

# Resilience and Vulnerability

*Adaptation in the Context of Childhood Adversities*

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For  children,  
Nik and Nina

## Rethinking Resilience

### *A Developmental Process Perspective*

Tuppett M. Yates, Byron Egeland, L., and Alan Sroufe

Children's talent to endure stems from their ignorance of alternatives  
(Maya Angelou, 1969)

#### INTRODUCTION

A central tenet of contemporary developmental psychopathology is that our understandings of normative and abnormal development mutually inform one another (Cicchetti, 1990, 1993; Cicchetti & Cohen, 1995; Sroufe & Rutter, 1984). Historically, however, research has focused on the determinants of psychopathology and maladaptation to the relative exclusion of elucidating factors that contribute to the initiation and maintenance of adaptive developmental pathways. More recently, a strong and growing literature has emerged identifying factors that enable individuals to achieve adaptive developmental outcomes despite adversity.

The study of risk and resilience derived from the observation that some individuals in populations exposed to incontrovertible adversity nevertheless achieve adaptive developmental outcomes (e.g., Garmezy, 1974; Murphy & Moriarty, 1976; Rutter, 1979; Sameroff & Seifer, 1983; Werner & Smith, 1992). These individuals exemplify resilience, "the process of, capacity for, or outcome of successful adaptation despite challenging or

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threatening circumstances" (Masten, Best, & Garmezy, 1990, p. 426). Over the past 25 years, research on a variety of at-risk populations has identified factors that moderate the relation between risk and competence, namely, protective and vulnerability factors (Masten & Coatsworth, 1998). More recently, however, increasing attention has been directed toward identifying and refining the methodological and theoretical frameworks within which resilience is conceptualized and studied in order to clarify the processes that underlie adaptive development in the context of adversity (e.g., Luthar, Cicchetti, & Becker, 2000; Sameroff, 2000).

In this chapter, we emphasize the importance of a theoretically grounded approach to the study of resilience, using the literature on children reared in poverty to illustrate our central arguments. Adopting an organizational perspective on development, we argue that a developmental history of consistent and supportive care engenders early competence, which, in turn, plays a critical role in later adaptation, one that has been heretofore underappreciated in the prevailing literature on resilience. We begin with a review of the extant literature on the deleterious effects of poverty on children's development. We then outline the organizational model of development and its theoretical application to the study of risk and resilience. The third section presents the current state of knowledge regarding salient protective factors for children reared in poverty. Next, we suggest that, because of the transactional nature of development, an early history of positive adaptation is a powerful source of enduring influence on children's adaptation. Current empirical support for the salience of an early history of competence as a protective resource, its operational definition within an organizational framework, and the theoretical basis for its construction in early childhood are also discussed. In closing, we offer process-oriented suggestions for intervention and prevention efforts, with a focus on interventions aimed at fostering early developmental competence in the parent-child relationship.

#### CHILDREN IN POVERTY

One-fifth of American children reside in families with incomes below the federal poverty line (U.S. Bureau of the Census, 1997). Although socioeconomic status is, in and of itself, a poor indicator of early adversity, it is a powerful correlate of multiple risk factors that act in concert to thwart positive adaptation. A cumulative risk model asserts that multiple risk factors across several levels of influence contribute significant explanatory power to child outcomes (Rutter, 1979; Sameroff, 2000; Sameroff

& Seifer, 1983; Seifer & Sameroff, 1987). From this perspective, poverty is a distal risk factor whose effects are mediated by proximal risk factors such as parenting behaviors, family structure, community variables, and the broader social networks within which the child and her or his family are embedded (Egeland, Carlson, & Sroufe, 1993).

The negative impact of socioeconomic instability on parenting behavior is a primary mediator of the effect of poverty on children's development. In comparison to higher-income families, poor families are more likely to be led by a young, single parent who has low educational attainment and significant periods of unemployment (Brooks-Gunn & Duncan, 1997; Brooks-Gunn, Duncan, & Maritato, 1997). Faced with a barrage of needs to be filled and inadequate resources with which to meet them, low-income families are disproportionately affected by parental depression and substance use disorders (Belle, 1990; Hall, Williams, & Greenberg, 1985). "Poverty and economic loss diminish the capacity for supportive, consistent, and involved parenting" (McLoyd, 1990, p. 312). Poverty and its associated negative life experiences contribute to poor parental emotional well-being, insufficient child-directed attention, and harsh, intrusive, and punitive parenting (Brooks-Gunn et al., 1997; Sampson & Laub, 1994).

In a study of the development of premature infants, Escalona (1987) found that, although poor infants often received an adequate amount of nurturance and affection, these expressions of caring were administered independent of the infant's cues or needs; care was offered in an unpredictable fashion, depending on who, if anyone, was available at a given point in time. Similar studies have shown that economically disadvantaged infants are subject to less stable caregiving patterns and daily routines (Halpern, 1993). Erratic, unpredictable caregiving may foster a child's early conceptions of the world as frightening, unstable, and unpredictable (Minuchin, 1967). These expectations may be subsequently confirmed by experiences in the parent-child relationship (e.g., child maltreatment; Jones & McCurdy, 1992; Luthar, 1999) and in the broader community (e.g., community violence; Limber & Nation, 1998).

Socioeconomic disadvantage has a deleterious impact on children's cognitive, intellectual, social, and emotional development. Children raised in poverty perform below their higher-income peers on assessments of cognitive development, physical health, academic achievement, and emotional well-being (Brooks-Gunn et al., 1997; Halpern, 1993). Family poverty impedes children's cognitive development as assessed by IQ, verbal ability, and achievement tests (Duncan, Brooks-Gunn, &

Klebanov, 1994; Seifer & Sameroff, 1987; Smith, Brooks-Gunn, & Klebanov, 1997). Moreover, these cognitive effects are significant above and beyond the contributions of maternal education, maternal IQ, and family structure (Brooks-Gunn et al., 1997; McLoyd, 1998; Smith et al., 1997). Academically, poverty increases the likelihood of placement in special education programs (Egeland & Abery, 1991), grade retention (Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997), and school dropout (Jimerson, Egeland, Sroufe, & Carlson, 2000). With respect to socioemotional development, poor children are at greater risk for psychiatric disorders (Costello, Farmer, Angold, Burns, & Erkanli, 1997), and receive higher scores on parent and teacher ratings of behavioral and emotional problems (Bolger, Patterson, Thompson, & Kupersmidt, 1995; Egeland, Kalkoske, Gottesman, & Erickson, 1990; McLeod & Shanahan, 1993).

Despite the preponderance of evidence indicating a strong association between poverty and negative developmental outcomes, the developmental courses of low-income children are variable. Indeed, a significant proportion of impoverished youth manage to achieve adaptive developmental outcomes (Garmezy, 1981). These children meet the two criteria on which resilience is predicated (Luthar et al., 2000; Wyman, Cowen, Work, & Parker, 1991). First, they have been exposed to significant adversity in the form of poverty and its associated stresses. Second, they have achieved positive developmental outcomes despite these adverse experiences. Thus, children who are at risk due to the deleterious consequences of poverty and its associated threats to adaptive development have been a popular focus of risk and resilience research over the past several decades.

#### THE ORGANIZATIONAL MODEL OF DEVELOPMENT

Although research has contributed to identifying and understanding specific protective and vulnerability factors, it remains a challenge to integrate these data into a theoretical framework capable of structuring and explaining the central features of the extant literature. The construct of resilience has been conceptualized within several, often overlapping, theoretical models (see Luthar et al., 2000, for a review). As the need for a developmental perspective on risk and resilience becomes increasingly apparent (Glantz & Sloboda, 1999; Windle, 1999), the organizational model of development (Sroufe, 1979) is gaining popularity in the risk and resilience literature (Cicchetti & Schneider-Rosen, 1986).

The organizational model conceptualizes development as a hierarchically integrative process in which earlier patterns of adaptation provide a

framework for, and are transformed by, later experiences to yield increasing complexity, flexibility, and organization (Egeland et al., 1993; Sroufe & Rutter, 1984). Through this series of qualitative reorganizations, prior experience is not lost, but instead is incorporated into new patterns of adaptation (Werner & Kaplan, 1964). Interpreted within this framework, *adaptation* refers to qualitative features of the individual's negotiation of developmentally salient issues, and *competence* is the adaptive use of both internal and external resources to enable the successful negotiation of such issues (Cicchetti & Schneider-Rosen, 1986; Waters & Sroufe, 1983). Because it affects the way in which subsequent experiences are integrated into the system, early experience is a salient consideration for understanding later adaptive strategies.

Thus, development constitutes a patterning of adaptation across time such that prior levels of adaptation are probabilistically, rather than deterministically, related to later levels of functioning (Egeland et al., 1993; Sroufe & Rutter, 1984). Competence in one developmental period provides the child with a foundation that enables successful encounters with subsequent stage-salient issues. Conversely, maladaptation at a prior stage of development may compromise the child's capacity for subsequent effective engagement with developmental challenges (Cicchetti & Schneider-Rosen, 1986; Sroufe, 1997; Sroufe & Rutter, 1984). In this way, developmental patterns are magnified across time by virtue of the coherence with which both maladaptive and adaptive behaviors are organized. A corollary to this principle is that the longer an individual is on a particular developmental pathway, the less likely it becomes that she or he will deviate from that course (Bowlby, 1973; Cicchetti, 1993; Sroufe, 1997).

There are, however, notable cases of discontinuity in patterns of adaptation. The organizational model allows for the exploration of processes that mediate continuity in adaptation, as well as of those mechanisms that precipitate changes in functioning over time. Moreover, the probabilistic nature of associations among successive levels of adaptation allows for heterogeneity among developmental pathways such that the same developmental origin can yield divergent outcomes (multifinality), and different beginnings may converge on a single developmental endpoint (equifinality; see Cicchetti & Rogosch, 1996, for discussion).

#### A CLASSICAL VIEW OF PROTECTIVE FACTORS

Risk and resilience research has proposed three domains of resources that serve to protect children in the face of adversity: (1) child characteristics, (2) family characteristics, and (3) community characteristics (Garmezy,

1991; Masten et al., 1990; Rutter, 1979; Sameroff, Seifer, Zax, & Barocas, 1987; Werner & Smith, 1992). Children who are able to develop flexible coping strategies and a locus of control that allows them to attribute negative experiences to external factors, while retaining the capacity to value their own strengths and assets, fare better in the face of adversity (Luthar, 1991; Murphy & Moriarty, 1976; Werner, 1995). Intelligence and a good sense of humor are associated with flexible problem-solving skills, as well as with academic and social competence (Masten, 1986; Masten et al., 1988, 1999; Werner, 1990). Children who thrive in the face of adversity tend to be socially responsive and are able to elicit positive regard and warmth from their caregivers (Farber & Egeland, 1987; Werner, 1993). At the level of the family, these children emerge from warm, sensitive, and cohesive intrafamilial exchanges (Cowen, Work, & Wyman, 1997; Pianta & Egeland, 1990; Smith & Prior, 1995; Zaslow et al., 1999) and similarly nurturant kinship networks (Cowen, Wyman, Work, & Parker, 1990). Protective resources in the community may derive from high-quality educational milieus, nurturing and attentive teacher-child relationships (Brooks, 1994; Rutter, 1979; Werner, 1995), safe housing and neighborhoods (Brooks-Gunn, 1995), and available adult models of prosocial involvement (e.g., mentors; Freedman, 1993).

Because the majority of research on resilience has focused on middle childhood and adolescence, an early history of developmental competence is typically absent from discussions of protective factors. Moreover, studies that do examine factors in early childhood are often based on retrospective parent reports (e.g., Grizenko & Pawliuk, 1994). Notable exceptions include the Kauai Longitudinal Study (Werner & Smith, 1992), Murphy and Moriarty's (1976) study of vulnerability and coping, and the Minnesota Longitudinal Study of Parents and Children (Egeland & Brunquell, 1979). Nevertheless, more prospective investigations of the early and core capacities that enable children to develop protective resources within themselves and to utilize sources of protection in their environment are needed.

For example, the ability to regulate emotional arousal is critical for behavioral and attentional control, thereby fostering academic and social competence (Eisenberg et al., 1997; Rubin, Coplan, Fox, & Calkins, 1995). Regulatory skills may be especially important for at-risk youth, who likely experience high levels of emotional intensity and negativity (Eisenberg et al., 1997). Thus, a key aim of developmental resilience research is to identify the processes by which children acquire adaptive emotion regulation strategies in high-risk environments.

Similarly, a protective mentoring relationship with an older individual is most likely to be helpful for children who are able to trust and engage in productive, reciprocal social interaction. Ultimately, children cannot benefit from our protective efforts unless they possess the capacity to effectively engage their psychosocial environments. Research adopting a developmental process perspective aims to explore the experiences through which children acquire the capacity for resilience. Developmental research is needed to clarify the processes by which children *become* flexible problem solvers, effective social actors, and self-preserving attribution makers. Toward this end, the organizational model of development conceptualizes resilience as a developmental process (Egeland et al., 1993; Sroufe, Carlson, Levy, & Egeland, 1999).

#### THE PLACE OF DEVELOPMENTAL HISTORY IN RESILIENCE RESEARCH

As applied to the study of risk and resilience, the organizational theory of development allows for interdependent relations among multiple levels of risk and protection that reciprocally influence one another to yield the qualitative features of a child's adaptation in the context of current situational and developmental demands. Adaptive outcomes at given stages of development derive from transactional exchanges between the child and her or his current environment, as well as from the developmental history that the child brings to these exchanges (Bowlby, 1973; Sroufe & Egeland, 1991). In this view, resilience is itself a developmental concept that characterizes the dynamic transactional processes that enable the organization and integration of experience in functionally adaptive ways. As development progresses, the salient components of the child's environment evolve from an exclusive focus on the parent-child caregiving relationship to include other contexts such as peer, school, and community milieus (Carlson & Sroufe, 1995; Wyman, Sandler, Wolchik, & Nelson, 2000). Thus, the organizational model supports the investigation of multiple domains of adaptation across several different time points in order to clarify the underlying capacities that enable competent negotiation of salient issues at each developmental stage and in each domain of adaptation. Resilience always encompasses more than the individual and always reflects a process over time.

In our view, *resilience* refers to an ongoing process of garnering resources that enables the individual to negotiate current issues adaptively and provides a foundation for dealing with subsequent challenges, as

well as for recovering from reversals of fortune. Resilience doesn't *cause* children to do well in the face of adversity. Rather, resilience reflects the developmental process by which children acquire the ability to use both internal and external resources to achieve positive adaptation despite prior or concomitant adversity. Developmental history plays a key role in resilience; it is relevant to the acquisition of coping capacities as well as to the ability to draw upon resources from the environment. Thus, our understanding of resilience will be greatly advanced by recognizing and exploring the influential contribution of developmental history to the qualitative features of later adaptation.

Data from the Minnesota Longitudinal Study of Parents and Children, a 25-year study of impoverished mothers and their first-born children, suggest that a developmental history of support, and the competent functioning with which it is associated, is a major contributor to positive adaptation in the face of continuing or prior adversity. Social competence, well-regulated emotion and a sense of self-efficacy, each characteristic of children who achieve adaptive developmental outcomes, are predicted by a child's history of consistent, supportive care (e.g., Elicker, Englund, & Sroufe, 1992; Sroufe, 1983). Even child characteristics, such as IQ, are related to positive support and may change as environmental supports improve or decline (Pianta & Egeland, 1994). Moreover, many aspects of adaptation under stress, such as school completion, are better predicted by an early history of emotional support than by IQ (Carlson et al., 1999; Jimerson et al., 1997). Where we observe positive adaptation in the face of adversity, we routinely find an underlying foundation of positive adaptation and environmental supports that foster the development of the child's capacity to surmount adversity.

For example, Egeland and Kreutzer (1991) identified a group of children with a developmental history of support and positive adaptation. Early positive adaptation was operationalized as (1) secure mother-child attachment in infancy; (2) effective, persistent, and enthusiastic problem solving by the mother and child at 24 and 42 months; and (3) the child's demonstration of self-esteem, flexibility, creativity, frustration tolerance, and positive affect in response to a problem-solving situation at 42 months. The poverty sample was divided on the basis of maternal life stress reports to yield a high-stress risk sample and a low-stress risk sample. A history of positive adaptation was a significant protective factor against the negative effects of maternal life stress for the high-stress risk sample, as reflected by teacher ratings of behavior problems, social competence, and academic achievement in grades 1 and 3.

Additional research points to the salience of an early history of support, and the competence it enables, not only as a contributor to later positive adaptation but also as an important self-righting resource during intermittent regressions to maladaptive behavior patterns. Sroufe and colleagues (1990) identified two groups of high-risk children, both of whom consistently demonstrated poor adaptation during the preschool period but who differed with respect to the quality of their prior functioning. Children with early histories of secure attachment in infancy and generally supportive care in the first 2 years demonstrated a greater capacity to rebound from a period of poor adaptation in comparison to children who had not evidenced early positive adaptation. Children with positive developmental histories scored significantly higher on teacher ratings of peer competence and emotional health during the elementary school years in comparison to those with less supportive early histories, despite having demonstrated comparable levels of maladaptation during the preschool period. As confirmed by regression analyses, an early history of positive adaptation predicted elementary school performance above and beyond the contribution of more contemporaneous indices of support (Sroufe et al., 1990). Notably, without early developmental data, the recovery of positive functioning may have appeared to be due to inherent characteristics of resilient children, rather than the outcome of a transactional developmental process.

We have recently extended these findings to later childhood and adolescence (Sroufe et al., 1999). Among groups of children who exhibited comparable levels of behavior problems during the elementary school period, the qualitative features of the children's early developmental histories again predicted both psychopathology and competence in adolescence. Consistent with findings from the preschool period (Sroufe et al., 1990), children who exhibited positive transitions from maladaptation in middle childhood to competence in adolescence were able to draw on a positive foundation of early support and positive adaptation.

Together, these data indicate that resilience reflects a developmental process. Consider the alternative interpretation that an early history of positive adaptation reflects an underlying individual trait called resilience. In this view, some of these children were resilient, then were not, and then were again. Our interpretation of these data is that the process of resilience is manifest in the entire developmental trajectory. Children who were troubled in middle childhood and later rebounded drew, in large part, upon an early history of supportive and consistent care. Children who are competent are indeed more likely to manifest resilience at

some point; however, competence is a characterization of functioning at a particular point in time, whereas resilience is a developmental process over time.

An early foundation of support engenders positive adaptation at later time points despite intervening maladaptation. Just as maladaptation may lie dormant for periods of time only to affect later adaptation (Sroufe & Rutter, 1984), so, too, may early competence influence later functioning above and beyond the contribution of intervening adaptation. Thus, "early resilience will not be 'extinguished'; although it may go underground for a while, it will later present itself as surprising and unexpected strengths in the behavior of the older individual" (Anthony, 1987, p. 33). The goal, then, must be to foster early competence in the parent-child relationship in light of its contribution to later adaptation.

#### CHARACTERIZING EARLY COMPETENCE

Within the organizational model of development, an early history of competence is characterized by the adaptive negotiation of specific developmental issues in the infant and toddler years. The salient developmental issues for these periods are (1) the formation of an effective attachment relationship; (2) the development of autonomous functioning; and (3) the acquisition of flexible problem-solving skills enabled by adequate behavioral and emotional self-regulation (Carlson & Sroufe, 1995; Cicchetti & Schneider-Rosen, 1986; Sroufe, 1989). These capacities develop through transactional exchanges between the infant and her or his environment, most notably in relation to the primary caregiver. In a transactional exchange, the child and the environment are actively engaged with one another, both participate as agents of change, and both are transformed by the interaction (Sameroff & Chandler, 1975). "Where the mutual regulation of the individual and context succeeds, a healthy, happy child develops; where the system regulation fails, deviancy appears" (Sameroff & Seifer, 1983, p. 1265).

The capacities for autonomy, self-regulation, and the ability to garner support from important others in the psychosocial milieu develop in the context of reciprocal and supportive exchanges between the child and her or his caregiver (Werner, 1990). Children who rise above adversity have histories of interaction that instill in them an expectation that adults can be turned to for nurturance, support, guidance, and need fulfillment, as well as other promotive factors (Musick, Stott, Spencer, Goldman, & Cohler, 1987; Sameroff, 2000). Children with internalized

representations of self-worth, available protection, and sensitive care may be more responsive to the positive features of their environment and better equipped with the regulatory capacities to effectively engage and benefit from such resources (Sroufe et al., 1990). As observed prospectively by Werner (1993), children who have developed the capacity to trust both themselves and others select or construct environments that, in turn, reinforce and sustain their positive expectations of the social world and reward their competencies. Retrospectively, resilient youth report more positive and nurturant relationships with early caregivers and hold more positive expectations of future educational, employment, and interpersonal opportunities (Wyman et al., 1992). Nevertheless, the following question remains: What specific aspects of the child's early experience contribute to, and enable, the *process* of resilience?

There are several features of the early caregiving relationship that foster children's developing understandings of causation, trust, and self. These characteristics include responsiveness, positive affect, contingency, and cooperativeness in the caregiver-child relationship. Early encounters with sensitive caregiving contribute to children's beliefs that their needs will be fulfilled when they signal for care, that they are social actors capable of effecting change in their environment and interpersonal milieu, and that they are worthy of responsive care and attention. Coordinated affective exchanges between the caregiver and infant foster the infant's goal-directed activities in terms of both exploration and achievement (Tronick, 1989). Infants who trust in the availability of sensitive and appropriate care will explore their environments with greater confidence, signal their needs more effectively, and respond to caregiver intervention more readily than infants who have developed expectations of the world as harsh and unpredictable, and of themselves as ineffective and undeserving of care (Sroufe, 1989). Thus, even in the first several months of life, the child is an active participant in her or his development, interpreting and organizing behavioral responses to novel situations in accordance with her or his developmental history.

Poverty and life stress are associated with decrements in parental sensitivity in both the infancy and early childhood periods (Crittenden & Bonvillian, 1984; Pianta & Egeland, 1990; Pianta, Sroufe, & Egeland, 1989). Insensitive caregiving provides insufficient scaffolding for the child's emerging regulatory capacities, thereby fostering insecurity, both in the child's expectations of the social world and in her or his sense of self. Insensitive and intrusive caregiving is associated with conduct,



attentional, and other behavior problems in later childhood (Egeland, Pianta, & O'Brien, 1993).

This is not to say that children in these environments are not cared for or tended to; indeed, gross neglect or maltreatment is the exception, not the rule, in these families. Most of these parents are well intentioned but lack the necessary resources to provide sensitive care, including time, flexibility, and, in many cases, their own developmental history of positive experience (Pianta, Hyatt, & Egeland, 1986; Sroufe & Fleeson, 1986). Nevertheless, the uncued, inconsistent, and noncontingent nature of the caregiving offered can warp the child's developing notions of trust, self-worth, and social reciprocity, just as the absence of care can. In this way, the insensitively nurturing parent is "depriving even when [she or he] is manifestly giving" (Anthony, 1987, p. 30).

Our data consistently show that a responsive, supportive, structured, and affectively stimulating environment in early childhood contributes to children's feeling of self-worth, empathic involvement with others, social competence, self-confidence, curiosity, and positive affective expression (Elicker et al., 1992; Englund, Levy, Hyson, & Sroufe, 2000; Sroufe, 1983; Sroufe, Schork, Motti, Lawroski, & LaFreniere, 1984). For example, in Farber and Egeland's (1987) study of maltreated children, maternal sensitivity emerged as the only significant discriminator between secure and insecure attachments among maltreated infants. Similarly, mothers who were maltreated in childhood and who broke the cycle of violence when rearing their own children reported a history of available care by an alternative parental figure. In contrast, mothers with histories of abuse who grew up to mistreat their own children did not report a positive history of alternate care (Egeland, Jacobvitz, & Sroufe, 1988).

We argue that the core of a developmental history of positive adaptation is a sensitive and emotionally responsive early caregiving relationship. These exchanges foster the development of children's positive expectations of the social world, and of their self-concepts as potent agents of change within that world. It is within a framework of available care and positive self-regard that the child develops adaptive emotion regulation patterns, flexible problem-solving skills, and an expectation of success in the face of adversity. Research suggests that not only is regulation of emotion "practiced" in early dyadic exchanges, but also that such exchanges are vital for the tuning of excitatory and inhibitory systems in the brain itself (Shore, 1994). Thus, competent adaptation in early childhood, particularly with respect to the parent-child relationship, is a prime target for prevention and intervention

efforts aimed at fostering the process of resilience among economically and/or psychosocially disadvantaged youth.

#### IMPLICATIONS FOR PREVENTION AND INTERVENTION

Prevention and intervention programs are putative tools for preventing developmental deviations from adaptive pathways *and* for righting developmentally misguided pathways. Several features of the organizational model of development support the assertion that these efforts should originate in early childhood (Egeland, Weinfield, Bosquet, & Cheng, 2000; Ramey & Ramey, 1998). First, early experience is a salient influence on later adaptation. Second, it is easier to precipitate desistance on a newly emerging pattern of maladaptation than it is to alter a deeply ingrained pattern of behavior. Finally, preventing derailment from a positive adaptive pathway is more effective than attempting to reroute a child once she or he has embarked on a maladaptive trajectory. In addition, recent advances in neurodevelopment and neural plasticity further support the disproportionate salience of early experience for behavioral and neurological development (Dawson, Ashman, & Carver, 2000).

Prevention and intervention programs targeting families living in poverty have typically focused on either children *or* parents. More recently, programs for disadvantaged families have been broadened to include both parents *and* children in *two-generation programs* (Smith, 1995). Many of these programs involve home visitation and have been patterned after the work of David Olds's Nurse Home Visitation Program (Olds, Henderson, Tatelbaum, & Chamberlin, 1988). These programs have many goals, including the promotion of good parenting skills, the prevention of child abuse, and the promotion of healthy child development. However, relatively few programs aim to improve the quality of the parent-child relationship, particularly with respect to the parent-child attachment relationship.

In our view of resilience as a process, the successful negotiation of early developmental issues (i.e., secure parent-child attachment in infancy) provides the foundation for positive adaptation among children exposed to adversity. Therefore, we believe that prevention and intervention programs designed to promote resilience need to begin in the early years and should involve attachment-oriented interventions. Programs aimed at fostering secure parent-infant attachment relationships are varied, with specific programs emphasizing different antecedents of a secure attachment (see Egeland et al., 2000, for review).

Perhaps the most commonly used approach attempts to alter the negative beliefs, mental representations, and expectations that the parent carries over into the caregiving situation from her or his own childhood experiences (Egeland et al., 2000). Selma Fraiberg was one of the first to talk about early experience and its impact on parenting in the next generation, calling these unrecognized influences of early experiences *ghosts in the nursery* (Fraiberg, Adelson, & Shapiro, 1980). Fraiberg developed a set of intervention strategies based on psychodynamic principles. Since then, infant-parent psychotherapy has been used with some success to promote secure attachment and attachment-related behavior (i.e., maternal empathy, goal-directed partnerships; Barnard et al., 1988; Cicchetti, Toth, & Rogosch, 1999; Egeland & Erickson, 1993; Lieberman, Weston, & Pawl, 1991).

A second approach to attachment-based intervention aims to enhance parental sensitivity. Using a sample of irritable infants, van den Boom (1995) developed a short-term intervention that focused on mothers' attention to, and perception of, their infants' signals. Mothers who participated in the intervention were more sensitive to their infants' cues and had a greater number of securely attached infants compared to the control group. Finally, approaches aimed at reducing maternal depressive symptomatology (Cooper & Murray, 1997; Lyons-Ruth, Connell, & Grunebaum, 1990) and providing social support (Beckwith, 1988) have had a positive impact on a number of parenting variables, though they have had limited success with respect to differences in attachment security between treatment and control groups.

In a recent review of the literature in this area, we concluded that existing attachment interventions for high-risk poverty samples do not yield significant changes in attachment classification (Egeland et al., 2000). Parents in high-risk samples are often dealing with multiple challenges in their lives that need to be addressed before they can devote themselves to improving their relationship with their infants. Many parents living in poverty struggle to ensure basic shelter, nutrition, and safety for their families; poor parents are often young and single, lack social support, and suffer from the emotional scars of their own troubled childhood. Therefore, comprehensive and successful intervention efforts aimed at disadvantaged youth and their families should target the parent-child attachment relationship in the context of a family-focused, multipronged, interdisciplinary program (Black & Krishnakumar, 1998; Rolf & Johnson, 1999; Schorr, 1988).

Just as risk research has emphasized the multiplicative salience of several concomitant risks, so, too, has intervention research begun to recognize the powerful effect of providing children with multiple protective resources to foster competence across several domains. A cumulative model of positive influence (Bradley et al., 1994; Jessor, Turbin, & Costa, 1998; Zaslow et al., 1999) supports interventions that strive to ameliorate multiple risks while promoting successful adaptation in several settings (Coie et al., 1993; Masten & Wright, 1998; Wyman et al., 2000; Yoshikawa, 1994). It is essential that the varied needs of the high-risk family be addressed in order for parents to participate fully in and benefit from a relationship-based program. Ideally, a parent intervention program serving high-risk families should include medical, mental health, social, and chemical dependency services, as well as flexibility within the program itself to meet the unique needs of each family (Egeland et al., 2000).

In addition to a comprehensive approach, it is imperative that prevention and intervention efforts aimed at poor families adopt an empowerment model in order to optimize responsiveness and openness to intervention and to attenuate the demoralization that poverty precipitates. Programs that incorporate culturally congruent values and norms will be more readily accepted, utilized, and integrated into the community structure (Black & Krishnakumar, 1998). Successful prevention and intervention programs will focus not only on deficits in need of restorative attention, but also on the child's, family's, and community's intact or better-developed resources that may enable the development of compensatory abilities (Luthar & Cicchetti, 2000; Masterpasqua, 1989; Werner, 1990). Adopting a strengths-oriented perspective, these programs should include local community leaders and culturally specific resources (e.g., extended kinship networks and religious organizations; Luthar & Cicchetti, 2000; Rolf & Johnson, 1999). Finally, an empowerment model recognizes the veridical challenges of rearing children in poverty and validates the impact of social constructions of gender and race on impoverished families, which are led predominantly by single, often minority, women.

#### CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

Working within an organizational model of development, we have argued that the successful negotiation of early developmental issues provides a foundation for the process of resilience among disadvantaged youth. This process originates in early transactional exchanges between

the child and her or his caregiver that scaffold the child's developing capacities for adaptive emotion regulation, social engagement, and positive expectations of the social world and of the self. We suggest that prevention and intervention programs aimed at developing strong, supportive, responsive, and successful early parent-child relationships are critical to fostering the process of resilience in high-risk populations. Moreover, such efforts should begin early and should be offered in the context of a multipronged, support-based intervention program. Finally, given that evaluations of developmentally sensitive intervention efforts can serve to confirm or disconfirm our hypotheses about developmental processes (Cicchetti & Toth, 1992), we encourage the pursuit of carefully executed evaluation research aimed at ascertaining the features of relationship-based interventions that appear to be most efficacious.

A history of adaptive negotiation of salient developmental issues endows children with the capacity to adaptively engage psychosocial stressors. Resilience, then, is not an outcome in and of itself. Rather, it is a dynamic developmental process that enables children to achieve positive adaptation despite prior or concomitant adversity. Therefore, resilience cannot be dissociated from the child's developmental history, nor can it be studied independently of the child's current developmental context. Only by understanding the salient features of a child's developmental history and her or his psychosocial context can we begin to develop and implement effective prevention and intervention programs that foster the raising of successfully adapting youth within at-risk populations.

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## Poverty and Early Childhood Adjustment

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Childhood poverty appears to be an enduring and entrenched problem, resistant to most social and economic policies intended to lift families above the poverty line. Although rates of poverty among families of pre-school-age children initially declined during the 1960s, when anti-poverty programs directed at children and families were initiated, rates rose throughout the 1970s and 1980s and leveled off in the 1990s, with the consequence that young children continue to experience poverty at alarmingly high rates. In fact, in 1999 about one in five infants and preschool-age children in the United States lived in families whose incomes fell below the poverty threshold (U.S. Census Bureau, 2000a). Poverty is considered a pervasive and nonspecific stressor, rather than a bounded one, because it negatively affects many aspects of individual and family functioning; yet at the same time, many impoverished children are positively adjusted (Garmezy, 1991; Luthar, 1999; Werner & Smith, 1992). How is it that some children are vulnerable to the effects of poverty, whereas others demonstrate positive adjustment (i.e., resilience)? Attempts to answer this question are at the core of this chapter. Our primary objective is twofold: to summarize findings from relevant literatures regarding factors associated with better or worse adjustment

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