The coherence of individual development: Early care, attachment, and subsequent developmental issues

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The Coherence of Individual Development

Early Care, Attachment, and Subsequent Developmental Issues

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The idea that the child is a coherent person, that despite changes he or she remains in important ways the same individual, has been a powerful force in developmental psychology. In many ways it spurred the emergence of our field, and it moves us forward still. For if the child is a coherent person and individual development a coherent process, and if conditions can be specified that promote psychologically healthy or unhealthy development, then there are powerful implications not only for behavioral scientists but for our entire society. If, for example, one's feelings of self-worth and personal power (efficacy), one's expectations concerning people, and one's capacity for empathic involvement with others are strongly influenced by early experience, then we cannot hesitate to examine fully our public policies in these times of rapid social change. Type and extent of out-of-home care become more than purely economic matters. Teenage pregnancy, chemical dependency, child physical or sexual abuse, and other signs of family dysfunction become matters of urgent national concern. It becomes clear that nothing is more important than understanding the shaping of the child.

Only recently, however, has continuity in individual development proved empirically demonstrable. This was despite the fact that such an assumption is central in prominent developmental theories and despite the fact that intuition and personal experience testified daily to the coherence of the individual. Research, so it seemed, previously suggested that such continuity was an illusion. But it was the research that was wrong, not the idea of continuity.

One problem in past research on continuity concerned errors of measurement. Measuring behavioral continuity in the developing child is difficult because behaviors that are beyond the capacity of the younger infant are added rapidly to the repertoire, old behaviors take on new meanings, and behavior becomes organized in increasingly complex ways. Its meaning varies with behavioral and situational context. Therefore, behavior of children must be assessed extensively across situations or in especially salient situations. Counting frequencies of particular behaviors in a single observational session or examining performance on a single task cannot yield stable individual differences any more than can performance on a single item from an intelligence test (Epstein, 1979). Unless measurements are stable, individuals cannot reveal their continuities.

Another problem in research on continuity is conceptual. Psychological development is characterized not by mere additions but by transformations and epigenesis. Infants are not merely small children. Therefore, one cannot find continuity by simply measuring the same behavior over time. Clingy overdependency, for example, is one form of maladaptation in the preschool years. Such dependency is the norm in infancy. Recent studies have shown that infants who, when threatened or distressed, actively seek physical contact, mold, cling, and derive comfort from such contact with the caregiver (i.e., are effectively dependent) are more effectively autonomous as toddlers and more competent as preschoolers (Arend, Gove, & Sroufe, in press; Main, 1977; Matas, Arend, & Sroufe, 1978; Waters, Wippman, & Sroufe, in press). Likewise, aggression in childhood would not likely be predicted from vigorous nursing.

One solution to the problem of continuity in individual development lies in seeking qualitative similarities in patterns of behavior over time, rather than behavorial identities. In this view, children play active roles in seeking solutions to a series of developmental issues. Assessments focus on how well the child is meeting developmental chal-

lenges, on the quality of the child's adaptation. It is at this level of abstraction that continuity can be demonstrated. Behavior does change lawfully, but the person remains the same. Such an approach does not mean less emphasis on observable behavior but more emphasis on the meaning and organization of behavior and on affective constructs underlying that organization.

Principles for a Theory of Individual Development

The theory proposed is not really new. It is a synthesis of several powerful viewpoints—revised psychoanalytic theory, ethological–evolutionary theory, and cognitive developmental theory (e.g., Breger, 1974). The following features distinguish this eclectic perspective.

1. *A focus on adaptation.* At the individual level, adaptation refers to children's active engagement of the environment, fitting and shaping themselves to that environment and effecting changes in the environment to satisfy needs. The child does not merely react to environmental events but seeks stimulation and selects and organizes behavior in terms of his or her own goals.

2. *A view of the person as a coherent whole.* There is a hierarchy of goals, and there is a coordination of different aspects of the persons functioning with respect to those goals. There is a logic and coherence to the person that can only be seen in looking at total functioning. A child may not behave the same way in different situations, but behavior is coherent across situations. For example, an infant on one occasion may be distressed by separation. Upon reunion, she may seek physical contact, maintain contact, and be readily comforted by it. On another occasion, perhaps because she is older, in better health, or more familiar with the surroundings, the same infant is not distressed. Here it is predicted (and has been confirmed) that she will not seek physical contact but will actively greet and initiate interaction with the caregiver (smile, show a toy, etc.). A common experience, a coherent personality, underlies these two behavior patterns. It is the same individual, as shown by the active initiation of contact or interaction and by the role of her relationship with the caregiver in mediating affective response. But the reunion occurs in two different contexts; thus, different behaviors result. It is predictable that the infant who is happy to

see the caregiver when the former is not distressed is effective in achieving comforting when he or she is distressed. As another example, the child who can be spontaneous and expressive when the situation permits, but characteristically purposeful and deliberate when circumstances require, is not viewed as inconsistent but as coherent (Block & Block, in press).

3. *A central role for affective constructs and emotion.* Affect plays a key role in the organization of behavior (Sroufe, 1979). Central in the current view is a motivational duality: security in the familiar, yet attraction to the unfamiliar. Thus, in confronting novelty, curiosity and wariness (retreat to the familiar) are both activated. As an opportunistic species, exploration of the new has adaptive advantage, but novel events may also pose unknown hazards. Curiosity must be tempered by the capacity to delay, but wariness must not submerge curiosity entirely.

4. *A focus on individual differences.* The nature of this balance between exploration and wariness is an important dimension of individual differences; some children are unduly timid in the face of novelty, others characteristically deal with new situations impulsively, and still others show little involvement. A closely related aspect of individual differences concerns effectiveness in managing tension or arousal. Given development, continuity of specific behaviors over time is unlikely. But individual children may show continuity in their ability to modulate arousal and to maintain organized behavior in the face of excitation (novelty, complexity, ambiguity). Children may not be characterized by specific behaviors they exhibit, but they may be characterized by their degree of involvement in the face of environmental challenges and opportunities and by the way in which their behavior is organized in meeting such confrontations. Groups of children may be defined in terms of patterns of behavior, rather than by frequencies of any particular behavior.[1] Likewise, important individual differences in caregiving will be revealed by examining the caregiver's role in helping the child learn to manage tension and experience joy in mastery. These differences will be reflected more generally in the pattern of care and in the quality of the infant–caregiver relationship,

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[1] Block (1971) has discussed how lawful relationships among variables can be found for subsets of subjects which do not characterize the whole sample. This is basic to the definition of a type.

not in any particular child-rearing practice (e.g., breast vs. bottle feeding).

5. *Development as a series of reorganizations.* Development does not proceed in a linear, incremental manner. Not only are capacities added, there are changes in behavioral organization. Through such change the infant is transformed, being qualitatively different in the way it views and transacts with the world. Periods of reorganization can be defined, with consequent changes in focal developmental issues. Assessment of individual differences should address these changing issues.

The Child as Active Participant in Its Own Experience

To understand the coherence of individual adaptation, viewing children as active participants in their own experience is essential. At least by the second half year, the infant's reaction to events is subjective; it is determined by evaluative processes within the infant, as well as by objective information. Individual infants and children differ in their tendencies to see events as opportunities or threats, in their threshold for threat, in their capacity to maintain organized behavior in the face of arousal (novelty, complexity), and in their ability to derive security from the presence of the caregiver. More generally, children vary in their abilities to draw on personal and environmental resources in the face of a challenge.

Normative studies of infant development illustrate the role of subjective factors in behavior. The same event can produce strikingly different reactions depending on its context. For example, mother putting on a mask uniformly elicits smiling and laughter in a playful home context. In the laboratory, however, following a separation experience, the same masked approach produces almost no smiling. Some infants become distressed, especially if a masked stranger approached first. With groups of subjects, any reaction can be produced by varying familiarization time, setting, sequence of events, and availability of the caregiver (Sroufe, Waters, & Matas, 1974).

The reactions cannot be due to novelty per se. The event is novel in every case (and less so following the stranger). Nor can the reaction be due simply to amount of arousal. High levels of arousal are required for laughter as well as distress. And even if one fully calms an infant following separation (he returns to play and autonomic levels recover), the negative effect of the

separation is still produced when mother subsequently puts on the mask. Apparently the infant's threshold for threat (the amount of arousal tolerable) has been altered. On the other hand, in the playful home context, the most arousing play (e.g., mother bouncing the infant) rarely leads to distress. No fixed amount of arousal automatically leads to distress. Infants can stay engaged and affectively positive, even purposefully repeat the event, when highly aroused.

Individual children elicit different reactions from the environment; they also differentially seek, filter, interpret, and evaluate experience. The infant who cannot separate from mother to explore the novel playroom and the preschooler who isolates himself from peers are not having the same experience as the more positively engaged child. Once constitution and early experience have interacted to produce the emergent personality, the child is an active force in his or her own development. As Adler wrote, the child is the artist as well as the painting. Personality develops from a foundation, increasing in organizational complexity, differentiating from early general modes of engaging the environment. Later reorganizations are elaborations and transformations of this foundation. It is for this reason that quality of early experience, especially of significant relationships, is of fundamental importance in healthy development.

Early Developmental Issues for Child and Caregiver

To trace the course of healthy development we must be able to assess qualitative differences in functioning among children at different points in time, from early environmental transactions within the caregiver–infant relationship to later functioning outside the home. In this task it is useful to view development as organized around a series of issues. Learning to manage tension and active exploration have already been mentioned; other issues are also important. A working scheme is presented in Table 1. Parallels between this sequence and those of Piaget, Sander, and Spitz have been described previously (Sroufe, 1977, 1978, 1979). These issues are not viewed as tasks to be passed or failed, never to be faced again. All but the first, in fact, are lifetime psychological issues. The issues form a sequence, however, ascendant during various phases of early development and laying the groundwork for approaching subse-

TABLE 1

Issues in Early Development

Phase	Age in months	Issue	Role for caregiver
1	0–3	Physiological regulation	Smooth routines
2	3–6	Management of tension	Sensitive, cooperative interaction
3	6–12	Establishing an effective attachment relationship	Responsive availability
4	12–18	Exploration and mastery	Secure base
5	18–30	Individuation (autonomy)	Firm support
6	30–54	Management of impulses, sex role identification, peer relations	Clear roles and values, flexible self-control

quent issues. At the same time, preceding issues are continually reworked in facing later issues. As Erikson (1963) suggested, early trust provides the foundation for autonomy, but trust is also deepened by the clarity, firmness, and support the parents provide in the autonomy phase.

The scheme can be illustrated by considering the issue for the second half year, the formation of an effective, secure attachment relationship. During this period the infant's behavior becomes focused on and organized around the caregiver. Separation protest, retreating to the caregiver when distressed, and immediate greeting reactions appear. The infant has assumed a more mutual, fully reciprocal role in interaction with the caregiver.

Attachment, of course, has its roots in earlier infancy: It is a product of caregiver–infant interaction. The infant secure in his or her attachment has experienced the caregiver as a reliable source of comforting, as responsive to his or her signals, and as available and sensitive. The infant has learned that stimulation in the context of the caregiver will generally not be overwhelming and that when arousal threatens to exceed the infant's organizational capacity, the caregiver will intervene (see Ainsworth's article, this issue).

In psychoanalytic theory the caregiver's role in relieving tension was emphasized. My view emphasizes ,the caregiver's role in helping the infant maintain organized behavior in the face of novelty-produced excitation. In part through face-to-face play, in which the caregiver continually varies facial expression, voice tone, and movements, the infant learns to deal with novelty and complexity within a familiar context. As the caregiver engages, relaxes, then reengages the infant (all in response to the infant's signals) the infant learns to maintain organized behavior in the face of increasingly high levels of arousal (Brazelton, Kow-

slowski, & Main, 1974; Stern, 1974). There is security in that which is familiar. The attachment relationship, based on reliable patterns of caregiver interaction, represents familiarity the infant can take into new situations, especially as the relationship is increasingly internalized.

Attachment has its roots in early interaction; it also lays the foundation for subsequent development. A central issue for the 12–18-month-old infant (Phase 4) is exploration and mastery of the environment. The child secure in its attachment is able to use the caregiver as a base for this exploration. The mere presence of the caregiver provides sufficient security in a novel setting to promote active exploration. This psychological availability of the caregiver during exploration and later problem solving deepens the security of attachment and helps a new mode of psychological contact to evolve. The infant can be comforted by a glance across the room or by a word. At the same time, infants can affectively share their play, smiling, showing toys to the caregiver, and so forth. The infant and caregiver can remain in psychological contact, even when at a physical distance (Sroufe, 1977).

Just as the quality of attachment influences the infant's exploratory competence, these early adaptations in turn influence the quality of autonomous functioning in the toddler period (Matas, Arend, & Sroufe, 1978). The child who has developed mastery skills, the capacity for affective involvement, and a sense of confidence within the caregiver–infant relationship will be more enthusiastic, persistent and effective in facing environmental challenges on its own. Later, given continued support by the caregiver, this child will be confident, skilled, and positive in dealing with peers and other tasks of the preschool period (Arend et al., in press; Sroufe, 1978). In suc-

cessfully approaching each issue the child is acquiring capacities needed for further effective adaptation, as is illustrated below.

Continuity of Individual Adaptation

When early childhood is viewed in terms of a series of organizational issues, the pursuit of the person means assessing how well the child is functioning with respect to each issue. Assessment situations, procedures, and behavioral domains tapped may be vastly different at different developmental periods; still, the prediction remains: The quality of the child's earlier adaptation will influence its adaptation with respect to subsequent issues.

We began our research on the coherence of individual adaptation with the study of infant–caregiver attachment. Ainsworth (e.g., Ainsworth, Blehar, Waters, & Wall, 1978) had provided a scheme in which attachment is viewed in terms of its balance with exploration. When stress is minimal, the securely attached child (Group B) can separate readily from the caregiver to explore. When distressed, however, by a brief separation, for example, the securely attached infant actively seeks and maintains contact until comforted, which promotes a return to play. Under other circumstances, or when the infant is older, a brief separation from the caregiver may not produce distress, especially if the baby is not left alone. If not upset, secure infants are nonetheless active in reestablishing contact, although as noted above, the contact is interactive rather than physical.

Ainsworth described two other major patterns of attachment. One group (Group A) is characterized by avoidance of the caregiver upon reunion, ignoring, looking away, turning away, or abortive approach. Such avoidance was especially striking during a second reunion, when stress was presumed to be greater. Thus, although this infant can separate readily from its caregiver, it fails to seek contact under circumstances of need, which interferes with the return to active exploration. Another group (Group C) is characterized by poverty of exploration and an inability to be settled upon reunion. This group may mix contact seeking with interaction resistance (squirming to get down, kicking, hitting, batting away offered toys) or may merely continue to cry and fuss despite attempts at comforting. (For details, see Ainsworth et al., 1978; Sroufe & Waters, 1977.)

These patterns have been predicted by maternal behavior as early as 6–15 weeks of life.

Everett Waters showed that in a middle-class sample these three patterns of attachment were stable across a six-month period; 48 of 50 suburban infants classified as belonging to Group A, B, or C at 12 months were similarly classified by independent coders at 18 months ($p < .001$; Sroufe & Waters, 1977; Waters, 1978). This stability occurred despite the fact that the period spanned is a time of great behavioral change. Frequencies and durations of particular discrete behaviors (proximity seeking, smiling, vocalizing) were not stable, but the quality of the attachment, the effectiveness in support of exploration, remained similar. Individual babies cried less or more, sought more or less contact, showed a toy to mother one time, brought a toy another time, but in some way the overall pattern of behavior indicative of a secure attachment relationship was revealed on both occasions. Likewise, avoidant infants may have exhibited different particular behaviors on reunion (e.g., crawling away on one occasion, looking away and ignoring on another), but scaled scores on avoidance were stable across the 6-month period ($r = .61$, $p < .001$). Infants in Group C were difficult to settle on both occasions.

We do not view these differences in attachment in terms of temperament, but as emergent patterns of personality organization. First, securely attached children may be hypoactive or hyperactive, cuddly or noncuddly, slow to warm up or not. They may cry a lot or a little. They have in common the capacity to use the caregiver as a secure base for exploration and to actively initiate contact upon reunion. Second, they show the same behaviors as do the anxiously attached children, but in different contexts. They may, for example, squirm and otherwise resist contact with the stranger during separation but not with mother on reunion. They may pay little or no attention to the mother at times prior to separation but not on reunion. Third, the behaviors of securely attached children predict to quite different behavioral domains in later years. Finally, under some circumstances these patterns of behavior are subject to change.

If these individual differences do reflect emerging personality, they should forecast later functioning. To examine consequences of these patterns of attachment, we followed up on 48 infants who were observed in a problem-solving situation

when they were 2 years old. This situation was appropriate for assessing movement toward autonomous functioning (Phase 5) because some of the problems were within the child's capacity and others were quite challenging (e.g., weighting down a lever with a block to raise candy from a Plexiglas box), requiring the child to fall back on the caregiver's assistance. As toddlers, securely attached infants were more enthusiastic, more persistent, and exhibited more positive affect. They complied with maternal suggestions more, ignored less, and showed less oppositional behavior. In various ways temperamental and IQ factors were ruled out as explanations for these differences (Matas et al., 1978). Main (1977) has reported similar findings.

In a subsequent study (with Gove, Egeland, & Deinard) we found that securely attached infants showed a particular pattern of behavior across tasks. When they came to the more challenging lever problem, they maintained their involvement but sought more help. They increased their compliance and decreased their opposition. Their mothers, in turn, maintained a high level of support and offered more directives. Infants in Group C (the resistant, difficult-to-settle group), on the other hand, fell apart completely. They became increasingly oppositional, highly frustrated, angry and distressed, even though they did increase their help seeking. Their mothers increased their directives, but the quality of their assistance decreased markedly. Infants in Group A (avoidant) and their mothers were best characterized as low on involvement throughout. Unlike Groups B and C they made little adjustment to the harder problem.

To illustrate that these patterns of adaptation have further developmental consequences for the child (away from the mother), we conducted two other studies. In the first (using data gathered by Wanda Bronson), Everett Waters and I found that quality of attachment at 15 months was related to independent Q-sort descriptions of the children in nursery school at age 3½ years. Securely attached children were later described as peer leaders, socially involved, attracting the attention of others, curious, and actively engaged in their surroundings. Overall differences between securely and insecurely attached infants in "peer competence" and "personal competence" were highly significant, and these differences were not due to IQ (Waters et al., in press).

In a more recent study we linked our work on attachment to the Blocks' important work on two dimensions of personality organization—ego control and ego resiliency (Block & Block, in press). *Ego control* refers to the degree of control the child maintains over impulses, wishes, and desires. Overcontrolled children are rigid, unable to be spontaneous; undercontrolled children cannot delay gratification, control impulses, or behave purposefully. *Ego resiliency* refers to flexibility of controls. The resilient child can plan and delay when circumstances require but can also exhibit spontaneity, enthusiasm, and curiosity, letting up controls appropriately. Although assessment procedures vary with age, as an organizational approach would suggest, the Blocks have presented striking evidence for stable individual differences on these dimensions from 3½ to 7½ years, in both laboratory and observational situations (Block & Block, in press). They have begun tying these individual differences to patterns of care and are currently following up on their children at age 11 years. They will also assess them at age 14.

We were able to obtain follow-up measures on 26 children from our original attachment study at age 5 years (Arend et al., in press), using a subset of the Blocks' laboratory measures (e.g., Banta's curiosity box, level of aspiration, social problem solving, Lowenfeld mosaics, motor inhibition) and their observational technique. As was predicted and theoretically required, children who earlier were securely attached were independently described by their teachers as highly resilient. Items typically placed in the "most characteristic" category included "resourceful in initiating activities," "curious and exploring," and "self-reliant, confident." (Least characteristic items included "inhibited and constricted," "tends to disengage under stress," and "becomes anxious when the environment is unpredictable.") They were also described as moderate on control, neither over- nor undercontrolled. Infants classified in Groups A (avoidant) and C (resistant) were significantly lower on resiliency, with those in Group A tending to be overcontrolled, and those in Group C undercontrolled. Such patterns of over- and undercontrol already appeared incipient in the earlier attachment assessments and in our toddler data and were in fact predicted by the Blocks. The composite laboratory data also showed the securely attached infants to be significantly higher on resiliency (laboratory battery composite and teacher Q-sort resiliency scores correlated .46, $p < .01$).

What began as a competent caregiver–infant pair led to a flexible, resourceful child. Our attachment assessments predicted later functioning more powerfully than had any previously used measures, including standardized infant tests. A focus on developmentally salient issues enables assessment that taps the core of early competence. Such predictability is not due to the inherently higher IQ of the securely attached infant or, apparently, to inborn differences in temperament, though such differences likely have important influences on behavior.

Continuity and Change in Adaptation

Demonstrating coherence in individual development does not rest on continuity alone. Change may be comprehended as well. In a current research project (with Byron Egeland, Amos Deinard, and Brian Vaughn) we are following a large sample of poor children from birth to 4½ years. In contrast with our middle-class samples, these children experience noticeably fluctuating environmental circumstances, with life situations changing markedly both toward and away from stability. There are changes in residency, parents' job status, health, substitute care, parents' drug dependency, and perhaps most important, living group membership. People move out and they move in. Separations are common.

These fluctuating circumstances appear linked to the child's quality of adaptation. There is still significant stability in this sample, but there is considerable change, too. For example, whereas 48 of 50 (96%) middle-class infants had the same attachment classifications at 12 and 18 months, only 62 of 100 poor children were classified similarly. Most important, changes in the quality of attachment were related to changing life events. Mothers of infants changing from an insecure (Groups A and C) to a secure (Group B) attachment relationship reported a significantly greater reduction in stressful life events than did mothers of infants changing in the other direction (Vaughn, Waters, Egeland, & Sroufe, in press). These life-event-related changes provide clear evidence that the individual differences we assess are not simply differences in temperament or socioemotional g. Even though changing, the development of these infants is coherent, their pattern of adaptation comprehensible. Nor do these findings suggest that all continuity resides in the environment. All children are vulnerable to stress, but further research may show that some children are more stress resistant and better able to rebound following periods of stress. This would be consistent with a view of the child as an active participant in his or her own development.

Conclusion

In these times of rapid social change, understanding the nature of the developing child is essential for the well-being and perhaps the survival of our society. A beginning has been made toward this understanding. Many questions about the shaping of the person remain to be answered, but they no longer appear to be unanswerable. The quality and importance of the child's early relationships can be assessed. The quality of the child's functioning in facing challenges and in establishing peer relations can be assessed. Questions concerning the impact of substitute care (of varying amounts and quality), alternative lifestyles, and changing social support systems can all be addressed.

There is reason to doubt that children are infinitely resilient, even given the flexibility of our species. Our biology may not be able to adapt to any and all changes in societal conditions proceeding at any rate. What children experience, early and later, makes a difference. We cannot assume that early experiences will somehow be canceled out by later experience. Lasting consequences of early inadequate experience may be subtle and complex, taking the form of increased vulnerability to certain kinds of stress, for example, or becoming manifest only when the individual attempts to establish intimate adult relationships or engage in parenting. But there will be consequences.

To be sure, children have inborn differences in certain behavior characteristics. These characteristics probably influence how we behave toward them (as should be the case if our care is sensitive and responsive). But we shape the persons they are. It is their birthright that the environment to which they must adapt is one that promotes healthy psychological development. It is our obligation to understand the nature of that development.

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