

# An Interactionist Perspective on the Socioeconomic Context of Human Development

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## Key Words

socioeconomic status, social causation, social selection

## Abstract

This article addresses the relationship between socioeconomic status (SES), family processes, and human development. The topic is framed as part of the general issue of health disparities, which involves the oft-observed positive relationship between SES and the cognitive, social, emotional, and physical well-being of adults and children. A review of recent research and theory identifies three general theoretical approaches that provide possible explanations for the association between SES and individual development: the social causation, social selection, and interactionist perspectives. Empirical evidence demonstrates support for the social causation view that SES affects families and the development of children in terms of both family stress processes (the family stress model) and family investments in children (the family investment model). However, there also is empirical support for the social selection argument that individual characteristics lead to differences in SES. Especially important, recent research is consistent with an interactionist approach, which proposes a dynamic relationship between SES and developmental change over time. Drawing on the combined set of research findings, the article concludes with the description of an interactionist model that serves as a heuristic for future studies of the links among SES, parenting behaviors, and child development.

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## INTRODUCTION

The present report provides a selective review of research and theory related to the impact of socioeconomic status (SES) on human development, with a special emphasis on the proposition that the family acts as a conduit for socioeconomic influences on the development of children and adolescents (e.g., Repetti et al. 2002, but see Rowe & Rodgers 1997). Given the tremendous recent growth in this literature, we focus on work during the past decade or so (e.g., Bornstein & Bradley 2003, Bradley

& Corwyn 2002, Conger & Conger 2002). In particular, we consider and critically evaluate two dominant perspectives on the causal relation between SES and the development of children: the social causation explanation and the social selection explanation. In the latter sections of this review, we propose a new integrative model designed to guide future investigations of the association between SES and human development.

## Important Developmental Correlates of Socioeconomic Circumstances

There is a long history of research on the influence of SES on human development, dating back to the middle of the past century (e.g., Davis & Havighurst 1946, Sears et al. 1957). Economic changes in the United States and other countries during the past two decades (e.g., increasing income inequality) have enhanced this ongoing interest in how social position and economic resources affect families and the development of children (e.g., Conger & Conger 2002, Duncan & Brooks-Gunn 1997, Keating & Hertzman 1999, Prior et al. 1999, Schoon et al. 2002). This research by developmental scholars joins with research in social epidemiology on health disparities, or the general trend that more socially and economically disadvantaged adults and children are at increased risk for physical, emotional, and behavioral problems (Berkman & Kawachi 2000, Bradley & Corwyn 2002, McLeod & Shanahan 1996, Oakes & Rossi 2003). With respect to the influence of SES on children and adolescents, there is evidence for an association between poverty and mental health (e.g., Ackerman et al. 2004, Dearing et al. 2001, McLeod & Shanahan 1996), SES and cognitive development (e.g., Ackerman et al. 2004, Dearing et al. 2001, Hoff 2003, Mezzacappa 2004), and social class position and physical well-being (e.g., Evans & English 2002, McLoyd 1998).

**SES:** socioeconomic status

**Social causation:** the argument that social and economic conditions influence individual functioning and development

There are several reasons to suggest that the influence of SES on children and adolescents may result, in large part, from the actions of parents. For example, lower-SES compared with middle-SES parents are more likely to use a harsher, more authoritarian, parenting style as indicated by physical punishment and the absence of reasoning with children about the consequences of their behavior (e.g., Hoffman 2003, Hoff et al. 2002). These parenting practices have been linked to less competent social and emotional development for children and adolescents (e.g., Steinberg 2001). With regard to cognitive functioning, middle- compared with lower-SES parents are more likely to use richer vocabularies and to engage in cognitively stimulating activities with their children. Thus, current evidence suggests that SES is associated with important family socialization practices and with the health and well-being of children. However, there is disagreement over the causal interpretation of these observed relations, as we describe in a subsequent section. Prior to describing this controversy, we consider in some detail the concept of SES and its measurement.

### The Multifaceted Nature of Socioeconomic Status

SES is a construct that captures various dimensions of social position, including prestige, power, and economic well-being (Hoff et al. 2002, Liu et al. 2004, Oakes & Rossi 2003). Most contemporary investigators agree that three quantitative indicators provide reasonably good coverage of the domains of interest: income, education, and occupational status (Bradley & Corwyn 2002, Ensminger & Fothergill 2003). Despite the fact that these indicators of social position are positively correlated (Ensminger & Fothergill 2003), there also is general agreement that they should not be combined into simple composite scores. Duncan & Magnuson (2003), for example, suggest that each of these markers of social

status demonstrates different levels of stability across time and differentially predicts family processes and child adjustment. Thus, income, education, and occupational status are not interchangeable indicators of SES: Only by including each of them as a separate variable in data analyses can investigators begin to understand their unique and combined contributions to human development.

Indeed, education, occupation, and income represent separate yet related personal, social, and economic resources that have important implications for the health and well-being of both parents and children. These resources can be thought of as “capital” that differentiates persons, households, and neighborhoods (Bradley & Corwyn 2002, Hoff et al. 2002, Oakes & Rossi 2003). As an illustration, Oakes & Rossi (2003) draw on Coleman (1990) to propose that SES should be defined in terms of material or financial capital (economic resources), human capital (knowledge and skills), and social capital (connections to and the status and power of individuals in one’s social network). Income and other forms of wealth obviously relate to material or financial capital and education to human capital. Although the connection is not as straightforward for occupational status, it can be considered a marker of social capital inasmuch as people in higher-status occupations are more likely to associate with others who have higher-than-average occupational status, advanced skills, and economic resources (Bradley & Corwyn 2003, Oakes & Rossi 2003). Our main point is that each aspect of SES may have an important independent influence on how children are raised and on how they develop over time. As such, researchers should separately measure income, education, and occupational status and use analytic techniques that are capable of identifying the potentially unique associations each has with human development. The connection between social status and human development may be quite complex, however, an issue we next consider.

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#### Social selection:

the argument that attributes of individuals influence the quality of their social and economic environments

#### Socioeconomic status:

an individual’s location in multiple environmental hierarchies, usually involving economic resources, educational achievement, and occupational status

#### Health disparities:

the well-established empirical relationship between higher social and economic status and better health for adults and children

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**Interactionist perspective:** the argument that individual attributes influence a person's social and economic position in a reciprocal process within and across generations

**Family stress model (FSM):** a framework that links socioeconomic disadvantage to a family stress process that increases parents' emotional distress and jeopardizes the healthy development of children

**Family investment model (FIM):** an explanatory framework that links parents' socioeconomic advantage to children's physical, emotional, cognitive, and social well-being

## Moving from a Static to an Interactionist Model of Socioeconomic Status and Development

The majority of research on SES and human development proposes that social position influences the lives of individuals across time and that socioeconomic disadvantage has negative consequences for adults and children (e.g., Conger et al. 2002). This perspective represents an instance of the social causation argument, which predicts that social conditions lead to variations in social, emotional, cognitive, and physical functioning. The antithesis to this viewpoint is the social selection argument, which proposes that the traits and dispositions of parents influence their social status and the health and well-being of their children (see, e.g., Mayer 1997). According to an interactionist perspective, the actual processes through which SES and a person's health and well-being come to be associated with one another are far more complex than suggested by either the social causation or social selection point of view. From this integrative perspective, the association between SES and human development involves a dynamic interplay between social causation and social selection. That is, the interactionist view of human development proposes an ongoing reciprocal relationship between the characteristics of individuals and the broader socioeconomic environments in which they live (e.g., Magnusson & Stattin 1998). In this review, we consider evidence related to social causation, social selection, and the more dynamic interactionist argument, which only recently has been subjected to empirical evaluation.

## A SOCIAL CAUSATION VIEW OF SOCIOECONOMIC INFLUENCE

In this section, we describe two major theoretical approaches consistent with the social causation perspective and evaluate empirical evidence related to each of the approaches. The

first theoretical paradigm, the family stress model (FSM) of economic hardship, proposes that financial difficulties have an adverse effect on parents' emotions, behaviors, and relationships, which in turn negatively influence their parenting strategies (Conger & Conger 2002). As reflected in its name, this model focuses on the means by which economic disadvantage exacerbates family stresses that ultimately imperil the healthy development of children and adults. The second perspective, which we title the family investment model (FIM), takes a different approach to SES effects by drawing attention to the ways that parents invest financial, social, and human capital to promote the talents and well-being of their children.

## Major Theoretical Perspectives

**The family stress model of economic hardship.** This model focuses on the economic dimension of SES, consistent with evidence that low income is associated with significant developmental difficulties for children, especially when poverty is severe or persistent (Dearing et al. 2001, Duncan & Magnuson 2003, Magnuson & Duncan 2002, McLoyd 1998). The model builds on a tradition of research dating back to the Great Depression years of the 1930s, when a series of studies indicated that severe hardship undermined family functioning, which in turn negatively affected the lives of both parents and children (e.g., Angell 1936, Cavan & Ranck 1938, Komarovsky 1940; see also Elder 1974, Elder & Caspi 1988). These themes have been carried forward in contemporary investigations that both support and modify many of the conclusions reached in these earlier studies (Leventhal & Brooks-Gunn 2003, McLoyd 1998). Consistent with this line of research, Conger and his colleagues developed the FSM to help explain how financial problems influenced the lives of Iowa families going through a severe downturn in the agricultural economy during the 1980s (Conger & Conger 2002, Conger & Elder 1994, Conger et al. 2002).

As shown in **Figure 1**, the FSM proposes that economic hardship leads to economic pressure in the family. Markers of hardship include low income, high debts relative to assets, and negative financial events (e.g., increasing economic demands, recent income loss, and work instability). These indicators of hardship are consistent with the concept of economic or material capital, which includes both accumulated wealth and current income. These hardship conditions are expected to affect family functioning and individual adjustment primarily through the economic pressures they generate. The FSM proposes that economic pressures include (a) unmet material needs involving necessities such as adequate food and clothing, (b) the inability to pay bills or make ends meet, and (c) having to cut back on even necessary expenses (e.g., health insurance and medical care). According to this model, the experience of these kinds of pressures or strains gives psychological meaning to economic hardship (Conger & Conger 2002; Conger & Elder 1994; Conger et al. 1992, 1993, 1994, 2002).

In addition, the model predicts that when economic pressure is high, parents are at increased risk for emotional distress (e.g., depression, anxiety, anger, and alienation) and for behavioral problems (e.g., substance use and antisocial behavior; Conger 1995, Conger et al. 2002). According to the model, these emotional or behavioral problems predict increased marital conflict and reduced marital warmth, and this process diminishes nurturing and involved parenting. That is, parents distracted by their own personal problems and marital distress are expected to demonstrate less affection toward their children, to be less involved in their children's daily activities, and to be more irritable, harsh, and inconsistent in their disciplinary practices. The last step in the FSM indicates that parental nurturance and involvement lead to greater emotional, behavioral, cognitive, and physical well-being for children. Thus, when this type of child-rearing is threatened by the hypothesized economic stress process, successful

development of the child is placed in jeopardy.

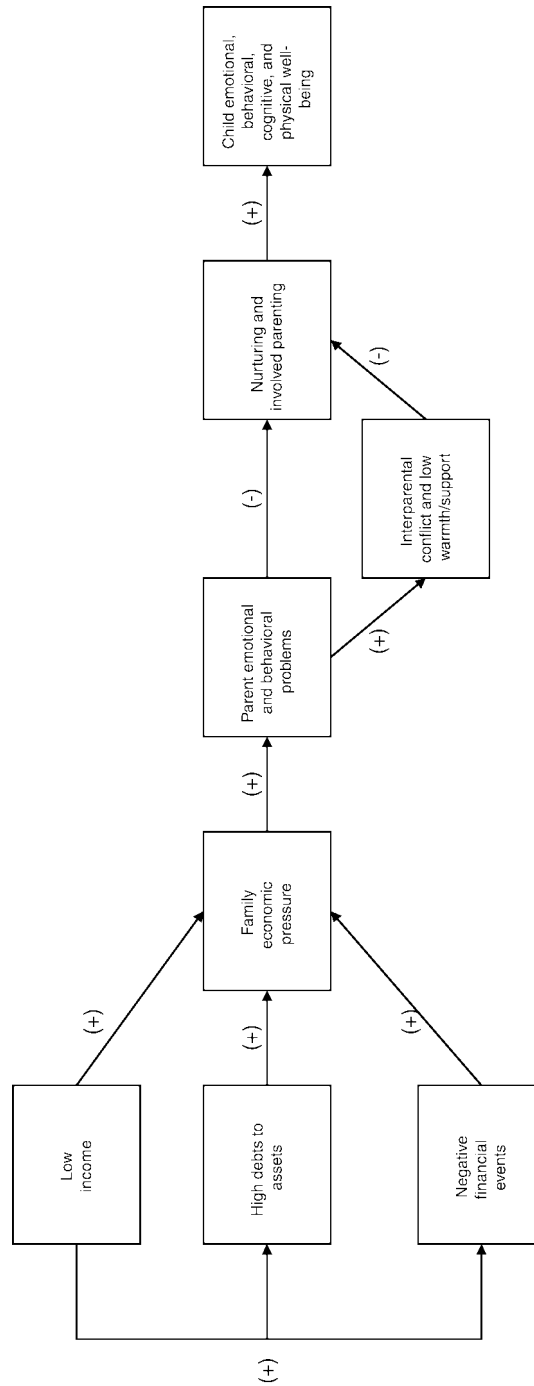
According to the model, when families experience economic hardship, children are at risk for suffering both decreases in positive adjustment (e.g., cognitive ability, social competence, school success, and attachment to parents) and increases in internalizing (e.g., symptoms of depression and anxiety) or externalizing (e.g., aggressive and antisocial behavior) problems. The model also proposes, however, that these economic effects indirectly influence children through their impact on the lives of parents. For single-parent families, caregiver conflicts with one another may be omitted from the model or conflicts with an ex-spouse or current romantic partner might be substituted, as economic problems are expected to affect these relationships as well (Conger et al. 2002). Moreover, when children are raised by caregivers other than parents (e.g., grandparents), the same stress process is expected to operate. Although elaborations of the FSM include factors that promote resilience or exacerbate vulnerability to these mediating pathways, the model in **Figure 1** provides the basic tenants of this theoretical framework (Conger & Conger 2002, Conger et al. 2002).

**The family investment model.** The FIM is rooted in economic principles of investment and builds on the notion that higher-SES compared with lower-SES parents have greater access to financial (e.g., income), social (e.g., occupational status), and human (e.g., education) capital. According to this model, the investment of these resources by families is associated with the successful development of children and adolescents. In terms of financial capital, the FIM proposes that families with greater economic resources are able to make significant investments in the development of their children, whereas more disadvantaged families must invest in more immediate family needs (Becker & Thomes 1986, Bradley & Corwyn 2002, Corcoran & Adams 1997, Duncan & Magnuson 2003, Haveman

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**Economic pressure:** a syndrome of events or conditions that give psychological meaning to the stressful experience of economic hardship

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**Figure 1**  
The Family Stress Model.



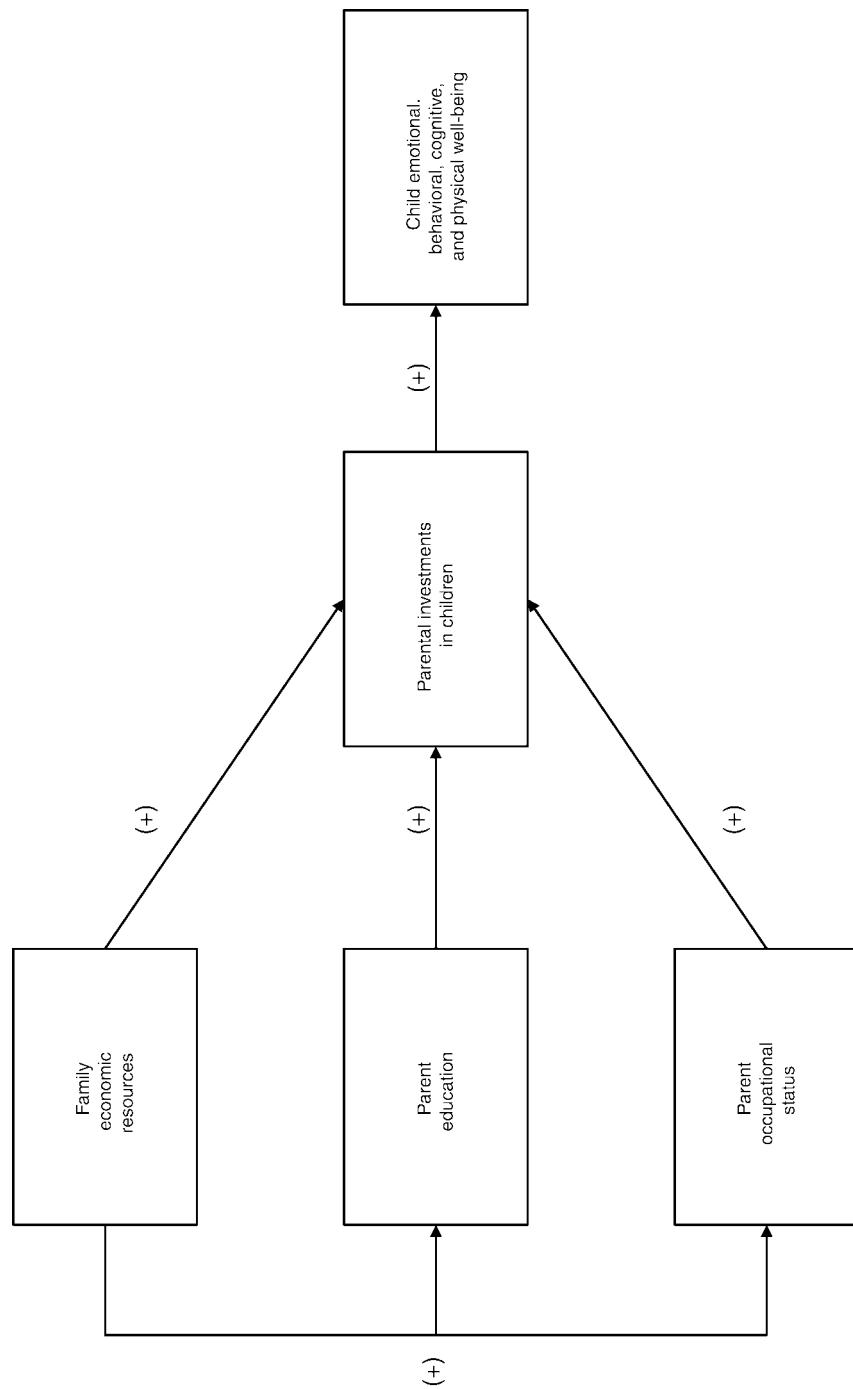
& Wolfe 1994, Linver et al. 2002, Mayer 1997). These investments involve several different dimensions of family support, including (a) learning materials available in the home, (b) parent stimulation of learning both directly and through support of advanced or specialized tutoring or training, (c) the family's standard of living (adequate food, housing, clothing, medical care, etc.), and (d) residing in a location that fosters a child's competent development. For example, wealthier parents are expected to reside in areas that promote a child's association with conventional friends, access to good schools, and involvement in a neighborhood or community environment that provides resources for the developing child such as parks and child-related activities. According to the theory, then, economic well-being will be positively related to parental material investments and child-rearing activities expected to foster the academic and social success of a child (see **Figure 2**).

Although the traditional investment model from economics is limited to the influence of economic resources on families and children, we extend the basic model by proposing that the educational achievements and occupational positions of parents and other caregivers will be similarly related to investments in children. For example, parents with greater education would be expected to place a priority on activities, goods, and services that foster academic and social competence, a prediction consistent with the idea that the human capital of parents will tend to promote the development of human capital in their children. With regard to occupational position, sociologists have long argued that greater occupational status affects parents' values and priorities in a fashion that positively influences their strategies of child rearing (Kohn 1959, 1963, 1969, 1995). Consistent with these ideas, the model proposes that parents with more prestigious and higher paying work roles will tend to invest in their children in at least two important ways. First, they should provide social capital by increasing access to employment and other career-related activities. Second, they should

provide human capital by guiding their children toward activities that will promote their eventual career success. Thus, the FIM proposes that parents with greater resources are likely to invest their economic, educational, and occupational capital in ways that facilitate the well-being of their offspring from childhood into the adult years.

## Empirical Evidence for the Social Causation Perspective

**The family stress model of economic hardship.** We located seven published reports that both evaluated the FSM in studies of child or adolescent development and also used the same labels for constructs as described in **Figure 1**. These studies represent a rich array of ethnic or national groups, geographic locations, family structures, children's ages, and research designs. The first two reports involved the Iowa Youth and Families Project and provided the first tests of the full FSM. The two separate analyses involved 205 rural, white, seventh-grade boys from two-parent families (Conger et al. 1992) and 220 rural, white, seventh-grade girls from two-parent families (Conger et al. 1993). The third study was of African American families and involved 422 male and female fifth graders living with two caregivers in urban and rural locations (Conger et al. 2002). The fourth study, of 419 boys and girls ranging in age from 5 to 12 years, involved a poor urban sample of primarily ethnic minority (57% African American, 28% Hispanic) families headed by a single parent (83%) (Mistry et al. 2002). The fifth study was based on a nationally representative sample of families and included 753 preschool boys and girls, ages 3–5 years (Yeung et al. 2002). The sixth research report involved 527 early-adolescent boys and girls living in two-parent families in Finland (Solantaus et al. 2004). Finally, the seventh study included European American ( $N = 111$ ) and Mexican American ( $N = 167$ ) families of male and female fifth graders living in urban areas of Southern California (Parke et al. 2004).



**Figure 2**

The Family Investment Model.



Given the diversity among these samples, the degree of replication of findings across studies was quite remarkable. With regard to the connection between economic hardship (i.e., low income, debts relative to assets, and/or negative financial events) and economic pressure (see **Figure 1**), the median path or multiple correlation coefficient was 0.68 across these investigations. Also consistent with the model, for all of the reports the link between economic hardship and other variables in the model was indirect through economic pressure. For all of the studies, economic pressure significantly predicted parents' emotional and behavioral problems (median path coefficient = 0.42). Also consistent with the FSM, for the five studies that included information about caregiver relationships, each of the model tests found that parent emotional distress was directly related to interparental conflict after economic pressure was taken into account (median path coefficient = 0.33). Emotional distress also predicted conflicts between caregivers when either one or both of the caregivers were not biological parents of the focal child (Conger et al. 2002). For six out of the seven reports, emotional distress also was either negatively related to positive parenting practices or positively associated with negative parenting behaviors. In most instances, parents' emotional and behavioral problems did not directly predict child or adolescent development once parenting behavior was taken into account, a finding that is consistent with the FSM.

For four of the five reports that included a measure of interparental conflict, this measure was related in the expected direction with parenting behaviors (median path coefficient = 0.45). That is, conflict was positively related to indicators of harsh or rejecting parenting and negatively related to indicators of nurturing and involved parenting. Interparental conflicts had the same effect when one or both caregivers were not the biological parent of the focal child. Moreover, for almost all the studies, interparental

conflict was not directly related to measures of child or adolescent development. The major exception was the Mexican American families in the Parke et al. (2004) study, in which interparental conflict demonstrated a substantial direct path to child adjustment problems (standardized path coefficient = 0.53). We believe this finding may result from the high value Mexican American parents and children place on the family unit. Because threats to the family itself engendered by interparental conflict may be especially distressing for Mexican American children, interparental conflict may directly affect the emotional and behavioral problems of these children independently of styles of parenting (Parke et al. 2004). Future research is needed to see if this finding replicates in other samples of Mexican American families.

Finally, all of the studies provided some support for the FSM hypothesis that parenting behavior is significantly associated with child or adolescent well-being. Four of the reports included a measure of child or adolescent positive adjustment, and eight of the nine estimated path coefficients were statistically significant (median path coefficient = 0.31 when parenting is scored in a positive direction). All of the studies included measures of poor child or adolescent adjustment, and 17 of the 21 estimated relationships were statistically significant (median path coefficient = -0.44 when parenting is scored in a positive direction). These results provide substantial evidence that the child-rearing strategies of parents provide the most proximal mechanism through which the economic fortunes of the family affect the development of children and adolescents, consistent with the FSM.

Other studies also indicate that specific aspects of the FSM apply to diverse racial and ethnic groups and to families living in countries outside of the United States (e.g., Borge et al. 2004, Dodge et al. 1994, Gutman et al. 2005, Prior et al. 1999, Robila & Krishnakumar 2005, Wickrama et al. 2005, Zevalkink & Riksen-Walraven 2001). Support for the FSM also comes from studies that use

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**HOME:** home observation for measurement of the environment

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the concept of economic strain rather than economic pressure as a key explanatory construct (e.g., Mistry et al. 2004). Even studies that omit these constructs altogether provide support for the basic underlying economic stress process (e.g., Brody et al. 2002, Linver et al. 2002). Moreover, in an interesting extension of the model, Sobolewski & Amato (2005) found that the economic stress processes proposed in the FSM influence the psychological well-being of children grown to adulthood.

Especially exciting are recent experimental, quasi-experimental, or longitudinal studies conducted over significant periods of time that also report results consistent with the FSM. For instance, Costello and her colleagues (2003) reported findings from a quasi-experimental study. The results demonstrated that increased employment in a poor community that resulted from the opening of a casino increased family income, decreased problems in parenting, and reduced externalizing problems for children in the study. Experimental research on income supplementation for poor families or on moving poor families to more economically advantaged neighborhoods also has produced evidence that these programs can have a positive influence on parents' well-being and on developmental outcomes for children and adolescents. Although these findings are quite complex and tend to be contingent on a number of factors, such as the age of the child, a growing body of evidence suggests that improvements in family income may have beneficial effects on parents and children consistent with predictions from the FSM (Gennetian & Miller 2002, Huston et al. 2005, Leventhal & Brooks-Gunn 2003, Leventhal et al. 2005, Morris et al. 2005).

Finally, consistent with evidence reported by Conger and his colleagues showing that the FSM predicts change over time (Conger et al. 1994, 1999 a,b), recent longitudinal studies have shown that increases in family income reduced children's symptoms of depression and antisocial behavior (Strohschein 2005) and

that poverty, and especially chronic poverty, disrupted family functioning, inhibited cognitive development, and exacerbated children's behavior problems across a several-year period (National Institute of Child Health and Human Development Early Child Care Research Network 2005). Collectively, the studies reviewed in this section suggest that the FSM is a useful model for helping to understand how the economic aspects of SES may influence family members, child-rearing practices, and the adjustment of children and adolescents.

**The family investment model.** Unlike the extensive literature on the FSM and variations of the FSM, only a limited amount of recent research is focused specifically on the parameters included in the proposed FIM (Figure 2). In part, this paucity of findings results from the fact that these demographic measures typically are treated as control variables in developmental research rather than as phenomena of theoretical interest in their own right (Hoff et al. 2002, Hoffman 2003). However, a small number of recent studies are specifically related to each of the exogenous constructs in the model involving income, education, and occupational status. In terms of family income, a number of studies have confirmed the most basic propositions of the investment model; that is, family income affects the types of investments parents make in the lives of their children (Bradley & Corwyn 2002, Davis-Kean 2005, Mayer 1997), and family income during childhood and adolescence is positively related to academic, financial, and occupational success during the adult years (Bradley & Corwyn 2002, Corcoran & Adams 1997, Mayer 1997, Teachman et al. 1997).

With regard to the proposed association between income and investments, a seminal study by Bradley and his associates (2001) demonstrated the pervasiveness of this connection. These researchers used data from several waves of the National Longitudinal Survey of Youth to evaluate differences

in parental investments and parental behavior, as measured by the Home Observation for Measurement of the Environment (HOME; Bradley & Caldwell 1980), for several thousand children ranging in age from infancy to early adolescence. For three major ethnic groups (European American, African American, and Hispanic American), the study showed that widespread differences existed between the child-rearing contexts of families above the official poverty line in comparison with families below the poverty line. Parents who were more economically advantaged were more likely to engage their children in conversation, provide enriching learning activities for their children, demonstrate affection and respect for their children, and avoid physical punishment or restraint. Likewise, children in more financially secure families also had greater access to books, magazines, toys, and games that stimulate learning; cultural events and activities; special lessons that encourage particular talents in domains such as music and sports; and homes that tended to be safer, cleaner, and roomier. Taken together, the results of this study of a large-scale, nationally representative, multiethnic sample of families demonstrate a clear link between family income and the investments that are made in the human capital of children.

Despite the noted evidence for the connection between family income and the long-term well-being of children grown to adulthood, and between income and a variety of parental investments in children, a significant limitation in most of this earlier research is that the full mediating process proposed by the investment model (**Figure 2**) has not been evaluated. That is, the central concern of the model involves the degree to which parental investments account for the connection between family income and the long-term development of children. A series of recent studies, however, have provided evidence that is reasonably consistent with the full set of empirical relationships proposed by the model.

In a large-scale, multiethnic study of children from birth to five years of age at the time

of their analysis, Linver and her colleagues (2002) found an association between family income and child cognitive development at ages 3 and 5 years (standardized intelligence test scores,  $b = 0.70$  without control variables and  $0.52$  with control variables). Consistent with the mediating hypothesis, this association was significantly reduced ( $b = 0.36$ ) when the investment mediator, items from the HOME scale, was introduced into the analyses. The investigators also found that the measure of parental investment completely mediated the association between income and child behavior problems at three and five years of age. Thus, the model tested in this study partially explained how SES influenced both child competence and maladjustment. A particularly important feature of the Linver et al. (2002) study is that the investigators controlled for the influence of parent education and intelligence in the analyses, as well as other social-demographic characteristics. These controls reduced the likelihood that the results could be attributed simply to the educational attainment and intelligence of the parent, which might indicate a direct genetic effect on the child's cognitive abilities.

In a similar set of analyses using data from the Panel Study of Income Dynamics, Yeung et al. (2002) also controlled for parent personal and demographic characteristics in a test of the investment model. Even with these controls, they found evidence that family income had an influence on child outcomes at least in part through parental investments in the competent development of children. In a separate study of 868 eight- to twelve-year-old children, Davis-Kean (2005) showed that family income is positively associated with parents' expectations that their children will experience significant educational achievement. These expectations predicted parental investments that promote learning, for example, by spending more time reading to their children. Taken together, the findings from this set of studies provide substantial support for the link between income and investments and between income and child well-being, as

proposed by the FIM. They also provide preliminary support for the FIM proposition that family income will affect the successful development of children primarily through such investments.

Returning to **Figure 2**, the FIM proposes that parent education will have an influence on parental investments similar to that of income, and that these investments, in turn, will have a positive relationship with competent development. Presumably, a better-educated parent will acquire more knowledge about child and adolescent development, have a greater understanding of strategies for encouraging academic and social competence, and will generally be more skillful and effective in teaching children to negotiate the many environments to which they must adapt (Bornstein et al. 2003). Despite the reasonableness of this hypothesized mediating process, there are no specific empirical tests of this proposition cast in terms of the FIM. However, there is some evidence consistent with these ideas.

To begin with, several studies demonstrate that parental education predicts competent child development even when a number of other variables are controlled, such as family income and occupational status, parent's cognitive ability and emotional well-being, and family structure (Dearing et al. 2001, Duncan & Magnusson 2003, Han 2005, Huston & Aronson 2005, Kohen et al. 2002, Tamis-LeMonda et al. 2004). Moreover, recent research is consistent with a long history of empirical findings that relate parent education to socialization practices and priorities (Hoff et al. 2002). For example, in a study of 1053 families from the National Institute of Child Health and Human Development Study of Early Child Care, Huston & Aronson (2005) found that maternal education was positively correlated with maternal sensitivity toward the focal child at 36 months and also with parental investments involving a more enriched and positive home environment as assessed by the HOME. These positive relationships still existed after controlling for a variety of other maternal, child, and family

characteristics. Similarly, Tamis-LeMonda and colleagues (2004) found that maternal and paternal education were positively associated with sensitivity, positive regard, and cognitive stimulation of a young child.

In addition to this more general evidence for the plausibility of education as an important part of the investment process, three recent studies provide credible tests of a mediating pathway. First, in an intensive study of 63 families, Hoff (2003) found that more highly educated parents create a richer, more complex language environment for their children, and their children demonstrate greater language skills. Especially important for the investment hypothesis, the richness of maternal speech completely mediated the association between parent education and child productive vocabulary. In an analysis of data from the National Longitudinal Survey of Youth involving children ranging from 3 to 15 years of age, Bradley & Corwyn (2003) found that parental education was positively related to a child's vocabulary, reading, and mathematical skills and negatively related to behavioral problems. Moreover, the association between education and child development was substantially mediated by the parent's stimulation of learning. Finally, using data from the Panel Study of Income Dynamics for 8- to 12-year-old children, Davis-Kean (2005) found that the connection between parent education and child academic achievement was mediated by parental expectations for and investments in academic ability. These three studies provide preliminary evidence consistent with the mediating process proposed by the FIM.

The final exogenous variable in the FIM involves parent or caregiver occupational status (**Figure 2**). Unfortunately, there is very little evidence regarding the role of parents' occupation in the proposed family investment process. The Bradley & Corwyn (2003) paper reporting evidence that learning stimulation (as measured by the HOME) mediated the relationship between parents' educational attainment and child competence also reported a similar mediating process

for occupation, as assessed by the Socioeconomic Index of Occupations. In another study, Gottfried et al. (2003) followed a cohort of 130 one-year-old children and their parents for almost two decades. They found that occupational status of fathers (rated from laborer to professional) reliably predicted an enriched cultural, intellectual, and learning environment for children, as measured by the HOME and by the Family Environment Scale (correlations from 0.27 to 0.52). The occupation of mothers also predicted these markers of parental investment, but not as frequently, or at the same level, as the occupation of fathers. The investigators also found that the father's occupation predicted children's cognitive ability, academic achievement, and social-emotional well-being, but in most instances, the mother's occupational status did not. The lack of mother influence may reflect the fact that these were generally traditional two-parent families, in which fathers were most likely to be the primary breadwinners. Unfortunately, the authors did not directly examine the mediating role of parental investments in explaining the association between occupation and child outcomes; however, the pattern of reported correlations suggests that a mediating process was likely.

To summarize, there is general empirical support for the social causation perspective and for several of the specific predictions generated by the FSM and the FIM. Nonetheless, many investigators have noted the limitations of drawing causal inferences from the predominantly nonexperimental studies that have addressed these issues (e.g., Rutter et al. 2001). Indeed, true randomized experiments are the best method for establishing causality (Shadish et al. 2002) and the dilemma facing researchers in this area is that true experiments are often not feasible or are gravely unethical. As such, there are alternative explanations for the observed associations between SES and life course development, as we describe in the following section of this review.

## SOCIAL SELECTION AND SOCIOECONOMIC CIRCUMSTANCES

### The Social Selection Perspective

The major alternative explanation to the social causation argument is that the connections between parental SES and child development result from a process of social selection (e.g., Becker 1981, Lerner 2003, Mayer 1997, Rowe & Rodgers 1997). To understand this viewpoint better, it is useful to first conceptualize SES as a constellation of outcomes that are potentially influenced by individual differences in traits such as intelligence and personality. According to the social selection perspective, these individual differences both facilitate the accumulation of social advantages and are transmitted from parents to children. The most commonly invoked mode of transmission is genetic (e.g., Rowe & Rodgers 1997), but the exact mechanism is not essential to this argument. What is critical is the proposition that the observed associations between parental SES and child and adolescent outcomes are spurious because they are caused by a third variable. That is, both parental SES and children's development are hypothesized to emanate from certain parental characteristics. For example, Mayer (1997) proposed that "parental characteristics that employers value and are willing to pay for, such as skills, diligence, honesty, good health, and reliability, also improve children's life chances, independent of their effect on parents' income. Children of parents with these attributes do well even when their parents do not have much income" (pp. 2-3). Corcoran & Adams (1997) have called this the "noneconomic parental resources" perspective.

If the social selection perspective is correct, then the FSM and the FIM are not valid causal accounts of the role that SES plays in child development. For instance, returning to **Figure 1**, the social selection argument proposes that positive characteristics of parents, such as those described by Mayer (1997), will

reduce exposure to economic hardship and pressure, decrease the likelihood of parent emotional distress and interparental conflict, foster nurturing and involved parenting, and lead to greater child well-being. This proposition leads to the statistical expectation that the connections among the economic variables, family stress processes, and child well-being predicted by the FSM will be greatly reduced or eliminated once these positive parental characteristics are included in data analyses. The same social selection arguments would apply to the connections among SES, parental investments, and child outcomes as proposed by the FIM (see **Figure 2**).

### Empirical Evidence for the Social Selection Perspective

There is evidence from longitudinal studies that early emerging individual differences in personality, aggressiveness, and cognitive ability predict SES-relevant outcomes in adulthood such as income, occupational status, and bouts of unemployment (e.g., Caspi et al. 1998, Feinstein & Bynner 2004, Judge et al. 1999, Kokko & Pulkkinen 2000, McLeod & Kaiser 2004, Shiner et al. 2003). Indeed, Judge et al. (1999) noted that "knowledge about one's personality and intelligence early in life proved to be an effective predictor of one's later career success" (p. 643). Moreover, these sorts of traits have been shown to be heritable to a significant degree (e.g., Bouchard 2004). Thus, consistent with the social selection perspective, there are individual differences that seem to influence SES and that can be passed to offspring.

The study of individual differences also raises other specific challenges to some of the pathways specified by the FSM and the FIM. One possibility is that characteristics of children evoke certain parental responses (see, e.g., Bell 1968), thereby clouding the direction of effect proposed by these models. For example, child characteristics might create economic difficulties for parents in a manner that contradicts the causal sequence im-

plied by the FSM. Suggestive evidence for this proposition comes from Hyde and her associates (2004), who found that preschool children with a difficult temperament exacerbated feelings of parental incompetence and depressed affect for mothers. These maternal characteristics, in turn, diminished the quality of the mother's work life. It is plausible that this sort of process could decrease the mother's success in work and the family's overall SES when played out over a significant span of time. Evocative child effects likewise apply to the FIM, given that certain talents and proclivities of children might cause parents to invest certain kinds of resources in their offspring. For example, an academically talented youngster might evoke investments in educational domains, whereas an athletically talented youngster might evoke investments in athletic domains.

Other evidence that individual differences might influence specific causal associations proposed by the FSM was provided by Conger & Conger (2002), who showed that parents who were high in generalized self-efficacy (mastery) actually reduced their level of economic pressure over time. Thus, this trait likely helped the adults cope with economic problems, which should help maintain or even improve family SES in the future. In terms of the FIM, individual differences in parenting skill might moderate the effectiveness of parental investments. Thus, consistent with the broad theme of the social selection argument, there is evidence that individual differences are relevant factors for understanding the relation between parental SES and the development of children and adolescents.

In sum, empirical support exists for both the social causation and social selection perspectives. To be sure, the tension between these two competing explanations for the association between SES and human development is similar to the debates over nature versus nurture or person versus situation that exist in psychology and related disciplines. All three debates are variations on a common

theme where the causes of behavior are attributed to either internal or external causes (Turkheimer 2004). To our minds, however, such extreme positions do not capture the complexities of human development, as is illustrated by the often-cited cross-fostering study reported by Capron & Duyme (1989), who found evidence of main effects for both the SES of adoptive parents and the SES of biological parents on the IQs of a sample of French children adopted at birth. The fact that the IQs of these children were influenced by their adopted parents' SES reflected social causation (see also van IJzendoorn et al. 2005 for a review of adoption studies), and similarly, the fact that the IQs of these children were influenced by their biological parents' SES is consistent with the thrust of the social selection argument. Thus, it appears that the truth lies with the well-worn cliché that both intrinsic and extrinsic factors influence the course of human development.

## THE INTERACTIONIST APPROACH

### Taking the Long View of Life-Course Dynamics

We believe that strict social selection or social causation explanations are unlikely to reflect the complexities of human development as it is played out over time and across generations. On the one hand, the social selection perspective tends to minimize the role that socioeconomic circumstances such as economic catastrophes and windfalls may play in the lives of parents and children. On the other hand, the social causation explanation places too little emphasis on the role of individual differences and human agency. Thus, a comprehensive model that incorporates both social causation and social selection processes seems to hold the most promise for guiding future research. There appears to be an emerging body of evidence for this viewpoint, given that three recent studies have generated findings

suggesting a dynamic interplay between social position and life-course development.

Using data from two national birth cohort studies in Britain, Schoon et al. (2002) showed that low SES in a child's family of origin predicted lower academic achievement and continuing life stress across the years of childhood and adolescence. Children's lower academic competence and higher life stress, in turn, were associated with lower SES when the children reached their adult years. In the second study, Wickrama and his colleagues (2005) found that low SES in the family of origin predicted adverse economic and related life circumstances for adolescents. These events increased risk for both mental and physical health problems during the transition to adulthood, which in turn predicted economic problems and poorer social circumstances during the early adult years. Thus, consistent with the interactionist perspective, both studies suggest a reciprocal process in which early SES predicts personal characteristics of children that influence their SES in adulthood. A problem with both of these studies, however, is that the traits and dispositions of parents may have led to SES in the family of origin and to the course of children's development, consistent with the social selection argument.

Further consideration of this alternative explanation for these findings requires information about the interplay between SES and personal characteristics within a single generation. Support for this type of reciprocal process was provided in a study by Miech and his colleagues (1999), who showed that antisocial youths experience lower educational attainment, which in turn increases their risk for further antisocial behavior as young adults. Presumably, both the SES and ongoing behaviors of these young adults would affect the development of their children. All told, this combined set of studies provides preliminary but important support for the interactionist approach. We next turn to consideration of a model that applies these ideas by proposing a



process that begins with a future parent's characteristics during childhood and adolescence and, through a series of intervening mechanisms, eventually influences the development of the next generation of children.

### An Interactionist Model of SES and Human Development

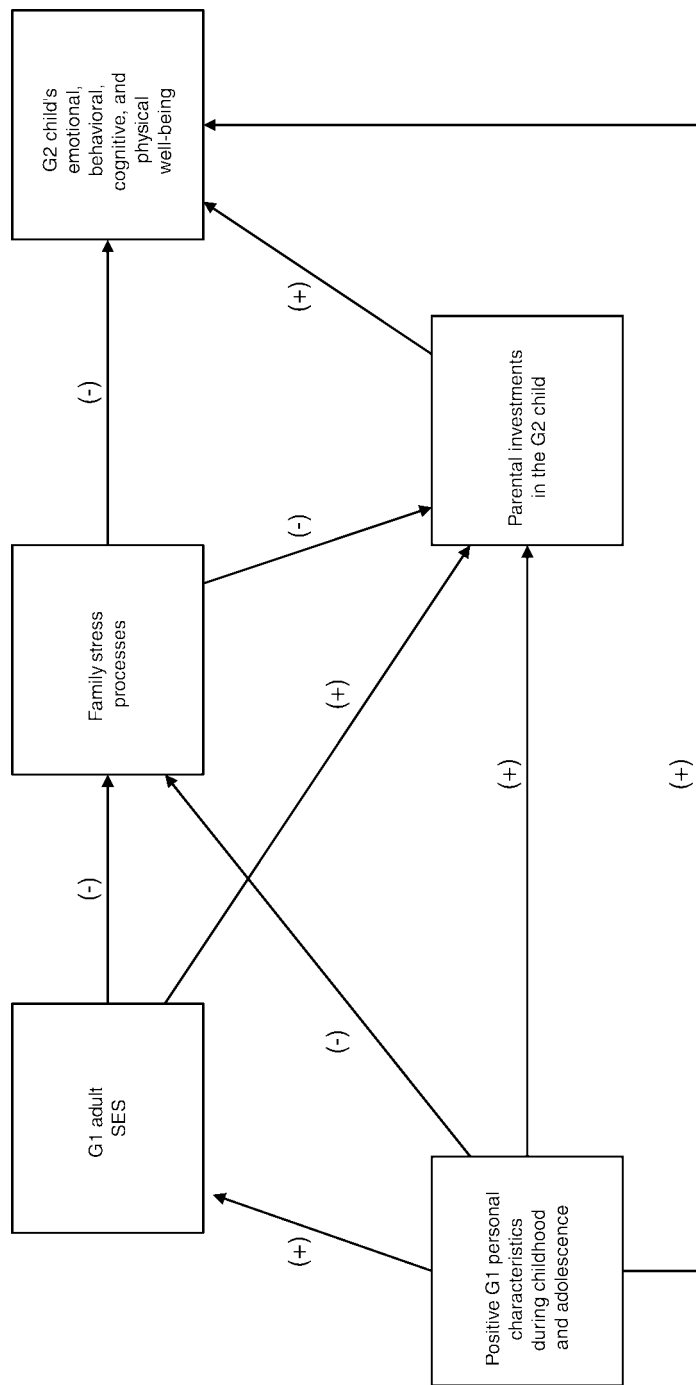
**Figure 3** depicts our interactionist perspective on SES, family interaction processes, and child development. The model systematically incorporates social selection and social causation processes into an overarching framework. To address the social selection approach, the model begins with the positive characteristics of future parents (G1) during childhood and adolescence. These positive characteristics include attributes such as cognitive abilities, social competence, persistence, planfulness, and ambition. The selection framework proposes that these characteristics will be positively related to G1 SES in adulthood and will be positively related to the investments that parents make in their children (G2). The model also proposes a direct, positive path from G1 personal characteristics to G2 child well-being. This direct pathway could occur biologically (e.g., through genes or the intrauterine environment) or via social learning processes whereby offspring emulate G1 characteristics that demonstrate continuity from childhood to the adult years. Finally, G1's social and cognitive skills are expected to reduce the occurrence of SES-related family stressors, as proposed by the FSM.

The social causation aspects of the integrated model are reflected in pathways from family stress processes to G2 child outcomes along the lines specified by the FSM and in pathways from family SES to parental investments in their offspring along the lines proposed by the FIM. The interactionist model indicates that, although social selection will play a role in determining an adult's social position, socioeconomic circumstances will have an additive influence on eventual outcomes

independent of original G1 characteristics. That is, although adult SES is affected by earlier G1 characteristics, the model depicted in **Figure 3** proposes that G1 SES will have an additional and independent impact on parental investments and family stress processes, consistent with both the FIM and FSM. Moreover, family stress processes are expected to decrease parental investments and have a negative impact on G2 development above and beyond the influence of G1 characteristics.

Simply put, the model in **Figure 3** describes a reciprocal dynamic according to which G1 attributes affect SES and SES affects G1 functioning as a parent and spouse, even after controlling for earlier G1 characteristics. According to the model, this reciprocal process ultimately affects the development of the next generation of children. Empirical evaluation of the model will clarify the degree to which this hypothesized dynamic actually occurs. For example, if careful intergenerational studies demonstrate that SES has little influence on family processes or investments after G1's characteristics are taken into account, then the weight of the evidence would favor a social selection argument. On the other hand, if G1 characteristics play only a limited role in predicting either SES or the later constructs in the model after SES is taken into account, then the evidence would favor a social causation view. However, we expect that all of the elements in the model will prove to be important, consistent with the interactionist perspective.

Tests of the model depicted in **Figure 3** require very special types of studies conducted over long periods of time. Data must be collected during childhood or adolescence on future parents, and this G1 generation must be followed long enough into adulthood to evaluate the competing theoretical processes proposed in **Figure 3**. Fortunately, an increasing number of such studies are now available (e.g., Capaldi et al. 2003). Although the demands and costs of such research are quite



**Figure 3**

The Interactionist Model.

high, without such long-term investigations it will be impossible to disentangle the degree to which the relationships among SES, family interactions, and child development represent processes of social selection, social causation, or a combination of the two. Nonetheless, many existing datasets can be used to provide preliminary evaluations of aspects of the model described in **Figure 3**, and we hope that researchers will pursue such investigations.

## LOOKING TO THE FUTURE

This review was broadly concerned with how SES influences developmental outcomes for children via family processes. We initially framed this discussion within the context of health disparities, given the consistent evidence that lower-SES children are at risk for higher-than-average rates of physical illness and reduced life expectancies, as well as for truncated life opportunities and behavioral or emotional problems. We presented two broad explanations for these findings: a social causation perspective and a social selection perspective. Our final conclusion, however, is that neither perspective is satisfactory on its own, and both explanations can be incorporated into an interactionist model that more accurately captures how SES influences human development over time and across generations. The major take-home message of this review is that researchers should design studies that can evaluate both perspectives simultaneously. To help facilitate the next generation of research, we proposed an interactionist model as a heuristic for future studies of the links among SES, parenting behaviors, and child development. The following brief comments explore future research needs in more detail.

First, it is important to evaluate all of the models we have described using diverse families in terms of their structure, ethnicity, and nationality. These kinds of samples strengthen inferences about the generalizability of the

proposed models and identify the boundary conditions for particular models. Results from these kinds of studies often suggest important avenues for future research. For example, Parke et al. (2004) reported that certain aspects of the FSM might operate differently for Mexican American than for European American families. Likewise, Mistry et al. (2002) and Yeung et al. (2002) found that parent emotional distress was directly related to problems in parenting for single-parent families, whereas research with two-parent families suggested that emotional distress usually relates indirectly to parenting problems through interparental conflict. These studies indicate that there are both common and unique pathways that characterize the processes linking SES to child development in diverse types of families and that future work is needed to clarify these processes. Second, it is important to incorporate neighborhood or community effects into discussions of the impact of SES on human development (Leventhal & Brooks-Gunn 2000). We have addressed this issue only tangentially in the present review, but it remains an important issue for future investigations. Third, genetically informed longitudinal studies can be very useful for addressing questions about the interplay between individuals and environmental circumstances (Moffitt et al. 2005). For instance, Kim-Cohen and her associates (2004; but see Turkheimer et al. 2005) found that children's resilience to low SES was in part genetic and in part a function of environmental influences such as parental warmth and stimulating activities.

Finally, a crucial direction for future research is the design of experiments and quasi-experiments that can more powerfully address questions of causality with respect to the models we have considered. As noted earlier, some evaluations of income supplementation or residential relocation programs have shown positive effects (e.g., Gennetian & Miller 2002, Leventhal & Brooks-Gunn 2003). These effects appear to be relatively

limited, however, and we suspect these findings result from the fact that planned interventions do not fundamentally alter a family's socioeconomic standing. To be sure, more substantial effect sizes have been reported, but consistent with our argument, these seem to be tied to more substantial boosts in income (see, e.g., Costello et al. 2003). Thus, researchers should have appropriate expectations regarding effect sizes and design studies with adequate power. It is also imperative that all effect sizes are interpreted in the context of these concerns, both for the sake of the scientific literature and for policy makers who may use such findings for making important decisions about programs for families and children. Evaluation studies also should examine the effects of interventions that address other aspects of the models discussed in this article, such as mental health services relevant to family stress processes or supplemental learning programs consistent with the FIM.

All told, researchers from a wide range of disciplines and subdisciplines are using a number of research strategies to tackle the formidable challenge of understanding how SES and family contexts influence individual lives. We anticipate that the next decade or so will provide broad support for interactive models that incorporate aspects of both social causation and social selection. Moreover, we predict that attention to the sort of interactionist model we have outlined in this article will lead to the design of more effective prevention and intervention programs when compared with models that are built exclusively on one tradition or the other. In closing, we note that SES-related health disparities are a reality for both adults and children (Berkman & Kawachi 2000, Repetti et al. 2002), and there is a fundamental need to improve scientific understanding of the reasons for this relationship so that appropriate steps can be taken to improve the lives of families, parents, and children.

## SUMMARY POINTS

1. Health disparities are pervasive and demonstrate that lower socioeconomic status is associated with less healthy physical, emotional, behavioral, and cognitive functioning of adults and children.
2. The relationship between SES and healthy development is likely complex.
3. Empirical evidence suggests that low SES may have an adverse influence on child development by exacerbating family stresses that reduce the effective functioning of parents.
4. Empirical evidence suggests that high SES may promote successful child development through the many investments that higher-SES parents are able to make in their children's well-being.
5. Empirical evidence suggests that the earlier attributes of individuals may play a crucial role in their eventual social and economic successes and failures.
6. Empirical evidence indicates that social and economic position and individual attributes may be reciprocally interrelated over time, providing support for an interactionist perspective that argues for both social causes and social selection.
7. Future research on SES and human development would benefit by testing predictions from the interactionist perspective both within and across generations in the same families.

This important study clearly demonstrates the association between SES and a range of parental investments in children. Based on a diverse, national sample of several thousand participants, the results show that in comparison with lower-SES children, higher-SES children experience advantages in terms of more effective and affectionate parenting, enriched learning environments, and safer and more pleasing physical environments.

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This report provides an elaborated version of the family stress model, which includes predictions regarding resilience and vulnerability to hypothesized family stress processes. Empirical findings are reviewed that relate to the basic and extended versions of the model.

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This study provides groundbreaking evidence that community improvements in family income reduce risk for child psychopathology. The findings from this quasi-experiment demonstrated that new employment opportunities that increased family income on average led to lower rates of children's psychiatric disorder.

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This book lays out various models for evaluating income effects on children's development and provides a particularly helpful description of the investment perspective. The author questions whether income really has an influence on children's development and provides a number of analyses that are consistent her argument.

Miech et al. reports that mental disorders during adolescence can influence eventual SES, and

that SES during early adulthood can influence later mental disorders. The article provides important preliminary support for an interactionist perspective on SES and human development.

Parke and his colleagues provide fascinating findings suggesting that the family stress model might operate differently for European compared with Mexican American families. In particular, economic pressures that increase conflicts in the marital relationship may be especially distressing for children of Mexican origin.

Rowe & Rodgers question whether studies that relate SES to child development have adequately controlled for possible genetic influences. This paper provides an important orientation regarding possible genetic pathways in social selection effects.

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Solantaus et al. provide an important cross-national replication in Finland of results related to the family stress model. The findings are quite comparable to tests of the model conducted in the United States, and thus provide cross-cultural support for predictions from the model.

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