Child Development, July/August 2001, Volume 72, Number 4, Pages 1231–1246

The Influence of Neighborhood Disadvantage, Collective Socialization, and Parenting on African American Children's Affiliation with Deviant Peers

Gene H. Brody, Xiaojia Ge, Rand Conger, Frederick X. Gibbons, Velma McBride Murry, Meg Gerrard, and Ronald L. Simons

This study focused on hypotheses about the contributions of neighborhood disadvantage, collective socialization, and parenting to African American children's affiliation with deviant peers. A total of 867 families living in Georgia and Iowa, each with a 10- to 12-year-old child, participated. Unique contributions to deviant peer affiliation were examined using a hierarchical linear model. Community disadvantage derived from census data had a significant positive effect on deviant peer affiliations. Nurturant/involved parenting and collective socialization processes were inversely associated, and harsh/inconsistent parenting was positively associated, with deviant peer affiliations. The effects of nurturant/involved parenting and collective socialization were most pronounced for children residing in the most disadvantaged neighborhoods.

INTRODUCTION

Both research and theory suggest that peer affiliations serve as proximal links to problem behavior and disengagement from conventional activities such as school attendance and academic achievement (Ary, Tildesley, Hops, & Andrews, 1993; Elliott, Huizinga, & Ageton, 1985; Hawkins, Catalano, & Miller, 1992; Mosbach & Leventhal, 1988; Patterson, DeBaryshe, & Ramsey, 1989). The social contexts within which these affiliations are fostered or deterred, however, are less well understood. In the present investigation, hypotheses about the contributions of neighborhood disadvantage, neighborhood processes, and parenting processes to deviant peer affiliation were tested. Using multilevel data that focus on individuals, families, and neighborhoods, the hypotheses were examined using a hierarchical linear model (HLM; Bryk & Raudenbush, 1992) with a multisite sample of African American children.

Most studies that assess the development of deviant peer affiliations involve adolescents, either those in the midst of the teenage years or those who are making the transition to young adulthood (Wills, Mariani, & Filer, 1996). From a developmental perspective, the tendency to associate with deviant peers develops over time, and the differential affiliation processes that contribute to unconventional trajectories may well begin during middle childhood (Forehand, 1990; Patterson et al., 1989; Zucker, 1994). Few studies, however, have examined affiliation with deviant peers during the elementary school years. Given the importance of community and family factors in shaping peer relations in middle childhood (Jessor & Jessor, 1977; Ketterlinus & Lamb, 1994; Lerner, 1993), this study focused on African American 10- and 11-year-olds, their families, and the communities in which they live.

Neighborhood Characteristics and Processes

Beginning with the work of social ecologists in the first half of the 20th century (Burgess, 1925; Park, 1926; Park & Burgess, 1924; Shaw & McKay, 1942) and continuing with later studies of social disorganization, urban poverty, and social inequity (Bursik, 1988; Furstenberg, 1993; Sampson & Groves, 1989; Wilson, 1991), children's tendency to associate with peers who engage in antisocial or delinquent behavior has been linked to neighborhood disadvantage. A "neighborhood" typically has been defined using either administrative boundaries such as census tracts and zip codes or a statistically generated clustering of problems. Modest yet consistent associations have emerged from these studies between adolescent delinquency and neighborhood disadvantage based on indicators such as poverty rates, unemployment levels, proportions of single-parent and female-headed households, population turnover, and cultural heterogeneity (Block, 1970; Elliott et al., 1996; Figueira-McDonough, 1993; Jencks & Mayer, 1990; Mayer & Jencks, 1989; Peeples & Loeber, 1994; Shaw & McKay, 1942; Shekadeh & Sleffensmeier, 1994; Simcha-Fagan & Schwartz, 1986).

It is still unclear how neighborhood disadvantage becomes linked with children's antisocial or delinquent behavior and affiliation with deviant peers. Social disorganization theorists (Sampson & Groves,

1989; Wilson, 1987, 1991) have hypothesized that the particular characteristics of disadvantaged neighborhoods inhibit processes that promote conventional behavior in both adults and children. Residents of disadvantaged neighborhoods may be more socially alienated from one another and communicate less often. Such erosion of social ties among neighbors may impede the development of informal social control networks and consensus regarding norms and standards for youth behavior. Under these conditions, residents are less likely to monitor the behavior of the children and youths in their neighborhoods (Bursik & Grasmick, 1993; Sampson & Groves, 1989; Sampson, Raudenbush, & Earls, 1997), thus strengthening the peer influence systems that may reward unconventional norms and behavior. One purpose of the present research, therefore, was to test the hypothesis that affiliation with deviant peers during childhood is associated with residence in a disadvantaged neighborhood.

Structural indicators commonly used to measure neighborhood quality provide limited information relevant to the neighborhood processes that affect peer affiliations (see Bronfenbrenner & Crouter, 1982; Burton, Price-Spratlen, & Spencer, 1996). To remedy this situation, researchers have begun to examine empirically the specific behaviors that adults enact in their neighborhoods that promote positive child development (Furstenberg, 1993; Sampson et al., 1997). Sampson and Groves (1989) proposed that a set of neighborhood practices, which they termed *collective socialization processes*, would promote child development and protect children from dangerous neighborhood contexts. Included in these processes is the willingness of adults in a neighborhood to monitor and supervise the behavior of children and youths from both their own and other families. Collective socialization represents parental monitoring processes extended to the neighborhood (Patterson et al., 1989), and connotes a level of trust and cohesion among neighbors that facilitates consensus about acceptable conduct in the community (Bursik & Grasmick, 1993).

Just as parents vary in their willingness and ability to monitor their children, neighborhood residents also vary in their ability to organize themselves in ways that facilitate collective socialization processes. Aspects of neighborhood disadvantage that induce stress, a sense of powerlessness, and lower levels of personal and collective efficacy are associated with low levels of collective socialization (Allison et al., 1999; Bursik & Grasmick, 1993; Sampson, 1992; Sampson et al., 1997; Shaw & McKay, 1942; Wilson, 1987). Neighborhoods in which adult residents manage to engage in collective socialization processes despite disadvantage experience less violence (Sampson et al., 1997), greater prosocial competence among adolescent residents, and less juvenile problem behavior (Elliott et al., 1996). Collective socialization processes, therefore, are pivotal in connecting neighborhood disadvantage to variations in violence and in adolescent competence and vulnerability. Accordingly, we predicted that collective socialization processes such as monitoring children's behavior and constraining their deviant actions would be inversely associated with children's affiliation with deviant peers. Although we further predicted that fewer collective socialization processes would operate in disadvantaged neighborhoods, a contextual hypothesis was also tested: The link between collective socialization processes and children's affiliation with deviant peers would be stronger for children living in more disadvantaged neighborhoods than for children living in less disadvantaged surroundings. This hypothesis is based on Rutter's (1985) observation that the influence of protective processes is strongest under conditions of highest risk. By applying Rutter's thesis to the present study, we predicted that (1) among the overall sample, community disadvantage would be positively associated with children's deviant peer affiliations, (2) collective socialization processes would be negatively associated with children's deviant peer affiliations, and (3) the effects of collective socialization would be most apparent for children living in the most disadvantaged neighborhoods.

A secondary purpose of the neighborhood analyses was to determine whether prediction of children's affiliations with deviant peers varies according to the source of information about neighborhood characteristics. Data were gathered from three sources: census data measures of neighborhood disadvantage assessed at the block group level, caregivers' appraisals of neighborhood characteristics, and children's appraisals of the same characteristics. Obtaining data from several independent sources also permitted examination of the degree of similarity among the assessments of neighborhood characteristics. Qualitative researchers have demonstrated that although caregivers and children reside in the same neighborhoods, they often perceive those neighborhoods quite differently (Burton et al., 1996). These divergent perceptions are related to differences in the areas of the neighborhood that youths and their caregivers frequent, resulting in different appraisals of the same geographic space. Based on this research, we predicted that children's affiliations with deviant peers would be associated with census data assessments of community disadvantage and children's appraisals of community characteristics and processes. There

was less certainty, however, regarding the links between caregiver appraisals of their neighborhoods and children's peer affiliations. Burton et al.'s (1996) data suggest that caregiver appraisals may not capture the child's neighborhood experiences; therefore, they may not be as strongly associated with children's peer affiliations.

Parenting Processes and Affiliation with Deviant Peers

In several theories mechanisms are proposed through which parenting processes are hypothesized to affect children's affiliation with deviant peers. According to Jessor and Jessor's (1977) problem-behavior theory, an unsupportive parent–child relationship contributes to deviance-prone attitudes. Children who do not receive emotional support from their parents lack a primary source of socialization in conventional values, and will be less accepting of those values and more disposed to affiliate with deviant peers during adolescence. Social learning theory (Patterson et al., 1989) and sociological accounts of delinquency (Elliott et al., 1985) also link an unsupportive parent–child relationship to more aversive parenting behavior and less monitoring of child behavior. Children whose experiences with their parents include a great deal of harsh treatment are doubly handicapped. Not only have they learned to use aversive tactics to resolve interpersonal conflicts, but they also have not learned the prosocial skills required for maintaining supportive peer relationships (Snyder & Patterson, 1995). These children are more likely to be rejected by conventional peers and to affiliate with children similar to themselves (Simons, Whitbeck, Conger, & Conger, 1991).

Consistent with these theories, longitudinal analyses have indicated that affiliation with deviant peers is associated with antecedent harsh parenting (Blanton, Gibbons, Gerrard, Conger, & Smith, 1997; Conger & Reuter, 1996), low levels of parental monitoring (Dishion, Patterson, Stoollmiller, & Skinner, 1991), low maternal nurturance (Brody & Forehand, 1993), lax discipline (Dishion et al., 1991), and low educational and occupational levels among parents (Dishion et al., 1991). Cross-sectional studies (Elliott, Huizinga, & Menard, 1989; Mason, Cauce, Gonzales, & Hiraga, 1994; Simons, Johnson, Beaman, Conger, & Whitbeck, 1996; Simons, Whitbeck, Beaman, & Conger, 1994; Wills, Schreibman, Benson, & Vaccaro, 1994) have yielded similar findings, suggesting that a lack of identification with parents is an important covariate of affiliation with deviant peers (Simons et al., 1991; Whitbeck, Simons, Conger, & Lorenz, 1989).

In addition to focusing on children rather than adolescents in studying affiliation with deviant peers, we also sought to extend the literature by determining whether parenting processes are linked with peer affiliation net of objective assessments of community disadvantage, perceptions of deviance within the community, collective socialization processes, and parents' socioeconomic characteristics. Because parenting practices have been linked with community disorganization (Brooks-Gunn, Duncan, & Aber, 1997; Duncan, Brooks-Gunn, & Klebanov, 1994; Klebanov, Brooks-Gunn, & Duncan, 1994; Klebanov, Brooks-Gunn, McCarton, & McCormick, 1998; Sampson & Laub, 1994; Simons et al., 1996; Steinberg, Lamborn, Dornbusch, & Darling, 1992) and family SES (Brody & Flor, 1998; Brody, Stoneman, & Flor, 1995; Elder & Caspi, 1988; Simons, Beaman, Conger, & Chao, 1993), any associations between parenting processes and affiliation with deviant peers may be confounded with neighborhood and family socioeconomic characteristics. Ruling out this possibility requires researchers to demonstrate that parenting processes operate over and above community and other family characteristics. We predicted that nurturant/involved parenting practices would be inversely related, and harsh/inconsistent parenting practices would be positively linked, to children's affiliation with deviant peers after controlling for the effects of neighborhood characteristics, neighborhood processes, and family socioeconomic status (SES). Similar to the aforementioned contextual hypothesis for collective socialization, it was also predicted that the contribution of nurturant/involved parenting to reductions in children's affiliation with deviant peers will be most apparent for children residing in the most disadvantaged neighborhoods.

Testing Multilevel Hypotheses

The hierarchically nested structure of our data (individual participants nested within neighborhoods) presents an important data analytic challenge because participants living in the same neighborhoods will be influenced by a common neighborhood environment. As a result, potential interdependence among observations exists, which is not controlled in traditional regression models (Bryk & Raudenbush, 1992). In this study, an HLM was used to estimate simultaneously between-neighborhood and within-neighborhood (individual) characteristics (Bryk & Raudenbush, 1992). This provided greater assurance that the links between neighborhood factors were not simply the result of individual-level characteristics (e.g., income or parental education) that could also vary across neighborhoods as a result of selection effects (Jencks & Mayer, 1990; Tienda, 1991).

METHOD

Description of the Family and Community Health Study

The Family and Community Health Study (FACHS) is a multisite study of neighborhood and family effects on health and development. Data were collected in Georgia and Iowa using identical research procedures. The participants were African American children who were 10 and 11 years old when first contacted, and their families. Most research on the effects of neighborhood characteristics and other contextual factors on African American families has focused on those living in densely populated inner cities. This focus does not acknowledge the diversity of African American families and the variety of communities in which they live. The sites in Iowa and Georgia that were sampled include rural farm communities, suburban areas, and metropolitan areas. None of these communities in any way resembled densely populated inner-city regions. Helge (1990), however, has suggested that rural, suburban, and metropolitan communities outside the inner city are becoming more similar to urban environments as crime rates and the prevalence of substance use increase rapidly in these areas. The FACHS was designed to analyze the particular risks and resources that impede or facilitate African American family functioning and child development in contexts other than inner cities.

Participants

A total of 867 African American families with a fifth-grade child were recruited for participation in the study. In Iowa, 462 children (213 boys and 249 girls) and their primary caregivers participated, as did 405 children (187 boys and 218 girls) and caregivers in Georgia. The children's mean age was 10.5 years, with a range of 10 to 12 years. Most of the primary caregivers (84%) were the children's biological mothers, 6% were biological fathers, 6% were grandmothers, 3% were foster or adoptive parents, 2% were other biological relatives, 1% were stepparents, and less than 1% were nonrelatives. Overall, 93% of the primary caregivers were female. Their mean age was 37.10 years ($SD = 8.18$ years) with a range of 23 to 80 years. The primary caregivers' educational levels ranged from less than high school (19%) to a graduate degree (3%); the mode was a high school diploma (41%).

Sampling Strategy

One of the study's central goals was to investigate the effects of neighborhood characteristics on child and family functioning. Therefore, families were recruited from neighborhoods with varying demographic characteristics, particularly racial composition (percentage African American) and economic level (percentage of families with children living below the poverty line). In selecting neighborhoods from which to draw the sample, characteristics of block group areas (BGAs)–clusters of blocks within a tract defined by the Census Bureau–were examined. These census tracts typically include four or five BGAs. When constructing BGAs, the Census Bureau strives to use naturally occurring neighborhood boundaries such as major thoroughfares or rivers. During the 1990 census, BGAs averaged 452 housing units with 1,100 residents. Using data from this census, BGAs were identified in Iowa and Georgia in which African American families made up 10% or more of the population and in which 20% to 100% of families with children lived below the poverty line.

In Georgia, sampling procedures were similar to those used in earlier investigations of African American families (Brody & Flor, 1997, 1998). Metropolitan and nonmetropolitan BGAs in northeast Georgia that excluded inner-city Atlanta and met the criteria for racial composition and extent of poverty were identified. They were selected from small towns and a suburban area adjacent to Atlanta. Within each BGA, community members who agreed to serve as liaisons between the University of Georgia researchers and the neighborhood residents were identified. These community liaisons compiled rosters of children within each BGA who met the sampling criteria. In addition to their own direct knowledge, the liaisons used information from parents, teachers, pastors, youth groups, and community organizations in compiling the rosters. Families were then randomly selected from these rosters and contacted to determine their interest in participation in the research project. Families who declined participation were removed from the rosters and other families were randomly selected until the required number of families from each BGA had been recruited. Over 60% of the families who were contacted agreed to participate.

In Iowa, BGAs in Waterloo (population 65,000) and Des Moines (population 193,000) that met the sampling criteria were identified. Potential participants were identified through the public schools in these BGAs. The schools provided names and addresses of all African American students in the fourth through sixth grades, typically 10- or 11-year-olds. Again, over 60% of the families who were contacted agreed to participate. The total sample included families from 259 BGAs: 144 in Iowa and 115 in Georgia.

Table 1 Descriptive Statistics for Study Variables

Variable	Iowa			Georgia			
	N	*M*	*SD*	*N*	*M*	*SD*	*t*
Community disadvantage	21	.35	.87	20	.36	.72	−.03
Child affiliation with deviant peers	425	23.13	4.49	373	22.53	4.39	1.91
Family per capita income (dollars, ÷ 1000)	390	6.67	5.56	336	6.36	7.00	.66
Child age (years)	458	10.57	.59	404	10.44	.52	3.45***
Caregiver education (years)	410	12.80	2.24	374	12.13	2.02	4.45***
Nurturant/involved parenting, child report	424	69.52	10.99	376	71.61	9.86	−2.83**
Nurturant/involved parenting, caregiver report	456	70.29	8.58	390	71.02	9.35	−1.17
Harsh/inconsistent parenting, child report	427	35.79	6.77	378	35.24	7.11	1.14
Harsh/inconsistent parenting, caregiver report	458	28.92	4.81	387	28.67	5.11	.71
Collective socialization, child report	452	9.13	2.22	402	9.40	2.36	−1.72
Collective socialization, caregiver report	426	−.34	5.59	386	.51	4.96	−2.26*
Community deviance, child report	430	8.41	2.57	389	8.39	2.57	.14
Community deviance, caregiver report	456	−.19	2.94	401	.01	3.21	−.93

*$p < .05$; **$p < .01$; ***$p < .001$.

Procedure

Before data collection began, four focus groups in Georgia and four in Iowa examined and critiqued the self-report instruments. Each group was composed of 10 African American women who lived in neighborhoods similar to those from which the study participants were recruited. Group members suggested modification of items that they perceived to be culturally insensitive, intrusive, or unclear. After the focus groups' revisions were incorporated into the instruments, the protocol was pilot tested on 16 families, 8 from each state. Researchers took extensive notes on the pilot test participants' reactions to the questionnaires and offered suggestions for further changes.

To enhance rapport and cultural understanding, African American university students and community members served as field researchers to collect data from the families in their homes. Prior to data collection, the researchers received one month of training in the administration of the self-report instruments. Two home visits, each of which lasted 2 hours, were made to each family within 7 days as the families' schedules allowed. During the first visit, informed consent was obtained; primary caregivers consented to their own and their children's participation and the children agreed to participate. At each home visit the self-report questionnaires were administered to the caregiver and the child in an interview format. Each interview was conducted privately between one participant and one researcher, with no other family members present. At no time during the presentation of the questionnaires did a researcher assume that a participant could read. This literacy concern was one of the reasons for presenting the measures in an interview format. The instruments were presented on laptop computers. Questions appeared in sequence on the computer screen, which both the researcher and participant could see. The researcher read each question aloud and entered the participant's response using the computer keypad.

Measures

Census data assessment of community disadvantage and formation of neighborhood clusters. Five variables derived by the Census Bureau were used to assess objectively the extent of economic disadvantage in the participants' communities: average per capita income, proportion of female-headed households, proportion of residents receiving public assistance, proportion of households below the poverty line, and proportion of unemployed residents. Combinations of these variables have been used to assess community SES in previous studies (Sampson et al., 1997; Sucoff & Upchurch, 1998). These variables also loaded on a single factor when the data were analyzed. Table 1 presents the means, standard deviations, and ranges of all study variables.

Most of the BGAs from which the sample was drawn included fewer than five participating families; consequently, use of an HLM of community contextual effects for separate BGAs was not possible. Cluster analysis was therefore used to combine BGAs with similar socioeconomic characteristics into larger community groups. The cluster analysis was performed using Ward's minimum-variance method from the SAS Cluster procedure (*SAS/STAT User's Guide*, 1990). This method produces clusters that in-

clude approximately equal numbers of observations. Analyses were performed separately for BGAs in Iowa and Georgia to identify clusters of BGAs that were similar in both geographic proximity and socioeconomic characteristics. The analyses produced 41 clusters, 21 in Iowa and 20 in Georgia. The number of families in a cluster ranged from 7 to 56. Most clusters (31) included 15 to 30 families. The BGAs in a cluster were not always contiguous, but they were internally homogenous on the aforementioned census indicators and shared similar geographic locations within a town or city.

Individual appraisals of neighborhood conditions. The caregivers and children were asked to report independently their perceptions of conditions in their neighborhoods. Two scales were used in this assessment. The measure of collective socialization included eight true–false questions for caregivers and three Likert-type questions for children asking how likely adults in the neighborhood would be to intervene if they saw children engaging in various types of misbehavior (e.g., skipping school, painting graffiti, behaving disrespectfully). Each respondent's answers were summed separately to form caregiver and child collective socialization constructs: for caregivers, $\alpha = .82$; for children, $\alpha = .61$. Community deviance was assessed by asking primary caregivers to indicate on a 4-point scale how much of a problem they perceived the following behaviors to be in their neighborhoods: drinking in public, selling or using drugs, adolescent loitering, and gang violence, $\alpha = .89$. Children reported how often during the past 6 months the following events took place in their neighborhoods: a fight with weapons, a violent argument, a gang fight, a sexual assault, a robbery or mugging, and a murder, $\alpha = .75$.

Nurturant/involved parenting. Separate indicators of nurturant/involved parenting were constructed for caregivers and children by summing standardized scores from the scales that were used to assess caregivers' inductive reasoning, communication, and child monitoring. These scales have been used in previous studies (Conger et al., 1992; Ge, Conger, Lorenz, & Simons, 1994), and the combination of the variables they measure has been found to be related consistently to adolescents' affiliation with deviant peers (Blanton et al., 1997; Conger & Reuter, 1996; Simons et al., 1996). Caregivers and children used a 4-point scale to indicate the frequency with which caregivers engaged in particular childrearing behaviors. The items assessed the extent to which caregivers reasoned with children and encouraged the children to consider the consequences of their own behavior, the clarity with which caregivers expressed their own views (e.g., asked for children's input when making decisions, disciplined children by reasoning, talked to children about things that bother the children, listened to children's perspectives during arguments), and the degree to which caregivers were aware of the children's behavior and activities (e.g., knew what children did after school, knew if children misbehaved, knew about children's school performance): for caregivers, $\alpha = .76$; for children, $\alpha = .82$.

Children also completed a 9-item warmth scale indicating the degree to which their caregivers expressed interest in and consideration for them (e.g., "Your mom talks about good things you have done," "Your mom talks with you about what you are doing in school," and "When your mom disagrees with you, you know she still loves you."), $\alpha = .82$. Principal component factor analysis indicated that this scale loaded on a common factor with nurturant/involved parenting, with factor loadings of .82 for warmth and .77 for nurturant/involved parenting.

Harsh/inconsistent parenting. A construct was formed by aggregating separately caregivers' and children's responses to questions on a scale used to assess caregivers' use of harsh and inconsistent discipline with their children. The scale included 11 items, which in prior research had prospectively predicted affiliation with deviant peers during adolescence (Conger & Reuter, 1996; Simons et al., 1996), that indexed discrepancy in the caregivers' disciplinary practices (e.g., punishing children for particular misbehaviors at one time but not punishing them for the same misbehaviors at other times) and the caregivers' use of severe disciplinary techniques (e.g., shouting and hitting): for caregivers, $\alpha = .56$; for children, $\alpha = .65$. The relatively low α coefficients for the harsh/inconsistent discipline scale reflect the skewness of the distribution.

Children also completed an 8-item hostility scale that assessed the extent to which their caregivers were angry, critical, and rejecting toward them (e.g., criticizing children, their ideas, or the ways in which they do things; insulting or swearing at children), $\alpha = .73$. Principal component factor analyses again were executed to justify aggregation of the separate scales into a higher order construct. The factor loadings were .76 for hostility and .74 for harsh/inconsistent discipline.

Children's affiliation with deviant peers. On a 4-point scale ranging from 1 ("none of them") to 4 ("all of them"), children reported the proportion of their friends who engaged in deviant behaviors such as skipping school, purposely damaging property, using tobacco, drinking alcohol, stealing less than $25, and stealing more than $25. The instrument used was a

modified version of a scale developed by Elliott et al. (1985); Cronbach's α was .88.

To establish that the affiliation with deviant peers construct could be discriminated from the construct of child-reported community deviance, the items from the two constructs were modeled in the same confirmatory factor analytical model. When all the items from both affiliation with deviant peers and child-reported community deviance were loaded on a single factor, $\chi^2(275, N = 867) = 2{,}334.25$. In a two-factor model, with the items loaded separately on the two constructs of affiliation with deviant peers and community deviance, $\chi^2(274, N = 867) = 1{,}257.56$, indicating a dramatic improvement in model fit over the single-factor model. This comparison suggests that affiliation with deviant peers is a distinct construct that is not confounded with community deviance.

RESULTS

Descriptive Statistics

Table 1 presents descriptive data on the study variables for the Iowa and Georgia research sites. The results of *t* tests comparing the means for the study variables at the two sites are also presented. The comparisons indicate that structural community disadvantage, family income, and affiliation with deviant peers did not differ between sites. Target children in Iowa were an average of 1.3 months older than those in Georgia, and caregivers in Iowa had attended school an average of 6.7 months longer than had Georgia caregivers. Children in Georgia reported receiving more nurturant/involved parenting than did children in Iowa, and caregivers in Georgia reported higher levels of collective socialization in their neighborhoods than did Iowa caregivers. Other measures indexing harsh/inconsistent parenting, community deviance, caregivers' reports of nurturant/involved parenting, and children's reports of collective socialization did not differ across sites.

Plan of Analysis

As Bryk and Raudenbush (1992) suggested, an HLM was used to accommodate the nested structure of the data. According to Aber (1994), an HLM is a more appropriate analytical approach than are traditional regression models for hierarchically structured data. For the Level 1 model in this study, the outcome variable, affiliation with deviant peers, was predicted by a set of explanatory variables, including harsh/inconsistent and nurturant/involved parenting, collective socialization, and community deviance. Community disadvantage, which varied across neighborhood clusters, was modeled as a Level 2 explanatory variable.

A systematic mismatch strategy was also used to avoid problems associated with multicollinearity, because variables on which a single informant reports may contain systematic method variance. Four models were specified. Model 1 estimated the effects of caregiver-reported parenting practices and children's community appraisals, as well as the main effect of community disadvantage and its interaction effects with children's community appraisals. Model 2 evaluated the effects of children's reports of parenting practices and caregivers' community appraisals, along with the main effect of community disadvantage and its interaction with children's reports of parenting practices. Model 3 repeated the estimations in Model 1, except that Model 3 estimated the interaction effects between community disadvantage and caregivers' reports of parenting practices. Similarly, Model 4 largely repeated the estimations in Model 2, but evaluated the interaction effects between community disadvantage and caregivers' community appraisals. These models allowed us to estimate separately the interaction effects that community disadvantage had with child-reported parenting, children's community appraisals, caregiver-reported parenting, and caregivers' community appraisals.

For all four models, variables such as the target child's age and gender were included as controls. As Duncan and Raudenbush (1999) suggested, the potential confound of selection effects in the estimation of neighborhood effects must be avoided. Therefore, primary caregivers' education level and per capita income were systematically controlled in every equation when estimating neighborhood effects. This strategy allowed for a more confident inference regarding community effects.

HLM Analyses Linking Parenting and Community Measures to Affiliation with Deviant Peers

Table 2 presents the results generated from the four models. In Model 1, it was predicted that affiliation with deviant peers would be positively associated with caregiver-reported harsh/inconsistent parenting and child-reported community deviance, and negatively associated with caregiver-reported nurturant/involved parenting and child-reported collective socialization, even after controlling for child gender and age. It was further predicted that community disadvantage would be significantly linked with children's association with deviant peers after controlling for caregiver-reported parenting practices, children's

Table 2 Hierarchical Linear Model Unstandardized Coefficients for Models Testing Level 1 and 2 Effects

	Model 1	Model 2	Model 3	Model 4
Level 1 variables				
Intercept	21.83**	21.22**	21.27**	20.77**
Demographic characteristics				
Child gender	.68*	.52	.72*	.54
Child age	.16	.22	.20	.25
Caregiver education	−.06	−.05	−.05	−.05
Family per capita income	−.03	−.04	−.02	−.04
Harsh/inconsistent parenting				
Child report		.15**		.15**
Caregiver report	.08*		.09*	
Nurturant/involved parenting				
Child report		−.06**		−.06**
Caregiver report	−.01		−.01	
Community deviance				
Child report	.49**		.49**	
Caregiver report		−.01		−.01
Collective socialization				
Child report	−.19*		.21**	
Caregiver report		−.01		−.01
Level 2 variables				
CD →Intercept	.68**	.66**	.66**	.64**
CD × Collective Socialization, child report	−.21*			
CD × Collective Socialization, caregiver report				−.01
CD × Community Deviance, child report	−.00			
CD × Community Deviance, caregiver report				−.01
CD × Harsh/Inconsistent Parenting, child report		.02		
CD × Harsh/Inconsistent Parenting, caregiver report			−.04	
CD × Nurturant/Involved Parenting, child report		.04*		
CD × Nurturant/Involved parenting, caregiver report			−.03	
r	14.61	14.95	14.63	14.98

Note: r = variance component; CD = community disadvantage (block group areas Census Bureau data).
*$p < .05$; **$p < .01$.

community appraisals, and possible selection effects (e.g., per capita family income and primary caregivers' education levels). The HLM unstandardized coefficients are presented in Table 2.

As hypothesized, caregiver-reported harsh/inconsistent parenting, $\beta = .08$, $p < .05$, as well as children's reports of collective socialization, $\beta = -.19$, $p < .05$, and community deviance, $\beta = .49$, $p < .01$, were significantly linked to affiliation with deviant peers. No significant association emerged with nurturant/involved parenting, $\beta = -.01$, $p > .05$. Multicollinearity may account for this unexpected result because a significant effect did emerge when nurturant/involved parenting was entered into the equation separately, $\beta = -.04$, $p < .05$. Child gender significantly predicted affiliation with deviant peers, $\beta = .68$, $p < .05$, such that boys were more likely than girls to report having friends who engaged in delinquent activities.

Turning to Level 2 effects of Model 1, the intercept was significantly associated with community disadvantage, $\gamma_{10} = .68$, $p < .01$, suggesting that living in a more disadvantaged neighborhood is associated with a greater likelihood that children will affiliate with deviant peers. This HLM Level 2 effect is interpreted in a manner similar to that of a main effect in traditional regression analyses, the major difference being that the main effect for community disadvantage is based upon the number of community clusters rather than the number of participants. An HLM also allows the associations between Level 1 independent and dependent variables (e.g., collective socialization and deviant peer affiliations) to vary across community contexts. Variation in Level 1 associations, therefore, may be examined as a function of Level 2 variables such as community disadvantage. The effect of community disadvantage on variations in Level 1 coefficients can be interpreted as similar to an interaction effect in traditional regression analysis. In this study

specific hypotheses were advanced that addressed variation in the associations of deviant peer affiliations with collective socialization and nurturant/involved parenting as a function of community disadvantage. It was hypothesized that significant associations would be more likely to emerge when children lived in more disadvantaged communities. The results supported this line of reasoning: The effect of the Level 1 variable of child-reported collective socialization on affiliation with deviant peers was significantly affected by Level 2 community disadvantage, $\gamma_{41} = -.21$, $p < .05$, suggesting that the influence of collective socialization on deviant peer affiliation varies systematically according to the level of community disadvantage. Among children living in more disadvantaged neighborhoods, those who reported higher levels of collective socialization were less likely to associate with deviant peers.

In Model 2, the associations of the Level 1 variables of child-reported parenting and caregiver community appraisals with affiliation with deviant peers were estimated. As with the analyses for Model 1, the effect of the Level 2 community disadvantage variable on the Level 1 associations between child-reported parenting and deviant peer affiliations were also examined. Child-reported harsh/inconsistent, $\beta = .15$, $p < .01$, and nurturant/involved, $\beta = -.06$, $p < .01$, parenting were both significantly linked to affiliation with deviant peers. Children whose primary caregivers were nurturant and involved were less likely to be affiliated with deviant peers, whereas those children whose caregivers used harsh, hostile, and inconsistent parenting behaviors were more likely to associate with deviant peers. Neither caregiver-reported collective socialization, $\beta = -.01$, $p > .05$, nor community deviance, $\beta = -.01$, $p > .05$, were significantly linked with the outcome variable. This finding is addressed in more detail in the Discussion section. Of particular interest was a significant effect for the Level 2 community disadvantage variable on the association between the Level 1 variable of child-reported nurturant/involved parenting and affiliation with deviant peers, $\gamma_{72} = -.04$, $p < .05$. This significant effect suggests that in highly disadvantaged neighborhoods the presence of nurturant and involved parenting reduces the likelihood that children will affiliate with deviant peers.

Model 3 included the same Level 1 analyses as did Model 1, but at Level 2 the influence of community disadvantage on the effects of caregiver-reported harsh/inconsistent and nurturant/involved parenting were tested. No significant associations emerged for caregiver-reported parenting. Model 4 repeated the Level 1 analyses included in Model 2, but at Level 2 the association of community disadvantage with caregiver-reported collective socialization and community deviance was tested. No significant effects emerged. We intended to perform all of the aforementioned analyses separately by child gender. This could not be done, however, because gendered analyses would have reduced significantly the number of clusters that could be analyzed. Using HLM with a relatively small number of clusters increases the likelihood of spurious results (Bryk & Raudenbush, 1992).

Examining the Links among Sources of Information about Community Characteristics

Additional analyses were executed to determine the relationship between community disadvantage as indicated by census data and appraisals of community deviance and collective socialization from children and caregivers. The children's community appraisals were regressed on the caregivers' appraisals of the same variables and community disadvantage derived from census data, while controlling for the effects of child gender and of caregivers' education and income. Similarly, caregivers' community appraisals were regressed on children's appraisals of the same variables and community disadvantage, while controlling for the effects of children's gender and age. Table 3 presents the results of these analyses.

As shown in Table 3, children's appraisals of community deviance and collective socialization were significantly associated with community disadvantage based on census data, $\beta = .650$, $p < .001$, and $\beta = -.428$, $p < .001$, respectively. Children's appraisals of community deviance and collective socialization were both significantly associated with caregivers' appraisals of the same variables, $\beta = .164$, $p < .001$ and $\beta = .054$, $p < .001$, respectively. These significant links between children's and caregivers' appraisals suggests that their perceptions of their communities converge to a significant degree, but do not overlap entirely. This is consistent with Burton et al.'s (1996) observation.

Caregivers' appraisals of community deviance were negatively associated with their income levels, $\beta = -.03$, $p < .05$, and positively associated with community disadvantage based on census data, $\beta = .998$, $p < .001$, after controlling for caregiver education and gender and for children's appraisals of the same variables. Caregivers' appraisals of collective socialization, however, were not significantly associated with the demographic variables or with community disadvantage, $\beta = -.317$, $p > .10$. Caregivers' appraisals of collective socialization practices were significantly

Table 3 Hierarchical Linear Model Unstandardized Coefficients Linking Appraisals of Community Characteristics to Block Group Area Assessed Community Disadvantage

	Child Report		Caregiver Report	
	Community Deviance	Collective Socialization	Community Deviance	Collective Socialization
Level 1 variables				
Intercept	8.214**	9.147**	−1.169	− .916
Child gender	.133	.125		
Child age	.007	.007		
Community deviance, caregiver report	.164**			
Collective socialization, caregiver report		.045**		
Caregiver education			−.048	−.117
Caregiver gender			.443	.777
Family per capita income			−.030*	.049
Community deviance, child report			.210**	
Collective socialization, child report				.238**
Level 2 variable				
Community disadvantage	.650**	−.428**	.988**	−.317

* $p < .05$; ** $p < .01$.

linked with those of their children, $\beta = .238$, $p < .05$, but were not governed by the communities' levels of poverty, public assistance, unemployment, single motherhood, or income.

DISCUSSION

In the present study, specific hypotheses were tested concerning the links associating neighborhood environments and parenting processes with children's affiliation with deviant peers. Results based on HLMs indicated that assessments of neighborhood disadvantage, appraisals of neighborhood deviance and collective socialization, and reports of nurturant/involved and harsh/inconsistent parenting processes were all linked as expected to children's peer affiliations. These effects emerged while controlling for the other predictors and for variables (e.g., per capita income) that influence selection into neighborhoods.

Indices of neighborhood disadvantage based on census data were significantly linked to children's affiliation with deviant peers. This result extends previous research in three ways. First, robust links emerged for children who did not live in the heavily populated inner city neighborhoods from which most prior samples were drawn. Second, the links emerged for 10- to 12-year-old children, whereas prior studies of neighborhood effects on antisocial behavior have focused on youths in middle to late adolescence. Third, HLM analyses revealed these effects, thus ruling out plausible rival hypotheses concerning overestimation of neighborhood effects due to statistical artifacts.

Although most previous studies of community disadvantage and youths' antisocial behavior have focused on heavily populated urban areas such as Chicago and Denver (Elliott et al., 1996; Sampson et al., 1997; Shaw & McKay, 1942), African American children grow up in diverse communities that vary in population density and levels of disadvantage. The present findings demonstrate that structural neighborhood risk factors generalize across community size and location. Small towns and rural areas are becoming more similar to urban environments, as crime rates and substance abuse increase rapidly outside the inner cities (Helge, 1990). The community characteristics that come with disadvantage, which discourage adherence to conventional norms and produce feelings of hopelessness in both adults and children (Wilson, 1991), are as likely to operate in small or moderately sized communities as they are in large urban areas. The present data suggest that children residing in disadvantaged communities, regardless of location, have a higher probability of exposure to and affiliation with antisocial peers than do children living in more affluent neighborhoods.

McLeod and Shanahan (1994) conjectured that a neighborhood's structural characteristics would be linked only weakly to young children's behavior, in-

creasing as youths grow older, spend more time away from home, and become more established in the community. The present results refine this prediction by demonstrating that community disadvantage is associated with affiliation with deviant peers by the time children reach 10 years of age. Despite the importance ascribed to differential affiliation processes as a precursor to involvement in a range of antisocial activities (Hawkins et al., 1992; Mosbach & Leventhal, 1988; Patterson et al., 1989; Wills et al., 1994), researchers have assumed that these processes are not activated until adolescence. The present results indicate that community characteristics are already contributing to rejection of conventional norms and affiliation with deviant peers during the upper elementary school years.

An HLM analysis was used to examine the contribution of neighborhood characteristics to children's peer affiliations. Despite suggestions that HLMs should be used to analyze neighborhood level data (Aber, 1994), few developmentally oriented researchers have done so. Hierarchical linear models present challenges that may cause researchers to avoid using them, the most notable of which involves statistical power. The degrees of freedom for HLMs are based on the number of neighborhoods sampled, not on the number of participants. Although the present sample included 867 families, they resided in only 42 community clusters. As noted earlier, however, HLMs avoid problems arising from the lack of independence and the attenuation of standard errors that occur when families living in the same neighborhood have identical scores on structural community indicators. The use of analytic strategies such as HLMs makes it necessary to conduct multisite studies that include enough different communities to detect any community effects that may exist. This strategy enabled us to recruit families from a diverse sample of communities and obtain enough statistical power to detect meaningful associations.

Consistent with prior research and theory (Bursik & Grasmick, 1993; Sampson & Groves, 1989; Sampson et al., 1997), children's reports of collective socialization processes were linked inversely with their affiliation with deviant peers. These results extend previous findings by demonstrating the efficacy of collective socialization processes in communities outside large inner cities. The next step in researching the protective effects of collective socialization processes is to determine how these processes decrease affiliation with deviant peers. Several possible mechanisms can be addressed in future research. Collective socialization may decrease the overall level of antisocial behavior in a community, thus reducing opportunities for exposure to antisocial models and inhibiting peer reinforcement of antisocial behavior. It also may determine the standards of conduct that children internalize, which presumably serve as guidelines for self-regulation in the absence of adult surveillance. In neighborhoods in which collective socialization takes place, the community also may organize more opportunities for children to spend time with their peers in supervised settings either at school or in other organized community contexts, whereas children in less-monitored neighborhoods may spend more time "hanging out" with peers in unsupervised activities that encourage rather than discourage deviant behavior (Pettit, Bates, Dodge, & Meece, 1999). Future research in which more extensive information is collected on community norms, the proportions of antisocial children residing in neighborhoods, and the activities in which children spend their time will help investigators to understand the operation of collective socialization processes.

This study tested a hypothesis about possible contextual effects of collective socialization processes. The hypothesis was supported: Among children living in the most disadvantaged neighborhoods, the link between community disadvantage and affiliation with deviant peers was weaker when levels of collective socialization as reported by children were higher. These results also support Rutter's (1985) contextual hypothesis that neighborhood processes such as collective socialization have a greater impact on child development in more disadvantaged settings. The results further indicate that economically disadvantaged neighborhoods are not socially homogenous; although their structural characteristics are similar, their social organization differs in ways that impact child and adolescent development.

For the most part, neighborhood characteristics based on census data were associated with both caregivers' and children's appraisals of neighborhood characteristics, confirming that the subjective appraisals were grounded in independent assessments of the communities in which the participants lived. A different pattern emerged for the associations between community characteristics and deviant peer affiliations. Children's reports of affiliation with deviant peers were linked with neighborhood disadvantage and the children's appraisals of neighborhood deviance and collective socialization, but no links emerged between caregivers' neighborhood appraisals and reports of children's affiliations with deviant peers. As noted previously, we believe that caregivers and children perceived and reported on somewhat different aspects of their neighborhoods, producing the differences in results. Children and their caregivers also

may have had different perspectives concerning which behaviors constitute deviant activity in the community. These explanations are consistent with results of qualitative studies in which caregivers and children were found to think differently about their neighborhoods and to be involved in very different community activities (e.g., Burton et al., 1996). It could be argued that these associations were due to method variance, emerging when children provided data about their neighborhoods' characteristics and processes as well as the extent to which they affiliated with deviant peers. Although this explanation cannot be ruled out entirely, the data linking children's appraisals of their neighborhoods to those rendered by their caregivers as well as to census data suggest that the associations obtained reflected actual links between neighborhood conditions as the children experienced them and the children's peer affiliations. The differences in children's and parents' perceptions of their neighborhoods is not entirely surprising. Similar discrepancies emerged in parent and child assessments (Brody & Sigel, 1990) and sibling perceptions (Brody & Stoneman, 1994; Plomin & Daniels, 1987) of family processes, and in parent, child, and teacher assessments of child psychosocial functioning (Achenbach & Edelbrock, 1984).

Children's reports of nurturant/involved parenting were inversely related to affiliation with deviant peers during childhood and harsh/inconsistent parenting as reported by children and caregivers was positively associated with such affiliations, net of the contributions of community disadvantage, participants' community appraisals, and family socioeconomic characteristics. The results are consistent with previous findings on the implications of parental support for adolescents, while extending these findings to elementary school-aged children. The link between parenting processes and children's affiliation with deviant peers can be explained in several ways. Nurturant/involved parenting contributes to academic competence (Brody et al., 1995), and academically competent children are likely to consider schooling to be important. This view may discourage affiliation with peers who reject academic values. Research that linked lower academic competence to problem behaviors such as substance use and delinquency (Newcomb, Maddahian, & Bentler, 1986; Wills, Vaccaro, & McNamara, 1992) supports this perspective. The intergenerational transmission of norms governing social and academic behavior may also be involved. When norms are transmitted effectively, caregivers' behavioral standards contribute to children's development of internalized controls that lead them to comply with their caregivers' rules not only in the caregivers' presence but also in the absence of adult surveillance or constraints. Although no studies have addressed the link between norm internalization and affiliation with deviant peers, relevant hypotheses can be derived from the broader literature. Parenting processes that enhance children's sense of willing rather than externally pressured compliance are more likely to foster internalization and decrease affiliation with deviant peers (Bao, Whitbeck, Hoyt, & Conger, 1999; Brody, Ge, Katz, & Arias, 2000; Simons et al., 1991). Caregivers' use of unnecessarily power-oriented control causes children to feel angry and distressed, discouraging acceptance of caregivers' norms and encouraging adoption of unconventional norms (Elliott et al., 1996; Jessor & Jessor, 1977).

It was also predicted that nurturant/involved parenting would be most influential among children living in highly disadvantaged neighborhoods. Rutter's (1985) suggestion that research on protective effects should address processes that are proximal to adverse outcomes was followed. The results supported this hypothesis: Children residing in disadvantaged communities whose caregivers used high levels of nurturant/involved parenting affiliated less with deviant peers than did children in similar neighborhoods whose caregivers were less nurturant and involved. Children in the most disadvantaged communities benefited most from parental monitoring, warmth, and communication.

Although a growing body of research focuses on the contributions of contextual processes to youth differential affiliation processes, very few empirical studies have been conducted with African American children, particularly those who do not live in large urban areas. Theories concerning differential affiliation processes must be tested with diverse samples of children. Affiliation with deviant peers has been found to serve as a proximal predictor of the onset and escalation of problem behaviors among both African American and White adolescents; however, the absolute magnitude of this effect varies across studies. In some studies the effect was weaker among African American adolescents than among White adolescents (Aseltine, 1995; Flay et al., 1994; Vaccaro & Wills, 1998; Windle, 1990), whereas no ethnic differences emerged in other investigations (Fletcher, Darling, & Steinberg, 1995; Rowe, Vazsonyi, & Flannery, 1994; Urberg, Degirmencioglu, & Pilgrim, 1997). The influence of peers on children's and adolescents' developmental trajectories has been documented. The contextual processes that lead to variation in peer influence both within and across ethnic groups must now be clarified. From our perspective, the community and parenting processes that contribute to children's affil-

iations with deviant or nondeviant peers should be similar for African American and Caucasian youths. The links would operate differently to the extent that one ethnic group, in general, experiences more stressors (such as financial inadequacy or psychological distress) that interfere with protective processes such as nurturant/involved parenting and collective socialization, or potentiate risk processes such as harsh/inconsistent parenting and neighborhood disadvantage. These conjectures await empirical evaluation.

In this study, hypotheses were addressed that concerned affiliation with deviant peers among children in elementary school. The results support our expectation that the precursors of differential affiliation processes are detectable at earlier ages than the existing literature suggests. The literature linking contextual processes with differential affiliation processes focuses on youths who are well into adolescence. Although the links between context and affiliation processes are quite robust for adolescents, in this study they were modest. Smaller effect sizes were expected to emerge for younger children, because during the late elementary school years children are only beginning to engage in deviant activities away from home (Patterson et al., 1989). Despite the smaller effect sizes, the data demonstrate the contributions that family and community parameters make to this developmental process.

Limitations of this study and some caveats must be noted. First, it is not known whether the present results generalize to White families living in the same communities as the study participants or to inner-city families of any race. Collective socialization and parental monitoring, warmth, and communication clearly can affect children from different ecological niches, but the weight of the associations may vary among samples. Second, the sample is not random; it is therefore possible that the families who participated in this study may be functioning better than the population at large due to self-selection processes. Finally, although the links among the variables may imply causality, due to the cross-sectional nature of the data we can only document the existence of the link without drawing conclusions regarding direction of effects. Nevertheless, the present results indicate that further research is needed on the contextual processes that are associated with competence and good adjustment among children growing up in challenging contexts.

ACKNOWLEDGMENTS

This research was supported by the National Institute of Mental Health through funding for the Center for Family Research in Rural Mental Health (MH48165) at Iowa State University. Additional funding for the research center and for this project was provided by the National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, and the Iowa Agriculture and Home Economics Experiment Station (Project #3320).

ADDRESSES AND AFFILIATIONS

Corresponding author: Gene H. Brody, Department of Child and Family Development, University of Georgia, Dawson Hall, Athens, GA 30602; e-mail: gbrody@arches.uga.edu. Xiaojia Ge is at the University of California, Davis; Velma McBride Murry is also at the University of Georgia; Rand Conger, Frederick X. Gibbons, Meg Gerrard, and Ronald L. Simons are at Iowa State University, Ames, IA.

REFERENCES

Aber, J. L. (1994). Poverty, violence, and child development: Untangling family and community level effects. In C. A. Nelson (Ed.), *The Minnesota Symposia on Child Psychology: Vol 27. Threats to optimal development: Integrating biological, psychological, and social risk factors* (pp. 229–272). Hillsdale, NJ: Erlbaum.

Achenbach, T. M., & Edelbrock, C. S. (1984). Psychopathology of childhood. *Annual Review of Psychology, 35*, 227–256.

Allison, K. W., Burton, L., Marshall, S., Perez-Febles, A., Yarrington, J., Kirsh, L. B., & Merriwether-DeVries, C. (1999). Life experiences among urban adolescents: Examining the role of context. *Child Development, 70*, 1017–1029.

Ary, D. V., Tildesley, B. A., Hops, H., & Andrews, J. (1993). The influence of parent, sibling, and peer modeling and attitudes on adolescent use of alcohol. *International Journal of the Addictions, 28*, 853–880.

Aseltine, R. H. (1995). A reconsideration of parental and peer influences on adolescent deviance. *Journal of Health and Social Behavior, 36*, 103–121.

Bao, W. N., Whitbeck, L. B., Hoyt, D. R., & Conger, R. D. (1999). Perceived parental acceptance as a moderator of religious transmission among adolescent boys and girls. *Journal of Marriage and the Family, 61*, 362–374.

Blanton, H., Gibbons, F. X., Gerrard, M., Conger, K. J., & Smith, G. E. (1997). Role of family and peers in the development of prototypes associated with substance use. *Journal of Family Psychology, 11*, 271–288.

Block, R. (1970). Community, environment, and violent crime. *Criminology, 17*, 46–57.

Brody, G. H., & Flor, D. L. (1997). Maternal psychological functioning, family processes, and child adjustment in rural, single-parent African American families. *Developmental Psychology, 33*, 1000–1011.

Brody, G. H., & Flor, D. L. (1998). Maternal resources, parent-

ing practices, and child competence in rural, single-parent African American families. *Child Development, 69*, 803–816.

Brody, G. H., & Forehand, R. (1993). Prospective associations among family form, family processes, and adolescents' alcohol and drug use. *Behavior Research and Therapy, 31*, 587–593.

Brody, G. H., Ge, X., Katz, J., & Arias, I. (2000). A longitudinal analysis of internalization of parental alcohol use norms and adolescent alcohol use. *Applied Developmental Science, 4*, 71–79.

Brody, G. H., & Sigel, I. (Eds.). (1990). *Research methods for studying at-risk families*. Hilsdale, NJ: Erlbaum.

Brody, G., & Stoneman, Z. (1994). Sibling relationships and their association with parental differential treatment. In E. M. Hetherington, D. Reiss, & R. Plomin (Eds.), *Separate social worlds of siblings: The impact of nonshared environment on development* (pp. 129–142). Hillsdale, NJ: Erlbaum.

Brody, G. H., Stoneman, Z., & Flor, D. (1995). Linking family processes and academic competence among rural African American youths. *Journal of Marriage and the Family, 57*, 567–579.

Bronfenbrenner, U., & Crouter, A. C. (1982). Work and family through time and space. In S. B. Kamerman & C. D. Hayes (Eds.), *Families that work: Children in a changing world* (pp. 39–83). Washington, DC: National Academy Press.

Brooks-Gunn, J., Duncan, G., & Aber, J. L. (Eds.). (1997). *Neighborhood poverty: Context and consequences for development.* New York: Russell Sage Foundation.

Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods.* Newbury Park, CA: Sage.

Burgess, E. W. (1925). The growth of the city. In R. E. Park, E. W. Burgess, & R. D. McKenzie (Eds.), *The city.* Chicago: University of Chicago Press.

Bursik, R. J., Jr. (1988). Social disorganization and theories of crime and delinquency: Problems and prospects. *Criminology, 26*, 519–551.

Bursik R. J., Jr., & Grasmick, H. G. (1993). *Neighborhoods and crime: The dimensions of effective community control.* New York: Lexington Books.

Burton, L. M., Price-Spratlen, T., & Spencer, M. B. (1996). On ways of thinking about measuring neighborhoods: Implications for studying context and developmental outcomes for children. In J. Brooks-Gunn, G. J. Duncan, & J. L. Aber (Eds.), *Neighborhood poverty: Context and consequences for children* (pp. 132–144). New York: Russell Sage Foundation.

Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. *Child Development, 63*, 526–541.

Conger, R. D., & Reuter, M. A. (1996). Siblings, parents, and peers: A longitudinal study of social influences in adolescent risk for alcohol use and abuse. In G. H. Brody (Ed.), *Sibling relationships: Their causes and consequences* (pp. 1–30). Norwood, NJ: Ablex.

Dishion, T. J., Patterson, G. R., Stoolmiller, M., & Skinner, M. L. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology, 27*, 172–180.

Duncan, G. J., Brooks-Gunn, J., & Klebanov, P. K. (1994). Economic deprivation and early childhood development. *Child Development, 65*, 296–318.

Duncan, G. J., & Raudenbush, S. W. (1999). Assessing the effects of context in studies of child and youth development. *Educational Psychologist, 34*, 29–41.

Elder, G. H., Jr., & Caspi, A. (1988). Economic stress in lives: Developmental perspectives. *Journal of Social Issues, 44*, 25–45.

Elliott, D. S., Huizinga, D., & Ageton, S. S. (1985). *Explaining delinquency and drug use.* Beverly Hills, CA: Sage.

Elliott, D. S., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems.* New York: Springer.

Elliott, D. S., Wilson, W. J., Huizinga, D., Sampson, R. J., Elliott, A., & Rankin, B. (1996). The effects of neighborhood disadvantage on adolescent development. *Journal of Crime and Delinquency, 33*, 389–426.

Figueira-McDonough, J. (1993). Residence, dropping out, and delinquency rates. *Deviant Behavior, 14*, 109–132.

Flay, B. R., Hu, F. B., Siddiqui, O., Day, L. E., Hedeker, D., Petraitis, J., Richardson, J., & Sussman, S. (1994). Differential influence of parental smoking and friends' smoking on adolescent initiation and escalation of smoking. *Journal of Health and Social Behavior, 35*, 248–265.

Fletcher, A. C., Darling, N., & Steinberg, L. (1995). Parental monitoring and peer influences on adolescent substance use. In J. McCord (Ed.), *Coercion and punishment in long-term perspectives.* New York: Cambridge University Press.

Forehand, R. (1990). Families with a conduct problem child. In G. H. Brody & I. Sigel (Eds.), *Methods of family research: Biographies of research projects: Vol. 2. Clinical populations* (pp. 1–30). Hillsdale, NJ: Erlbaum.

Furstenberg, F. F. (1993). How families manage risk and opportunity in dangerous neighborhoods. In W. J. Wilson (Ed.), *Sociology and the public agenda* (pp. 231–258). Newbury Park, CA: Sage.

Ge, X., Conger, R. D., Lorenz, F. O., & Simons, R. L. (1994). Parents' stressful life events and adolescent depressed mood. *Journal of Health and Social Behavior, 35*, 28–44.

Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance use prevention. *Psychological Bulletin, 112*, 64–105.

Helge, D. (1990). *A national study regarding at-risk students.* Washington, DC: National Rural Development Institute.

Jencks, C., & Mayer, S. (1990). The social consequences of growing up in a poor neighborhood. In L. E. Lynn, Jr., & G. H. McGeary (Eds.), *Inner-city poverty in the United States* (pp. 111–186). Washington, DC: National Academy Press.

Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth.* New York: Academic Press.

Ketterlinus, R. D., & Lamb, M. E. (Eds.). (1994). *Adolescent problem behaviors: Issues and research.* Hillsdale, NJ: Erlbaum.

Klebanov, P. K., Brooks-Gunn, J., & Duncan, G. J. (1994). Does neighborhood and family poverty affect mothers' parenting, mental health, and social support? *Journal of Marriage and the Family, 56*, 441–455.

Klebanov, P. K., Brooks-Gunn, J., McCarton, C., & McCormick, M. C. (1998). Contribution of neighborhood and family income to developmental test scores over the first three years of life. *Child Development, 69*, 1420–1436.

Lerner, R. M. (Ed.). (1993). *Early adolescence: Perspectives on research, policy, and intervention.* Hillsdale, NJ: Erlbaum.

Mason, C. A., Cauce, A. M., Gonzalez, N., & Hiraga, Y. (1994). Adolescent problem behavior: The effect of peers and the moderating role of father absence and the mother–child relationship. *American Journal of Community Psychology, 22*, 723–743.

Mayer, S. E., & Jencks, C. (1989). Growing up in poor neighborhoods: How much does it matter? *Science, 243*, 1441–1445.

McLeod, J. D., & Shanahan, M. J. (1994, June). *Trajectories of poverty and children's adjustment.* Paper presented at the International Stress Conference, Honolulu, HI.

Mosbach, P., & Leventhal, H. (1988). Peer group identification and smoking. *Journal of Abnormal Psychology, 97*, 238–245.

Newcomb, M. D., Maddahian, E., & Bentler, P. M. (1986). Risk factors for drug use among adolescents: Concurrent and longitudinal analyses. *American Journal of Public Health, 76*, 525–531.

Park, R. E. (1926). The urban community as a special pattern and moral order. In E. W. Burgess (Ed.), *The urban community.* Chicago: University of Chicago Press.

Park, R. E., & Burgess, E. W. (1924). *Introduction to the science of sociology* (2nd ed.). Chicago: University of Chicago Press.

Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist, 44*, 329–335.

Peeples, F., & Loeber, R. (1994). Do individual differences and neighborhood context explain ethnic differences in juvenile delinquency? *Journal of Quantitative Criminology, 10*, 141–157.

Pettit, G. S., Bates, J. E., Dodge, K. A., & Meece, D. W. (1999). The impact of after-school peer contact on early adolescent externalizing problems is moderated by parental monitoring, perceived neighborhood safety, and prior adjustment. *Child Development, 70*, 768–778.

Plomin, R., & Daniels, D. (1987). Why are children in the same family so different from one another? *Behavioral and Brain Science, 10*, 1–16.

Rowe, D. C., Vazsonyi, A. T., & Flannery, D. J. (1994). No more than skin deep: Ethnic and racial similarity in developmental process. *Psychological Review, 101*, 396–413.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disturbance. *British Journal of Psychiatry, 147*, 598–611.

Sampson, R. J. (1992). Family management and child development: Insights from social disorganization theory. In J. McCords (Ed.), *Advances in criminological theory* (pp. 63–93). New Brunswick, NJ: Transaction Books.

Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing the social disorganization theory. *American Journal of Sociology, 94*, 774–802.

Sampson, R. J., & Laub, J. H. (1994). Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. *Child Development, 65*, 523–540.

Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*, 918–924.

SAS/STAT User's Guide: Version 6 (4th ed.). (1990). Cary, NC: SAS Institute.

Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency in urban areas.* Chicago: University of Chicago Press.

Shekadeh, E. S., & Sleffensmeier, D. J. (1994). Economic inequality, family disruption, and urban Black violence: Cities as units of stratification and social control. *Social Forces, 73*, 729–751.

Simcha-Fagan, O., & Schwartz, J. E. (1986). Neighborhood and delinquency: An assessment of contextual effects. *Criminology, 24*, 667–699.

Simons, R. L., Beaman, J., Conger, R. D., & Chao, W. (1993). Childhood experience, conceptions of parenting, and attitudes of spouse as determinants of parental behavior. *Journal of Marriage and the Family, 55*, 91–106.

Simons, R. L., Johnson, C., Beaman, J., Conger, R. D., & Whitbeck, L. (1996). Parents and peer group as mediators of the effect of community structure on adolescent problem behavior. *American Journal of Community Psychology, 24*, 145–171.

Simons, R. L., Whitbeck, L. B., Beaman, J., & Conger, R. D. (1994). The impact of mothers' parenting, involvement by nonresidential fathers, and parental conflict on the adjustment of adolescent children. *Journal of Marriage and the Family, 56*, 356–374.

Simons, R. L., Whitbeck, L. B., Conger, R. D., & Conger, K. J. (1991). Parenting factors, social skills, and value commitments as precursors to school failure, involvement with deviant peers, and delinquent behavior. *Journal of Youth and Adolescence, 20*, 645–664.

Snyder, J. J., & Patterson, G. R. (1995). Individual differences in social aggression: A test of a reinforcement model of socialization in the natural environment. *Behavior Therapy, 26*, 371–391.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development, 63*, 1266–1281.

Sucoff, C. A., & Upchurch, D. M. (1998). Neighborhood context and the risk of childbearing among metropolitan-area Black adolescents. *American Sociological Review, 63*, 571–585.

Tienda, M. (1991). Poor people, poor places: Deciphering neighborhood effects on poverty outcomes. In J. Huber (Ed.), *Macro–micro linkages in sociology* (pp. 244–262). Newbury Park, CA: Sage.

Urberg, K. A., Degirmencioglu, S. M., & Pilgrim, C. (1997). Close friend and group influence on adolescent cigarette

smoking and alcohol use. *Developmental Psychology, 33*, 834–844.

Vaccaro, D. T., & Wills, T. A. (1998). Stress-coping factors in adolescent substance use: Ethnic and gender differences in samples of urban adolescents. *Journal of Drug Education, 28*, 257–282.

Whitbeck, L. B., Simons, R. L., Conger, R. D., & Lorenz, F. O. (1989). Value socialization and peer group affiliation among early adolescents. *Journal of Early Adolescence, 9*, 436–453.

Wills, T. A., Mariani, J., & Filer, M. (1996). The role of family and peer relationships in adolescent substance use. In G. R. Pierce, B. R. Sarason, & I. G. Sarason (Eds.), *Handbook of social support and the family* (pp. 521–549). New York: Plenum Press.

Wills, T. A., Schreibman, D., Benson, G., & Vaccaro, D. (1994). Impact of parental substance use on adolescents: A test of a mediational model. *Journal of Pediatric Psychology, 19*, 537–566.

Wills, T. A., Vaccaro, D., & McNamara, G. (1992). The role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*, 349–374.

Wilson, W. J. (1987). *The truly disadvantaged*. Chicago: University of Chicago Press.

Wilson, W. J. (1991). Studying inner-city social dislocations: The challenge of public agenda research. *American Sociological Review, 56*, 1–14.

Windle, M. (1990). A longitudinal study of antisocial behaviors in early adolescence as predictors of late adolescent substance use: Gender and ethnic group differences. *Journal of Abnormal Psychology, 99*, 86–91.

Zucker, R. A. (1994). Pathways to alcohol problems: A developmental account of the evidence for multiple alcoholisms and contextual contributions to risk. In R. A. Zucker, J. Howard, & G. M. Boyd (Eds.), *The development of alcohol problems* (pp. 255–289). Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.