

Compounded Risk: The Implications for Delinquency of Coming from a Poor Family that Lives in a Poor Community

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Received: 21 December 2006 / Accepted: 14 February 2007 / Published online: 20 March 2007
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Abstract The relationship between poverty and juvenile involvement in delinquency remains central to the study of adolescent development, but firm conclusions on this relationship have been elusive. The purpose of this study is to address an important limitation of prior research that often has been overlooked. This involves the standard practice of examining the poverty-delinquency relationship with an ex-

clusive focus on the family's level of poverty. This study considers that the effects of family poverty on delinquency may significantly depend upon the level of poverty in the community in which the family lives. Specifically, drawing from a number of poverty-oriented theories of delinquency, we examine the hypothesis that community poverty amplifies the effects of family poverty, such that family poverty's effect becomes greater when community poverty also is high. Using data from a national sample of adolescents that are supplemented with U.S. census data, we find partial support for the idea that family poverty is consequential for

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delinquency, and that this is especially true for poor families that also live in poor communities.

Keywords Poverty · Unemployment · Delinquency · Criminological theory

The relationship between poverty and juvenile involvement in delinquency remains central to the study of adolescent development, but scholarship in this area is far from conclusive. Indeed, two influential reviews took positions that were exactly opposite one another. On the one hand, Tittle and his colleagues (1978) insisted that poverty and individual-level delinquency are “not now, and probably never were related.” Braithwaite (1981:36), on the other hand, concluded that poverty is “one of the . . . few correlates of criminality . . . persuasively supported by a large body of empirical evidence.” Although those reviews are more than two decades old, more recent work shows ongoing confusion, with empirical results described as “inconsistent” (Jarjoura et al., 2002:164) or “mixed” (Bjerk, 2007), “counterintuitive” (Wright et al., 1999:177), and as reflecting the “pitfalls of existing research” (Dunaway et al., 2000:616).

The purpose of this study is to argue that one obstacle to identifying the relationship between poverty and individual delinquency has been the standard practice of focusing exclusively on the family’s level of poverty, with little attention to the level of poverty in the community. Most studies of the poverty-delinquency relationship examine this simple question: Do juveniles from poor families commit more delinquency than juveniles from non-poor families? Most research therefore is rooted in the assumption that poverty’s implications are a function solely of the family’s poverty, and that effects of family poverty are the same regardless of the level of poverty in the community.

There are two significant problems with this approach. First, it neglects the empirical fact that among poor families in the United States, there is significant variation in the level of poverty found in their surrounding communities (Jargowsky, 1997; Lynn and McGeary, 1990). Jargowsky (1997) reports that about 20 percent of the U.S. poor live in communities with high concentrations of poverty. The remaining 80 percent live in communities with much less poverty, with 50 percent of the U.S. poor living in communities in which most households have incomes above the poverty level. This variation among the U.S. poor raises the logical possibility that the effects of family poverty depend in part on the extent of community poverty.

The second problem with focusing only on the family’s poverty is that doing so contradicts the spirit of the theories that inspire attention to the criminogenic effects of poverty. This includes classic theories like social disorganization theory (Shaw and McKay, 1942) and strain theory (Cloward and Ohlin, 1960; Cohen, 1955), but also more recent work

from Wilson (1987). A central characteristic of these theories is their concern not so much with poverty experienced by a single family, but with poverty that is geographically concentrated in a given community. Family poverty places a child at risk for delinquency, but delinquency is seen as especially likely when family poverty coincides with residence in a poor community that may be isolated from mainstream society, and therefore more likely to contain delinquent subcultures. Cohen (1955:135), for example, spoke of the poor child’s access to “reference groups within which . . . deviant values are already institutionalized.” Similarly, Shaw and McKay (1942:168) emphasized a community’s “traditions of delinquency [that] are transmitted down through successive generations.” More recently, Sampson and Wilson (1995:47) emphasize the importance of whether a poor child lives in a structurally isolated community in which “crime, disorder, and drug use are . . . expected as part of everyday life.”

Although the emphasis these theories place on community disadvantage is straightforward, research in this area generally ignores it altogether (see Tittle and Meier’s [1990:292] critique). Indeed, up through the present, studies that are strong in other respects continue to examine the effects of poverty on individual delinquency with an exclusive focus on family poverty (Bjerk, 2007; Dunaway et al., 2000; Jarjoura et al., 2002; Wright et al., 1999). Thus, in this area of work, there is a weak connection between the theoretical arguments that have been made and the empirical tests that have been conducted.

This study addresses this issue by considering the role of community poverty in an analysis of the poverty-delinquency relationship. Specifically, drawing from a number of poverty-oriented theories of delinquency, we test the hypothesis that community poverty amplifies the effects of family poverty on delinquency, such that these effects become greater when community poverty also is high. This is done with National Survey of Children data collected from a panel of U.S. adolescents and their families (Zill et al., 1990). These data have been useful in other studies of adolescent outcomes (Agnew et al., 2002; Baumer and South, 2001) and, as discussed below, are especially well-suited to this project.

Before further discussing the data, we place the poverty-delinquency relationship in an empirical and theoretical context. We do so first by describing the conclusions from prior research and discussing the advances that have been made in more recent studies. We then further consider the rationale for examining the implications for delinquency of coming from a poor family that itself resides in a poor community.

Prior research on the poverty-delinquency relationship

Classic criminological theories like social disorganization theory (Shaw and McKay, 1942), strain theory (Cloward

and Ohlin, 1960; Cohen, 1955), and theories of lower class culture conflict (Sellin, 1938; Miller, 1958; Wolfgang and Ferracuti, 1967) generally predict a positive relationship between poverty and delinquency. Indeed, these theories appear to have been developed in large part to explain the overrepresentation of the American poor in official crime statistics.

These theories were therefore dealt a significant blow when studies using the newly-developed self-report methodology concluded that family poverty and individual-level delinquency were only weakly correlated (Hirschi, 1969; Nye, 1958; Williams and Gold, 1972). This conclusion later was reinforced in a meta-analysis from Tittle et al. (1978) that summarized the results of 35 studies. For studies using self-report measures of delinquency, no poverty-delinquency relationship was found; for research using official measures of delinquency, a strong relationship in pre-1970 research was not found in post-1970 research. Based on this evidence, the authors concluded that (1) there never was a real relationship between poverty and individual delinquency, (2) the relationship in early research with official data likely reflected bias in the legal system, and (3) this bias was fading as the gains of the civil rights movement took hold. Their overall conclusion was that a poverty-delinquency relationship was more a matter of myth than reality.

That conclusion would be challenged by those arguing that the early self-report studies were themselves flawed. First, they often examined behaviors that were trivial crimes or not crimes at all (Braithwaite, 1981; Elliott and Ageton, 1980). Second, they often used samples of rural or suburban school students who were at low risk for delinquency (Braithwaite, 1981; Elliott and Ageton, 1980; Hindelang et al., 1979). Thus, members of the extremely poor underclass—those perhaps most relevant to the poverty-delinquency association—likely were excluded. Last, even when members of the underclass were sampled, the commonly-used social class measures failed to identify them (Braithwaite, 1981; Farnworth et al., 1994; Hagan, 1992). Quite common were “gradational” measures (like the Hollingshead Index) that are sensitive to minor differences in occupational or educational status. These may be less important for delinquency than underclass measures like unemployment and welfare status.

Many studies address some or all of these problems, and they often reveal significant effects of poverty (Braithwaite, 1981; Brownfield, 1986; Elliott and Ageton, 1980; Farnworth et al., 1994; Hindelang et al., 1979; Jarjoura et al., 2002). For example, in addressing the problem of how delinquency is measured, Elliott and Ageton (1980) found that lower class adolescents were overrepresented among the most frequent, serious offenders—those with 55 or more violent crimes in the prior year. In addressing problems with the measurement of poverty, Farnworth and her colleagues (1994) found that underclass measures relating to unemployment and welfare

status had much greater effects on serious crime than gradational measures pertaining to occupational prestige. Moreover, similar to Jarjoura et al. (2002), Farnworth and her colleagues (1994) found that poverty effects were most pronounced among those experiencing it on a long-term basis.

Other more recent studies also reveal an important effect of poverty on delinquency, albeit, an effect that is rather nuanced. For example, Bjerk (2007) revealed two additional factors that affect whether or not a study will detect a significant poverty-delinquency relationship. First, this relationship appears to be nonlinear, such that significant differences in delinquency exist mainly between those on the far extremes of the income distribution. Thus, testing for a linear relationship may not reveal a significant relationship. Second, effects of poverty are most pronounced in analyses that are sensitive to enduring family differences in wealth, rather than the less reliable differences in annual income. Wright and his colleagues (1999) also found evidence of a complicated relationship between poverty and delinquency. They found that the effects of social class depend on the intervening mechanism being considered. Through some mechanisms (e.g., by increasing levels of financial strain), poverty increased delinquency. Through others (e.g., by reducing a person's sense of social power), poverty actually decreased delinquency. These patterns balanced one another out, producing overall correlations of essentially zero between poverty and delinquency.

Considering the role of community poverty

Taken together, the studies just described suggest that poverty may have an important effect on delinquency, but that earlier studies may have failed to detect it because of limitations in their methodology, their analytical approach, or the scope of their investigations. A point to emphasize, however, is that even the more recent and sophisticated studies fail to address a remaining limitation of the work in this area: The standard practice of focusing exclusively on the family's level of poverty, with little attention to the level of poverty in the community. By examining the link between poverty and delinquency in this way, researchers are assuming that a juvenile's experience with poverty follows only from the poverty experienced by their own family, and that poverty in their surrounding community is of no consequence. As argued earlier, there is little theoretical basis for this assumption. Indeed, while the poverty-oriented theories may disagree on the mechanism by which poverty impacts delinquency, they are united in the view that whether a poor child gets involved in delinquency likely depends on the extent of poverty found in their community.

Cohen's (1955) strain theory is a good example of this. Cohen (1955:97–109) saw family poverty as placing a child

at risk for delinquency because of its effects on a family's ability to socialize children to succeed in school. Children unable to live up to the "middle-class measuring rod" of the school would become frustrated by their status and would resort to delinquency. Cohen (1955) emphasizes, however, that the risk for delinquency is greatest for those in contact with other poor juveniles who are similarly frustrated by their lower status. High community poverty produces the critical mass of disadvantage that in turn produces the delinquent subcultures that encourage delinquency. Thus, poor children who live in poor communities have access to "reference groups within which . . . deviant values are already institutionalized" (p. 135). Delinquency then becomes a "group solution" to what might initially have been seen as an individual problem (p. 135).

Shaw and McKay (1942) had a similar view. Although open to the ways in which family poverty interferes with family socialization (Shaw, 1966:40–43; Shaw and McKay, 1942:177–178), their central concern was with whether a poor family resides in a community of concentrated disadvantage. Such communities often lack a common set of ideals and standards, therefore preventing the cooperative social action needed to suppress delinquency. "Traditions of delinquency" then emerge that "are transmitted down through successive generations" (Shaw and McKay, 1942:168). Thus, family poverty should produce delinquency most notably when poor juveniles live in communities with many others who are poor.

More recently, Wilson (1987; Sampson and Wilson, 1995) argued that we should not focus on family poverty *or* community poverty, but instead on the combination of the two. Poor children whose neighbors also are predominantly poor are argued to be at risk for a range of problems, including delinquency, premarital pregnancy, and school dropout. These children will be isolated from the social institutions and norms needed to achieve educational or occupational success in the United States, in part because the very people achieving this success will migrate to more desirable neighborhoods. The residents left behind in these poor communities will be the most disadvantaged members of the population, and these communities will come to be characterized by a system of values in which "crime, disorder, and drug use are . . . expected as part of everyday life" (Sampson and Wilson, 1995:47).

The emphasis these theories place on community poverty suggests two research priorities for examining the effects of poverty. First, community-level research should be done to examine the link between community-level rates of poverty and crime. Such research has become quite common in recent decades, and it offers clear support for the emphasis on concentrated community poverty (Bellair, 1997; Krivo and Peterson, 1996; Sampson and Groves, 1989; Stretesky, Schuck, and Hogan, 2004).

A second priority, however, is relevant to the study of individual-level delinquency. Principally, in considering the link between poverty and individual delinquency, family poverty should no longer be examined as if it occurs in isolation from a broader community environment. Research should instead be rooted in the reality that variation in community poverty exists among poor families—some live in very poor communities, while others do not (Jargowsky, 1997), and this may be relevant to the link between family poverty and delinquency. While many theories accept the idea of an independent effect of family poverty on delinquency (Cohen, 1955:97–109; Shaw, 1966:40–43; Shaw and McKay, 1942:177–178), their more central hypothesis is that this effect should be greatest among those who live in poor communities.

Few studies have considered this hypothesis—most research simply examines the independent effects of family poverty. Johnstone (1978) speculated that this stems from the rise of the self-report survey method, which diverted attention away from larger social units like communities that are less easily surveyed than samples of individuals. Among the small number of studies that have considered whether the effects of family poverty depend on the level of community poverty, no conclusive result has emerged. Some studies find effects of family social status to be greatest in high poverty communities (Reiss and Rhodes, 1963; Tittle and Meier, 1991), while others (Johnstone, 1978; Jarjoura and Triplett, 1997) find the opposite. Still others (Braithwaite, 1979; Krohn et al., 1980) find inconsistent results that vary across particular offenses. A key concern, however, is that each of these studies used research practices that are now discouraged. For example, all but one (Johnstone, 1978) used samples drawn from school students. Such samples likely underrepresent both the poorest members of the population and those most involved in crime. Additionally, each of these prior studies examined the effects of family income or parents' educational and occupational status. Many have argued that these gradational measures of family status are less relevant to theoretical discussions of the effects of poverty than underclass measures like unemployment and welfare dependence (Brown, 1984; Brownfield, 1986; Braithwaite, 1981; Farnworth et al., 1994; Hagan, 1992). Thus, research that uses the most recommended practices to examine this research question generally has not been done.

Hypotheses

Drawing from theorists such as Cohen (1955), Shaw and McKay (1942), and Wilson (1987), this study tests the hypothesis that the effects of family poverty on delinquency depend in part on the level of community poverty. Specifically, the effects of family poverty on delinquency should be

Table 1 Means, standard deviations, and intercorrelations for all variables

	N	Mean	S.D.	Intercorrelations										
				2	3	4	5	6	7	8	9	10	11	
1. Age	1420	13.97	1.58	-.02	.04	.01	.00	.05	-.01	-.03	.00	.02	.18*	
2. Sex (male)	1420	.50	.50	—	-.03	-.01	-.04	-.01	-.04	-.02	-.04	.00	.17*	
3. Race (nonwhite)	1424	.27	.45		—	.36*	.42*	.29*	.04	.38*	.39*	.40*	-.01	
4. Unmarried	1416	.28	.45			—	.54*	.22*	.04	.36*	.40*	.23*	.07	
5. Family income	1397	4.72	2.00				—	.55*	.12*	.59*	.80*	.46*	.03	
6. Parental education	1416	7.99	2.82					—	.06*	.44*	.72*	.40*	.02	
7. Unemployment	1424	.04	.14						—	.18*	.49*	.05*	.13*	
8. Welfare support	1416	.48	.26							—	.79*	.32*	.05	
9. Overall fam poverty	1424	.00	1.00								—	.43*	.09*	
10. Community poverty	1412	.00	1.00									—	.04	
11. Delinquency	1420	.00	1.00										—	

Note: Family income and parental education have been reverse-coded.

* $p < .05$.

amplified by community poverty, such that this effect becomes greater when community poverty is high. This hypothesis is tested in reference to five different indicators of a family's level of poverty: Low family income, low parental education, parental unemployment, family receipt of welfare, and a composite measure that combines all of these measures.

Methods

This issue is examined with National Survey of Children (NSC) data (see Zill et al., 1990) that are supplemented with data from the 1980 census. As discussed below, these data reflect the best practices used in current research on the poverty-delinquency relationship—the data come from a national sample of children that includes those at high risk for delinquency, the NSC includes survey items for illegal behaviors that likely would attract attention from the police if they were to know of their commission, and the NSC contains multiple measures of family poverty, including the underclass measures that appear to be strongest predictors of delinquency.

Sample

The NSC is a three-wave national panel survey of U.S. children and their families. Respondents were first interviewed in 1976 when the children were ages 7 to 11, with a follow-up then conducted in 1981 when they were ages 12 to 16 (Zill et al., 1990). The sampling yielded a nationally representative sample of children at the first wave, with the exception that blacks were oversampled to represent roughly 25 percent of the original sample. The sample used in our analysis includes subjects who participated in both the first and second wave interviews, both of which included survey questions answered by both the child and a parent (usu-

ally the mother). Because the NSC was focused on the link between family problems and developmental outcomes for children, the second-wave follow-up oversampled cases in which family problems (in terms of family structure or family functioning) were evident at wave one. The sampling was designed to include all such cases as well as a large group of stable, married couples and their children.

Overall, the rate of response for the follow-up was high—82 percent of selected cases from wave one were reinterviewed for wave two, yielding a sample of 1,423 cases (Zill et al., 1990). Respondents had an average age of 14 years and the sample is equally divided between males and females. Twenty-seven percent of respondents were non-white, and 28 percent lived in a single-parent household at the time of the interview. (Table 1 provides sample sizes, means, standard deviations, and intercorrelations for all variables used in the analysis).

Measures

Independent variables

Family poverty. Family poverty is measured with four different indicators of the family's overall economic or social status standing. The first of these two—family income and parental education—are gradational measures often considered in prior research. The latter two—parental unemployment and the family's receipt of welfare—pertain to underclass measures thought to be more relevant to theoretical discussions of poverty (Farnworth et al., 1994; Hagan, 1992).

Each variable was measured with survey responses provided by the parent. Annual family income is measured with an eight-point ordinal scale ranging from under \$5,000 to greater than \$50,000 (the modal category was \$20,000 to \$25,000). Parental education is measured as the number of years in formal schooling, ranging from a minimum of 0 to

a maximum of 20, with a mean of 12 years. Parental unemployment was measured dichotomously for each parent, with unemployment defined as being involuntarily without a job at the time of the wave two interview. Scores on this variable range from 0 to 1, with the high category indicating a household in which there is unemployment for two parents (or one parent, in the case of single-parent households). Overall, 7 percent of NSC households contained at least one unemployed parent. Last, the family's welfare receipt was measured with items inquiring about their receipt during the prior year of unemployment compensation, food stamps, or any other form of public assistance. Each family was coded between 0 and 3, depending upon how many of these forms of assistance were received. Thirty-two percent of NSC households had received some form of public assistance during the past year.

Each measure was coded such that high scorers live in families that are high in poverty (family income and parental education were reverse-coded). The four items were also used to construct an overall family poverty scale that is the average of these four measures after each was standardized (Cronbach's alpha of .66).

Community poverty. For each respondent, the NSC data include a five-digit zip code used to supplement the NSC data with 1980 decennial census data, which include extensive measures of community poverty.¹ The main way in which a zip code area differs from a census tract is that it is larger—the mean population in a U.S. zip code in 1980 was about 6,300, which compares to about 4,200 for a census tract (Adams, 1991b). Importantly, however, this difference is not extraordinary, and several recent analyses find important results with community aggregations that are larger than a census tract, including those pertaining to zip code areas and counties (Baumer and South, 2001; Bellair and Roscigno, 2000). Moreover, Brooks-Gunn et al. (1993) found that community effects on school dropout were as large or larger with zip code measures as they were census tract measures.

In constructing a measure of community poverty, the goal was to replicate the family poverty measure—the two measures should be the same, except in the level of analysis to which they apply. We therefore selected four aspects of poverty aggregated at the level of the community: (1) its average family income, (2) the average level of education among heads of households, (3) its unemployment rate, and (4) the percentage of households receiving some form of welfare assistance. Each was coded such that respondents with high

scores lived in communities high in poverty (income and education were reversed coded by subtracting their values from a constant). Similar to family poverty, these four measures were combined into a composite scale (with an alpha of .83) that is the average of the four after each was standardized. As expected, respondents' level of community poverty is significantly correlated ($r = .43$) with family poverty. Importantly, though, the correlation is far from perfect, confirming that living in a poor family and living in a poor community are not coterminous with one another.

Product terms. The interaction between family and community poverty will be assessed with the use of product terms (family poverty $\times$ community poverty) that are introduced into equations that include their constituent variables. Five product terms were computed—one for each of the five measures of family poverty. For the product term involving the overall family poverty measure (which combines income, education, unemployment, and welfare support), all variables (the product term and both the family poverty and community poverty measures) were standardized to ease the interpretation of results. These combined measures have no natural metric, so standardizing all variables allows the interaction coefficient to be interpreted in terms of its standard deviation unit impact on the family poverty–delinquency relationship (Aiken and West, 1991).

Delinquency. The NSC contains a number of items for measuring respondents' self-reported delinquent behavior. When respondents are guaranteed confidentiality and are asked specific questions about precise behavioral acts, self-reports provide valid information on criminal involvement (Dunford and Elliott, 1984; Farrington et al., 1996; Hindelang et al., 1981). A limitation of self-report measures, however, is that the items often inquire about less serious offenses. This is true of some of the NSC items as well. Thus, we limited our attention to the subset of items that pertain to more serious violations.

Delinquency is measured with a general scale comprised of seven items that ask about the child's involvement in vandalism, assaults in which someone was injured, stealing from a store, use of marijuana, use of any drug other than marijuana (not counting alcohol and tobacco), and contacts with the police in which the child was questioned about his or her behavior.² The items did not ask for raw frequencies, but instead had set categories that gave

² Police contacts are included in the scale because of research by Dunford and Elliott (1984) and William and Gold (1972) indicating that they can provide a proxy for frequent involvement in a range of serious offenses, some of which were not inquired about in the NSC interviews.

¹ Zip-code level extracts from the 1980 census were available through the Inter-University Consortium of Political and Social Research (Adams, 1991a) and their analysis was facilitated by the documentation provided by Adams (1991b).

Table 2 Items used to measure delinquency

Item	Response categories	Correlation with rest of scale
Physically injured someone last year	1 = never, 2 = once, 3 = twice, 4 = more often	.30
Stole from a store last year	1 = never, 2 = once, 3 = twice, 4 = more often	.38
Damaged school property last year	1 = never, 2 = once, 3 = twice, 4 = more often	.31
Child questioned by the police last year	1 = never, 2 = once, 3 = twice, 4 = more often	.43
Child questioned by the police last year (parent)	1 = never, 2 = once, 3 = twice, 4 = more often	.40
Smoked marijuana	0 = never, 1 = not recently, 2 = in last two weeks	.40
Taken other drugs	0 = never, 1 = not recently, 2 = in last two weeks	.25

Note: All items were answered by the child, with the exception of a single item that was answered by the parent regarding police contacts.

respondents either three or four response choices. The question on assaults, for example, asked the person to choose from responses of “never,” “once,” “twice,” or “more often.” Table 2 provides each item’s wording and response categories.

The scale was created by averaging the seven items, and each item was standardized prior to averaging to prevent more frequent—and perhaps less serious offenses—from dominating the scales. The overall scale has a Cronbach’s alpha of .64, which is modestly below the preferred level of .70 suggested by Nunnally (1978). All seven crime items nevertheless were used because the resulting scale was superior to scales that omitted select items. For example, each item increases the internal reliability of the scale, and the full scale also has higher construct validity (with higher correlations with predictors of crime like age, sex, and prior problem behavior) and produces higher levels of explained variance. The overall scale was standardized, therefore giving it a mean of 0 and a standard deviation of 1.³

Control variables. All equations will include controls for key demographic characteristics of respondents and their families in order to provide a more clear estimate of the independent relationship between poverty and delinquency, net of their correlations with other variables. The control variables used are age (a continuous variable measured in years), sex (males are coded as the high category), race/ethnicity (a dichotomous variable with nonwhites coded as the high category), and the marital status of the child’s mother (a di-

chotomous variable with unmarried mothers coded as the high category).

Results

The main effects of family poverty

The analysis began by considering whether the measures of family poverty have significant main effects on delinquency. Five OLS regression equations are used to examine the effects of the five measures of family poverty—family income, parental education, unemployment, welfare support, and overall family poverty (which is the combination of these four). Each equation includes the family poverty variable in question, the demographic controls, and the measure of community poverty.

Two statistical details bear emphasizing. First, OLS is the appropriate statistical method because, like most national datasets, the NSC’s respondents are not sufficiently clustered to allow for a hierarchical linear model (Raudenbush and Bryk, 2002). In the NSC, more than 90 percent of communities represented in the sample contain a single respondent. Second, as Table 1 indicates, a number of the control variables are significantly correlated with each other and with the measures of family and community poverty. An analysis of variance inflation factors (VIFs) indicates, however, that multicollinearity is not a problem, with VIFs never reaching the level of 2.00 to 4.00 thought to be problematic (Fox, 1991).

The results for the five OLS equations are shown in Table 3, with the top row for each variable reporting the standardized coefficient and the bottom row reporting the unstandardized coefficient and standard error. (Readers are reminded that the delinquency measure itself has been standardized, so unstandardized coefficients indicate the standard deviation unit change in delinquency that comes from a one-unit change in that variable). The results in Table 1 generally reveal a mixed assessment regarding the effects of family poverty on delinquency. Three of the five variables—family

³ Standardizing the delinquency variable eases the interpretation of results by allowing the poverty variables to be more clearly described in terms of their standard deviation impacts on delinquency. For the overall family poverty measure (which combines income, education, unemployment, and welfare support, and therefore has no meaningful metric), this will be done by discussing the standardized coefficients. For the disaggregated variables (which have response categories that have a meaningful metric), the focus will be on the *un*standardized coefficients. With the delinquency measure standardized, the unstandardized coefficients indicate the standard deviation unit change in delinquency that comes from a one-unit change in that variable (e.g., from employed to unemployed).

Table 3 The effects of five measures of family poverty on delinquency

	1	2	3	4	5
Age	.19** .12 (.02)	.18** .12 (.02)	.18** .12 (.02)	.19** .12 (.02)	.18** .12 (.02)
Sex (male)	.17** .35 (.05)	.17** .34 (.05)	.18** .36 (.05)	.17** .35 (.05)	.18** .35 (.05)
Race (nonwhite)	-.05 -.12 (.06)	-.05 -.12 (.06)	-.06* -.13 (.07)	-.07* -.15 (.07)	-.07* -.16 (.07)
Marital status (unmarried)	.09** .19 (.07)	.09** .20 (.07)	.08** .19 (.06)	.07** .17 (.07)	.06* .14 (.07)
Community poverty	.04 .04 (.03)	.04 .04 (.03)	.03 .03 (.03)	.03 .03 (.03)	.01 -.01 (.03)
Family income (reverse-coded)	-.01 .00 (.02)				
Parental education (reverse-coded)	-.01 .00 (.01)				
Unemployment			.13** .95 (.19)		
Welfare support				.05 .18 (.11)	
Overall family poverty					.09** .09 (.03)
N	1384	1403	1403	1403	1403
R-squared	.07	.07	.09	.07	.08

Note: For each variable, the standardized effect is shown in the top row, with the unstandardized effect and the standard error (in parentheses) shown below.

* $p \leq .05$; ** $p \leq .01$.

income, parental education, and welfare support—have no significant effect. The effects of family income and parental education are near zero ($b = -.01$ for both), whereas welfare support has a positive effect ($b = .18$) that approaches but does not reach significance ($p = .11$).⁴ Significant effects are observed, however, for unemployment ($b = .95$, $p < .01$) and the measure of overall family poverty ($b = .09$, $p < .01$).

The magnitude of the effect of unemployment is worth emphasizing. Its unstandardized coefficient of .95 indicates that as a family moves from 0 to 1 on this variable, there is a .95 standard deviation unit increase in delinquency. This effect is substantially larger than what is observed even for sex, which is one of the strongest predictors of delinquency, both in this study and in prior research (see Steffensmeier and Allan, 1996). Thus, while unemployment is not common (only 7 percent of NSC households contained an unemployed adult), when it was present, it produced a substantively large increase in delinquency.⁵

⁴ As a blind reviewer helpfully pointed out, this nearly significant effect of welfare support could reflect an effect of unemployment, given that unemployment clearly has the strongest effect on delinquency and unemployment compensation is one of the forms of government assistance included in the measure of welfare support.

⁵ The infrequency of unemployment explains why its important effect does not translate into large increases in R -squared. R -squared is very

One final point to note involves the absence of an effect of community poverty on delinquency. Its beta never exceeds .04 and is insignificant in all equations. This result is consistent with a few prior studies finding weak independent effects of community poverty on individual-level delinquency (Gottfredson et al., 1991; Lynam et al., 2000; Simcha-Fagan and Schwartz, 1986). Thus, if community poverty is significant for delinquency, it will be by moderating the effects of family poverty rather than by having independent effects of its own.

Community poverty as a moderator

We next considered the hypothesis that the effects of family poverty depend on the level of community poverty. This was considered with OLS product term analysis in which an interaction term is created that is the product of the predictor variable (family poverty) and the hypothesized moderator (community poverty). Entering this interaction term into an equation including its constituent variables indicates whether the effects of family poverty vary across values of community poverty. Specifically, the coefficient for the interaction term

sensitive to how much variability is found in the variables. Predictors with minimal variability are constrained in their ability to explain large portions of variation in an outcome, especially to the extent that the outcome itself is more highly variable (see Podhazar, 1982).

Table 4 Results for OLS regressions of delinquency on family poverty, community poverty, and their interaction

	Overall family poverty	Family income (reverse-coded)	Par education (reverse-coded)	Unemployment	Welfare support
Age	.19** (.12 (.02))	.19** (.12 (.02))	.18** (.12 (.02))	.18** (.12 (.02))	.19** (.12 (.02))
Sex (male)	.17** (.35 (.05))	.17** (.35 (.05))	.17** (.35 (.05))	.18** (.35 (.05))	.17** (.35 (.05))
Race (nonwhite)	-.10** (-.22 (.07))	-.07* (-.16 (.07))	-.06* (-.14 (.07))	-.07* (-.15 (.07))	-.07* (-.16 (.07))
Marital status (unmarried)	.06 (.13 (.07))	.08* (.18 (.07))	.08** (.19 (.06))	.08** (.19 (.06))	.07* (.17 (.06))
Community poverty	.03 (.03 (.03))	.12 (.13 (.07))	-.04 (-.05 (.07))	.01 (.01 (.03))	-.03 (-.03 (.13))
Measure of family poverty	.07* (.07 (.03))	.00 (.00 (.02))	-.01 (.00 (.01))	.09** (.67 (.19))	.04 (.16 (.12))
Community poverty X family poverty	.11** (.11 (.03))	.19** (.04 (.01))	.10 (.01 (.01))	.15** (1.02 (.19))	.07 (.05 (.11))
N	1403	1384	1403	1403	1403
R-squared	.087	.077	.072	.106	.073

Note: The five poverty variables and their interaction with community poverty were examined with separate OLS equations. For each variable, standardized effects are shown in the top row and unstandardized effects and standard errors (in parentheses) are shown in the bottom row.

* $p \leq .05$; ** $p \leq .01$.

indicates how much the effect of family poverty increases or decreases in response to a one-unit change in community poverty (Aiken and West, 1991; Cohen and Cohen, 1983; Jaccard et al., 1990).

Five equations were used to assess this interaction—one for each of the five measures of family poverty. Each equation includes the control variables, community poverty, the family poverty variable in question, and the relevant product term. The result for these equations are shown in Table 4. We focus first on the interaction between community poverty and the overall family poverty measure that combines income, education, unemployment, and welfare support. The results for this equation are shown in the first column of Table 4, and they support the hypothesis that family poverty and community poverty interact to affect delinquency. Although family poverty has a significant main effect ($B = .07$, $p < .05$) on delinquency, the coefficient for the product term is significant as well ($B = .11$, $p < .01$). Additionally, adding the product term produces a statistically significant increase ($F = 16.82$, $p < .001$) in the model's R-squared (compare the first equation of Table 4 with Eq. 5 of Table 3).

Importantly, the positive coefficient for the interaction term indicates an *amplifying* role being played by community poverty—the effect of family poverty becomes greater at high values of community poverty. The beta for family poverty is .07 when community poverty is set at its mean, but this effect more than doubles to .18 when community poverty increases to one standard deviation above its mean. When community poverty is two standard deviation units above its

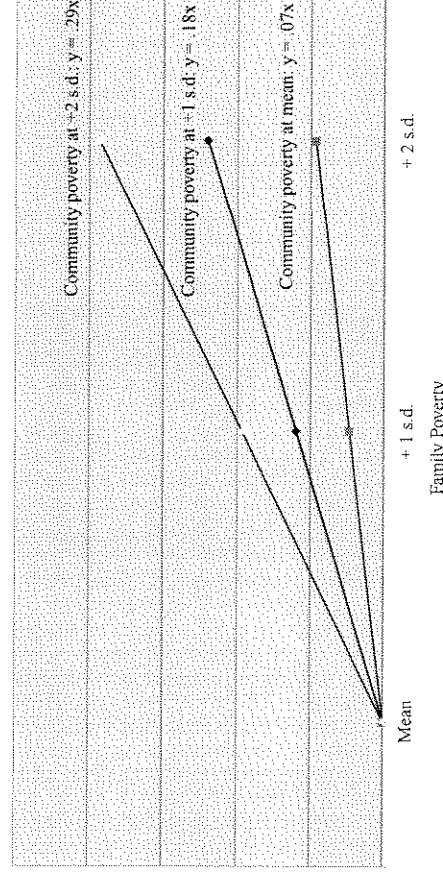
mean, the effect of family poverty more than quadruples to .29. Figure 1 illustrates this pattern, showing how the slope for the regression of delinquency on family poverty becomes significantly steeper in response to increases in community poverty.

The next four equations of Table 4 consider whether the pattern observed for the overall family poverty measure would emerge when using the disaggregated measures of family poverty. This is important to consider, given prior research suggesting that different indicators of family poverty can affect delinquency in different ways (Brownfield, 1986; Farnworth et al., 1994). The results for these equations suggest partial support for a conditional effect of family poverty. Two of the four interactions—for welfare support and parental education—are positive but not statistically significant. For family income and unemployment, however, the interactions are positive and significant, indicating an effect of family poverty that becomes greater at higher levels of community poverty.

In the case of family income, there is no significant main effect. As community poverty goes up, however, the effect of family income does as well ($b = .04$ for the interaction coefficient). The magnitude of this interaction is fairly modest—when community poverty is one standard deviation above its mean, a one-unit decrease in family income (\$5,000 on this ordinal scale) corresponds to an increase in delinquency of .04 standard deviation units.

The results for unemployment are more striking. Its unstandardized main effect of .67 is combined with a significant coefficient for the interaction term of 1.02. Thus, when

Fig. 1 The effects of family poverty on delinquency at different levels of community poverty



Note: The slope of the regression of Y on X is represented with the formula $b_1 + b_3Z$, with b_1 representing the coefficient for the predictor (family poverty), b_3 representing the coefficient for the product term, and Z representing the value of the moderator (community poverty) (Aiken and West 1991:12).

community poverty is set at its mean, moving from 0 to 1 on this variable increases delinquency by .67 standard deviation units. When community poverty is high—one standard deviation unit above the mean—this effect increases to 1.69 standard deviation units. When community poverty is two standard deviation units above its mean, having unemployed parents increases the child's level of delinquency by fully 2.71 standard deviation units.

Discussion

Drawing from poverty-oriented theorists such as Cohen (1955), Shaw and McKay (1942), and Wilson (1987; Sampson and Wilson, 1995), this study considered the hypothesis that family poverty increases delinquency most notably when families live in communities that are themselves high in poverty. This hypothesis received fairly strong support. This conclusion is elaborated upon below. This is followed by a discussion of what implications these findings have for future research on the poverty-delinquency relationship. The implications for crime prevention policy also are explored.

The study's primary conclusion is that the effects of poverty on delinquency are partly dependent upon the level of poverty in the surrounding community. A measure of overall family poverty that combines income, education, unemployment, and welfare support had only a modest main effect on delinquency. It significantly interacted, however, with community poverty, such that its effect became greater as community poverty increased. At high levels of community poverty (one standard deviation above the mean), the positive effect of family poverty on delinquency more than

doubles; when community poverty is two standard deviation units above its mean, this effect more than quadruples.

When the disaggregated measures of poverty were examined, the results were more varied. Family income and parental education had main effects that were essentially zero (although family income's effect became modestly greater as community poverty increased). Welfare support had a main effect that marginally missed statistical significance, but its effect was not significantly amplified by community poverty. The most striking results, however, were for unemployment. Moving from 0 to 1 on this variable produced an increase in delinquency of .67 standard deviation units (an effect two times greater than the effect of being male). This effect increased dramatically as the level of community poverty increased. In especially poor communities (those with a level of poverty two standard deviation units above the mean), having unemployed parents increases the child's level of delinquency by 2.71 standard deviation units.

The principal conclusion of this study therefore is that the effects of family poverty on delinquency are partially conditional upon the level of poverty in the community in which the family resides. In considering this conclusion, three key issues are important: How does it affect our interpretation of prior research? What future work does it suggest should be done? And what implications might it have for policy?

With respect to the interpretation of prior research, the results presented here indicate that to some degree prior studies have misspecified the relationship between family poverty and individual delinquency. Specifically, both the studies that reveal a significant poverty-delinquency relationship (Elliott and Ageton, 1980; Farnworth et al., 1994; Jarjoura et al., 2002; Bjerk, 2007) and the ones that do not

(Dunaway et al., 2000; Tittle et al., 1978) have assumed that the effects of family poverty are uniform across different community contexts. On the contrary, these effects may be conditional upon broader features of the social environments in which a poor individual lives, including the extent of poverty in the surrounding community. It bears repeating, however, that our analysis did not provide uniform support for this pattern—while three of our five measures of family poverty significantly interacted with community poverty to affect delinquency, the remaining two (welfare support and parental education) did not. We would emphasize, however, that any evidence of an effect of family poverty that is conditional upon community poverty departs from the way in which the poverty–delinquency relationship typically has been approached in past research.

With respect to future research, the findings presented here suggest that researchers should no longer treat poverty as a characteristic only of individuals or families. Families do not exist in a social vacuum, but instead are part of a broader social context, and the community is a significant part of this. Importantly, the role of community poverty can be incorporated into new research more easily now than was the case in the past. Large-scale surveys now routinely collect geographic information for respondents, therefore allowing the data to be supplemented with census data on community poverty. Moreover, advanced statistical techniques such as hierarchical linear modeling are possible for studies in which researchers have highly clustered data (data from large numbers of respondents who reside in a smaller number of communities). Thus, adjusting research practices to consider community poverty is not only warranted, it is feasible as well.

A second implication for future research involves the potential importance of underclass measures like unemployment and welfare support. Unlike some prior studies (Brownfield, 1986; Farnworth et al., 1994), we found welfare support to be largely inconsequential for delinquency. As noted above, however, parental unemployment had a substantively important effect that increased dramatically as community poverty increased. This may suggest the need for greater attention in future research to an underclass measure like unemployment.

A complicating factor, however, is that unemployment is rare. Research designs that ignore this may produce samples that largely exclude members of the underclass, thereby making it impossible to discern effects of poverty that do in fact exist (see Hagan, 1992). Also, some routine practices for interpreting quantitative results are not well-suited to examining risk factors that are statistically rare. For example, a focus on the amount of variance explained by a set of predictors (e.g., R -squared) may underestimate the importance of underclass membership. R -squared is highly sensitive to the amount of variability in the dependent and independent

variables—independent variables with less variation are constrained in their ability to explain large portions of variance in the dependent variable (Pedhazur, 1982). Thus, in studying the effects of underclass measures, researchers should avoid an overreliance on R -squared, and instead devote significant attention to the substantive conclusions implied by their statistical results.

An additional concern for future research should be to consider the theoretical mechanisms that explain the effects of family and community poverty on delinquency. A number of classic poverty-oriented theories provide key possibilities. For example, social disorganization theory (Shaw and McKay, 1942) emphasizes that poor individuals who live in poor communities will not experience conventional social control at the community level. Cohen (1955), on the other hand, argued that the combination of family and community poverty should affect delinquency by affecting both a juvenile's ability to succeed in school and their proximity to other juveniles who experience similar frustrations at school. It should be emphasized, however, that many prominent theories of crime that largely ignore the effects of poverty may nevertheless identify variables that may explain why the combination of family and community poverty increases delinquency. These theories include Akers's (1998) social learning theory (which would emphasize the relationship between poverty and access to delinquent reinforcements), Gottfredson and Hirschi's (1990) self-control theory (which would emphasize the link between poverty and the development of self-control), and social control theory (Hirschi, 1969), which would emphasize the effect of poverty on one's attachment and commitment to conventional individuals and goals. Considering the link between poverty and these theories offers the chance to both advance understanding on the consequences of poverty and to connect those consequences to the broader inquiry into the causes of crime.

The findings presented here also may have implications for crime prevention policy. A goal of many prevention programs is to provide high-risk youths access to services that can decrease later involvement in crime and delinquency. These programs often seek to do such things as improve family functioning or contribute to the child's cognitive and social development (Greenwood, 2002; Farrington and Welsh, 2003). A key feature of many programs is that high-risk youths are identified on the basis of family poverty and the mother's circumstances (including her age and whether or not she is married). Our conclusion that family poverty increases delinquency mainly for those living in high poverty communities suggests that in assessing risk, greater attention should be devoted to the social context in which the family lives. In short, given the scarcity of crime prevention resources, many programs could benefit by targeting children from high-risk families that reside in extremely poor communities. Moreover, the content of these programs might be

adjusted to better assist parents who face the challenge of raising children in poor communities in which delinquent subcultures may thrive.

In concluding, we should simply note that our study joins a growing list of empirical studies (Elliott and Ageton, 1980; Bjerk, 2007; Farnworth et al., 1994; Jarjoura et al., 2002; Wright et al., 1999) that concludes that poverty is consequential for individual-level delinquency, but that the nature of this relationship is more complicated than what earlier studies considered. Specifically, our findings suggest the need for considering this relationship in a more contextual manner that accounts for features of the community in which poor individuals live. By all appearances, this contextual approach captures what classic theorists like Cohen (1955), Shaw and McKay (1942), and Cloward and Ohlin (1960) had in mind in the first place.

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