Human Development in Societal Context

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Abstract
Low family socioeconomic position is a net of related conditions—low income, material deprivation, single-parent family structure, low educational level, minority ethnic group membership, and immigrant status. According to ecological theory, proximal contexts experienced by children, including family, material resources, out-of-school experiences, schools, neighborhoods, and peers, are mediators of poverty effects. Developmental timing of exposure to poverty conditions and the processes by which effects occur differ for cognitive and social domains of development. Understanding how contexts combine and interact is as important as understanding their independent influences. Effects may be cumulative, but advantages in one context can also ameliorate disadvantages in others. Although research is typically based on unidirectional causal models, the relations between the developing child and the contexts he or she experiences are reciprocal and transactional. Finally, although income inequality has increased greatly, little is known about the influences of relative poverty and social inequality on human development.
INTRODUCTION

Our national ideology portrays the United States as a land of opportunity where anyone can achieve success, wealth, and power regardless of family heritage or early circumstances. We deny strong influences of social context and structure, touting instead personal qualities as the major determinants of success or failure. These views are reflected in our economic and social policies, which rest on the assumption that individuals bear the primary responsibility for their own poverty or wealth and their own success or failure. Of course, this national myth has never been entirely correct. Family education, position, wealth, and having white Anglo-Saxon ancestry have always conferred advantages, but their importance has become more salient over the past generation or two in part because social inequality based on income, ethnic group, and education has increased in the United States and to a lesser extent in other western democracies since the 1970s (Neckerman 2004).

In this review, we take family socioeconomic position as a point of departure to understand how some societal contexts set the conditions for children’s development. Poverty and social disadvantage are not literally contexts, but are “social addresses” (Bronfenbrenner 1989) that signal or summarize a set of correlated contexts and experiences. Poverty is not simply low income or absence of material goods; it is part of an interrelated net of circumstances that can include single-parent families, low levels of education, and belonging to a minority or immigrant group.

We begin with a conceptual framework based on an ecological theory of human development, then proceed to three major sections of the review examining (a) the societal contexts associated with poverty for children in the twenty-first century; (b) the relations of these contexts to children’s development, using both naturalistic research and studies of public policies; and (c) the proximal processes that mediate the relations of these contexts to development. Most of the research discussed is based on United States populations, but some international comparisons are included.

DEFINITIONS AND CONCEPTUAL FRAMEWORKS

An ecological model incorporating the relations among personal characteristics, proximal processes, context, and time is used to frame our understanding of the relations of poverty to children’s development. Human development is defined as “change during the life course in enduring patterns of behavior or perception.
resulting from the interplay of biological characteristics of the person and the environment” (Bronfenbrenner & Crouter 1983, p. 359). The child is embedded in an expanding set of contexts as illustrated in Figure 1. An environmental context is “any event or condition outside the organism that affects or is affected by a person’s development” (Bronfenbrenner & Crouter 1983, p. 359). The model is dynamic, including contexts with which children have direct contact (microsystems) and those that affect development indirectly (exosystems and macrosystems) (Bronfenbrenner & Morris 1998, 2006). Using this ecological perspective, we make context the anchor point of our analysis, organizing the discussion around person variables, processes, and time as they relate to the contexts of interest (see Eamon 2001a for similar analysis).

As noted above, poverty is often part of a net of correlated social address characteristics, including single-mother family structure, low parent education, minority ethnic group membership, and immigrant status. These in turn affect the contexts surrounding the child within and outside the home. A large literature showing that family environment and parenting mediate some of the effects of socioeconomic status (SES) on children has been well reviewed in this publication (Bradley & Corwyn 2002, Conger & Donnellan 2007). As Eamon (2001a) pointed out, “Theories of the effects of poverty on proximal processes in the microsystem of the family have the most research support, but processes in other microsystems such as the peer group and school and in other levels of the ecological environment may also explain the relation between economic deprivation and children’s socioemotional functioning” (p. 256). Following this suggestion, we give particular attention to proximal contexts beyond parenting, including material hardship, child care, schooling, neighborhoods, and peer groups.

Lack of space precludes extensive review of person-by-context interactions, but we do examine age differences and the developmental timing of exposure to contexts of poverty. We acknowledge that biological and genetic characteristics of individuals may contribute to the variations in development associated with the social addresses we are studying, but a thorough consideration of these topics is beyond the scope of this review (see Lerner 2003 for discussion of these issues).

Some researchers have tried to parse the conditions correlated with poverty in order to identify the effects of one component (e.g., income or family structure) independently of the others. We argue here that understanding how contexts combine and interact is equally important. Two hypotheses describe how the effects of contexts may combine. One approach is akin to cumulative disadvantage theories (e.g., Sameroff & Seifer 1995), considering the combined effects of contexts as greater than the sum of their individual components. According to this hypothesis, the advantages or disadvantages conferred by the multiple settings and contexts of poverty are cumulative and often multiplicative, leading to larger effects than would be predicted from a simple additive model. Alternatively, their relations may be compensatory or interactive. Advantages in one context may compensate for disadvantages in another, or combinations of components may lead to different contextual environments for children. For example, poverty in immigrant families may co-occur with different family processes and have different effects on children than poverty in native-born families partly because such families have different types of social capital (Fuligni & Yoshikawa 2003). Moreover, immigrants differ considerably in patterns of achievement and assimilation into their adopted countries, suggesting the importance of a range of cultural values, social supports, and prior experiences.

Much of the research on poverty and SES is based on unidirectional causal models, in part because their goal is to identify contexts that can be changed through intervention, but models incorporating reciprocal interaction of persons and environments are more consistent with ecological theory. “Development takes place through increasingly complex processes in which an active organism interacts with persons, objects, and symbols in its immediate environment.”

Environmental context: any external event or condition that affects or is affected by a person’s development

SES: socioeconomic status

Social capital: results from children’s interactions and relationships with parents and other people
Social exclusion: inequalities in basic living, family economic participation, housing, health, education, public space, social participation, and subjective experience of social exclusion

(Social exclusion: inequalities in basic living, family economic participation, housing, health, education, public space, social participation, and subjective experience of social exclusion) (Bronfenbrenner & Morris 1998, p. 797). That is, the relations of individuals to contexts are transactional. Patterns of children’s behavior that result from the contexts of poverty may in turn affect those contexts through eliciting responses from others; for example, a small advantage in language development may lead adults to verbalize to the child, further expanding the child’s language repertoire. As children get older, they actively select environments (e.g., play activities, peers) that in turn cultivate particular patterns of skills and behavior (Scarr & McCartney 1983). Almost all of the literature investigating poverty effects is based on a unidirectional model, but we note transactional processes where possible.

Poverty is typically defined by absolute levels of resources, but individuals may also be affected by relative poverty—that is, by how their circumstances compare to others around them. For example, absolute levels of material deprivation in many developing countries are vastly worse than those in economically developed countries, but relative poverty in any country matters because individuals compare themselves to the expectations in their own society. Relative poverty may have more influence in the United States than in European countries because there are fewer cash supports and social services to reduce inequality of resources between rich and poor. Although psychological theories of relative deprivation have been in existence for many years, little or no research on poverty has used them as a framework. There has been considerable attention, however, to economic inequality, largely because it gives rise to social inequality in many domains including family life, education, neighborhoods, and housing (Neckerman 2004). Social exclusion, a related concept used widely in European policy discussions, includes inequalities in basic living, family economic participation, housing, health, education, public space, and social participation, as well as the subjective experience of social exclusion (Kahn & Kamerman 2002).

In summary, several themes guide our analysis: (a) poverty is defined by an interrelated set of characteristics beyond low income and lack of material goods; (b) developmental change and developmental timing of exposure to contexts are of particular importance; (c) the effects of social address characteristics are mediated by proximal contexts and processes; (d) understanding how contexts combine is as important as understanding their individual effects; (e) the relations between the developing child and the contexts he or she experiences are reciprocal and transactional; and (f) relative as well as absolute levels of resources may define important features of poverty.

SOCIAL ADDRESS VARIATIONS IN THE UNITED STATES

Family economic status, family structure, parents’ educational levels, and ethnic group are not only correlated in the population; they are also causally interrelated in the sense that they affect one another. For example, low education limits earning potential; single-mother family structure limits family income; discrimination limits economic opportunities for minority ethnic groups; poverty limits educational opportunity. The broad concept of socioeconomic status reflects the interrelations of socioeconomic status and single-mother family structure are now well established as important correlates for understanding SES influences on children.

Income and Wealth

Poverty. The U.S. government publishes poverty thresholds, adjusted for family size and for annual changes in the Consumer Price Index, that are intended to define the minimum income necessary for basic essentials. Because this index has been widely criticized, several alternatives have been proposed. The Baseline Basic Budget poverty definition (Hernandez et al. 2008) was created using recommendations from a National Research Council review of the poverty threshold (Citro & Michael 1995). Another index used for most international comparisons sets poverty at 50% of the national median income. A number of scholars use 200%
of the poverty threshold, describing families between 100% and 200% of the threshold as low-income (e.g., Sawhill 2003). In 2008, the poverty threshold was $21,834 for a family of four; twice that level would be $43,668.

Although poverty rates vary annually, they have remained stubbornly high in the United States. The official poverty rate for children has fluctuated since the early 1980s; it reached a high of 22% in 1993 and decreased to 16% in 2000. In 2007, 18% of children in the United States lived in families with incomes below the poverty threshold, but rates were higher for children under age 6 (20%). Similarly, the percentage of children living below 200% of poverty has remained relatively steady, ranging from 38% to 42% (National Center for Children in Poverty 2009). Although one might expect the percentages to increase with economic downturns, there is not a one-to-one correspondence because wages and employment at the bottom of the income scale do not always follow improvements in the economy overall.

**Income inequality.** Increasing income inequality—the gap between the highest and lowest incomes within a society—may be as important as absolute levels of income or poverty (Blank et al. 2006). Income inequality has been increasing worldwide, but the discrepancy between rich and poor is greater in the United States than in most other countries (Rainwater & Smeeding 2003). From 1980 through 2005, the number of U.S. children living in middle-income (200%–399% of poverty threshold) families declined from 41% to 32%. At the same time, the percentage of children living in families with high income (more than 400% of poverty) was higher in 2005, at 30%, than in 1980, at 17%, and the percentage in very-high-income (600%+) families went from 4% to 14% (Federal Interagency Forum on Child and Family Statistics 2008). Inequality in wealth is greater than that in income. As of the early 2000s, the top 10% of the income distribution held 68% of the wealth, and the top 1% had 34% of the wealth (Scholtz & Levine 2004).

**Conditions Correlated with Poverty**

Single-mother families, people with low education, members of certain minority ethnic groups (e.g., African Americans, Latinos, and American Indians), and immigrants are more likely to be poor than their counterparts, and all of these statuses are correlated with one another, though not perfectly.

**Family structure.** About 38% of U.S. children are born to unmarried mothers; the rate for African Americans is 60%. Single-mother families are much more likely to be poor than two-parent married families. In 2006, children living in families headed by a female with no husband present experienced a poverty rate of 42% compared to 8% for children living in married-couple families. About half of the children in African American and Hispanic single-mother families lived in poverty (Federal Interagency on Child and Family Statistics 2008).

**Low levels of education and educational inequality.** Education has become increasingly important for earnings, with wages stagnating or dropping at the low-skill end of the continuum. From 1979 to 2004, real wages and employment rates of men with less than a high school education declined; wages remained steady for high school graduates, and they increased for those with more than a high school education. Wage declines were especially severe for African American men. Although employment rates for women increased among all educational groups, wages dropped slightly for high school drop-outs; wages for women with higher education increased more than for those with lower levels of education (Blank et al. 2006). All of these trends have magnified the advantages of higher education and the disadvantage associated with low education.

Given this context, inequality of educational opportunity is especially disturbing. From the earliest years through higher education, children from low-income families have less access to high-quality educational experiences than do
Financial capital: material and economic resources

those from high-income families. Inequality is greatest at the beginning and end of the typical educational career—in preschool and post high school, when private means are especially important (Kane 2004). For example, the wealthiest 20% of American families spend almost five times as much for preschool as the poorest 20%, and wealthy families are more likely to use regulated child care (Meyers et al. 2004). On the other hand, inequality in public expenditures on K–12 schooling has declined, largely because of court cases requiring states to distribute funds equitably across geographic areas. Nevertheless, public expenditures in the richest 5% of schools are still double those in the poorest 5% (Neckerman 2004).

African American and Hispanic children. Over one-third of U.S. children are African American (15%) or Hispanic (21%). Despite some increases in opportunity for underrepresented minorities, the rates of poverty among families of African American and Hispanic children are much higher than those for non-Hispanic White children. In 2006, 10% of White, non-Hispanic children lived in poverty, compared with 33% of Black children and 27% of Hispanic children (Federal Interagency Forum on Child and Family Statistics 2008). African American children are especially likely to live in chronic rather than transitory poverty because their families have fewer resources on which to fall back in difficult times (McLoyd 1998). The rates of poverty vary for different Latino groups partly because of variations in educational attainment, language fluency, and cultural background. People from Mexico are more likely to be poor than those from Guatemala and El Salvador; people from South America have relatively low poverty rates, probably because of better parent education. Poverty is high among Puerto Ricans despite the fact that they are U.S. citizens (Sullivan et al. 2008).

Immigrant children. Almost one-fourth of U.S. children live in an immigrant family, broadly defined as a family with at least one parent who was not born in the United States (Hernandez et al. 2008). Immigrant children are somewhat more likely to live in low-income, two-parent homes than are children born to natives. In 2007, 21% of children in immigrant families lived below the poverty threshold compared to 17% of native-born children, and 49% lived in low-income families compared to 36% of native-born children (Annie E. Casey Foundation 2009). Immigrant children are more likely than native-born children to live with two parents (84% versus 76%) (Hernandez et al. 2008), but are also more likely to face barriers resulting from parents’ linguistic isolation and low levels of education. In 2007, 26% of their parents did not have a high school education, and 27% lived in households experiencing high linguistic isolation, which is one form of social exclusion (Annie E. Casey Foundation 2009). Twenty percent of school-age children spoke a language other than English at home, and five percent had difficulty speaking English (Federal Interagency on Child and Family Statistics 2008).

Some socioeconomic indicators of poverty may operate differently for immigrant families than for native-born families. For instance, immigrants with low education levels may have high levels compared to the average person in their country of origin, and high levels of education in their native countries may not qualify them for equivalent income or social status in the United States. Immigrant parents’ income may not be a good indicator of family resources because household income is generated by other family members, including children and grandparents, and because many families send substantial amounts of money back to their home countries. Although immigrant families may have lower levels of human and financial capital than do native-born families, the greater prevalence of two-parent families and supportive communities may offer social capital that ameliorates the effects of poverty on children’s skills and trajectories (Fuligni & Yoshikawa 2003).
Contexts of Poverty

In summary, child poverty in the United States often, but not always, occurs in families with single mothers, among parents with low levels of education, in families of color, and among some immigrant groups. Across many groups, poverty and low educational attainment appear to be integrally associated (Blank et al. 2006). For example, increased poverty rates in immigrant families from 1970 to the late 1990s occurred disproportionately among children of parents with lower levels of education, but were not greater among racial/ethnic minorities (Van Hook et al. 2004). On the other hand, language barriers are more common among Hispanic and immigrant families than among other poor families. Single-mother family structures are especially prevalent for African American, and to a lesser extent, for Hispanic poor families, but are relatively infrequent among immigrant families.

In a recent review of family structure and income inequality, McLanahan & Percheski (2008) argue for a complex interaction such that “increases in income inequality may lead to increases in single motherhood, particularly among less educated women. Single motherhood in turn decreases intergenerational economic mobility by affecting children’s material resources and the parenting they experience. Because of the unequal distribution of family structure by race and the negative effects of single motherhood, family structure changes exacerbate racial inequalities” (p. 257). This view implies that the net of correlates surrounding poverty may become tighter over time, especially as the inequalities associated with education become more pronounced.

INCOME/POVERTY AND CHILDREN’S DEVELOPMENT

Children growing up in poverty are at a disadvantage in almost every domain of development; the disadvantage is more severe for children living in chronic poverty than for those whose family poverty is transitory (Duncan & Brooks-Gunn 2000). Because so many characteristics are associated with poverty, much of the research in the past several years has been devoted to disaggregating the effects of different components of poverty. Specifically, investigators have asked: Are the effects of poverty due to income per se, or are they primarily a result of the correlated conditions involved in low SES—single-parent family structure, low parent education, or ethnic minority status? Family structure and income have received the most attention, probably because they can be modified by policy more readily than education or ethnic group. It is possible, and even likely, however, that the contributions of these correlated conditions cannot be completely disaggregated because their effects are cumulative or interactive. For example, the effects of low income among African Americans may be exacerbated by societal discrimination, isolation in high-poverty neighborhoods, and high rates of single-mother families.

A related set of issues revolves around social causation versus social selection. According to social causation theories, social and structural conditions cause poverty and its sequellae, including children’s physical, intellectual, and social development. Social selection theorists propose that individual characteristics based in genetics, personality, motivation, or other unknown factors select people into poverty and also affect their children’s development. Conger & Donnellan (2007) recently argued for an interactionist perspective incorporating both social causation and social selection—a point of view akin to a transactional model—but most empirical research has been designed to test a unidirectional social causation model, using a range of methods to identify the causal effects of poverty net of selection bias. This research, described in the following section, provides modest support for a causal effect of poverty on children’s development. Obviously, these data do not exclude the possibility that selection also occurs.
Income Effects

Economists have been especially interested in determining the causal effects of income that are independent of correlated social conditions as well any individual personality characteristics, abilities, and motivations that may select people into poverty or low SES. Using a range of methods to control for selection effects and omitted variables bias, Mayer (1997) and Blau (1999) both concluded that income had a small effect on a range of outcomes for children. Because almost all investigations agree that income has greater effects at the lower ranges, linear models may underestimate its effects. For example, in analyses of a large longitudinal dataset using sibling comparisons to control for family characteristics, the effects of income variation on educational attainment were much greater at the lower end of the income distribution than at other points on the distribution (Duncan et al. 1998). The association of income with psychological adjustment may be curvilinear, with children in the middle faring best. One investigator has found some evidence that children living in very-high-income families have more problems of psychological adjustment than do those in middle-income families (Luthar 2003).

Most of the research by economists and sociologists investigates such distal adolescent events as educational attainment, early pregnancy, and dropping out of school. In two analyses of young children’s development over the first six years of life, income changes within families predicted concurrent changes in children’s cognitive performance and social behavior, primarily for families living in or near poverty (Dearing et al. 2001, 2006). Within-family changes are less subject to selection bias than between-family comparisons, though it is still possible that unobserved characteristics of parents affect both income changes and children’s behavior.

Experiments are usually considered the best method for establishing causal relations. In the late 1960s and early 1970s, four “income maintenance” experiments were designed to test the effects of a guaranteed minimum income offered through a “negative income tax” that provided refunds to poor families. Thousands of adults with children in several parts of the country were randomly assigned to receive refunds or to a control group (Rossi & Lyall 1978). Unfortunately, minimal information was collected about children in the participating families because the major purpose was to learn whether adults would reduce their work effort. There were, however, some positive effects on school attendance and achievement for elementary-school-age children as well as scattered effects on nutrition and the percent of children born with low birth weight (Salkind & Haskins 1982).

A second wave of policy experiments tested variations in welfare policy designed to move low-income single mothers into employment. Some policies offered earnings supplements that raised total income for employed participants. In the absence of earnings supplements, income did not increase when people moved from receiving welfare to earning a paycheck. Young children’s school achievement improved when their families participated in policies offering earnings supplements (i.e., when family income increased), but did not improve when no earnings supplements were provided (i.e., when family income remained unchanged). Because each policy had multiple components, a two-stage regression technique was used to isolate the effects of income from other policy features; income accounted for a significant portion of the improvement in children’s achievement (Morris et al. 2009). Nonexperimental longitudinal studies of transitions from welfare to work are consistent with these findings, showing little effect on children or on income (Chase-Lansdale et al. 2003, Kalil & Dunifon 2007). In sum, when single mothers move from welfare to work, their children benefit only if income increases along with employment.

The effects of income changes that did not result from parent employment were evaluated in a natural experiment in a rural community when a casino opened on an Indian
reservation, providing every American Indian with an income supplement that increased annually. Indian children whose families were lifted out of poverty after the casino opened showed reductions in conduct and oppositional defiant disorders, but there were no effects on anxiety and depression. Similar decreases in symptoms occurred for non-Indian children whose families moved out of poverty, suggesting that income changes resulting from factors other than the casino could account for the results (Costello et al. 2003).

In sum, both naturalistic and experimental research supports the hypothesis that family income positively influences children's school achievement and social emotional development, at least at the lower ranges of income. Small increments that move families out of poverty produce modest improvements for children.

Developmental Timing and Developmental Domain

Poverty during early and middle childhood appears to have greater effects on achievement and educational trajectories than does poverty in adolescence. In analyses of two nationally representative longitudinal studies, family income during the period from birth through age five predicted educational attainment and achievement better than income after age five (Duncan et al. 1998, Votruba-Drzal 2006). Similarly, in the welfare policy experiments, positive effects on children's achievement were greatest for those who were three to five years old when their parents entered the program; in fact, there were some negative effects for those in early adolescence (ages 11–13) when their parents entered the programs (Morris et al. 2005).

For social and deviant behavior, however, the developmental timing of poverty appears to be less important. Poverty in both early and middle childhood predicted children's behavior problems in a longitudinal analysis of a nationally representative sample (Votruba-Drzal 2006). In another comparison of children experiencing poverty from birth to age three with those whose families were poor from ages four to nine, behavior problems were slightly more common among those in the later poverty group; children in poverty in both age periods had higher rates of problems still (NICHD Early Child Care Research Network 2005). Similarly, examining poverty across the elementary years, Ackerman et al. (2004) found a slight tendency for more recent poverty to predict behavior problems in fifth grade. Concurrent income during adolescence was related to nonmarital childbearing, even with controls for income in earlier time periods (Duncan et al. 1998).

In short, early poverty appears to be especially damaging to children's achievement trajectories and school careers, but both early and later poverty appear to affect such behaviors as externalizing problems and nonmarital child bearing. These developmental patterns suggest that different pathways may link family income to different developmental domains. There is some preliminary evidence, for example, that the conditions of poverty affect neuropsychological processes involved in self-regulation that may be especially vulnerable in the early years (Noble et al. 2007). We consider the proximal mediators of these differences by developmental level and developmental domain in a later section.

Disaggregating Income from Other Aspects of Poverty

Family structure and stability. Efforts to disaggregate the effects of income from those of family structure indicate that each is important, but that income may be somewhat more important for educational attainment, and family structure may have more influence on behavior problems. One review of several early studies suggests that about half of the income gap in school completion between children with
Human capital: persons’ skills and abilities. Typically defined as parents’ educational level as well as the time parents spend with children.

Single and married parents can be attributed to income, but that family structure accounts for more of the variation in adolescent pregnancy (McLanahan 1997), a conclusion that is supported by the finding that “father absence” puts girls at special risk for early pregnancy and sexual behavior (Ellis et al. 2003). In another analysis, children’s educational attainment was higher when they lived in the same nuclear family from birth to 18 than in single-mother or blended families; the difference was largely accounted for by differences in income (Ginther & Pollack 2004).

Family structure is confounded with family instability. Single-mother families are more likely than married couples to have unstable family structures as a result of changes in resident and marital partners. Changes in family structure during the preschool years predicted children’s behavior problems at both first and fifth grades, even with controls for income and family structure at birth in one longitudinal study (Cavanagh & Huston 2008). In another analysis, increases in income during the period from age two through first grade predicted reduced behavior problems, but only at times when mothers lived with a partner. When mothers were single, changes in income had no relation to children’s behavior problems (Dearing et al. 2006). Temporal changes and instability in family processes partly accounted for the effects of income on cognitive-linguistic development and fully accounted for income effects on social behavior (Mistry et al. 2004). Finally, the rates of educational and social problems for children in stepfamilies are similar to those for children in single-mother families, even though the stepfamilies have considerably higher incomes (Ginther & Pollack 2004, McLanahan 1997). In short, there is evidence that not only family structure but also family stability is important for children’s cognitive development and especially for their social development. One implication of this pattern is that a stable single-mother family may support development better than one in which partners come and go.

Parent educational attainment. Parents’ low levels of educational attainment are another strand in the web of poverty. Although parent education is one of the best predictors of children’s intellectual functioning, it is hopelessly confounded with other parent and child characteristics and with other features of poverty. Nevertheless, a few recent studies provide evidence that increases in education, at least for mothers with low initial educational attainment, may lead to slight improvements in children’s intellectual performance. In one policy experiment, the National Evaluation of Welfare to Work Study, single mothers were assigned to a Human Capital condition offering opportunities for limited amounts of education or to a Labor Force Attachment condition requiring participants to search for work immediately. The control group remained eligible for cash welfare. Using a two-stage regression procedure, the investigators demonstrated a modest effect of parents’ educational gains on children’s performance on achievement tests (Gennetian et al. 2008). Similarly, in a longitudinal study of young children, increases in maternal education between the time children were two and three years old predicted improvements in children’s language performance at age three, but only for mothers with no initial post–high school training (Magnuson et al. 2009).

Variations by race/ethnic group. By the time children enter school, African American and Hispanic children receive lower average scores on measures of cognitive development, school readiness, and achievement than do non-Hispanic White children. In a recent review of approaches to closing these racial and ethnic gaps, the editors concluded that increasing income and parental education would have only modest effects; direct intervention in the form of early childhood education appears to be a more promising approach (Rouse et al. 2005). There is some evidence that chronic poverty has more negative effects on behavior and emotional problems of White children than of African American children, partly
because there is a strong association among Whites between poverty and mother's prior history of delinquency and current marital status. For Hispanic children, mothers' psychological resources were the strongest mediator between persistent poverty and child problems (McLeod & Nonnemaker 2000).

**Immigrant children.** Despite the fact that recent immigrants have relatively high rates of poverty, first generation children—children born in the United States whose parents immigrated into the country—have better educational performance and attainment than do children from later generations—a phenomenon described as the “immigrant paradox.” Selection and acculturation may partially account for this anomaly as mothers of first-generation children have higher levels of education than do mothers of the later-generation children. Longer exposure to experiences of discrimination, poor-quality schools, few educational and employment opportunities, as well as changes in beliefs, attitudes, and behaviors may also be reasons for the paradox (Palacios et al. 2008).

**Cumulative Effects of Poverty Components**

Theories of cumulative advantage or disadvantage are based on the assumption that the influences of various components of poverty depend more on the number of sources of disadvantage than on any one factor (Sameroff & Seifer 1995). Sources may be additive, but most of these theories consider them multiplicative, such that combinations of factors have greater effects than the sum of their components. Cumulative theories are based on the assumption that combinations of income, family structure, parent education, and ethnic minority status, for example, have greater impact than the sum of their individual contributions, and that the number of disadvantages is more important than the particular type of disadvantage.

This approach is implicit in an analysis attempting to explain racial and ethnic gaps in achievement. In a nationally representative study of school-age children, an SES index combining income, single-family structure, parent education, and a number of contextual and personal characteristics accounted for about half a standard deviation of the gap in the reading and math scores of African American and Hispanic children compared to non-Hispanic White children (Duncan & Magnuson 2005). In another analysis of very young children (ages two to three), an SES index composed of maternal education, income, and welfare receipt predicted cognitive performance and children’s behavior problems; maternal education was the strongest component of SES (Mistry et al. 2008a).

Two studies tested the hypothesis that the positive effects of two social policy experiments offering earnings supplements to low-income parents who were employed—the Minnesota Family Investment Program (MFIP) and New Hope—were mediated by changes in cumulative risk or advantage conferred by the policies tested. In one study comparing the two social policy experiments, the cumulative poverty-related risk index had nine components: income poverty, material deprivation, unemployment, welfare receipt, food insufficiency, parental depression, parenting stress, and parental warmth. Both policy approaches reduced cumulative poverty-related risk, and there were significant linear relations of cumulative poverty-related risk to parent-reported child behavior problems and school achievement. Evidence for mediation was less strong, however. Cumulative poverty-related risk partially mediated the impacts of MFIP on children’s behavior problems and of New Hope on school achievement, but in the latter case, only among children of long-term welfare recipients (Gassman-Pines & Yoshikawa 2006).

Walker (2008) created an index of cumulative advantage conferred by the New Hope program that included nonparental care (center-based child care, out-of-school structured activities), home quality (physical conditions of home, family stability, parenting
quality, parent psychological well-being), parental employment (hours, amount, quality), and family earnings (parent earnings). The cumulative environmental advantage produced by the New Hope program partially accounted for improvements in children’s academic achievement, but did not account for the program impacts on children’s academically relevant noncognitive skills (e.g., expectancies of success and classroom study skills).

Relative Versus Absolute Poverty

Virtually all of the available research examining relations of poverty to children’s development uses indicators of absolute levels of poverty. With increasing attention to income inequality and social exclusion, it is disappointing to find almost no attempts to examine inequality or relative poverty as predictors of children’s development. Psychological theories of relative deprivation would lead to the hypothesis that relative poverty would affect developmental trajectories, but the literature testing such ideas is scant. Few investigations include measures of children’s perceptions of their family’s social and economic status, but ethnographic research offers numerous examples of children and adults feeling shame or embarrassment about their housing, clothes, or other conspicuous signs of poverty (Weisner et al. 2006). In the New Hope experiment, a test of a poverty-reduction intervention, parents talked about using additional funds not only to meet material needs (e.g., utility bills, food, and rent), but also for less tangible but important needs (e.g., birthday and Christmas presents for their children or an occasional family meal at a fast-food restaurant). Meeting the less tangible needs was a more important predictor of children’s lowered behavior problems than was the ability to meet material needs (Mistry et al. 2008b).

PROXIMAL CONTEXTS THAT MEDIATE EFFECTS OF POVERTY

Thus far, we have discussed the relations of poverty and its associated social address characteristics to children’s development. We turn now to proximal contexts that mediate the relations of poverty and SES to development, following the hints in the literature that the processes may differ for cognitive and socioemotional development, for children of different ages, and for children in different cultural groups. We group proximal contexts into (a) parents and family, (b) physical conditions (e.g., food, shelter, pollutants), (c) out-of-home settings (e.g., preschool), (d) schools, and (e) neighborhoods and peers. Because all of these contexts differ as a function of poverty and SES, we are particularly interested in understanding their combined and interactive effects.

Although contexts are often conceptualized as separate entities, we take seriously the basic transactional premise of ecological theory that contexts and individuals not only interact but also influence one another. Families are affected not only by schools and neighborhoods, but parents and children also influence the environments in which children live. Many scholars treat this transactional process as a source of selection bias that clouds the ability to detect the causal effects of child care or neighborhoods, for example, on families and on children’s development. Much of the research on family process, for example, is explicitly or implicitly based on a unidirectional causal model in which poverty affects some aspects of parenting, which in turn mediate effects on children. But parents are actors as well as recipients of social influences, making decisions about residence, jobs, schooling, and care settings for their children. These instrumental activities are sometimes described as family management. Parents living in poverty may have fewer options than other parents do, but they make choices among those options, often giving priority to the needs of their children (e.g., Scott et al. 2002). Children’s capabilities and behavior affect parents’ patterns of interaction with them as well as parents’ decisions about such environments as child care and school. Transactional models are more difficult to test empirically than unidirectional models, but they are also probably more accurate.
Family Processes

Family processes and parenting are the primary foci of much of the theory and research investigating how the conditions of poverty are transmitted to children. Two major theories guide this research. In economic or family investment theory, resources available to children are classified as financial, human, and social capital. Financial capital comprises material and economic resources; human capital consists of skills and abilities and is typically defined as parents’ educational level as well as the time parents spend with children; social capital results from children’s interactions and relationships with parents and other people (Foster 2002a). Family stress theories posit economic stress as an influence on parents’ psychological stress, resulting in lowered warmth and increased harshness with children, which in turn leads to poor child adjustment (e.g., McLoyd 1998). An elaboration on the family stress hypothesis incorporating reciprocal relations of family processes and SES appears in Conger and Donnellan (2007).

Both family investment and family stress theories have extensive empirical support that is not reviewed here because of space constraints (for reviews, see Bornstein & Bradley 2003, Bradley & Corwyn 2002, Conger & Donnellan 2007, McLoyd et al. 2006). We limit our discussion to two points. First, different processes appear to be important for different developmental domains. Second, although some processes appear to operate similarly across racial and ethnic groups, there are a few important differences as well.

Cognitive and social development. Based on family investment theory, both human and social capital in the home have been investigated as mediators of material poverty effects on children’s development. In most investigations, these constructs are operationalized as cognitive stimulation, including such activities as reading and educational toys, visits to places in the community, and language interactions with the child. Family stress models by contrast emphasize parental warmth and harsh punishment as likely mediators. Although cognitive stimulation and positive parenting practices tend to co-occur, there is some evidence that cognitive stimulation in the home mediates the effects of family income on children’s intellectual development more strongly and consistently than do parental warmth and punishment. The latter typically mediate poverty effects on behavior problems and psychological adjustment better than do indicators of human and social capital.

Using a nationally representative sample of children ages three to five, Yeung et al. (2002) demonstrated that much of the association between income and children’s reading and math scores was mediated by a stimulating family learning environment. In contrast, family income was associated with children’s behavior problem scores primarily through maternal emotional distress and parenting practices. In another longitudinal study, the relation between modest improvements in maternal education and children’s language development from ages two to three years was partially mediated by improvements in cognitive stimulation in the home (Magnuson et al. 2009). In tests of a large number of potential mediators of poverty effects on children’s reading and math scores in another nationally representative longitudinal study, cognitive stimulation in the home was the strongest mediator of poverty effects; parenting style (warmth) was weaker (Guo & Harris 2000). The effects of neighborhood SES were mediated by the family literacy environment, consistent parenting, and punitive parenting in an analysis of a Canadian longitudinal study. The literacy environment and consistent parenting were the pathways to children’s verbal ability; punitive parenting predicted behavior problems and, more weakly, verbal ability (Kohen et al. 2008).

Racial and ethnic variations. For the most part, similar patterns apply across different racial and ethnic groups as well as for immigrant children. In an analysis of two- and three-year-old children’s development, there
was greater similarity than difference in the processes by which SES was related to immigrant and native children's preschool outcomes. Both language/literacy stimulation and maternal supportiveness mediated the relations of SES to children's cognitive performance; parenting stress mediated the effects of SES on children's aggressive behavior for native-born, but not immigrant, households (Mistry et al. 2008a). Among older children, learning stimulation predicted vocabulary, reading, math, and behavior problems similarly for White, African American, and Hispanic samples, but learning stimulation was less strong as a predictor for behavior problems than for cognitive development (Bradley et al. 2003).

In two analyses of a nationally representative sample of children from kindergarten through fifth grade, poverty and family investment were measured more completely than in earlier studies. Income and material hardship were evaluated separately as indexes of poverty, and the family investment measure included participation in out-of-school structured activities and other activities outside the home as well as cognitive stimulation within the home. Both material hardship and low income predicted lowered family investment and parenting stress. In the overall models, family investment was the major path to children's cognitive development; family stress and lack of positive parenting formed the major path to behavior problems. The models for White, African American, and Hispanic families followed similar patterns, but varied in the strength of the associations among constructs (Gershoff et al. 2007, Raver et al. 2007).

**Income change and parenting.** Although longitudinal studies support the hypothesis that family processes mediate the effects of poverty, there is mixed evidence about whether improvements in income and material well-being translate into changes in parenting practices. In a large sample of single mothers receiving welfare, those who moved into employment, particularly stable employment, had substantial increases in income and psychological well-being, but there were few changes in the quality of parenting or children's home environments over an 18-month period (Coley et al. 2007). Income increases over a four-year period did, however, predict improved cognitive stimulation in children's home environments in another investigation, particularly for low-income households (Votruba-Drzal 2003). In a Michigan sample, mothers who moved from welfare to combining welfare and work decreased in harsh parenting and increased in positive parenting. Although there were concomitant decreases in children's problem behaviors, they were not mediated by parenting (Dunifon et al. 2003).

In experiments testing policies designed to move single mothers into employment, there were mixed effects on mothers' psychological well-being and parenting practices. Even when income and resources increased, participation in the experimental policies increased depressive symptoms for mothers of preschool children. There were no significant effects on parenting and children's behavior. For mothers whose children were school-age, by contrast, programs reduced depressive symptoms, increased parental warmth and cognitive stimulation, and reduced behavior problems (Morris et al. 2009, Walker et al. 2008).

Both the family investment and family stress models posit the direction of influence from parent to child, but there is some evidence for transactional processes. Over the first three years of life, parenting quality mediated the effects of family resources on children's cognitive development, but children's early cognitive performance also contributed to higher parenting quality (Lugo-Gil & Tamis-LeMonda 2008). It appears that children created their parenting environment as well as being influenced by it. This model has implications for early intervention and for the possible mechanisms by which contexts may have cumulative effects. In one analysis, the investigators demonstrated that infants from low-income families who received intensive high-quality child care demonstrated improved language development, which carried over to the home where babies elicited language interactions from adults (Burchinal et al. 1997).
Among preschool and older children, the New Hope policy experiment led to reduced behavior problems, which in turn led to improved parenting control three years later (Epps & Huston 2007).

**Material Deprivation**

Poverty implies material deprivation—food insecurity, unsafe and inadequate housing (or, at the extreme, eviction and homelessness), inability to pay rent and utility bills, and doing without needed health care, all of which have direct impacts on health, cognitive, and social development. Many poor children experience food insecurity in the form of reduced food choices, but a relatively small number (0.6% of the population) have spells of serious food insecurity in which they are hungry and skip meals altogether. Housing problems are frequent among the poor as they often live in physically inadequate and crowded spaces, and high costs lead to frequent moves that can result in changes of neighborhood and schools for children as well as in homelessness (Federal Interagency on Child and Family Statistics 2008).

Indices of material deprivation are correlated with income poverty, particularly near the low end of the income distribution, but the two are not identical (Mayer 1997). Among a sample of low-income single mothers studied over six years, hardships decreased monotonically across quintiles of income, but mothers’ mental health was also related to perceived hardship independently of income (Sullivan et al. 2008). In another sample of single mothers, a shift from welfare to stable employment led to better income as well as to reduced financial strain and food insecurity (Coley et al. 2007). Few investigations of poverty effects on children include indicators of material deprivation separately from family income. One exception is a path analysis showing that both income and material deprivation contributed independently to predicting parents’ investments and positive parenting, which in turn predicted children’s cognitive and social-emotional competence (Gershoff et al. 2007).

The physical environments experienced by children living in poverty pose relatively high risks of air, water, and noise pollution, which can in turn affect children’s health as well as cognitive and social development (Evans 2006, Federal Interagency on Child and Family Statistics 2008). For example, children living in poverty are more likely than nonpoor children to have elevated blood lead levels, particularly if they are African American, and poor children in rural areas have higher exposure to pesticides than do more affluent children. One set of authors estimates that elevated exposure to lead and other pollutants could account for up to one-fourth of a standard deviation in achievement test scores (Dilworth-Bart & Moore 2006).

Finally, the physical and social environments of poverty can produce high levels of stress that require children to expend both cognitive and emotional resources in vigilance and self-protection. The large literatures on cumulative effects of the physical and social environments of poverty and on the relations of physical environmental variables to development are well reviewed by Evans (2006).

**Out-of-Home Settings**

Although families are generally acknowledged to be the most important single contextual influence on children, most children spend time in child care and early education settings during the preschool years and in schools and other out-of-school settings throughout childhood and adolescence. The institutions and social systems surrounding a family can have both direct and indirect effects on children as well as on parents.

**Preschool and child care.** The majority of preschool-aged children spend time in child care and early education settings outside their homes, being cared for by people other than their parents. Intervention programs such as Head Start and high-quality preschools contribute to children’s academic skills and, in some cases, to competent social behavior (Karoly
et al. 2005). It is especially noteworthy, therefore, that children in poor families are likely to receive lower-quality child care than those in more affluent families do and that even programs specifically designed to promote learning for socially disadvantaged children vary in quality by family income.

On average, the child care received by children from low-income families is of lower quality than that received by those from higher-income families (Huston 2004). The one exception is that, in some instances, children in very poor families receive higher-quality care than those in near-poor families, probably because the very poor have access to child care subsidies. In analyses of quality when children were ages two, three, and four-and-a-half in the NICHD Study of Early Child Care, there were U-shaped relations of family income to teacher education and training, but on observational measures of the quality of cognitive and social interactions, quality was lowest for poor children and highest for the affluent (Dowsett et al. 2008). Similar patterns were found in an earlier study of child care centers in several states (Phillips et al. 1994). The U-shaped relation probably also applies at the college level, with youth from very poor families being eligible for more types of financial aid than are those from families that have modest incomes.

Child care centers attended by preschool children offer more opportunities for cognitive stimulation and other aspects of quality than do the unregulated home settings used by low-income families, but the variability within each type of care is quite large (Li Grining & Coley 2006). Nevertheless, three- and four-year-olds from low-income families are less likely than children from higher-income families to be enrolled in organized preschool programs. The disparity is reduced at age five, when many children attend publicly supported kindergartens (Bainbridge et al. 2005). Even among children who are eligible for Head Start, all of whom are economically disadvantaged, those who enroll are somewhat less disadvantaged than those who do not enroll (Foster 2002b).

Pre-kindergarten programs designed to prepare children for school entry are now widespread, and there is good evidence that they contribute to entry-level academic skills (Gormley & Gayer 2005). Observations of 692 classrooms were used to detect patterns of varying emotional and instructional support along with varying teacher characteristics. The poorest-quality profile was associated with classroom poverty level, suggesting that the children who need the highest-quality educational experiences are least likely to receive it (LoCasale-Crouch et al. 2007). Children who did receive sensitive and stimulating interactions with the teacher and high instructional quality performed better on language, preacademic, and social skills at the end of the kindergarten year (Burchinal et al. 2008).

In short, the most disadvantaged children are least likely to attend center-based child care or organized preschools early in their lives, and the programs they do attend are likely to be of lower quality than the programs used by higher-income families. This inequality of exposure to high-quality early education and child care can be juxtaposed against a large body of evidence showing that children from disadvantaged backgrounds can profit from such programs (e.g., Karoly et al. 2005, McLoyd et al. 2006). In one analysis, the authors estimate that an intensive early education program could raise achievement by as much as 0.5 standard deviations (Duncan et al. 2007). Even “ordinary” center-based child care appears to provide a small advantage in cognitive functioning and achievement in comparison to typical home-based child care (NICHD Early Child Care Research Network & Duncan 2003).

Although high-quality programs contribute to intellectual development for children from low-income families, they also promote cognitive development for children from more affluent families. In an analysis of three studies of child care quality, Burchinal et al. (2000) concluded that there was no evidence that quality had larger effects for poor than for non-poor children, although there was some evidence for greater effects on non-White than
on White children. By contrast, children from low-income families benefited from an academically oriented prekindergarten program more than did those from higher-income families (Gormley & Gayer 2005). Some have argued that high-quality early education programs may increase rather than decrease inequality in achievement because more disadvantaged children are less likely to participate. These discussions point out a conundrum in social goals—reducing an income gap may conflict with the goal of helping all children to develop optimally.

**Schools.** Children from low-income families attend schools of lower quality, on average, than do more affluent children. Although reduced, funding disparities continue despite legal requirements for equitable distribution of public support (Books 2004, Neckerman 2004). Overall, children from low-income families attend schools with less-qualified teachers than do more affluent children (Lankford et al. 2002). At a more proximal level, processes within the classroom and the school differ by income. In one longitudinal study, over 1600 first- and third-grade classrooms from diverse regions in the United States were observed. In classrooms attended by children from low-income families, as compared with those attended by children from more affluent families, classroom climate was less positive and supportive, teachers engaged in less high-quality instruction, and teachers spent more time disciplining children. Children in classrooms with a positive climate were more involved in classroom activities and were less disruptive; hence such classrooms offered better learning environments (NICHD Early Child Care Research Network 2006). In a sample of rural African American students, those in classrooms with high levels of organization, rule clarity, and student involvement had relatively low levels of both externalizing and internalizing behavior problems (Brody et al. 2002).

School quality is determined not only by the practices and policies of the adults running the school, but also by the population of students attending it. The overall social class composition of a school predicts the performance and behavior of its students; moreover, school characteristics can to some degree compensate for family SES differences. Two analyses show that family characteristics predict children’s entering skills in reading, but that the percent of low-income children in the school predicts the rate with which reading skills grow over the elementary school years (Aikens & Barbarin 2008, Hauser-Cram et al. 2006). Individual growth in reading was also lower in schools with high numbers of children with reading deficits (Aikens & Barbarin 2008). Among Latino adolescents, attending schools with relatively high average SES was associated with better performance on English vocabulary, but predicted grade point average only for first-generation students (Ryabov & Van Hook 2007). In another adolescent sample, schools with higher average SES levels had more positive social climates, which in turn mediated the positive relations of school SES to self-reported school engagement. These patterns were consistent across different racial and ethnic groups (Benner et al. 2008).

School quality may also be an important factor in the persistence or fade-out of benefits that children receive from Head Start and other early intervention programs, but the data are slim and inconsistent. In one nationally representative sample, the benefits of center-based preschools on children’s achievement lasted into first grade only in large classrooms with relatively low quality of reading instruction, suggesting that high quality in either preschool or school might compensate for lower quality in the other context (Magnuson et al. 2007). Using a longer time perspective, however, Currie & Thomas (2000) demonstrated that the benefits of Head Start for African American children lasted when children had high-quality instruction, but not when they attended lower-quality schools, suggesting a cumulative effect of preschool and school experiences.

**Neighborhood.** Although some children attend schools outside their neighborhood,
schools and neighborhoods are partially overlapping contexts for many children. People with low incomes tend to live in neighborhoods with others who are poor, and neighborhood disadvantage is typically indexed by poverty rates as well as by rates of crime and violence. Separating the effects of individual characteristics from those of the neighborhoods in which they live poses methodological challenges, but the evidence supports the conclusion that neighborhood characteristics contribute modestly to children’s development independently of families. In their extensive review of the literature, Leventhal & Brooks-Gunn (2000) conclude that high neighborhood SES contributes to school achievement and educational attainment, and that low neighborhood SES increases the likelihood of deviant and problem behavior. One large-scale investigation indicates, however, that the association of neighborhood SES with achievement test scores and behavior problems holds true only for White children and for African American children who live in predominantly Black neighborhoods (Turley 2003).

Conceptual frameworks explaining the effects of neighborhood disadvantage on children’s development include several potential pathways. Institutional resources vary. For example, poor neighborhoods differ from affluent neighborhoods in opportunities for recreation, grocery stores with healthy food, public services, quality child care and schools, out-of-school programs, jobs for adults, and transportation. A second pathway is shared values and norms along with community enforcement of those norms or collective efficacy. Sampson (2006) has demonstrated that neighborhoods with high levels of collective efficacy have lower crime rates than others that are equally poor but have low efficacy. Because peer values and behavior contribute to individual children’s developmental pathways, the presence of deviant peers in the neighborhood is an important mechanism for neighborhood effects. One group of investigators argues that the high percentage of children relative to adults (i.e., child saturation), which characterizes low-income neighborhoods, increases the influence of peers (Hart et al. 2008). Finally, the stresses of living in a low-income neighborhood can affect parenting warmth and discipline (e.g., Pinderhughes et al. 2001). Although one might expect that neighborhood qualities would become increasingly important with age as children become less dependent on parents, the research is fairly consistent in showing effects of neighborhood poverty on intellectual skills (O’Brien Caughy & O’Campo 2006) and behavior problems (Hart et al. 2008) from preschool-age through adolescence.

For our purposes, the important question is whether neighborhood characteristics mediate the effects of family poverty. That is, are some of the correlates of poverty due to the neighborhoods in which poor people live? There is some evidence that parenting practices mediate the effects of neighborhood disadvantage on children’s achievement (Eamon 2005) and behavior (Kohen et al. 2008), though not all studies agree (Caughy et al. 2008). Both social norms and social cohesion of relationships also mediate the effects of neighborhood poverty on young children’s verbal skills and behavior problems (Caughy et al. 2008, Eamon 2005, Kohen et al. 2008).

Disadvantaged neighborhoods magnify individual family poverty effects in part by increasing the likelihood of associating with deviant peers, which in turn increases the likelihood of aggression and antisocial behavior. Parents who are nurturant and involved, along with community resources, can counteract deviant peer pressure (Brody et al. 2001, Eamon 2001b). As children reach the later elementary grades and early adolescence, opportunities for supervised activities in the community may be protective (Mahoney et al. 2005). In one investigation, aggressive children who lived in unsafe neighborhoods were especially likely to show increases in externalizing behavior problems in seventh grade if they spent unsupervised time with peers (Pettit et al. 1999).

Experiments investigating the effects of changing neighborhoods constitute another approach to identifying the causal role of
neighborhoods in transmitting the effects of family poverty. In the 1970s, a lawsuit against the Chicago Housing Authority led to the Gautreaux program, in which public housing residents were offered an opportunity to move. Some moved to White suburbs, and others moved within Chicago to largely Black neighborhoods, creating a pseudoexperiment. Follow-ups indicated that youth in the White suburbs did significantly better than those who moved within the city on educational attainment, employment, and wages (Kaufman & Rosenbaum 1992).

These encouraging findings led to the Moving to Opportunity experiment, a large-scale investigation in which public housing residents in five cities were randomly assigned to one of three conditions: (a) vouchers to move to private housing in a low-poverty neighborhood, (b) vouchers for private housing in any neighborhood of their choice, or (c) a control group that was not offered vouchers for private housing. About half of the families in the treatment groups actually moved; the other half stayed in public housing. Both quantitative and qualitative assessments of the children and adolescents in the affected families show no effects of treatments on school achievement and educational attainment, possibly because the schools attended by the children changed less than the neighborhoods did (Sanbonmatsu et al. 2006). The effects on deviant behavior varied. Females whose families had the opportunity to move to low-poverty areas had lower frequencies of arrests for violent and property crimes, relative to the control group. Males also had reduced arrests for violent crime, but had increased problem behaviors and arrests for property crime (Kling et al. 2005). One reason may have been that the males tended to associate with the most deviant peers in their new neighborhoods or to return to their old neighborhoods.

Summary. The effects of poverty on children's cognitive and social development are mediated through family processes, but also through material deprivation as well as the accumulation of experiences in child care, in school, with peers, and in neighborhoods and communities. Much of the literature is designed to identify the separate contributions of these contexts, but they probably interact in a dynamic fashion rather than being additive. Although family processes are more important than any single context outside the home, families do not operate in a vacuum. Parents are affected by the schools and neighborhoods that surround them, and parents also select and affect the institutional contexts experienced by their children.

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

We began with the theme that children's experiences of poverty often occur as part of a correlated web of social conditions, including single-parent family structure, low parent education, minority ethnic group membership, and immigrant status. These conditions, alone or in combination, contribute to patterns of developmental change. As ecological theory would predict, developmental timing of contextual experiences matters, and the relations of context to development vary for different developmental domains. Specifically, early childhood appears to be a period of particular vulnerability to the effects of poverty, family structure, and related experiences on children's cognitive and academic development. The processes identified by family investment theory—including material resources and cognitive stimulation in the home, child care, early education, and neighborhood settings—appear to be important mediators of socioeconomic differences in academic achievement and ultimate educational attainment.

Social behavior and emotional development appear to be subject to the influences of poverty experienced throughout childhood and adolescence. The processes described in family stress theory—parental stress, positive parenting practices, and absence of harsh punishment—appear to be particularly important mediators of socioeconomic conditions for children's psychological well-being and
behavior problems. Single-parent family structure, instability of family composition, and low neighborhood SES are also important aspects of poverty influencing behavior problems and deviant social behavior. One caveat is that information about negative and dysfunctional behavior is much more extensive than evidence about positive social behavior and psychological well-being, reflecting what appears to be a disproportionate concentration on social problems to the exclusion of positive aspects of development in much of the extant research. Positive and problem behaviors are not the opposite ends of a continuum. In the New Hope experiment, which increased a range of resources for children and families, there were long-lasting effects on an index of positive behavior that measured social competence, autonomy, and compliance with adult rules, but not on behavior problems (Huston et al. 2008).

Contexts combine and interact at the level of social address variables and at the level of proximal experiences. One cannot completely disentangle the social address variables, and a strictly additive model probably is not correct. Instead, social address variables probably are cumulative and multiplicative, at least for poor, single-mother, poorly educated, and minority families. Income alone accounts for significant but relatively small amounts of variation in development; adding material deprivation improves predictive accuracy to some extent. There is support for a cumulative model in studies showing that the number of advantages or disadvantages rather than any one contextual change mediates the effects of improved earnings (Gassman-Pines & Yoshikawa 2006, Walker 2008), and advantages conferred in preschool continue when children subsequently experience high-quality schools (Currie & Thomas 2000).

Poverty effects also vary by ethnic group and sometimes by family structure in ways that suggest compensatory effects. For example, the universal prekindergarten program evaluated in Oklahoma had stronger effects on children from low-income families than on those from more affluent families, and impacts were greatest for Hispanic children with less effect on White non-Hispanic children (Gornley & Gayer 2005). Evidence that preschool programs partially close the achievement gap between White non-Hispanic and both African American and Hispanic children indirectly supports a compensatory model (Magnuson & Waldfogel 2005).

A relatively recent body of research on immigrant populations has begun to elucidate the variations in how poverty and social disadvantage affect development, with particular emphasis on social capital. Children of recent immigrants achieve well and have relatively few behavior problems despite the fact that their families often have low incomes and limited levels of education. Most theorists emphasize the social capital and values characterizing their families and communities as factors that counteract the effects of poverty. Immigration and migration are increasing throughout the world, and the United States is becoming increasingly multiethnic. We are now beginning to see a body of research examining contextual influences and processes across ethnic and cultural groups that allows better understanding of the similarities and differences in the processes influencing development. Future research could provide more nuanced and theoretically informed understanding of both social address issues and the operation of proximal processes in mediating and moderating the effects of family income and family poverty on children’s development.

Reciprocal or transactional causal models have considerable intellectual appeal and have been used extensively in developmental research, yet most empirical research on poverty and its related contexts is based on unidirectional models in which poverty and other social address variables affect family or other contexts, which in turn influence child development. Poverty and its correlates are in varying degrees exogenous in the sense that they are unlikely to be affected directly by children, but most of them can be affected by parents’ characteristics and behavior. The fact that parents’ skills, personalities, and motivations influence family
income, family structure, and educational level is often treated as a methodological problem of selection bias, but it can also be built into more sophisticated models that incorporate interactions of persons with situations. At the level of proximal contexts, the case for reciprocal influences is even stronger because both children and parents can affect family environments, schools, and neighborhoods as well as responding to them. A small body of evidence supports models in which contexts affect children who in turn affect the same or a different context. Moreover, some of the important features of schools and neighborhoods are the characteristics of the other people who inhabit them (e.g., the percent living in poverty); each individual contributes in some sense to these group and community settings.

The concentration on unidirectional models is based partly in the difficulty of demonstrating reciprocal processes empirically, but it also results from the policy goals inherent in much of the research on socioeconomic contexts. Policy research is oriented to actions that can ameliorate social problems, and policy can affect income, material well-being, and some of the other correlates of poverty more easily than it can change individuals. We would argue that transactional models do not imply that the processes involved cannot be altered by intervention. Suppose, for example, that exposure to child care providers who provide a rich language environment improves a child's language development, which in turn leads the child to interact with providers in ways that elicit even richer language interactions, and so on. Intervention at any point in that process could alter the entire sequence just as altering one part of a dynamic system creates changes in the rest of the system. We believe that the field is ready for more research that takes transactional models seriously, and that such models will not only generate better scientific understanding of development, but also will produce more nuanced understanding of policy-relevant processes.

Although income inequality, social inequality, and relative poverty are widely discussed, there is almost no quantitative empirical research designed to identify the effects of relative economic position independently of absolute poverty level. Such research could lead to considering individuals' perceptions rather than actual material resources. Social comparison theories appear well suited to understand the effects of relative poverty but are not often used explicitly for this purpose. The closest body of literature is the investigation of income loss, showing that large losses in income produce strains in families that can translate into psychological distress and other problems for children and youth (Conger & Donnellan 2007, McLoyd 1998). Income loss may have effects on both parents and children not only through material deprivation, but also through negative social comparison.

This review has been restricted largely to poverty in the United States with occasional inclusion of other developed countries, but other parts of the world, particularly sub-Saharan Africa and south Asia, have levels of poverty that are orders of magnitude worse than those in developed countries. For example, the rates of neonatal death in southern and central Africa and south Asia range from 36 to 45 per 1000 births, compared to 3 for developed countries (United Nations Children’s Fund 2008). Although ecological theory might be useful in conceptualizing the research for these populations, the questions and issues are quite different, focusing on survival, basic education, preventive health measures, and economic opportunity, among others. Research on social programs in developing countries offers one pathway for additional understanding of how social ecologies affect child development (for example, see Lomel‘i 2008).

These conclusions point to a number of fruitful directions for future research, including explicit examination of developmental change (as opposed to developmental differences among groups); more careful delineation of the processes affecting cognitive and social development; further investigation of developmental timing of poverty; more theoretically guided treatments of the interplay among contexts; methodologically sound tests of
SUMMARY POINTS

1. Poverty is part of an interrelated web of correlated conditions—low income, material deprivation, single-parent family structure, low educational level, minority ethnic group, and immigrant status.

2. Developmental change and developmental timing of exposure to poverty contexts are of particular importance.

3. The effects of poverty and its associated characteristics are likely to be mediated by proximal contexts and processes with which the child has direct interaction.

4. Understanding how contexts combine and interact is as important as understanding their individual effects.

5. The relations between the developing child and the contexts he or she experiences are reciprocal and transactional.

6. Relative as well as absolute levels of resources may define important features of poverty.

FUTURE ISSUES

1. As the United States becomes increasingly multiethnic, it will be more important to understand ethnic and cultural variations in how the societal contexts associated with poverty influence children’s development.

2. Empirical tests of transactional models are possible, given the availability of large nationally representative datasets and increasingly powerful statistical tools.

3. Research on contexts outside the family has begun to appear, but more investigation of school and neighborhood settings as contexts could contribute useful information to the field.

4. Economic, anthropological, and human developmental perspectives joined in interdisciplinary approaches have produced some valuable advances in the field and will continue to be productive avenues, particularly for understanding the interplay between structural conditions and individual processes.

5. Current policy research is concerned almost entirely with United States conditions and policies. A broader range of knowledge would be generated by integration of approaches across nations with different levels of affluence and different policy environments.

DISCLOSURE STATEMENT

The authors are not aware of any biases that might be perceived as affecting the objectivity of this review.

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Figure 1
Bronfenbrenner's ecological model. Published with permission of McGraw-Hill Companies.