NEIGHBORHOOD DISADVANTAGE AND POLICE NOTIFICATION BY VICTIMS OF VIOLENCE*

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This research uses data from the Area-Identified National Crime Victimization Survey to examine the influence of neighborhood socioeconomic disadvantage on the likelihood of police notification by victims of violence. The results indicate that neighborhood disadvantage does not significantly affect the likelihood of police notification among robbery and aggravated assault victims. However, a significant curvilinear effect of neighborhood disadvantage is observed for simple assault victims. The implications of these results for community-level crime research and for theoretical perspectives on police notification are discussed.

KEYWORDS: Neighborhood, crime reporting, victimization, police notification.

It is well documented that a substantial portion of all violence experienced by citizens in the United States and in other nations is not reported to the police (e.g., Gottfredson and Gottfredson, 1988; Hindelang, 1976; Laub, 1997; Skogan, 1984; van Dijk et al., 1991). In 2000, for example, just 48% of the 6.3 million violent crimes reported in the U.S. National Crime Victimization Survey (NCVS) were reported to the police (Rennison, 2001). Although the exclusion of police intervention from such a large number of violent incidents is problematic in its own right, recent ethnographic research suggests that rates of police notification following incidents of violence vary considerably across neighborhoods (Anderson, 1999; Canada, 1995). Specifically, contrary to informal social control theories and to stratification theories of law, residents of neighborhoods with high levels of socioeconomic disadvantage have been described in these

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accounts as being substantially less likely to enlist the assistance of the police when they experience a violent victimization. This speculation is deeply implicated in Anderson's (1999) description of the "code of the street," which attributes much violence in inner-city communities to an assumed reluctance on the part of residents to involve the police in interpersonal disputes (see also Black, 1983).

The possibility that persons from different types of neighborhoods are less (or more) likely to notify the police of criminal victimizations has important implications for macrolevel crime research and theory testing, the allocation of police resources, and the delivery of victim support services. First, research designed to test macrolevel theories of crime at various geographic levels typically uses data that reflect only crimes reported to the police (e.g., Bursik et al., 1990; Warner and Pierce, 1993) or crimes reported to and recorded by the police (for reviews, see Land et al., 1990; Sampson and Lauritsen, 1994). A common assumption made in these studies is that observed differences in the volume of crime across communities reflect actual differences in criminal activity. Although plausible, community variation in crime rates also may reflect differences in crime reporting and, more importantly, rates of reporting may be correlated with community characteristics such as socioeconomic status. If so, macrolevel researchers may assign theoretical importance to effects that are confounded with differences in reporting across communities. Second, victim notification is the primary means by which crimes come to the attention of the police (Bennett and Wiegand, 1994; Reiss, 1971). Because police departments often allocate resources according to the distribution of demands for services (Skogan, 1977), victims' decisions of whether to notify the police may have a substantial influence on the spatial allocation of criminal justice resources. If residents of some communities are less likely to notify the police when they are victimized, this may result in these areas being relatively underprotected and may allow violence to flourish (e.g., Kennedy, 1997). This would be especially troublesome for disadvantaged neighborhoods, where crime rates are higher and victim reporting is assumed to be lower. Finally, if residents of socioeconomically disadvantaged neighborhoods are less likely to notify the police when they have been victimized, they may be cut off from important ameliorative resources, especially victim support services that rely on police referrals for securing access to clients and public and private compensation that often are not made available unless the police are notified (Gottfredson and Gottfredson, 1988).

Although a growing body of research suggests that neighborhood characteristics affect a variety of behaviors and outcomes, few studies have examined the impact of neighborhood characteristics on the likelihood that victims of violence notify the police of their victimizations. In fact,

despite a voluminous research literature on the individual- and incident-level determinants of police notification (e.g., Block, 1974; Braithwaite and Biles, 1980; Felson et al., 1999; Felson et al., 2000; Gottfredson and Gottfredson, 1988; Greenberg et al., 1979; Greenberg et al., 1982; Hindelang and Gottfredson, 1976; Ruback, 1984; Skogan, 1977, 1984; Laub, 1997), relatively little is known about the existence, direction, and strength of neighborhood effects on victim crime reporting.

The main question addressed in the present research is whether neighborhood socioeconomic conditions affect the likelihood of police notification by victims of violence. In addition, several hypotheses derived from Anderson's description of neighborhood dynamics are tested, including whether the effects of neighborhood disadvantage on police notification are nonlinear in form, whether they are stronger in central cities, and whether they vary by the race, sex, and age of victims. These questions are addressed with data on robbery, aggravated assault, and simple assault from the 1995–1997 National Crime Victimization Survey (NCVS) that have been merged with 1990 census data describing respondents' residential neighborhoods.

THEORETICAL FRAMEWORK

Theories of victim decision making suggest that victims have two main goals after they define an event as a crime: to reduce the immediate distress they feel as a result of perceived inequitable treatment, and to reduce their vulnerability to future victimization (Gottfredson and Gottfredson, 1988; Greenberg and Ruback, 1992; Kidd and Chayet, 1984; Ruback et al., 1984). Enlisting the help of the police is one of the ways in which victims can accomplish these goals, and neighborhood characteristics may influence the selection of this option in several ways.

Three theoretical perspectives have guided discussions of community variation in rates of police notification. These perspectives make different predictions about the existence and nature of the relationship between neighborhood socioeconomic disadvantage and police notification. As elaborated below, the stratification hypothesis encompassed in Black's (1976) general sociological theory of law suggests a bivariate inverse effect of neighborhood disadvantage on police notification that is compositional, explained in full by individual-level socioeconomic status. Anderson's (1999) description of the code of the street implies a net inverse effect of neighborhood disadvantage on victim crime reporting that may be especially pronounced among victims who reside in extremely disadvantaged central-city neighborhoods, and among young persons, blacks, and males. Finally, theories that emphasize access to informal mechanisms of social

control predict a net positive effect of neighborhood socioeconomic disadvantage on police notification by crime victims (e.g., Black, 1976, 1998; Boggs, 1971; Conklin, 1975; Laub, 1980; Rose and Clear, 1998; Stinchcombe, 1963).

BLACK'S STRATIFICATION HYPOTHESIS

Prior research on the influence of neighborhood characteristics on police notification has tested hypotheses derived from Black's (1976) general sociological theory of law (Gottfredson and Hindelang, 1979). Black (1976:3) derives several propositions for how law, defined broadly to include "a call to the police, a visit to a regulatory agency, or a lawsuit," varies in quantity across social contexts, including neighborhoods. Although several of Black's (1976) propositions are relevant for describing community variation in police notification, his stratification hypothesis seems most relevant for explaining the association between neighborhood socioeconomic disadvantage and victim crime reporting. Black (1976) argues that communities with a larger fraction of low-income individuals will exhibit less law. As Black (1976:20) states, "the total wealth of a society or community predicts the quantity of its law: The more wealth it has in relation to other societies or communities, the more law it has." Black's community-level stratification hypothesis does not imply a causal effect of community socioeconomic conditions on victim crime reporting. Rather, his argument suggests that variation in crime reporting across communities with different socioeconomic conditions is merely compositional; it represents the aggregate effects on the quantity of law of individual-level income and other indicators of social status (Black, 1976; see also Black, 1989:58–59). Thus, the empirical implications of Black's stratification hypothesis are that crime reporting should be lower among victims from disadvantaged communities at the bivariate level, and that these differences should be attenuated once victims' socioeconomic status is controlled.

ANDERSON'S CODE OF THE STREET

Although Anderson (1999) does not present a formal theory, his narrative of daily life in several Philadelphia neighborhoods also suggests an inverse association between neighborhood socioeconomic disadvantage and police notification by victims of violence. However, contrary to Black's stratification hypothesis, Anderson's argument implies that this effect should persist net of individual-level characteristics. Anderson (1999) suggests three mechanisms that might inhibit crime reporting by victims who reside in socioeconomically disadvantaged neighborhoods.

First, Anderson (1999:34) argues that the high rates of poverty and joblessness that characterize disadvantaged neighborhoods have instilled in many residents of these areas, especially young persons, males, and blacks, a "sense of alienation from mainstream society and its institutions" and "a profound lack of faith in the police and judicial system—and in others who would champion one's personal security" (see also Hagan and Albonetti, 1982; Sherman, 1993). According to Anderson (1999:321), one consequence is that "residents sometimes fail to call the police because they believe that the police are unlikely to come or, if they do come, may even harass the very people who called them." Recent research using survey data from Chicago neighborhoods supports the notion that residents of disadvantaged neighborhoods report less satisfaction with the police (Sampson and Jeglum Bartusch, 1998). However, it is uncertain whether this translates into a lower likelihood of police notification among residents of those areas who experience a violent victimization.

Second, and somewhat relatedly, Anderson (1999:323) argues that as an adaptation to their alienation from mainstream institutions, many residents of disadvantaged neighborhoods have embraced the "code of the street," which among other things prescribes the proper way to respond to interpersonal violence. Anderson (1999) argues that a "code" has emerged in neighborhoods with high levels of socioeconomic disadvantage that encourages, expects, and rewards taking personal responsibility for one's security, defines as weak and cowardly enlisting the police to settle one's problems, and generates fear of reprisal in the event that one does contact the police for help. As Anderson (1999:307) explains, the code of the street dictates that "the man goes for himself, takes up for himself, and calls on no one else to fight his battles. . . . To have to resort to the cops or anyone else is to be judged a chump, to have lost heart." Thus, the code of the street strongly discourages police notification and encourages residents to respond to violence by taking matters into their own hands.

Third, drawing on structural strain and subcultural theories of crime, Anderson (1999:316–317) argues that blocked access to legitimate economic opportunities and associated feelings of hopelessness and alienation push some residents of disadvantaged neighborhoods to "become involved in the underground economy, including drug dealing, prostitution, and street crime." Although not explicitly discussed by Anderson (1999), this may represent an additional disincentive for residents of disadvantaged communities to contact the police when they are victimized (Sparks et al., 1977; Wright and Decker, 1997). As Skogan (1984:124) suggests, victims who are involved in illegal activity may be reluctant to call the police "due either to shame, embarrassment, or a concern about their own labeling by the police."

Overall, Anderson's (1999) argument suggests an inverse relationship

between neighborhood disadvantage and police notification. However, his discussion also implies that this effect may be nonlinear. Anderson's (1999) description of the types of neighborhoods in which hopelessness, alienation, and the code of the street emerge seems particularly applicable to extremely disadvantaged neighborhoods. The empirical implication of this is that rates of police notification may decline sharply and reach particularly low levels among victims who reside in neighborhoods with very high levels of disadvantage. Anderson's (1999) ethnography also implies that the effect of neighborhood disadvantage on police notification may be conditioned by several factors. Specifically, although Anderson (1999) suggests that the code of the street is pervasive, even affecting "decent" people and families, he also implies that the code of the street has a distinctive origin in disadvantaged central-city neighborhoods, and that the code is more likely to be adopted as a means of survival by males, young persons, and blacks. This leads to the prediction that the negative effect of neighborhood disadvantage on police notification suggested by Anderson may be stronger, or perhaps only evident, among victims with these attributes.

INFORMAL SOCIAL CONTROL MODELS

In contrast to Anderson's (1999) account of the code of the street and to Black's (1976) stratification hypothesis, researchers emphasizing informal social control mechanisms (e.g., Black, 1976, 1998; Conklin, 1975; Gottfredson and Hindelang, 1979; Laub, 1980) have suggested that residents of disadvantaged neighborhoods may be more likely to notify the police when they are victimized. This perspective, which dominated early studies of variation in police notification across urban and rural areas, draws heavily from the classic social disorganization model (e.g., Shaw and McKay, 1942) and assumes that strong informal social controls are important mechanisms for regulating conduct and mediating interpersonal disputes. Beyond this, however, it suggests that the availability of informal social control mechanisms may affect the degree to which neighborhood residents access, or have access to, mechanisms of formal social control, such as the police (e.g., Rose and Clear, 1998). Two lines of thought on the nature of this relationship have appeared in the literature. Some scholars have argued that communities with weakly developed informal mechanisms of social control also tend to confront difficulties securing an adequate share of various public services, such as formal police protection (e.g., Bursik and Grasmick, 1993; Hunter, 1985). As noted above, this type of isolation may inhibit crime reporting because residents perceive that the police are unlikely to respond or, even if they do, are not likely to take their complaint seriously (e.g., Anderson, 1999). However, others have suggested that in areas with ineffective informal social controls, there

may be more of a need for or reliance on formal social control mechanisms such as the police to settle interpersonal disputes and to reduce future vulnerability to criminal victimization (Black, 1976, 1998; Conklin, 1975; Gottfredson and Hindelang, 1979; Laub, 1980). Following this logic, crime victims who reside in communities in which there are inadequate informal social controls may be more likely to notify the police following a violent victimization.

Although not fully developed in community-level theory and research, a similar hypothesis may be derived regarding the effects of neighborhood socioeconomic disadvantage on victim crime reporting. A common proposition in theories of community effects is that socioeconomically disadvantaged communities tend to be characterized by relatively lower levels of informal social control (Bursik and Grasmick, 1993; Shaw and McKay, 1942), and a growing body of research supports this contention (e.g., Bellair, 1997, 2000; Sampson et al., 1997; Markowitz et al., 2001; Morenoff et al., 2001; Sampson and Groves, 1989). Assuming this is so, persons who reside in neighborhoods with higher levels of socioeconomic disadvantage may be more likely than those from affluent areas to notify the police when they are victimized.

PRIOR RESEARCH

The empirical predictions derived from the theories reviewed above rarely have been evaluated in the literature on police notification. There is some evidence that levels of crime reporting vary slightly across cities (e.g., Decker, 1980; Gottfredson and Gottfredson, 1988), but it is not clear whether this variation is related to the socioeconomic conditions.[1] Four studies have directly examined whether neighborhood characteristics affect victim crime reporting (Bennett and Wiegand, 1994; Fishman, 1979; Gottfredson and Hindelang, 1979; Warner, 1992). Warner (1992) and Gottfredson and Hindelang (1979) use data from the 1974–1976 U.S. National Crime Survey (NCS) to examine police reporting by victims of violence who reside in "pseudo" neighborhoods with varying social and economic features.[2] Warner (1992) found that neighborhood racial composition and income inequality do not exert significant main effects on the

1. Cohen and Land (1984) examine the relationship between several city-level structural characteristics and the difference between UCR and NCS crime rates. Their analyses suggest that in cities with higher rates of poverty, fewer crimes experienced by victims are translated into official police crime counts. However, it cannot be ascertained from their research whether poverty rates affect the reporting of crime by victims, the recording of crimes by police departments, or some combination of these sources of reporting error.

2. The "pseudo" neighborhoods used in these studies were generated by the census bureau by aggregating information from clusters of approximately 4,000 persons in

likelihood that victims report robberies and assaults. However, Warner's (1992) analysis reveals that the race of the victim moderates the effects of neighborhood racial composition on crime reporting: Residence in a neighborhood with a large percentage of nonwhites reduces the likelihood that black victims notify the police of their victimization, but it increases the likelihood that white victims do so. Gottfredson and Hindelang's (1979) results suggest that neighborhood poverty levels do not affect victim crime reporting of violence at the bivariate level, or when levels of gun use and injury are controlled. Fishman (1979) and Bennett and Wiegand (1994) reach similar conclusions using data from Israel and Belize, respectively.

Overall, although some research has considered whether neighborhood socioeconomic conditions are associated with police notification, it is premature to draw definitive conclusions on the matter. Much of the research has been bivariate in nature or has considered a limited number of control variables, which may have served to mask neighborhood effects on crime reporting. Also, although the major theoretical arguments for why rates of police notification may be related to community characteristics seem relevant primarily to interpersonal violence such as assault and robbery, with the exception of Warner's (1992) study, prior research has not included separate analyses of these crimes. Finally, prior research on neighborhood effects on police notification has not considered the possibility that such effects may be nonlinear or that the effects may be conditioned by neighborhood location (e.g., central city versus non-central city) or victim demographic characteristics (but see Warner, 1992).

The present research goes beyond prior studies of community effects on police notifications in several ways. In addition to exploring the overall nature of the effect of neighborhood disadvantage on police notification, the research evaluates three hypotheses derived from Anderson's (1999) ethnographic research. First, the research tests for the existence of a nonlinear effect of neighborhood disadvantage on police notification. Following Anderson's research, the empirical expectation is that the negative effect of neighborhood disadvantage on police notification only will be present, or will be much stronger, at very high levels of socioeconomic disadvantage (see also Crane, 1991; South and Crowder, 1999; Wilson, 1987). Second, the research evaluates whether the influence of neighborhood disadvantage on police notification is conditioned by the location of the neighborhood in the broader ecological environment. Anderson's (1999) argument implies that the code of the street may have a distinctive

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the same general geographic area. The resulting neighborhoods do not correspond to standard census geocodes (e.g., cities, towns, tracts, or block groups) and, in some cases, combine geographic areas that are not contiguous (Bureau of the Census, 1972).

origin in disadvantaged inner-city neighborhoods. If so, the expected negative effect of neighborhood socioeconomic disadvantage on police notification should be stronger for victims who reside in central cities. Finally, the research explores whether the effect of neighborhood disadvantage on police notification is conditioned by victim demographic characteristics. Following Anderson (1999), neighborhood disadvantage should negatively affect police notification more strongly among those most deeply embedded in the code of the street: young persons, males, and blacks.

DATA, MEASURES, AND ANALYTICAL STRATEGY

DATA

Data for this analysis come from two sources: the area-identified NCVS and the 1990 U.S. Census. The NCVS is a probability survey of approximately 80,000 persons (in 43,000 households) and has been conducted annually since 1972 (Rennison, 1999). The NCVS yields very high participation rates—more than 90% of respondents selected agree to participate—and is representative of persons age 12 and older residing in U.S. households (Garafalo, 1990; Lauritsen, 2001). All persons age 12 and older in sampled households are asked whether they have experienced a criminal victimization during the previous six months. In addition, for each victimization reported, respondents are asked detailed questions about the demographic characteristics of the offender, various details of the offense, and whether they reported the incident to the police.

The NCVS has been a valuable source of information on the volume of crime, the general nature of crime, and the effects of individual and household characteristics on the risk of victimization (Laub, 1997). Moreover, it is the only national-level data source in the United States that includes information about crimes that do not come to the attention of the police. One traditional limitation of the NCVS data, however, is that they have not included information on respondents' residential addresses or on the geographic location of the crimes reported by respondents. Thus, most prior analyses of criminal victimization using the NCVS, including those that have focused on the determinants of police notification, have been based on national-level data and have been restricted to examining individual- and household-level effects. To address this limitation and to facilitate research on contextual effects on victimization risk and the nature of violence, the census bureau has made available a version of the NCVS data that includes geographic codes that correspond to the residential location of NCVS respondents. These area-identified NCVS data include all information contained in the public-use NCVS data, plus geographic codes for the states, metropolitan areas, counties, places, and census tracts

in which NCVS respondents reside (Wiersema, 1999). Using these geographic codes, 1990 census data describing the characteristics of the census tracts in which NCVS respondents live have been appended to the individual-level NCVS records (Adams, 1997). Census tracts average about 4,000 persons and two square miles and are designed to be homogeneous in terms of demographic characteristics, economic status, and living conditions (Bureau of the Census, 1994). Although census tracts are only rough approximations of neighborhoods (Tienda, 1991), they are the most common geographic unit used to represent small communities in social science research on neighborhood effects (e.g., Brooks-Gunn et al., 1997; Jencks and Mayer, 1990).

Much of Anderson's (1999) discussion focuses on how residents of disadvantaged neighborhoods respond to assaults, especially relatively minor assaults, and robberies. Accordingly, the NCVS area-identified data used for this study include all aggravated assaults, simple assaults, and robberies reported in the NCVS between 1995 and 1997.[3] To retain a focus on how features of the neighborhoods in which victims reside influence their decision to notify the police, incidents reported by non-household members (for whom neighborhood of residence is unknown) and those discovered by police through other means were excluded from the analysis. After excluding these cases and those with missing data on the explanatory variables, the total sample contains 6193 victims, including 698 robbery victims, 1177 aggravated assault victims, and 4318 simple assault victims.[4]

MEASURES

The dependent variable, *victim notified police*, is coded 1 for incidents in which victims reported that they or a member of their household called the police and 0 for incidents in which they indicated that they did not call the police.

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3. In the NCVS, a robbery is defined as a completed or attempted theft, directly from a person, of property or cash by force or threat of force, with or without a weapon. Aggravated assault refers to an attack or attempted attack with a weapon, or an attack without a weapon when serious injury results. Simple assault is defined as attempted assault without a weapon, verbal threats of assault, or an attack without a weapon that resulted in minor injury or an undetermined injury that required less than two days of hospitalization (Rand et al., 1997:8).

4. After excluding incidents reported by non-household members and those discovered by police in other ways, there were 8785 cases available for analysis (997 robberies, 1689 aggravated assaults, and 6099 simple assaults). The sample used for the analysis excludes 2592 respondents due to missing data on the explanatory variables. Most of these cases (72%) were excluded because they do not contain valid census tract codes. Lauritsen (2001) discusses in detail the nature of missing data in the area-identified NCVS and shows that NCVS records with missing tract codes are very similar to those with complete tract code information.

The primary explanatory variable is the socioeconomic status of the respondent's census tract. Following recent research on the effects of neighborhood characteristics on victimization risk (Lauritsen, 2001) and levels of violence (Morenoff et al., 2001; Sampson et al., 1997), the socioeconomic status of the respondent's neighborhood is measured using a standardized and weighted index that combines the percentage of persons in households with incomes below the poverty line, percentage of families with children that are headed by a female, percentage of households that receive public assistance income, the adult unemployment rate, and the percentage of persons who are black. These variables exhibit an average inter-item correlation of .668, and the resulting index yields a high level of internal reliability (alpha = .897). This index is referred to as *Neighborhood Disadvantage*.[5] To test for the nonlinear relationship implied in Anderson's (1999) discussion, a squared term for the neighborhood disadvantage index (*Neighborhood Disadvantage Squared*) also was created (see, e.g., Krivo and Peterson, 2000; Hosmer and Lemeshow, 2000).[6]

An important issue in research on neighborhood effects is to disentangle the influence of individual or household characteristics from neighborhood characteristics. A common strategy used for attempting to do so is to include multiple measures of individual-level characteristics as control variables (Duncan et al., 1997; Tienda, 1991). Accordingly, the regression models presented below include several measures of NCVS respondents' socioeconomic status, as well as other victim, offender, and incident characteristics that may be related both to neighborhood socioeconomic disadvantage and the likelihood of notifying the police. Past research suggests that victim sex and age are significant predictors of police notification; older victims are more likely to report crimes than younger victims, and female victims are more likely to report than males (Rennison, 1999; Skogan, 1984). There is also evidence that blacks are slightly more likely to

5. The national scope and sampling procedures of the NCVS result in substantial variation in the neighborhood socioeconomic conditions in which victims reside and sufficiently large sample sizes along the continuum of neighborhood disadvantage. For instance, a considerable portion of violence recorded in the NCVS is reported by persons who reside in relatively affluent areas. More than one-third of robbery victims and more than 40% of all assault victims (41% of aggravated assault victims and 49% of simple assault victims) reside in tracts with scores below the median on the disadvantage index. A smaller but still sizable fraction reside in census tracts that fall in the lowest quartile on the disadvantage index (12% of robbery victims, 16% of aggravated assault victims, and 21% of simple assault victims), and more than 5% of victims of each of these crimes reside in tracts that fall in the lowest decile of socioeconomic disadvantage (i.e., the most affluent 10% of U.S. census tracts).

6. A constant of 20 was added to the disadvantage index to ease the interpretation of predicted probabilities derived from equations that include the squared term.

report violence to police than are whites (e.g., Felson et al., 1999; Rennison, 1999), and some speculation exists that rates of police notification are lower among Hispanics (Davis and Erez, 1998). Research consistently has shown that victims are more likely to notify the police when the crime is completed, involves a weapon, or results in a relatively large monetary loss or injury to the victim (e.g., Skogan, 1984). Finally, some studies have shown that victims of robbery and assault are more likely to report crimes when the offender is an acquaintance (Felson et al., 1999, 2000), but past research on the effects of victim-offender relationship on crime reporting is ambiguous and seems to depend on the manner in which victim-offender relationship and police notification are operationalized (e.g., Bachman, 1998; Ruback, 1993). The present research includes as controls each of these variables and others that may be related to police notification and to neighborhood socioeconomic composition.

Victim socioeconomic status is tapped by three measures. Income is measured with a 14-point ordinal scale ranging from less than $5,000 to more than $75,000 (*victim income*), education refers to the number of completed years of schooling (*victim education*) and home ownership is measured by a dummy variable scored 1 for victims who own their home (or whose family owns its home) and 0 for all others (*victim owns home*).

The sex and age of victims and offenders are measured similarly. Sex is measured by a dummy variable scored 0 for females and 1 for males (*male*), and age is dummy coded as under 18 (*under age 18*), 18 to 29 (*age 18 to 29*), or 30 and older, with the latter category serving as the reference group. Offender race is measured by a dummy variable scored 0 for non-blacks and 1 for blacks (*offender black*). The NCVS provides a more detailed breakdown of the race and ethnicity of victims, which enables a comparison between victims who identify themselves as Hispanic (*victim Hispanic*), non-Hispanic black (*victim black*), and non-Hispanic white. The latter group serves as the reference category in the multivariate analyses.[7] The marital status of victims is measured with a dummy variable scored 1 for respondents who were unmarried a the time of the survey and 0 otherwise (*unmarried*).

In addition to these attributes of victims and offenders, several characteristics of criminal incidents are included as control variables. A dummy variable distinguishes between crimes that were completed (coded 1) and those that were only attempted (coded 0) (*completed crime*). The number of offenders involved in the incident is measured by a dummy variable

7. NCVS respondents may identify with one of five race categories (white, black, Asian, American Indian, and other) and with either Hispanic or non-Hispanic ethnic origin regardless of race. Because relatively few incidents of violence were reported in the NCVS by Asians, American Indians, and "others," these cases were excluded from the analysis (see also Lauritsen and White, 2001).

coded 0 for incidents involving one offender and 1 for those involving multiple offenders (*multiple offenders*).[8] The relationship between victims and offenders is measured with three dichotomous variables that distinguish between incidents in which the victim and offender were family members (*family members*), nonfamily acquaintances (*acquaintances*), and those in which they were strangers; victims attacked by strangers serve as the reference group in the analysis.[9] Four binary variables are used to distinguish between incidents in which the victim reported that the offender had a gun (*offender had gun*), the offender had some other weapon (*offender had other weapon*), the victim was not certain about whether the offender was armed (*weapon use unknown*), and the offender was unarmed (*offender had no weapon*). The latter of these classifications serves as the reference group.[10] The presence of a bystander was measured by a dummy variable scored 1 if a bystander was present and 0 otherwise (*bystander present*). Given the coding of the dependent variable, this measure refers to nonhousehold bystanders.

Two measures are included as indicators of the amount of harm experienced by victims. First, all equations include two dummy variables that measure the extent of physical injury experienced by the victim, contrasting an injury that required hospitalization (*victim serious injury*) or a minor injury for which the victim did not receive medical care (*victim minor injury*), with no injury (the reference category). Second, a continuous variable is included in the robbery equations that represents the monetary value of cash and property taken (*financial loss*). Finally, three indicators of the location of the incident that may be correlated both with neighborhood socioeconomic disadvantage and the likelihood of reporting violence to the police are included in the analysis (Duhart, 2000; Rennison, 1999). These dummy variables distinguish victims who reside in the South from those who live elsewhere (*Southern regional location*); victims

8. Incidents involving multiple offenders with different relationships to the victim were coded according to the closest relationship. Incidents involving offenders of different ages were coded as the age of the oldest offender. If any of the offenders were male, the offender was coded as male. For incidents in which offenders of more than one race were involved, offender race was coded as the race of the majority of offenders. The few incidents in which there was no clear racial majority among offenders were excluded (see also Felson et al., 2000).

9. Family members include current and ex-spouses, children, parents, and other relatives. Acquaintances include current or ex-boyfriends and girlfriends, other friends, roommates, schoolmates, neighbors, coworkers, other nonrelatives, and those known to the victim only by sight.

10. A separate category is retained for cases in which offender weapon possession was unknown to avoid the loss of these cases (about 10% of the robberies reported in the NCVS).

who reside in central cities from those who live outside central cities (*central city resident*); and victims who were attacked within one mile of their residence from those attacked outside this one mile perimeter (*within-neighborhood incident*).

ANALYTICAL STRATEGY

Given the binary nature of the dependent variable, logistic regression is used to estimate its response to the explanatory and control variables (Hosmer and Lemeshow, 2000). The NCVS is based on a stratified, multistage cluster sample design, and observations within clusters cannot be assumed to be independent. Standard statistical software packages (e.g., SAS, SPSS) generally do not take into account this type of clustering and, consequently, tend to produce standard errors that are biased (often downward) when used to analyze complex survey data (Armitage and Colton, 1998).[11] All models shown below were estimated using the survey logit procedure available in Stata 6.0, which adjusts for these features of the NCVS design and produces standard errors that are approximately unbiased (see StataCorp, 1999:Ch. 30). The model fit statistics reported are based on parallel regressions that do not adjust for the sample design (e.g., Hosmer and Lemeshow, 2000).[12]

RESULTS

Table 1 shows percentage distributions for the variables used in the analysis. Just over one-quarter (27.5%) of simple assaults and less than one-half of aggravated assaults (45.1%) and robberies (47.7%) are

11. Estimates of standard errors and coefficients based on the NCVS also may be biased due to differential probabilities of selection and nonresponse, and weights have been developed to adjust for these factors. There is much debate about whether such weights should be applied in multivariate regression models such as those estimated in the present research (e.g., Lohr and Liu, 1994; Saphire, 1984; for a general discussion of this issue, see Winship and Radbill, 1994). All models presented below were estimated both with and without the NCVS incident weights; the results of these two sets of models were virtually identical. Following the general advice of Lohr and Liu (1994), the results presented below are based on unweighted data.

12. There also is some clustering of observations within census tracts in the NCVS, which may deflate estimated standard errors (Bryk and Raudenbush, 1992). The 4,318 simple assault victims included in the analysis are drawn from 1294 census tracts; the modal number of victims per tract is 1, and the average (mean) is 3.34. There is slightly less clustering in the aggravated assault (mean number of victims per tract = 1.96) and robbery (mean = 1.54) samples. To assess whether this small amount of serial correlation alters the conclusions drawn, the analyses were repeated using the cluster option in Stata's logit procedure, which produces estimates of standard errors adjusted for within-group clustering. The results of these analyses were very similar to those reported.

reported to the police by victims. Thus, the majority of violence experienced by U.S. citizens is not reported to the police; it remains to be seen whether persons who reside in disadvantaged neighborhoods are more, or less, likely to notify the police when they are victimized.

Table 1 also reveals the demographic characteristics of victims and offenders involved in these crimes. The patterns shown are consistent with past research (e.g., Laub, 1997; Rennison, 1999; Sampson and Lauritsen, 1994). A majority of assaults and robberies reported in the NCVS involve victims who are unmarried, and victims and offenders who are male and under the age of 30. Blacks are disproportionately represented as offenders, relative to their representation in the U.S. population. About one-quarter of assaults and one-half of robberies involve a black offender (as reported by victims). More than half of these crimes were committed by a lone offender, and in about two-thirds of all assaults and one-third of robberies, the offender was a nonstranger (i.e., a family member or other acquaintance). Slightly more than one-quarter of aggravated assaults and robberies involved an offender who had a firearm. Injury resulted in one-quarter of robberies and aggravated assaults, and one-fifth of simple assaults. Finally, the average (median) financial loss incurred by robbery victims was $25.

Turning to the central question addressed in the research, does neighborhood disadvantage affect the likelihood of police notification among victims of violence? As outlined above, the implications of Black's (1976) stratification argument are that there should be an inverse relationship between socioeconomic disadvantage and rates of police notification at the bivariate level, and that this relationship should be attenuated once the social status of victims is controlled. In contrast, Anderson's (1999) discussion implies an inverse relationship that may be nonlinear and that should persist after controlling for other factors, whereas the informal social control perspective outlined above predicts a positive relationship between neighborhood disadvantage and police notification.

As a first step in evaluating these predictions, a series of logistic regression equations that assess the bivariate relationship between neighborhood disadvantage and police notification were estimated. Table 2 presents the results of two models for each crime type. The first model includes only the neighborhood disadvantage index, and the second model adds the square of the neighborhood disadvantage to test for the possibility of a nonlinear relationship. The results reveal that the likelihood of police notification by victims of aggravated assault and robbery is not significantly related to the socioeconomic conditions of their neighborhoods. However, a statistically significant nonlinear relationship between neighborhood disadvantage and police notification is observed for simple

Table 1. Percentage Distributions for Variables Included in Analysis of Police Notification by Victims of Violence (1995–1997 NCVS)

Dependent Variable	Simple Assault (N = 4318)	Aggravated Assault (N = 1177)	Robbery (N = 698)
Victim Notified Police	27.5	45.1	47.7
Explanatory Variables			
Victim Characteristics			
Male	52.5	60.6	66.4
Black	10.3	14.0	21.4
White	80.7	73.6	61.7
Hispanic	9.0	12.4	16.9
Under Age 18	26.3	22.7	23.2
Age 18 to 29	30.4	34.2	31.7
Age 30 and Older	43.3	43.1	45.1
Unmarried	72.3	72.0	77.4
Household Income (Mean)	8.8	8.1	7.7
Education (Mean)	15.3	14.5	14.6
Owns Home	54.1	50.6	41.0
Neighborhood Disadvantage (Mean)	19.9	20.0	20.4
Offender Characteristics			
Male	79.6	85.2	90.4
Black	23.2	26.4	52.0
Under age 18	28.6	21.7	23.4
Age 18 to 29	36.4	46.0	55.7
Age 30 and Older	35.0	32.3	20.9
Incident Characteristics			
Completed Crime	54.3	26.9	64.6
Multiple Offenders	15.4	25.8	39.8
Family Members	17.4	15.7	10.2
Acquaintances	55.2	46.5	23.6
Strangers	27.4	37.8	66.2
Offender Had Gun	—	29.8	25.4
Offender Had Other Weapon	—	65.3	23.5
Offender Had No Weapon	—	4.9	40.8
Weapon Use Unknown	—	—	10.3
Bystander Present	68.4	68.7	51.0
Victim Serious Injury	6.4	16.3	11.7
Victim Minor Injury	13.2	10.6	15.2
Victim No Injury	80.4	73.1	73.1
Within Neighborhood Incident	51.2	55.2	55.9
Southern Regional Location	28.7	34.2	31.5
Central City Resident	36.5	41.6	56.9
Financial Loss (Median)	—	—	$25

— Variable not relevant for sample.

assault victims (see model 2).[13]

Table 2. Coefficients for Bivariate Association between Police Notification and Neighborhood Socioeconomic Disadvantage (1995–1997 NCVS)

	Simple Assault		Aggravated Assault		Robbery	
	(1)	(2)	(3)	(4)	(5)	(6)
Neighborhood Disadvantage	.244*	5.09*	.057	.644	.028	−.952
	(.040)	(1.22)	(.063)	(1.40)	(.060)	(1.23)
Neighborhood Disadvantage Squared		−.116*		−.014		.023
		(.029)		(.033)		(.028)
−2 Log Likelihood	5046	5028	1620	1619	966	965
Model Chi-square	36.27*	55.37*	.82	1.00	.22	.87
N	4318		1177		698	

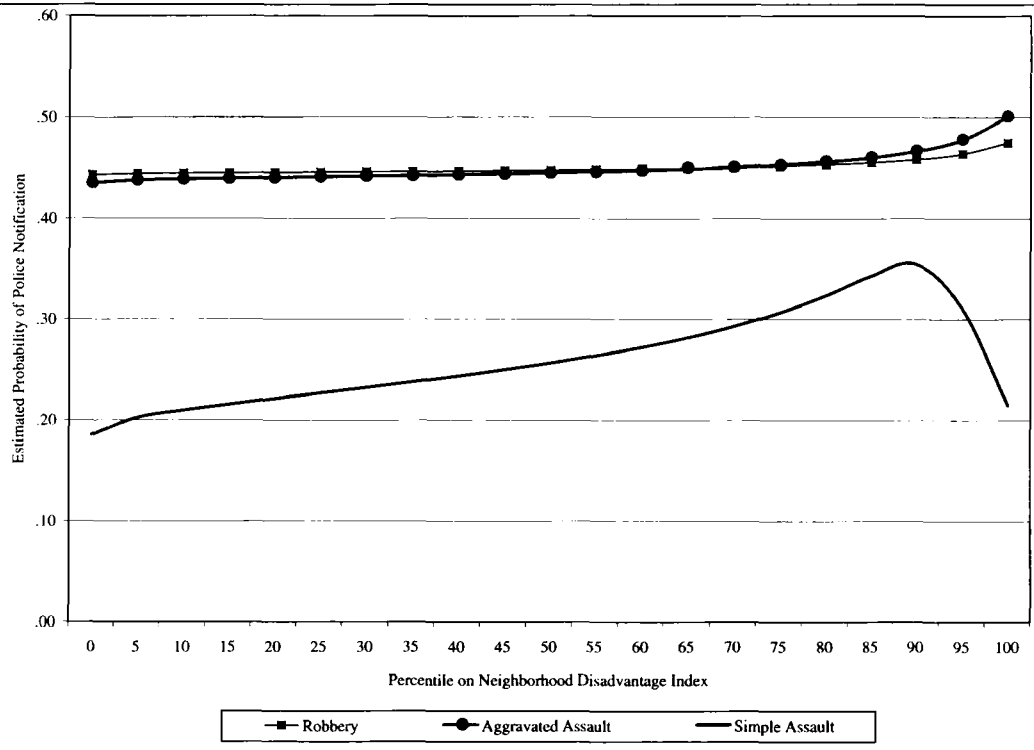
NOTE: Standard errors in parentheses.
* $p \leq .05$, two-tailed test.

Figure 1 illustrates more clearly the nature of these bivariate relationships by displaying estimated probabilities of police notification for victims of violence who reside in very different types of neighborhoods (using models 2, 3, and 5, respectively). For example, victims from census tracts with scores below the tenth percentile on the disadvantage index reside in areas in which, on average, about 3% of households have incomes below the poverty line, 2% of residents are black, 2% are unemployed, and 6% of families with children are headed by a female. In contrast, victims from census tracts with scores above the 90th percentile on the disadvantage index reside in areas in which, on average, 40% of the households are below the poverty line, 64% of residents are black, 19% are unemployed, and 55% of families with children are headed by a female.

Figure 1 shows that, despite substantial differences in neighborhood types, rates of police notification by victims of robbery and aggravated assault increase only slightly as levels of socioeconomic disadvantage escalate, and they are very similar among those from the most affluent and

13. To assess the robustness of these results, the nonlinear relationship implied in Anderson's (1999) work also was evaluated using piecewise linear spline regression (e.g., Amemiya, 1981; Crane, 1991; Gould, 1993). Specifically, the neighborhood disadvantage index was divided into two segments, with the segments defined in various ways (e.g., at or below the 90th percentile versus above the 90th percentile, at or below the 95th percentile versus above the 95th percentile). The results obtained from these models were substantively identical to those reported in Table 2.

Figure 1. Estimated Probability of Police Notification by Victims of Violence from Neighborhoods with Different Levels of Socioeconomic Disadvantage



most disadvantaged neighborhoods. In contrast, neighborhood disadvantage exerts a much stronger, albeit complex, effect on police notification by victims of simple assault. Rates of police notification by simple assault victims increase substantially—from 19% to 36%—as one moves from the most affluent neighborhoods to those with scores at the 90th percentile on the disadvantage index. But among victims who reside in the worst 10% of neighborhoods (about 8% of the sample of simple assault victims), as indicated by the socioeconomic conditions of these areas, rates of police notification fall considerably, such that simple assault victims who reside in the most disadvantaged neighborhoods are only slightly more likely to notify the police than those who reside in the least disadvantaged neighborhoods (21% versus 19%).

Although complex, the bivariate patterns shown in Figure 1 clearly do not support Black's (1976) stratification argument as it applies to police notification by victims of violence. It may be that data on a more diverse set of interpersonal disputes, including those not defined as crimes, would be more supportive of Black's (1976) argument (see Black, 1979). Nonetheless, among persons who report violence in the NCVS, those from neighborhoods with "less wealth" are not significantly less likely than others to notify the police.

The bivariate findings are not well suited for evaluating the empirical predictions derived from informal social control theories and Anderson's argument, both of which posit a causal influence of neighborhood disadvantage on the likelihood of police notification, net of victim, offender, and incident characteristics. This is because the bivariate results do not take into account factors that may be related both to neighborhood disadvantage and police notification. For instance, robberies that occur in disadvantaged areas are more likely to be completed, and assaults that occur in these areas are more likely to involve weapons (Baumer et al., in press). Because these factors also are positively associated with victim crime reporting (e.g., Skogan, 1984), failure to control for them may act to suppress the inverse relationship suggested by Anderson (1999).

Tables 3–5 present the results of a series of multivariate logistic regression equations designed to assess whether neighborhood disadvantage affects police notification, net of victim, offender, and crime incident characteristics. Results are shown for models that include only the control variables, and for models that add the neighborhood disadvantage index and the square of the disadvantage index, respectively.

The results for simple assault are shown in Table 3. Model 1 reveals that simple assaults are less likely to be reported by victims who are male, under age 18, unmarried, homeowners, and those with more years of education and higher incomes. The likelihood of police notification also is lower if the offender is under 18, but it is higher if there were multiple

Table 3. Coefficients for Logistic Regressions of Police Notification by Victims of Simple Assault (N = 4318)

	(1)	(2)	(3)
Victim Male	−.415*	−.418*	−.415*
	(.084)	(.084)	(.084)
Victim Black	.261	.208	.219
	(.142)	(.149)	(.148)
Victim Hispanic	.155	.141	.121
	(.111)	(.132)	(.132)
Victim Under 18	−.769*	−.766*	−.759*
	(.154)	(.154)	(.154)
Victim 18 to 29	−.142	−.136	−.132
	(.095)	(.095)	(.095)
Victim Unmarried	−.229*	−.228*	−.225*
	(.095)	(.095)	(.095)
Victim Income	−.026*	−.022*	−.020
	(.011)	(.011)	(.011)
Victim Education	−.023*	−.023*	−.022*
	(.007)	(.007)	(.007)
Victim Owns Home	.257*	.258*	.263*
	(.088)	(.088)	(.088)
Offender Male	−.116	−.116	−.114
	(.096)	(.096)	(.096)
Offender Black	−.074	−.092	−.089
	(.106)	(.108)	(.108)
Offender Under 18	−.998*	−.997*	−.993*
	(.133)	(.133)	(.133)
Offender 18 to 29	−.022	−.026	−.027
	(.090)	(.090)	(.090)
Completed Incident	.073	.072	.077
	(.087)	(.087)	(.087)
Multiple Offenders	.564*	.567*	.559*
	(.107)	(.107)	(.107)
Family Members	.493*	.489*	.491*
	(.127)	(.127)	(.127)
Acquaintances	.089	.088	.084
	(.097)	(.097)	(.097)
Bystander Present	.196*	.198*	.200*
	(.083)	(.083)	(.083)
Victim Serious Injury	.798*	.801*	.796*
	(.150)	(.150)	(.150)
Victim Minor Injury	.342*	.341*	.333*
	(.118)	(.118)	(.118)
Within Neighborhood Incident	.853*	.845*	.843*
	(.084)	(.084)	(.084)
Southern Regional Location	.241*	.241*	.240*
	(.082)	(.082)	(.082)
Central City Resident	−.010	−.037	−.050
	(.082)	(.085)	(.085)
Neighborhood Disadvantage		.068	2.70*
		(.056)	(1.24)
Neighborhood Disadvantage Squared			−.063*
			(.028)
−2 Log Likelihood	4428	4427	4423
Model Chi-square	653.79*	655.24*	659.44*

NOTE: Standard errors in parentheses.
* $p < .05$, two-tailed test.

offenders or other bystanders, if the victim was injured, and if the offender was a family member. Simple assault victims from the South also are more likely to notify the police, as are victims who are attacked within their neighborhood. Model 2 shows that, controlling for these and the other variables, neighborhood disadvantage does not have a significant linear effect on police notification. However, model 3 reveals a significant departure from linearity in the effect of neighborhood disadvantage on police notification by victims of simple assault. Consistent with the bivariate patterns shown above, the coefficients shown in model 3 translate into predicted probabilities that indicate that rates of police notification by simple assault victims increase substantially throughout much of the distribution of the neighborhood disadvantage index, but beginning at about the 90th percentile in the distribution, the probability of police notification falls precipitously.[14]

Table 4 displays the multivariate regression coefficients for aggravated assault. Considering first the effects of the control variables (model 1), the results indicate that aggravated assaults are less likely to be reported to the police if the victim is male, under 30 years of age, or unmarried, or if he or she resides in a central city. Aggravated assaults are more likely to be reported if the victim is assaulted in the presence of a bystander, by an offender who is 30 or older, by an offender armed with a gun, or if the assault results in serious injury. And, like minor assaults, victims who reside in the South and those who are attacked within a mile of their home are more likely to report aggravated assaults to the police. Net of these factors, victims of aggravated assaults who reside in disadvantaged neighborhoods are no more likely than others to notify the police (see models 2 and 3).

The results for robbery victims are presented in Table 5. Similar to the findings for assaults, model 1 indicates that males, young persons (age 18 to 29), and the unmarried are significantly less likely to report robberies to the police, and incidents that occur within victims' neighborhoods are more likely to be reported. Consistent with recent speculation about ethnic differences in crime reporting (Davis and Erez, 1998), Hispanics are significantly less likely than non-Hispanic whites to report robberies to the police. Completed robberies and those that result in more harm to the victim (i.e., more serious injury and a greater financial loss) are more likely to be reported to the police. Most importantly for the purposes of

14. To assess the possibility that the significant quadratic effect observed for neighborhood disadvantage reflects an unmodeled departure from linearity in the effects of individual-level SES, model 3 was reestimated after adding squared terms for victim education and victim income. The results of these supplementary analyses did not alter the magnitude of the coefficients for neighborhood disadvantage.

Table 4. Coefficients for Logistic Regressions of Police Notification by Victims of Aggravated Assault (N = 1177)

	(1)	(2)	(3)
Victim Male	−.597*	−.600*	−.600*
	(.143)	(.143)	(.143)
Victim Black	.136	.177	.178
	(.223)	(.239)	(.239)
Victim Hispanic	.066	.080	.080
	(.203)	(.205)	(.208)
Victim Under 18	−.680*	−.683*	−.682*
	(.242)	(.242)	(.242)
Victim 18 to 29	−.308*	−.308*	−.308*
	(.158)	(.158)	(.159)
Victim Unmarried	−.288	−.289	−.289
	(.161)	(.161)	(.161)
Victim Income	.001	−.001	−.002
	(.019)	(.020)	(.020)
Victim Education	.001	.001	.001
	(.012)	(.012)	(.012)
Victim Owns Home	.212	.209	.208
	(.149)	(.149)	(.149)
Offender Male	.112	.114	.114
	(.193)	(.193)	(.193)
Offender Black	.097	.106	.105
	(.170)	(.171)	(.171)
Offender Under 18	−1.043*	−1.037*	−1.037*
	(.224)	(.225)	(.225)
Offender 18 to 29	−.384*	−.380*	−.380*
	(.159)	(.160)	(.160)
Multiple Offenders	.269	.267	.268
	(.161)	(.161)	(.162)
Family Members	−.070	−.077	−.077
	(.225)	(.226)	(.226)
Acquaintances	−.049	−.051	−.051
	(.155)	(.155)	(.155)
Offender Had Gun	.772*	.778*	.778*
	(.235)	(.235)	(.235)
Offender Had Other Weapon	.282	.285	.285
	(.219)	(.219)	(.219)
Bystander Present	.371*	.370*	.370*
	(.146)	(.146)	(.146)
Victim Serious Injury	.975*	.978*	.978*
	(.195)	(.195)	(.195)
Victim Minor Injury	−.017	−.015	−.016
	(.224)	(.224)	(.224)
Within Neighborhood Incident	.851*	.861*	.861*
	(.143)	(.145)	(.145)
Southern Regional Location	.266*	.270*	.270*
	(.138)	(.138)	(.138)
Central City Resident	−.302*	−.284*	−.284*
	(.137)	(.141)	(.142)
Neighborhood Disadvantage		−.044	−.141
		(.092)	(1.59)
Neighborhood Disadvantage Squared			.002
			(.037)
−2 Log Likelihood	1417	1417	1417
Model Chi-square	203.02*	203.25*	203.26*

NOTE: Standard errors in parentheses.
* $p < .05$, two-tailed test.

the present research, models 2 and 3 indicate that victims from disadvantaged neighborhoods do not report robberies at significantly different rates than those from less disadvantaged neighborhoods, net of the control variables.[15]

The research also explored whether the effects of neighborhood disadvantage on police notification are conditioned by several factors. Specifically, as outlined above, the negative effect of neighborhood disadvantage on police notification implied in Anderson's discussion may be stronger, or perhaps only evident, among victims who reside in central cities, and among young persons, blacks, and males. To evaluate these possibilities, the equations in Tables 3–5 were reestimated after adding product terms that represent the multiple two-way interactions between these potential moderator variables and the focus variable, neighborhood disadvantage.

Although the general difficulty in detecting moderator effects in nonexperimental research warrants caution in drawing firm conclusions about these results (e.g., Jaccard, 2001), these analyses reveal no evidence that the effects of neighborhood disadvantage on police notification vary significantly by location of the neighborhood in the broader ecological environment (central city versus noncentral city) or by victim age or sex. Only one of the interactions considered was statistically significant: Victim race moderates the effect of neighborhood disadvantage on police notification by simple assault victims (tabular results not shown).[16]

Figure 2 plots the predicted probabilities of police notification for all

15. The differences observed between crime types in the effects of neighborhood disadvantage and other variables could reflect differences in the degree of unobserved heterogeneity between the crime-specific models (Allison, 1999). For instance, the fact that a significant nonlinear effect of neighborhood socioeconomic disadvantage was observed for simple assaults, whereas no significant effects were observed for aggravated assaults and robberies, may be due to a larger disturbance variance in the simple assault equations. This could arise, for instance, if some covariate excluded from the models was more strongly related to reporting of simple assaults than the other crimes. To assess this possibility, the analyses were repeated using the procedures outlined by Allison (1999) to adjust for between-group differences in unobserved heterogeneity. These supplementary analyses revealed that the disturbance variance is significantly smaller for the simple assault sample than for the robbery or aggravated assault samples (no significant difference in disturbance variances was observed for the latter two samples). Nonetheless, the differences found between crime types in the effects of neighborhood disadvantage in Tables 3–5 remain after adjusting for differences in residual variation. More generally, these analyses indicate that the differences observed across crime types in the magnitude and significance of coefficients for some of the other variables are reduced slightly (e.g., Hispanic, Southern regional location, Multiple offenders) and in one instance (i.e., Central-city residence), a marginally significant difference across crime types is no longer statistically significant after this adjustment.

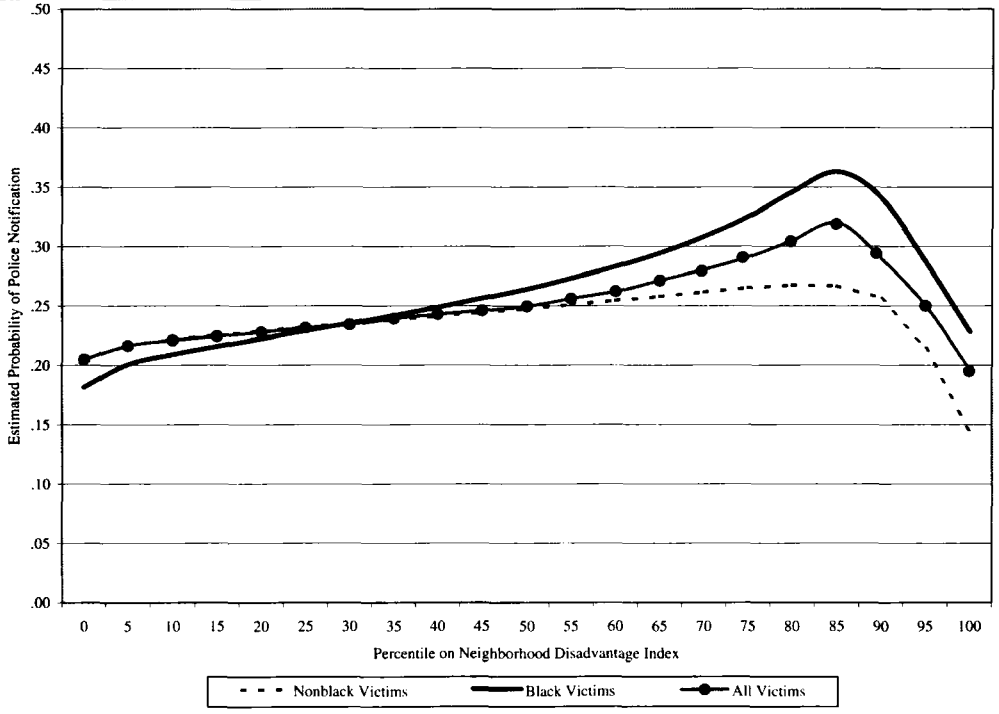
16. More complex statistical interactions also were considered, including three-way interactions among neighborhood disadvantage, race, and sex, and four-way interactions among neighborhood disadvantage, race, sex, and age; all interactions were

Table 5. Coefficients for Logistic Regressions of Police Notification by Victims of Robbery (N = 698)

	(1)	(2)	(3)
Victim Male	−.711*	−.720*	−.718*
	(.211)	(.211)	(.211)
Victim Black	−.017	.137	.147
	(.262)	(.288)	(.289)
Victim Hispanic	−.658*	−.614*	−.597*
	(.260)	(.263)	(.266)
Victim Under 18	−.456	−.499	−.498
	(.320)	(.321)	(.322)
Victim 18 to 29	−.555*	−.580*	−.580*
	(.217)	(.218)	(.218)
Victim Unmarried	−.510*	−.521*	−.526*
	(.233)	(.233)	(.233)
Victim Income	.006	−.002	−.004
	(.025)	(.026)	(.026)
Victim Education	.011	.009	.009
	(.016)	(.016)	(.016)
Victim Owns Home	.100	.098	.097
	(.207)	(.207)	(.207)
Offender Male	−.202	−.165	−.162
	(.312)	(.314)	(.314)
Offender Black	.047	.075	.077
	(.204)	(.205)	(.205)
Offender Under 18	−.320	−.304	−.300
	(.320)	(.321)	(.321)
Offender 18 to 29	.213	.235	.237
	(.232)	(.234)	(.234)
Completed Incident	.675*	.685*	.686*
	(.198)	(.198)	(.198)
Multiple Offenders	.197	.191	.189
	(.194)	(.194)	(.194)
Family Members	.059	.058	.061
	(.353)	(.353)	(.353)
Acquaintances	.248	.263	.260
	(.245)	(.245)	(.245)
Offender Had Gun	.736*	.740*	.746*
	(.244)	(.244)	(.245)
Offender Had Other Weapon	−.078	−.096	−.094
	(.229)	(.230)	(.230)
Weapon Possession Unknown	.420	.443	.442
	(.304)	(.305)	(.305)
Bystander Present	.017	.020	.018
	(.181)	(.182)	(.182)
Victim Serious Injury	1.23*	1.21*	1.21*
	(.297)	(.297)	(.297)
Victim Minor Injury	.588*	.585*	.590*
	(.246)	(.246)	(.247)
Financial Loss	.0005*	.0005*	.0005*
	(.0001)	(.0001)	(.0001)
Within Neighborhood Incident	.441*	.468*	.472*
	(.190)	(.192)	(.192)
Southern Regional Location	.185	.170	.174
	(.192)	(.193)	(.193)
Central City Resident	.050	.129	.146
	(.192)	(.201)	(.205)
Neighborhood Disadvantage		−.126	−.793
		(.096)	(1.50)
Neighborhood Disadvantage Squared			.015
			(.034)
−2 Log Likelihood	803	802	801
Model Chi-square	162.85*	164.54*	164.73*

NOTE: Standard errors in parentheses.
* $p < .05$, two-tailed test.

Figure 2. Estimated Probability of Police Notification by Victims of Simple Assault from Neighborhoods with Different Levels of Socioeconomic Disadvantage, by Victim Race



simple assault victims, and separately for black and nonblack victims. This figure demonstrates that the overall probability of police notification for simple assault victims increases from about .20 in the most affluent neighborhoods to .33 in areas with values on the disadvantage index at about the 90th percentile, but then begins to decline and, ultimately, returns to about .20 among those from the most disadvantaged areas. The general nature of the effect of neighborhood disadvantage on police notification is similar for black and nonblack victims, but the effect is somewhat stronger for blacks, whose rate of police notification doubles from 18% to 36% as one moves from the most affluent neighborhoods to areas with high levels of socioeconomic disadvantage, and then falls to about 23% among those who reside in the most disadvantaged neighborhoods. Perhaps most interestingly, a pattern that emerges for both groups is that the lowest rates of police notification are observed for victims who reside in the most affluent and most disadvantaged neighborhoods, and the highest rates are observed for those who reside in communities that fall in between these extremes.

SUMMARY AND DISCUSSION

Despite much speculation that neighborhood socioeconomic conditions affect the likelihood of police notification, few studies have examined this question empirically. The present study explored this issue with data on robberies and assaults from the area-identified NCVS, linked with census data on the socioeconomic conditions of victims' census tracts.

The bivariate results have important implications for neighborhood-level crime research that uses data based on incidents reported to the police. That research implicitly assumes that crime reporting (and typically rates of crime recording) is uncorrelated with community characteristics, including socioeconomic disadvantage. The present research suggests that this assumption is reasonable for serious crimes such as robbery and aggravated assault; persons from neighborhoods with varying socioeconomic conditions are no more or less likely to notify the police when they experience these crimes. However, the assumption that crime reporting is unrelated to community socioeconomic conditions may result in misleading conclusions in studies that focus on simple assaults or on violent crime indices that are dominated by such incidents. In particular, neighborhood-level studies of this type that include many extremely disadvantaged neighborhoods may tend to underestimate the effect of neighborhood disadvantage, whereas those that include few of these neighborhoods may

examined for crime-specific samples that include only victims who reside in central cities and samples that include all victims. These analyses revealed no additional evidence that the effects of neighborhood disadvantage vary by the age, race, or sex of victims.

tend to overestimate such effects.[17]

None of the theoretical perspectives on community effects on police notification examined in the research receives strong empirical support. Contrary to Black's (1976) stratification hypothesis, no significant negative bivariate relationship between neighborhood disadvantage and rates of police notification was observed. Although it could be that residents of neighborhoods with higher rates of disadvantage are less likely than others to define an act of interpersonal violence as a crime worthy of reporting to NCVS interviewers (Black, 1979), among those who do so, victims who reside in disadvantaged neighborhoods do not appear to be less likely to report the incident to the police.

The multivariate results are not wholly consistent with informal social control theories or with Anderson's (1999) discussion of neighborhood dynamics. Neither of these perspectives anticipated the "null" findings for aggravated assault and robbery, nor can they easily account for the curvilinear relationship observed for simple assault. Contrary to the predictions derived from informal social control perspectives, the results indicate that rates of police notification by victims of simple assault from neighborhoods with very high levels of socioeconomic disadvantage, where informal social control mechanisms are assumed to be limited, are actually lower than those found elsewhere (except for the most affluent neighborhoods). Also, in contrast to Anderson's (1999) ethnographic research, the present study indicates that residents of disadvantaged neighborhoods are not uniformly less likely to notify the police when they are victimized. Indeed, victims of robbery and aggravated assault from these areas are just as likely to contact the police as are those who reside in more affluent areas.

The results for simple assault victims also do not conform neatly to Anderson's (1999) account: The lowest rates of police notification for simple assault are observed among those from the most affluent neighborhoods, where one would not expect the code of the street to be prevalent, and they peak in neighborhoods with high levels of socioeconomic disadvantage. Further, the influence of neighborhood disadvantage on police notification does not appear to be particularly salient for, or limited to,

17. Consideration of how community conditions might affect victim crime reporting may shed light on recent research findings that indicate a significant curvilinear relationship between socioeconomic disadvantage and rates of violence (McNulty, 2001). McNulty (2001:483) speculates that the downturn in violent crime rates at the extreme end of the distribution of neighborhood socioeconomic disadvantage observed in his research on Atlanta neighborhoods might occur because in these areas "cultural responses develop and supersede structural factors as the primary correlates of violence." Although plausible, the present research suggests that this pattern also could reflect lower levels of police notification by victims of minor assaults in these areas.

central cities, young persons, blacks, or males. Although the present study cannot directly address the extent to which differences across neighborhoods in cultural "codes" are related to police notification, it does suggest that if a distinctive "code" exists in disadvantaged central-city neighborhoods, it does not translate into significantly lower rates of police notification. It may be that the "code" to which Anderson (1999) refers is not limited to central cities, disadvantaged areas, or to the "streets," but is much more geographically and demographically dispersed than his research implies. Indeed, Nisbett and Cohen (1996) describe a "code" of honor and status in Southern rural areas that seems to closely parallel Anderson's description of the code of the streets in extremely disadvantaged urban neighborhoods.

If the explanations derived from Anderson's work and informal social control theories cannot account for the results presented in this research, how might these patterns best be understood? Specifically, why does neighborhood disadvantage affect reporting by simple assault victims but not by victims of more serious forms of violence (robbery and aggravated assault)? What might account for the curvilinear relationship between neighborhood disadvantage and police notification for simple assault victims? Although the answers to these questions must be necessarily speculative at present, there are several plausible interpretations of these findings.

One possibility is that the availability of conventional informal social control mechanisms is related in a curvilinear fashion to neighborhood socioeconomic disadvantage, such that very affluent and very disadvantaged neighborhoods are characterized by especially high levels of social cohesion and social support that, among other things, helps residents cope with relatively minor forms of violence without needing to contact the police. Thus, perhaps the availability of informal social control mechanisms is an important determinant of neighborhood variation in levels of police notification, as outlined above, but the theoretical assumption of a simple linear relationship between neighborhood disadvantage and the availability of informal social control is incorrect. There is a long history in social science theory and research of viewing affluent communities as relatively cohesive and socially organized areas that provide ample social support to residents, and depicting socioeconomically disadvantaged areas as having severe shortcomings on these measures. Although this theme continues to dominate much research on neighborhood effects, other studies suggest that relatively dense networks grounded in reciprocity not only develop in disadvantaged neighborhoods (perhaps in response to high levels of socioeconomic disadvantage), but residents of these areas also tend to rely heavily on those networks to solve problems (e.g., Edin and Lien, 1997; Uehara, 1990; see also Portes, 2000:4). The presence of these

kinds of social resources in both affluent and extremely disadvantaged neighborhoods may explain why residents of such areas are less likely than others to notify the police when they experience relatively minor forms of violence. These informal mechanisms of coping and reducing future vulnerability for violence may not be sufficient, however, in the case of serious crimes such as aggravated assault and robbery. Victims of serious crimes may use less discretion in general (Felson et al., 1999), and they may feel compelled to use formal legal channels to ensure the recovery of monetary losses associated with their victimization and to minimize their likelihood of repeat victimization.

Another possibility is that a "theoretical synthesis" that combines some of the insights from Anderson's ethnographic research and informal social control theories can enhance our understanding of the findings (see Liska et al., 1989, for a discussion of theoretical synthesis). A more general view of these perspectives, for instance, reveals that each emphasizes as a key explanatory variable the availability of alternative nonpolice resources from which victims can draw to respond to and cope with violent victimization. In both cases, the availability of such resources is posited to be shaped substantially by the socioeconomic composition of communities, but the types of resources suggested as substitutes for police notification in the two perspectives are different. The nonpolice resources emphasized by informal social control theorists include primary and secondary social networks, social support, collective efficacy, and neighborhood-based organizations, whereas the main alternative resource emphasized in Anderson's work that may effectively substitute for police intervention is a value system that encourages residents to respond to violence by taking matters into their own hands. It may be that this broader theoretical construct—the availability of alternative resources for responding to and coping with crime—is related to neighborhood socioeconomic disadvantage in a manner that is essentially the converse of the curvilinear relationship observed between neighborhood disadvantage and police notification by victims of simple assault. This might occur if the availability of conventional informal social control mechanisms declines as neighborhood disadvantage increases, and if a cultural code that discourages police notification and supports self-reliance emerges and becomes increasingly prevalent only when very high levels of disadvantage are reached.[18] This would produce a distribution in which the availability of alternative

18. Instead of extremely disadvantaged areas fostering a distinct cultural code that discourages police notification, it might be that these areas are characterized by both limited access to weak informal social control mechanisms and poorly developed links to formal "public controls" such as the police (e.g., Bursik and Grasmick, 1993), which may in turn discourage residents from contacting the police when they experience minor assaults. However, it seems that this view also would predict that residents of

resources is highest in the most affluent and most disadvantaged neighborhoods, and lowest in communities that fall in between these extremes.

The proposed synthesis seems capable of explaining the lack of association between neighborhood disadvantage and police notification for aggravated assault and robbery victims. As noted above, alternative resources such as those emphasized by Anderson and those implied in informal social control theories simply may not be expedient when individuals experience more serious forms of violence. Nevertheless, this synthesis of aspects of informal social control theories and Anderson's (1999) research is not fully compatible with the empirical pattern observed in the present study. In particular, the results indicate that the effect of neighborhood disadvantage on police notification does not differ significantly among central-city and noncentral-city residents. Thus, if the relatively low levels of police notification observed among simple assault victims from extremely disadvantaged neighborhoods stem from the emergence of alternative resources in the form of a cultural code that supports self-reliance in settling interpersonal disputes, that code apparently is not unique to urban areas (see also Courtwright, 1996).

Of course, both of the post hoc interpretations offered thus far assume that when victims of simple assault do not call the police, they tend to do something else about the matter. Instead, it may be that victims of simple assault in very affluent and very disadvantaged neighborhoods simply are more likely to do nothing in response to their victimization. This might occur, for example, if residents of these areas are more tolerant of relatively minor forms of violence than those who reside elsewhere and, consequently, are not compelled to take counteraction (e.g., calling the police) when they experience such acts.

There is some speculation in the literature that residents of both disadvantaged and affluent communities may be more tolerant of violence. As Sampson and Wilson (1995) point out, much of the ethnographic research conducted in structurally disadvantaged communities (e.g., Anderson, 1978; Horowitz, 1987; Rainwater, 1970; Suttles, 1968) can be interpreted as suggesting that residents of these areas exhibit more tolerance for violence and other forms of deviance, largely because they come to expect it as a fact of daily life. Given the high levels of serious violence that tend to characterize these areas, this may be particularly true of minor forms of violence. Yet, Baumgartner's (1988) study of social interaction in an affluent suburb suggests that residents of affluent areas also may be distinctively tolerant of minor forms of violence. According to Baumgartner (1998:127), residents of such areas tend to "shun confrontations and show

extremely disadvantaged areas would be less likely to report aggravated assaults and robberies, which does not appear to be the case.

great distaste for the pursuit of grievances or the censure of wrongdoing." This makes residents of affluent areas not only less likely to seek the help of third parties to settle interpersonal conflicts, especially from the police, who are perceived as socially inferior, but also makes them more likely to simply drop the matter altogether so they can avoid further confrontation (Baumgartner, 1988). An integration of these two perspectives supports the notion of a curvilinear relationship between neighborhood disadvantage and tolerance for violence. Unfortunately, although some research has examined systematically neighborhood variation in tolerance for crime and deviance (Sampson and Jeglum Bartusch, 1998), it is unknown whether neighborhood socioeconomic disadvantage and tolerance for violence exhibit this type of curvilinear relationship, nor whether it might help to interpret the effects of neighborhood disadvantage on police notification of simple assaults observed in the present research.

It would be useful for future studies to evaluate these and other possible theoretical explanations for the pattern of neighborhood effects observed in the present research. Doing so not only would advance knowledge about the dynamics underlying decisions of whether or not to notify the police, but also about the more general issue of how neighborhood factors affect the attitudes and behavior of individuals. The present research highlights the potential value of examining neighborhood effects on police notification, but numerous questions remain largely unexplored. Perhaps the most pressing need is research that examines the mechanisms through which neighborhood socioeconomic disadvantage (and other structural conditions of neighborhoods) affect the manner in which victims respond to crime. Among the mechanisms that are believed to be most important in this regard are community levels of violence and fear, the degree to which neighborhood residents trust the police, normative support for settling interpersonal disputes through illegitimate means, higher levels of tolerance, and the availability of various conventional alternative resources (e.g., victim support services, primary and secondary social networks that provide social support, etc.). These variables may exert important effects on police notification, and they may help to interpret the effects of structural characteristics such as socioeconomic disadvantage. Research that includes direct measures of these mechanisms would therefore advance considerably knowledge about how neighborhood context affects victims' decisions to notify the police.

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