early adaptation may interact with the style of parental socialization of impulses during the toddler period such that over and undercontrol may be associated with either pattern of anxious attachment. The seven children who were highly undercontrolled in our preschool all showed undercontrolled patterns in our problem solving situation at age two, as revealed by high dependency and/or frustration directed at their mothers. It was clear by that point that under some circumstances A children could be highly undercontrolled.

It is also clear that A and C children cannot be distinguished by an internalizing/externalizing dimension. Some internalizing children may be emotionally isolated or disconnected (certainly congruent with an avoidant

history), whereas others may be timid, passive, and weak, which would be consistent with a history of resistant attachment if a social orientation were maintained. Likewise, some externalizing children may be hostile and antisocial, while others are better described as easily frustrated and impulsive. There is room for both As and Cs at the externalizing end of the dimension as well. Probably, no single dimension can capture the differences we seek, and it is unlikely that it would be possible to create a single ideal A or C Q-sort criterion either. The complexity is too great. There is not one kind of "A child" at 5-years, nor one kind of "C child." Still, it should be possible to distinguish externalizing and internalizing children, who had shown avoidant or resistant (A or C) patterns of attachment in infancy.

Early in the preschool project it was clear that histories of avoidant or resistant attachment had differential consequences, but that the outcomes were complex and variable. For example, when teachers commented that one particular child (ET) was "just like" another (RJ), both had the same history; in this case both had been As. And when they said RE was just like KD, both had been Cs. Visitors who were theoretically informed, but naive about the classifications of our subjects,[4] were remarkably able to predict the children's attachment history. Similarly, the children who showed "classic" behaviors, such as repeated indirect (i.e., oblique) approaches to teachers or uncontrolled diffuse scattering of objects, had been As and Cs, respectively. Despite all of this, differentiating children who had been As and Cs in "objective" terms proved quite challenging.

The teacher data provided several opportunities for making qualitative distinctions between As and Cs. First, in addition to all of the other data, each teacher had been asked to write a phrase descriptive of each child in Class 2; that is, the most outstanding impression they had formed of the child. These statements, which are presented for each child in Table 3.3, were read by four independent coders and used to classify the children into five categories (see Table 3.4). The first three categories (hostile, isolated, disconnected) represented the theoretical patterns expected as likely outcomes for children who had been anxious avoidant; the final two (impulsive, helpless, etc.) represent the anxious resistant outcomes. The outcome of this procedure was quite clear: 6 of 8 avoidant children consistently were placed in the avoidant categories, none in categories 4 or 5; 5 of 7 resistant children[5] were placed in the resistant categories; one was placed in category 3. The probability of this outcome is .006.

A similar classification was carried out using the five "most characteristic" items for each child from the Block-Q-sorts made by the

---

[4]For example, Eleanor Maccoby.

[5]Descriptive phrases were not available for the 1 resistant child who moved from the area and was replaced.

TABLE 3.3

Teacher One-Phrase Descriptions of Individual Children in Classroom Two

Group A (Avoidant)
Subject

1. Mean to other children, kept things which didn't belong to her.
   The most dishonest preschooler I have ever met.
   Mean lying — everything is hers.
2. Very mad, "I hate myself!"
   An unhappy and angry kid. Terrible self-concept.
   Angry, unhappy.
3. So mean — lack of respect for humans.
   Angry, mean, playing with cars.
   Out of control, trying to do better.
4. Sad, depressed and withdrawn child.
   By himself.
   Coy, looks like a baby.
5. "She's not my friend," spaced.
   Affable but mentally slow.
   Inappropriately, highly impulsive and vulnerably good natured.
6. An angry, withdrawn, rigid person.
   Attached to Kate (teacher).
   "I love you, Kate." so frail but gutsy.
7. Dominant, self-reliant.
   Sweet/funny and responsible yet not always fair or kind.
8. A very nice kid — level headed, capable of taking care of himself.
   Warm, responsive.
   Loving, calling for Sarah (child), Jane Love (teacher).

Group B
Subject

1. Ideal kid, good looking, OK.
   Well-coordinated, agile, competent.
   Very solid kid. Vulnerable to life changes positive and negative.
2. Happy, rising star in the group — looked better all of the time.
   Agile, coordinated, jumping around room.
   Shy, but gutsy with car group.
3. Spunky sleeper — more powerful than meets the eye.
   Competent, quiet.
   So funny, cute, elf-like.
4. Very nice kid — sensitive and somewhat moody.
   Quiet, drifted at times, kept to herself.
   Depressed, withdrawn easily hurt.
5. Queen bee, to Lewis (child), "I'm not done yet!"
   Sparkplug. Competent, yet over stimulated other kids at times.
   Dominant, trouble waiting her turn. Excited other kids.
6. Very competent yet unsure of self — over-socialized female.
   Feminine.
   Dressed up, sucking finger, coy.
7. A mystery — looks OK, but never in plays where it was "scarey".
   "I don't feel good. I'm sick".
   Dependent, sad, frail.

TABLE 3.3 (continued)

8. Always up high — attached to Kate.
   Up high — look at me.
   Very confusing to me. A spacey, undersocialized kid.
9. Don't know him. Seemed OK yet rigid and somewhat tight.
   Evasive.
   "Boys can't wear those shirts.

Group C
Subject

1. Play with yellow truck. Trouble dealing with stress.
   Confusing — OK outwardly, yet sad and prone to self recrimination/guilt.
   Falling down in dramatic scene — an actor.
2. Bright but impulsive and tense.
   Frustrated easily in play situations inconsiderate of children.
   Holding "gun" saying it is his.
3. "High"—difficult to settle and difficult to concentrate.
   High (hyper).
   An operator — popular and fast (very illusive).
4. Running around being Batman.
   "Bull shit", angry, Batman, didn't like self.
   A confused and angry kid doing the best he can.
5. Immature and unwilling to take a risk/loves Skye.
   Lacks initiative, looking for Skye, controlled.
   A baby, can't tolerate kids.
6. "Kate (teacher), push me", "Where's Karyn (teacher)?"
   Dependent, liking Solomon.
   Happy/sad — is competent but does not handle disapproval or stress well.
7. Always going part way up and then down the loft ladder.
   Weird mouth, sunken eyes, tiny.
   A sleeper, knows more than her withered appearance lets on.

TABLE 3.4

Hypothetical Profiles

A Groups
  A_a Hostile/mean, aggressive, antisocial (lying, stealing, devious).
  A_b Emotionally insulated, asocial, isolated.
  A_c Disconnected, spaced out, psychotic-like. May be oblivious or bizarre, or just not know what is going on.

C Groups
  C_a Overstimulated (hyper), easily frustrated, tense or anxious, impulsive, flailing out, rather than hostile.
  C_b Dependent, passive, weak, helpless, teacher oriented.

three teachers. Three different coders, blind to the identity of the children, used this procedure. In comparison to the results with the descriptive phrases, this procedure was somewhat less discriminating, but still yielded significant results: 5 *A*s were called *A*s, none were called *C*s; 4 *C*s were called *C*s, 1 an *A* (*p* = .020).

We also used the teacher responses on the checklists developed by Egeland (adapted from Behar, 1974) for the larger longitudinal study. Checklist items were selected that were thought likely to characterize each of our five patterns (Table 3.5). For each item a child could get a score of 2 ("certainly applies"), 1 ("sometimes"), or 0, and the responses of the three teachers were combined across the set of items. A child was then placed in one of the five categories if his score for the given item was more than 1 *SD* above the mean. When there was more than one elevation, the total profile was examined. (When there was an even split the child was classed as an *A*. It was reasoned that *C*s should not be hostile, for example, though *A*s may well be impulsive, etc.) Consistent with the other findings just presented, using this procedure 5 *A*s were called *A*, while 1 *A* was called a *C*; and 5 *C*s were called *C*s, with 1 *C* called an *A* (*p* = .032). The same *C* child was called an *A* by each procedure. (Using the checklist procedure, 17 children were called *B*s across the two classes—being high on none of the lists: 14 of these were *B*s, 2 were *A*s and 1 was a *C*.)

Thus, within the teacher data there was considerable evidence for a distinction between the patterns of adaptation shown by children with different histories of maladaptive attachment. Despite the fact that global ratings and rankings, as well as a host of observational variables, failed to distinguish children with different histories of maladaptation, the dynamics of the behavior, as inferred by the behavioral organization, revealed that these remain qualitatively different patterns of maladaptation.

To date we have been able to marshall some tentative support for the distinctions presented above from our observational data. Very few specific variables showed differences between *A*s and *C*s, but when they did they were in theoretically meaningful directions (for example, unprovoked aggression, inept leadership, which characterized *A*s and *C*s, respectively). It is in the profiles of behavior, however, where we expected the most meaningful differences to lie. This is a matter for ongoing data analysis.

THE POWER OF THE ATTACHMENT ASSESSMENTS

Although it will take years to analyze all of the data from this project, much has already been learned about the study of individual differences in adaptation. First, these data represent the strongest demonstration of the coherence of individual adaptation to date. After the fact, it is sometimes

TABLE 3.5

Items from the Preschool Behavior Questionnaire
(adapted from Behar, 1974)
Relevant to the Five Patterns of Maladaptation

Pattern A_a
 Tells lies
 Bullies other children
 Blames others
 Inconsiderate of others

Pattern A_b
 Tends to do things on own, rather solitary
 Stares into space
 Fails to play with most other children
 Is shy, bashful
 Has flat affect — rarely expresses positive or negative feelings directly

Pattern A_c
 Has twitches, mannerisms, or tics of the face and body
 Stares into space
 Demonstrates little interest in things and activities in environment
 Daydreams frequently
 Rocks, sways, whirls or does othere repetitive whole body movements

Pattern C_a
 Restless. Runs about or jumps up and down. Doesn't keep still
 Squirmy, fidgety child
 Has poor concentration or short attention span
 Is impulsive, acts without thinking
 Is easily upset by failure
 Is tense or jittery in everyday situations or activities

Pattern C_b
 Tends to be fearful or afraid of new things or new situations
 Gives up easily
 Is hypersensitive, easily hurt
 Stays close or clings to mother or adult
 Acts overly fearful and cautious
 Lacks initiative, is passive and easily led

difficult to fully appreciate the importance of such a demonstration. A brief recapitulation of what has been shown may be useful. Concentrating on the comparison of the *A* and *B* (secure) groups is most instructive.

It is important to recall that these predictions were based on assessments of attachment in Ainsworth's strange situation. In that context, there were many similarities between *A* and *B* babies. Both groups readily moved away from mother and got involved with toys during preseparation. Neither group (with the exception of subgroup *B4*, which had little representation in

this study) tended to show much wariness of the stranger, proximity to mother, or crying prior to separation. But there were critical differences. The major distinctions were that, during separation, the Bs were less likely to find the stranger an acceptable substitute and, especially, the Bs were more active in seeking contact or interaction upon reunion with the mother. The As tended to avoid their mothers upon reunion, especially following the second separation when stress was presumed to be greater. These were not differences in proximity seeking per se, because some Bs were content with distance interaction. They were differences in seeking psychological contact or avoiding it when needs were aroused; that is, they were differences concerning expectations about the availability and responsiveness of significant people to emotional needs.

As and Bs may be distinguished by reunion behavior alone, 6 minutes of observation or, given the stability required in this study, 12 minutes. From these observed differences in the manner of dealing with the stress of brief separation in the laboratory, the profound differences in adaptation three years later were predicted. For example, 9 of 11 As showed negative correlations with the resiliency criterion versus none of the 16 Bs. The As were higher on dependency and negative peer behavior, lower on empathy and peer acceptance. They tended to be hostile, disconnected, and/or emotionally insulated. Obviously, the attachment assessments did not represent 12 random minutes of behavior. There is something very powerful in this attachment construct. And we, of course, reaped the harvest from the important theoretical work of Bowlby and Ainsworth and the hundreds upon hundreds of hours of home observation that underlay the strange situation assessment. There is something, also, to the developmental perspective that allows qualitatively similar patterns of adaptation to be inferred from changing behavior in different contexts using different methods. Finally, there is something to the notion of coherence in individual adaptation. Developmental history leaves its mark. Early development and early care are important.

ATTACHMENT AND TEMPERAMENT

At this point I would like to make a clear statement about the issue of an endogenous basis for the observed individual differences. Despite the fact that there is *no* evidence that observed differences at or near birth are stable, or predict later behavior, the idea that behavior and emotional disorders are based on inborn temperament is still widely held (e.g., Buss & Plomin, 1975). It is overlooked that the Thomas, Chess, and Birch (1968) data were based on parental report, uncorroborated by behavioral observation, that stability or developmental outcome was not assessed for Schaf-

fer and Emerson's (1964) "cuddly" and "non-cuddly" babies, and that other studies of individual differences in newborns (reviewed by Korner, 1971) had no follow-up. Early pathognomic signs may predict later disorder (Bergman & Escalona, 1949), but such signs of neurological status should not be confused with normal temperamental variation. Moreover, it should be noted that attempts to find stability in early infant behavior yield negative results (Blehar, Lieberman, & Ainsworth, 1977; see also Emde, Gaensbaerer & Harmon, 1976). In our own longitudinal study (Egeland, Deinard & Sroufe), for example, there were virtually no differences between As and Bs on Apgars, Brazelton neonatal exams at 7 days and 10 days, nurses' ratings in the hospital, behavioral observations 3 months, or Carey temperament questionnaire responses (derived from Thomas, Chess, & Birch, 1968) at 6 months (Egeland & Farber, in preparation; Waters, Vaughn, & Egeland, 1980). Infants probably do differ in temperament, and such differences probably influence certain aspects of behavior. But they do not account for the profound differences in quality of adaptation that we observe. Even when relationships have been found, as in the case of Cs in the Egeland sample (Waters et al., 1980), these are best interpreted as due to the additional challenge presented by a neurologically nonoptimal baby to an already overtaxed and under prepared mother. The inborn difficulties do not create the personality.

From a traditional temperament interpretation it would be held that the avoidant infants were constitutionally uncuddly, unexpressive, or precociously independent. It would be difficult from such a position to predict the range of behavioral problems and low peer status of these children. It would not seem possible to predict their hostility and aggression or their *high dependency* upon the teachers (which included much physical contact under restricted circumstances). Yet, these outcomes follow directly from the Bowlby/Ainsworth theory. The avoidant attachment is a pattern of adaptation within the most significant early relationship. As such, it has profound implications for the child's later adaptation; that is, for the manner of meeting basic needs and coping with stresses and challenges in the environment. But it is not an endogenous characteristic of the child. These children are not "independent by nature."

The dependency (and aggression) of the avoidant children also is somewhat paradoxical from an operant position. These children did not seem to be rewarded for contact seeking behavior. On the contrary, in their histories such efforts were met by non-responsiveness or rejection. And to be sure, their initial tendency to *express* these behaviors in the classroom was not high. Yet, given the opportunity, strong dependency needs became manifest. One cannot extinguish dependency. Likewise, aggressive behaviors may have been reinforced somewhere in the histories of these children, but the possibility of predicting aggression at a time when it has

not yet become manifest reveals the limitations of a purely operant position for understanding disordered development. For all of its power in explaining the maintenance and expression of behavior in the repertoire, the operant position requires much supplementing to account for meaningful individual differences in behavioral organization.

THE DIFFICULTY OF PREDICTING SPECIFIC PATTERNS OF MALADAPTATION

The difficulty of predicting specific patterns of maladaptation (let alone competence or incompetence) should be neither surprising nor discouraging. The difficulty arises from many sources.

First, each individual child is making an ongoing adaptation to the unique circumstances in which he or she lives (and in this sense there is no *mal*adaptation). These circumstances may be highly changeable, and this is certainly the case in our sample (Vaughn, Egeland, Waters, & Sroufe, 1979). People move in and move out. Residences are changed. Jobs are lost. Siblings are born. Without doubt, experiences within the three years between infancy and preschool have a powerful influence on development. And given the uniqueness in the twists and turns in individual lives, it is no wonder that each behavioral profile appears unique. There are certainly more than five types of maladaptation in the preschool. (The one C child who was consistently categorized in the psychotic-like A_c group makes it clear that, at the least, provision must be made in any classification scheme for Cs who break down). Likewise, it is no wonder that some As and Cs look better than some Bs and that some As and Cs are difficult to distinguish. There are not invulnerable children, only children who are more resilient than others in the face of stress. And A or C refers to a pattern of adaptation within a relationship, not to a characteristic of the child alone. Moreover, parents change. I would expect that if instead of inconsistent, or ambivalent care, a child received responsive, developmentally appropriate care over a period of time (most likely due to changes in the parent's own circumstances), that child may well be competent in preschool. If inconsistent care changed to chronic rejection I expect the child would move toward the A pattern of adaptation (see Egeland & Sroufe, 1981a).

In addition, the quality of a child's adaptation in the preschool likely is influenced by the ways parents managed the child's impulses and feelings during the transition from infancy to childhood (see also Kopp, Krakow, & Vaughn, this volume). Even when such socialization is consistent with attachment history (e.g., inappropriate means of managing impulses following unhealthy attachment), differences between parents' styles contribute to

making each child's pattern of adaptation unique. A parent that was emotionally unavailable in infancy could be either punitive and controlling or lax in dealing with a child's budding autonomy (although emotional distance probably would still be maintained). A parent that was disorganized and inconsistent in early care may be either seductive and over-stimulating with the toddler or simply erratic in maintaining limits. We have even seen emotionally distant, rejecting mothers use seductive behavior as a control technique (Sroufe & Ward, 1980). There is no doubt that such styles of dealing with the toddler's impulses and feelings will impact upon the quality of adaptation in complex ways.

The seven cases with a history of maternal seductiveness during the toddler period are instructive here. This history was revealed in each child's behavior, though, as we would now expect, in a variety of ways. All three children in Class 2 who were placed in category C_a (impulsive, anxious, overstimulated) have mothers who were observed to behave seductively. Another child in Class 1 was characterized by "tension bursts" (rapid hand jiggling during periods of arousal) and also was quite infantile. This infantile pattern (along with poutiness and extensive masturbation) characterized another child. The final two children (boys) were the outstanding "pets" of the female teachers, each of them eliciting a great deal of attention and affection. Likewise, they preferred female teachers in preference to any other person. These seven children (4 Cs, 1 A, and 2 mixed, i.e., Bs changed to Cs) all were extreme in their own ways, while in terms of other measures they were in many cases indistinguishable from others in the class.

In addition to such complex influences on the pattern of adaptation, in our preschool research another factor worked against prediction; namely, the intervention of the teachers. Our teachers were both skilled and dedicated, and their interventions were aimed at the specific maladaptations of the most troubled children.

Given these considerations, one may wonder how any coherence could ever be demonstrated. I believe there are three reasons for the demonstrated coherence. First, fortunately and unfortunately, there is often continuity in the quality of care. Parents who are inconsistent in responding to the infant's signals commonly are inconsistent and unclear in setting and maintaining limits for their toddler, and so forth.

Second, since children interact with the environment in terms of their previous adaptation, a self-perpetuating cycle is maintained. The C baby, for example, commonly is a tantrumy, difficult toddler who taxes the patience of the parent, and later is a highly dependent or impulsive preschooler who alienates others. The A baby learns not to seek the emotional support it needs and later keeps others at a distance through emotional isolation or hostility.

Finally, development is hierarchical; it is not a blackboard to be erased

and written upon again. Even when children change rather markedly, the shadows of the earlier adaptation remain and, in times of stress, the prototype itself may be clear. Thus, one child who changed to a behavior pattern we identified as *C* at 24 months, despite being an *A* at 12 months and 18 months, looked in many ways like a *C* in the preschool. He was a severe behavior problem, disruptive, difficult and tantrumy. He even had a high score on crying. Yet, he was different from the *C*s in the deviousness of his behavior, in his pleasure at other's distress, and in his systematic victimization of vulnerable children. This organized, antisocial behavior is out of the repertoire of the *C* child in our experience. Another child who went from a *B* to a *C* at 24 months was anxious, and somewhat passive and immature like some *C*s, but he was also resilient, popular, and well organized in independent activities, like the *B*s.

In many ways we are just beginning the complex task of defining specific patterns of developmental disorder. The results are encouraging in that they suggest that understanding the course of such specific patterns will be possible. There is reason to believe that within the next decade we may go well beyond the externalizing-internalizing dimension which has been of such importance in developmental psychopathology. Understanding in a precise way the course and dynamics of particular patterns of maladaptation will surely have implications for prevention and treatment of childhood and adult disorders. There are different reasons for aggression and social isolation, and, as teachers and therapists know, within these reasons are the clues for effective intervention.

FURTHER RESEARCH

There is much more to examine within our data concerning similarities and differences in patterns of adaptation. The children were seen in ongoing play pairs with a constant partner. It is reasonable to expect that patterns of adaptation are more clear within relationships than within the behavior of a particular child. These data will be analyzed in the future.

Another fruitful approach is to examine critical incidents in our video tapes, made weekly in the classroom. Certain events, although exceedingly rare, are revealing with respect to a child's inner dynamics. I have already mentioned the child who approached teachers through a series of oblique angles (much like one tacks a sailboat into the wind), and ultimately backed his way very near her, to wait for her initiation. Another child, having stood up under our observation booth and cracking her head, crawled off into a corner by herself. And another folded his arms and withdrew from everyone when he was disappointed. Still another hid a contraband toy in his pocket, went to great efforts in trying to elude the teacher, and then

denied having the toy when questioned. All of these children were avoidant as infants, in accord with theoretical pedictions. Contrasting examples could be presented for *C*s[6]. From such examples, which are present in sufficient numbers over the entire session, observers who are theoretically informed, though blind to developmental histories, should be able to describe and categorize individual children.

In further research on this problem it would be well to emphasize even more qualitative aspects of behavior and the meaning of the behavior as inferred from behavioral and situational context. Unless meaning is attended, it is doubtful that frequently occurring discrete behaviors, however complexly analyzed, will tell us very much about individual adaptation. Thus, I would not advocate sequential analysis as it is often thought of (the conditional probabilities of matrix of commonly occurring behaviors). On the other hand, sequential analysis, in the sense of trying to capture the flow of behavior should be very fruitful. We have to know not only what led up to a situation and its immediately surrounding context, but how the child perceived and experienced the situation and how his/her responses followed from that. We need to know how the child's behaviors are tied together. Characteristic reactions to situations, which in part are what we are after, can only be determined once we understand how the child construes the situation.

Finally, in continuing to look at data from this project, and in future studies, an important area for investigation is the relationships between children and teachers, which must have important implications for intervention. Teachers, of course, having individual personalities, behave differently toward different children. It was quite clear in our class that both teachers and children had special relationships. Different teachers felt especially close to particular children and had more difficulty being close with others. Children tended to select a specific attachment person. (When they did not, or, in some cases when the selected adult was of the opposite sex, this suggested problems.) Teachers knew quite well who was each child's "special person." This is all reasonable. From attachment theory, one would expect children, and even teachers to a lesser extent, to be selective. But it seemed clear to us that the availability of such a special relationship was critical. This means several adults should be in each classroom and, at times, the child's placement should be changed. All children deserve to be in a program where someone cares for them unconditionally. And no teacher should be expected to unconditionally love every child. I think this issue has been avoided too long.

Perhaps even more significant is the hypothesis that children elicit reac-

---

[6]For example, diffuse scattering of objects when upset, panic when unable to sit by a teacher, getting so excited that settling was not possible.

tions from teachers which are congruent with their history of maladaptation. Whenever a child so infuriated a teacher that he or she wanted to isolate the child in another room or in the corner, it was inevitable that this child had a history of chronic unavailability or rejection (and had been a Group A infant). Teacher reactions elicited by children who have experienced seductive maternal behavior have already been mentioned. Such observations should not be surprising. Systems are more powerful than people. It is not that teachers' feelings are wrong or inappropriate. On the contrary, their reactions generally may reflect the child's relational history. When it has been pathogenic, it is this history that must be countered. Our teachers understood this. And the preschool experience of our children was therapeutic.

CONCLUSION: MAY PATTERNS OF MALADAPTATION BE ALTERED?

Perhaps the major implication of this research is to underscore the fact that each child is making a particular and unique adaptation to his or her world. The closer we observed the children and the richer the data we obtained, the more coherent each child appeared. Even children with very disturbed behavior became understandable. Increasingly, disturbance was seen more in terms of pattern, rather than simply in terms of degree.

Even the most disturbed children must be viewed in terms of their particular patterns of adaptation. For example, RE was chronically anxious, a "wild eyed man" as one observer put it. He had little or no frustration tolerance, limited coping capacity, and was very immature. His inability to engage in reciprocal give and take, and his impulsive, acting out alientated other children. On the other hand, he "wore his heart on his sleeve." He was so clear about his desire for closeness and care that his behavioral and emotional problems did not alienate the teachers. In fact, they were continually supportive. In contrast, EL often irritated the teachers. His acts of hostile aggression toward weaker children, his devious behavior, and his blunt, matter-of-fact noncompliance ("No way, Jose!") infuriated them. But EL, unlike RE, was well-organized. And while some children disliked him strongly, several others chose him as friend. His social skills advanced far more quickly than did RE's. The point is not new. But it bears repeating that each child should be considered in terms of the particular strengths and weaknesses he or she shows. These strengths and weaknesses will have implications for intervention.

In this context, it should be clear that these children are not beyond intervention, with *very* rare exceptions. It is sometimes concluded that the

strong evidence in our research for continuity of individual adaptation (or even a downward spiral of maladaptation; Egeland & Sroufe, 1981b) suggests a pessimism concerning intervention. This is certainly not the case. It does suggest, in contrast to positions assuming relatively complete resiliency (e.g., Kagan, Kearsley, & Zelazo, 1978), that powerful forces—within and outside of the child—operate to perpetuate a pattern of maladaptation once established. But intervention can be aimed to explicitly counter these influences, especially those within the child. For example, if the child does not expect people to be available, the teacher may be available—patiently, inevitably, constantly.

EL is a good example of this reachability of young disturbed children. His malicious, antisocial behavior, his apparent pleasure at others' distress, and his fearless contesting of wills with the teachers had all the marks of incipient sociopathy. His elaborate deviousness and his swaggering style seemed to confirm that he was beyond reach. But in fact, of course, no four year old can genuinely be a sociopath. And beneath the swagger was a desperately needy child (in terms of intensity no less needy than RE). The teachers quickly learned to see opportunities for closeness with EL and explicitly disconfirmed his feelings of low self worth by not rejecting him. As often as possible, the teachers prevented EL from engaging in hostile behavior. And when it was necessary to separate EL from other children, which was often the case early in the term, a teacher would stay with him. Having difficulty confirming his image of himself as bad, and being totally unable to confirm the belief that he was unworthy, EL had little choice but to change his behavior. He formed a strong attachment to the male teacher and made remarkable progress toward learning to meet his basic needs for closeness, as well as toward learning the rewards that may be found in relationships.

The "veneer of toughness" EL was building would have, of course, been much "thicker" in later years. Or, in Bowlby's (1980) more contemporary terms, his conceptual models of himself and others would have been more firmly established. Whether, untouched, children like EL can be reached in adolescence is open to question. "Models once established prove very hard to change (Bowlby, 1980, p. 241)." But I have no doubt that in the preschool years the vast majority of these troubled children could be helped in a fundamental way toward healthier development. One unfortunate implication of our data is, however, that without help these children are likely to carry forward patterns of maladaptation into later childhood and even adulthood. From a scientific point of view, this remains a hypothesis to be confirmed by further longitudinal data. From a humanitarian point of view, enough is known to compel programmatic, preventative action.

REFERENCES

Achenbach, T. M. The classification of children's psychiatric symptoms: A factor analytic study. *Psychological Monographs*, 1966, *80*.

Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. *Patterns of attachment*. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1978.

Arend, R., Gove, F., & Sroufe, L. A. Continuity of individual adaptation from infancy to kindergarten. A predictive study of ego-resiliency and curiosity in preschoolers. *Child Development*, 1979, *50*, 950-959.

Asher, S. R., Singleton, L. C., Tinsley, B. R., & Hymel, S. A reliable sociometric measure for preschool children. *Developmental Psychology*, 1979, *15*, 443-444.

Behar, L. B., & Stingfield, S. A behavior rating scale for the preschool child. *Development Psychology*, 1974, *10*, 601-610.

Beller, E. K. Dependency and independence in young children. *Journal of Genetic Psychology*, 1955, *87*, 25-35.

Bergman, P., & Escalona, S. Unusual sensitivities in very young children. In P. Greenacre (Ed.), *The Psycholanalytic Study of the Child*. New York: International Universities Press, 1949.

Blehar, M. C., Lieberman, A. F., & Ainsworth, M. D. S. Early face-to-face interaction and its relation to later infant-mother attachment. *Child Development*, 1977, *48*, 182-194.

Block, J. H., & Block, J. The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Minnesota symposia on child psychology* (Vol. 13). Hillsdale, N.J.: Lawrence Erlbaum Associates, 1979.

Bowlby, J. *Attachment and Loss*, Vol. I, *Attachment*. New York: Basic Books, Inc., 1969.

Bowlby, J. *Attachment and Loss*, Vol. II, *Separation: Anxiety and Anger*. London: Hogarth, 1973.

Bowlby, J. *Attachment and Loss*, Vol. III, *Loss, Sadness and Depression*. New York: Basic Books, 1980.

Breger, L. *From Instinct to Identity*. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1974.

Buss, A., & Plomin, R. A. *Temperament theory of personality development*. New York: Wiley, 1975.

Egeland, B., Deinard, A., & Sroufe, L. A. Early maladaptation: A prospective-transactional study. Office of Maternal and Child Health, 1977.

Egeland, B., & Sroufe, L. A. Attachment and early maltreatment. *Child Development*, 1981, *52*, 44-52. (a)

Egeland, B., & Sroufe, L. A. Developmental sequelae of maltreatment in infancy. In R. Rizley & D. Cicchetti (Eds.), *Developmental perspectives in child maltreatment*. San Francisco: Jossey-Bass, 1981. (b)

Emde, R., Gaensbauer, T., & Harmon, R. Emotional expression in infancy. *Psychological Issues Monograph Series*, 1976, *10*, (No. 37).

Erikson, E. H. *Childhood and society*. New York: Norton, 1963.

Gove, F. Patterns and organizations of behavior and affect expression during the second year of life. Unpublished doctoral dissertation, University of Minnesota, 1982.

Klein, G. S. *Psychoanalytic theory, an exploration of essentials*. New York: International Universities Press, Inc., 1976.

Kopp, C., Krakow, J., & Vaughn, B. Patterns of self-control in young handicapped children. In M. Perlmutter (Ed.), *Minnesota symposium on child psychology*, Vol. 16. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983.

Korner, A. Individual differences at birth: Implications for early experience and later development. *American Journal of Orthopsychiatry*, 1971, *41*, 608-619.

Loevinger, J. *Ego development*. San Francisco: Jossey-Bass, 1976.

Mahler, M., Pine, F., & Bergman, A. *The psychological birth of the human infant*. New York: Basic Books, 1975.

Main, M. Play, exploration and competence as related to child-adult attachment. Unpublished doctoral dissertation, The Johns Hopkins University, 1973.

Main, M. Analysis of a peculiar form of reunion behavior seen in some daycare children: Its history and sequelae in children who are home-reared. In R. Webb (Ed.), *Social development in daycare*. Baltimore: Johns Hopkins University Press, 1977.

Matas, L., Arend, R., & Sroufe, L. A. Continuity of adaptation in the second year: the relationship between quality of attachment and later competence. *Child Development*, 1978, *49*, 547-556.

Neilon, P. Shirley's babies after 15 years: a personality study. *Journal of Genetic Psychology*, 1948, *73*, 175-186.

Robbins, L. *Deviant children grow up*. Baltimore: Williams and Wilkins, 1966.

Sander, L. Infant and caretaking environment. In E. J. Anthony (Ed.), *Explorations in child psychiatry*. New York: Plenum, 1975.

Schaffer, H., & Emerson, P. Patterns of response to physical contact in early human development. *Journal of Child Psychology and Psychiatry*, 1964, *5*, 1-13.

Shirley, M. *The first two years: A study of 25 babies*. Minneapolis: University of Minnesota Press, 1931.

Sroufe, L. A. The coherence of individual development. *American Psychologist*, 1979, *34*, 834-841.

Sroufe, L. A., & Rosenberg, D. Coherence of individual adaptation in lower class infants and toddlers. Paper presented at the International Conference on Infant Studies. Providence, RI, 1980.

Sroufe, L. A., & Ward, M. Seductive behavior of mothers of toddlers: Occurrence, correlates and consequences. *Child Development*, 1980, *51*, 1222-1229.

Sullivan, H. S. *The interpersonal theory of psychiatry*. New York: W. W. Norton, 1953.

Thomas, A., Chess, S., and Birch, H. G. *Temperament and Behavior Disorders in Children*. New York, New York: University Press, 1968.

Vaughn, B. E., Egeland, B., Sroufe, L. A., & Waters, E. Individual differences in infant-mother attachment at 12 and 18 months: stability and change in families under stress. *Child Development*. 1979, *50*, 971-975.

Vaughn, B., Taraldson, B., Crichton, L., & Egeland, B. The assessment of infant temperament: a critique of the Carey Temperament Questionnaire. *Infant Behavior & Development*, 1981, *4*, 1-17.

Vaughn, B. E., & Waters, E. Social organization among preschool peers: Dominance, attention and sociometric correlates. In D. Omark, F. Strayer, & D. Freedman (Eds.), *Dominance relations: An ethological view of human conflict and social interaction*. New York: Garland, 1980.

Waters, E. The reliability and stability of individual differences in infant-mother attachment. *Child Development*, 1978, *49*, 483-494.

Waters, E., Vaughn, B., & Egeland, B. Individual differences in mother-infant attachment relationships at age one: Antecedents in neonatal behavior in an urban, economically disadvantaged sample. *Child Development*, 1980, *51*, 208-216.

Waters, E., Wippman, J., & Sroufe, L. A. Attachment, positive affect and competence in the peer group: two studies in construct validation. *Child Development*, 1979, *50*, 821-829.

Weikart, D. Intervention programming for preschool children. In M. Perlmutter (Ed.), *Minnesota symposium in child psychology*, Vol. 16. New Jersey, Lawrence Erlbaum Associates, 1983.

Appendix

MINNESOTA PRESCHOOL AFFECT CHECKLIST

Edward J. Schork and L. Alan Sroufe
Institute of Child Development, University of Minnesota

CHILD:_____ Time:_____ Activity:
Date:_____ Observer:_____ FPW   FPH
Period: I   II   III   C   SG
                                                                              LMO   LMI

Positive Affect

1. ____ displays positive affect in *any* manner (baseline)
2. ____ uses positive affect to initiate contact, to engage another (must begin, or restart interaction after a substantial break)
3. ____ when *already in interaction with someone,* directs positive affect at them (affect is *directed at a specific person)*
4. ____ when in a social situation, displays positive affect but *does not direct it to any one in particular.*
5. ____ shows *very positive affect:* exuberance, "lights up"
6. ____ shows *ongoing high enjoyment,* "has a lot of fun" (sustained continuously for 30 sec. or more)
7. ____ *uses face very expressively* to show *positive* affect *in communicating directly with another.*
8. ____ uses positive affect in a way that makes a significant contribution to keeping a social interaction going (with one or more others)
9. ____ shows pride in accomplishment (usually verbal statement)

Negative Affect

10. ____ displays negative affect in *any* manner (baseline).
11. ____ uses negative affect *to initiate contact, to begin a social interaction* with someone.
12. ____ directs negative affect specifically *at a particular other person* when *already in interaction with them.*
13. ____ *uses face very expressively* to show negative affect in *communicating directly* with another.
14. ____ facial expression *looks depressed* (can be brief).
15. ____ shows *very negative* affect: anger, distress, protest, crying vigorously, etc.

Inappropriate Affect

16. ____ expresses *negative affect* to another *CHILD* in *response to the other's neutral or positive overture* (appears inappropriate in context)
17. ____ *fails to show positive affect when appropriate* (as defined by context) (e.g., in a group when others are all laughing)
18. ____ *fails to show negative affect when appropriate* (e.g., after being hit)
19. ____ takes *pleasure in another's distress.*
20. ____ *does not respond* when approached affectively by another.
21. ____ *cries* in the *absence of physical injury.*
22. ____ *whines* in the *absence of physical injury.*

Involvement: Productive, Focused Use of Personal Energy

23. ____ *engrossed, absorbed, intensely involved* in an activity: *emotionally invested* in *creative, productive, thematically organized, or other* activity that has a positive emotional function (does *not* include intensive but unfocused activity, e.g., running around the room)
24. ____ *independence:* involvement in an activity that the child *organizes for himself.*

Involvement: Unproductive, Unfocused use of Personal Energy

25. ____ *wandering: moves around the room* with *no/little involvement* in social interaction or activities.
26. ____ *listless:* looks fidgety and *emotionally uninvested but still emotionally "present"; stays in one area,* but shows *little/no involvement* in activities or social interaction.
27. ____ *vacant: very flat,* unexpressive, *detached face,* no involvement, *looks "emotionally absent."*
28. ____ *tension bursts:* undirected motor release (one or several) (usually brief).
29. ____ *extremely high activity* in comparison to context (outdoors: risk of harm to self/others also involved).
30. ____ *diffuse:* looks *somewhat emotionally invested but unable to sustain it* for long in any one activity, i.e., "jumps from one thing to another" (gets slightly *involved in one thing, then soon moves on, repeatedly).*

Lapses in Impulse Control and Negative Responses to Frustration, Conflict, and Other Emotionally Arousing Problem Situations (e.g., object struggle, teasing, rejection, inability to solve puzzle, encountering obstacle to goal attainment)

(check *left* if behavior is *response to emotionally arousing event,* check *right* if *no emotionally arousing "precipitating event" is observed,* including when already displaying behavior at beginning of observation) (*except:* note special rules for #31 and 36)

31. ___ *context-related, physical, interpersonal aggression* (someone does something to which the child responds with aggression—an emotionally arousing preceding event *must* be observed, usually but not necessarily provocation by another) (when no provocation is observed, check #45a) (see also #10-15, 21, 22)

32. ___ *hits,* kicks, shoves, knocks over, or throws *objects* (see also #10-15, 21, 22)

33. ___ *tantrum* (pronounced upset *and* loss of control) crf. #10-15, 21, 22)

34. ___ *very angry* (vs. tantrum: not as sustained, loss of control not as great and may be limited) (crf. #10-15, 21, 22)

35. ___ *inability to stop* ongoing behavior

36. ___ *withdrawal* (= *becomes withdrawn), "shuts down"* (whether leaves area or not) (NB: must see the withdrawal occur) (check *left* if withdrawal is response to emotionally arousing event, *right* if no precipitating arousing event is observed, and *neither* if already withdrawn at beginning—and in all cases consider also #14 and #27)

37. ___ *disorganized, non-goal-directed activity (left,* response to emo. arous.; *right,* no arousing event, including already this way at beginning.

38. ___ *pouty, sullen (left,* response to emo. arous.,; *right,* no arous. event, including already this way at beginning of interval)
(describe behavior, emotionally arousing events, responses of others:)

_____

_____

_____

Positive Reactions to Frustration, Conflict, and Emotionally Arousing Problem Situations (e.g., object struggle, teasing, rejection, inability to solve puzzle, encountering obstacle to goal attainment)

39. ___ *promptly expresses, in words, feelings arising from problem* situation *then moves on* to same or new activity (vs. withdrawing, displacing the affect to others or to objects, staying upset)

39a. ___ *shows* primarily *neutral or positive affect*

39b. ___ *shows* primarily *negative affect*

40. ___ shows ability to *tolerate well* (although *does not promptly verbalize feelings to others)*
(describe emotionally arousing event and behavior:_____

Unusual Behavior

41. ___ *bizarre* bahavior (e.g., licking the wall)

42. ___ *mannerisms,* stereotypes (e.g., rolling the tongue around the mouth, characteristic facial distortions, characteristic nonverbal vocalizations) ("quirky gestures")

43. ___ ritualistic, repetitive behaviors (more complex, organized, and larger-scale than mannerisms, more normal than bizarre behaviors)

Social Isolation

44. ___ *no social interaction continuously* for *3 min.* or more.

Hostility

45a. ___ *unprovoked,* physical, interpersonal *aggression (no preceding provocative behavior by the victim)* (describe aggression and subsequent behavior by all involved):_____

_____

45b. ___ hazing, teasing, or other verbal or nonverbal provocation or threat

Skills in Leading and Joining

46a. ___ *successful leadership:* plays an organizing role in an activity in which other children "follow the lead" and participate

46b. ___ *inept attempts at leadership:* attempts to exert an organizing, directive, or leadership influence on others, but they do not comply (check on basis of others' noncompliance) (often includes self-defeating use of affect, e.g., bossiness)

47a. ___ *smoothly approaches* an already ongoing activity (does not disrupt or antagonize) and GETS ACTIVELY INVOLVED.

47b. ___ *smoothly approaches* an already ongoing activity (does not disrupt or antagonize) but DOES NOT GET ACTIVELY INVOLVED.

Empathy and Prosocial Behavior

48. ___ *interpersonal awareness:* behavior reflecting *knowledge or awareness about another person.*
(describe):_____

_____

49. ___ *empathy: concern* or other empathic response to another person's *emotional display* (usually when another is distressed)
(describe): _____

_____

50. ___ *helping* behavior (unsolicited) directed *to other child.*

51. ___ *helping* behavior (unsolicited) directed *to teacher.*