The Correlation between Race and Domestic Violence is Confounded with Community Context

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Why do African Americans appear to have a higher likelihood of engaging in domestic violence than whites? To address this question, we draw on insights from social disorganization theory and recent research on urban poverty. We argue that the apparent correlation between race and domestic violence is confounded with the different ecological contexts typically occupied by African Americans and whites. Using data from wave 2 of the National Survey of Families and Households and the 1990 U.S. census, we show that: (1) rates of domestic violence for both African Americans and whites vary systematically by type of community; (2) the correlation between race and domestic violence is substantially reduced or disappears altogether when whites are compared to African Americans in similar ecological contexts; and (3) individual-level risk factors for domestic violence appear to operate similarly for both African Americans and whites.

The importance of race as a correlate of domestic violence is frequently noted but rarely discussed. General population surveys, studies of calls to the police, and case studies of women's shelters and emergency rooms consistently find a disproportionate share of African American offenders and victims (Stets 1991). Researchers investigating the individual-level causes of domestic violence routinely include race as a control variable in their statistical models because of its known correlation with the dependent variable. However, after acknowledging the correlation between race and domestic violence, its meaning and interpretation are rarely discussed. This inattention constitutes an important deficiency in our understanding of the domestic violence problem and necessarily begs the question of why race differences might exist in the likelihood of engaging in domestic violence.

The connection between race and violent crime (not specific to domestic violence) has been addressed by *macro*-level researchers interested in whether the link between area racial composition and violent crime rates can be explained by other structural correlates of race (Harer and Steffensmeier 1992; Krivo and Peterson 1996, 2000; LaFree and Drass 1996; LaFree, Drass, and O'Day, 1992; McNulty 2001; McNulty and Holloway 2000; Messner and Sampson 1991; Ousey 1999; Sampson 1987; Shihadeh and Ousey 1996; Smith 1991). William J. Wilson (1987) and Robert Sampson and Wilson (1995) argue that the (seemingly)

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higher levels of involvement by minorities in violent crime are due in part to larger proportions of African Americans residing in environments of extreme poverty within metro areas. It is these differences in structural environments that actually drive the race/crime relationship. The idea that structural factors influence the violent crime rates of different race groups in the same way has been called the "racial invariance thesis" (Ousey 1999).

Although it is a macro-level argument, the racial invariance thesis may also apply to race differences in the individual-level likelihood of engaging in violent crime. Specific to our focus, we investigate whether the individual-level likelihoods of domestic violence by white males and African American males are influenced in similar ways by ecological factors. Although recent research suggests that some domestic violence involves females behaving violently toward their male partners, we focus solely on male-to-female violence for three reasons. First, according to Mildred Pagelow (1992), the preponderance of evidence suggests that most victims of spouse abuse are females and most abusers are male. Studies typically find only a small percentage of abused husbands in any sample (Dunford, Huizinga, and Elliott 1990; Elk and Johnson 1989; Goolkasian 1986). Second, in terms of injury and emotional distress, women are substantially more victimized by intimate violence than men (Cascardi, Langhinrichsen, and Vivian 1992; Morse 1995). Finally, some studies suggest that female to male violence is often retaliatory or defensive in nature (Browne 1987; Campbell 1986). Thus, even though it may be true that both members of a couple behave violently toward one another, the male is more likely to be the original aggressor than the female. In light of the greater seriousness of male-versus-female violence and the likelihood that female violence is triggered by male violence, we believe it is most important to focus on the causes and correlates of male violence.

The Racial Composition of Intimate Assault

For more than two decades, surveys of the general population have shown higher rates of domestic violence among African Americans than whites. For example, the first National Family Violence Survey (NFVS) revealed higher rates of family violence among African Americans (Straus, Gelles, and Steinmetz 1980). These differences persisted in subsequent years, as the second NFVS found that married African American women were 2.36 times as likely as married white women to experience severe partner violence (Hampton and Gelles 1994). An early analysis of the National Crime Victimization Survey (NCVS) found African American women were more likely than whites to be victimized by intimates (Gaquin 1977–1978). More recent analyses of NCVS data revealed higher rates of violence by intimates among African Americans, especially African American women compared to white women, in the 1990s (Greenfeld et al. 1998). The recently completed National Violence Against Women survey uncovered higher rates of victimization by intimates among African American as opposed to white women (Tjaden and Thoennes 1998). Finally, researchers using the National Survey of Families and Households also found significant race differences in violence against women in intimate relationships (Benson et al. 2000; Sorenson, Upchurch, and Shen, 1996; Stets 1991; Umberson et al. 1998).

Ecological Contexts as Confounding Influences

Wilson (1987) and Sampson and Wilson (1995) argue that a variety of macro-social forces began operating in the 1960s that destroyed the social fabric of African American urban communities, leading to a situation in which a large proportion of the African American population is trapped in socially isolated urban ghettos. High levels of joblessness, poverty, and family disruption characterize these areas. Such areas of extreme disadvantage tend

to be socially isolated from conventional society (Wilson 1987). Residents are faced with structural barriers that undermine employment opportunities, leading to a lack of conventional role models. These barriers have negative consequences for social organization and, as a result, informal social control institutions lose their ability to control crime. Such environments may feed a culture that is more tolerant of violence and crime (Sampson and Wilson 1995).

Sampson and Wilson argue that race-related differences in violent crime are shaped in part by the differing ecological contexts occupied by African Americans and whites. Although African Americans as a group may have higher rates of violent crime than whites, they also are much more likely than whites to live in the socially and economically disadvantaged environments that generate higher crime rates. In addition, rates of African American crime vary directly with the level of community disadvantage, implying that "the correlations of race and crime may be systematically confounded with important differences in community contexts" (Sampson 1995:44).

To explain the high rates of crime in disadvantaged areas, Sampson and Wilson (1995) draw on social disorganization theory and research on urban poverty. Recent research patterned in the social disorganization tradition reveals that concentrated poverty, residential mobility, family disruption, and a youthful age structure may weaken neighborhood organization and collective supervision (as discussed by Sampson and Wilson 1995; Sampson, Raudenbush, and Earls 1997; and Warner and Wilcox Rountree 1997). Under these conditions, informal social control institutions such as the family, churches, and schools are either unavailable or lose their ability to exercise control over their members, and crime may flourish as a result. Neighborhood structural characteristics resulting in concentrated social disadvantage not only make it difficult for residents to supervise each other's property and youth, but they also negatively impact collective efficacy, or the willingness of residents to intervene in situations (including criminal acts) for the common good of the community (Sampson et al. 1997). Moreover, concentrated poverty contributes to social and capital inequality (Hagan 1994). Processes of capital disinvestment discourage the creation of social capital where persons are less likely to invest in others and the larger community (Coleman 1990; Hagan 1994).

Sampson and Wilson (1995) argue that these types of social processes contribute to a higher risk of interpersonal violence in more economically disadvantaged neighborhoods because such environments tend to foster a sense of anonymity, and correspondingly reduced social control (Sampson, Morenoff, and Earls 1999). Further, they suggest that community context shapes what they call "cognitive landscapes or ecologically structured norms (e.g., normative ecologies) regarding appropriate standards and expectations of conduct" (Sampson and Wilson 1995:50). Although Sampson and Wilson (1995) stop short of articulating a strictly subcultural theory of interpersonal violence, they suggest that in structurally disorganized areas a system of values may emerge that does not fervently condemn the use of violence in interpersonal relationships. These ideas are echoed in Elijah Anderson's (1990) ethnography of an urban ghetto neighborhood. He argues that in severely disadvantaged urban ghettos a "code of the streets" has arisen that supports the use of violence as a way for individuals to solve interpersonal problems and to enhance personal status. In a series of recent studies, Sampson and associates have demonstrated how the structural characteristics of neighborhoods affect neighborhood collective efficacy which, in turn, influences violent crime at both the macro- *and* micro-levels of analysis (Sampson, Morenoff, and Earls 1999; Sampson and Raudenbush 1999; Sampson, Raudenbush, and Earls 1997).

Relating these ideas to our focus on intimate assault, Athena Garrett and Heather Libbey (1997) and Christopher Browning (2002) speculate that family violence is more likely in disadvantaged neighborhoods because community support is lacking due to residents' isolation from one another. Their idea parallels Sampson's concept of collective efficacy and applies the notion to an understanding of domestic violence. Sampson (1991) also observed that

neighborhood characteristics might shape how parents relate to their children (i.e., through "family management practices"). Pertinent to a focus on intimate assault, these attributes may also influence how parents/partners relate to each other.

Rebecca Miles-Doan (1998) tested the applicability of ecological theory to an understanding of intimate assault to determine (1) whether or not rates of violence between intimates is higher in neighborhoods with significant amounts of "resource deprivation"; and (2) the applicability of ecological theory to an understanding of violence between intimates. She found that neighborhoods in Duval County, Florida, with high concentrations of poverty, unemployed males, and family disruption have higher rates of intimate violence compared to other neighborhoods. Support was also found for the effect of resource deprivation (a factor consisting of high proportions of female-headed households, African American residents, poverty, income inequality, residents with no phone or no vehicle, residents on public assistance, unemployment, less education, and low housing values) on rates of intimate violence. However, these effects were smaller compared to rates of violence between other family members, friends or acquaintances. Her macro-level findings raise interest in the possibility that ecological theory has implications for understanding variation in domestic violence at the individual level as well.

Beyond the extant literature tying structural indicators to domestic violence, we propose an additional consideration related to Sampson and Wilson's (1995) ideas of collective efficacy and cognitive landscapes. Residents of disadvantaged neighborhoods that are low on collective efficacy may be unwilling to personally intervene or call the police in domestic disputes, because they have weak ties to their neighbors or because in these neighborhoods people are expected to mind their own business and to stay out of the personal affairs of others. In neighborhoods low on collective efficacy it is not customary for residents to take action for the common good. Hence, no one feels the responsibility to intervene on behalf of victimized women. Even if most residents of disadvantaged neighborhoods personally disapprove of spouse abuse, they may not openly express their disapproval to the offender. Violently-inclined spouses may therefore act aggressively against their partners with impunity, feeling that they have little to fear from neighbors either in the form of direct action or social disapproval. Thus, a variety of theoretical perspectives suggest that disadvantaged communities may foster elevated rates of domestic violence.

Relevant Social Processes Operating Within Households

The discussion thus far suggests that if African Americans are over-represented in economically disadvantaged areas, then structural indicators such as unemployment and poverty rates may operate to confound the individual-level relationship between race and the likelihood of engaging in domestic violence. However, unemployment and poverty may also operate at the *household* level to further confound the race/violence connection. James W. Messerschmidt (1986) and Murray A. Straus, Richard A. Gelles, and Susan K. Steinmetz (1980) observe that spousal abuse is over-represented among the lower economic classes, and most particularly among lower-class households in which the patriarchal division of labor and power is the most pronounced. Within households in which the husband is either unemployed or employed part-time, spousal assault is three times more likely to occur than within households in which the husband is employed full-time (Straus et al. 1980). Furthermore, domestic assault occurs twice as often within lower-class households than within middle-class and upper-class households (Straus et al. 1980). A study of social and economic risk factors associated with domestic violence conducted by Michael D. Smith (1990) further revealed that males with low incomes, less education, and low-status jobs are significantly more likely than their counterparts not only to engage in domestic violence, but also to subscribe to conventional patriarchal beliefs. These types of males are not likely to be in a position to assert their

power and authority at work, and so may be more likely to assert their power and authority through violence within the home (Messerschmidt 1993). Unemployment serves to undermine a male's status of "provider" for the family, and it is these males who are most likely to abuse their spouse as a way to reaffirm their masculinity (Ferraro 1988; Messerschmidt 1993).

Understandably, people who are poor or unemployed have limited options for housing and are more likely to live in disadvantaged neighborhoods than people with greater financial resources. The empirical overlap between individual-level risk factors for domestic violence and individual place of residence makes it difficult to disentangle their separate effects on domestic violence.

Research Objective

Based on the theoretical considerations and empirical findings reviewed above, our objective is to determine whether any significant individual-level relationship between race and intimate assault is rendered non-significant once controls are introduced for ecological context as well as the other individual-level indicators of socio-economic status discussed above. To accomplish this, the analysis proceeds in four stages. First, using a national sample of males aged 18 and over, we test for the statistical significance of a zero-order relationship between an adult male's race and the likelihood of assaulting a female intimate (spouse or partner) during a specific study period. Second, we specify the bivariate relationship between race and assault by certain categories of "concentrated disadvantage" (described below) to see if the race/assault relationship is non-significant within homogeneous ecological contexts. Third, we estimate a logistic regression model predicting assault on a female intimate with a series of individual and aggregate level predictors including a male's race, neighborhood disadvantage, and other individual-level indicators of economic distress, social class, and risk for assault. A step-wise procedure is followed where race is the only predictor included at the first stage, all remaining predictors *except* neighborhood disadvantage are added at the second stage, and neighborhood disadvantage is added at the third stage. (If, as we expect, the relationship between race and the likelihood of domestic violence is confounded with neighborhood location, then race should become a nonsignificant predictor in the third model *only*.) Finally, we estimate the logistic regression model (all predictors included) for African American males and white males separately in order to examine whether the micro- and macro-level relationships are comparable for the two groups. Comparisons of these race-specific models shed light on the validity of the racial invariance hypothesis applied to domestic violence at the individual level (i.e., whether the likelihood of intimate assault is influenced by the same factors and to the same degree for different race groups).

Methods

Data

This project merges data from wave 2 of the National Survey of Families and Households (NSFH) and data from the 1990 U.S. Census. Completed in 1988, the first wave of the NSFH included interviews with a probability sample of 13,007 adult respondents, representing 9,637 households. Face-to-face interviews were conducted with a randomly selected primary respondent from each household. The primary respondent's spouse or cohabiting partner, if there was one, was given a shorter self-administered questionnaire (Sweet, Bumpass, and Call 1988). In wave 2, completed in 1994, interviews were conducted with all surviving

members of the original sample (n = 10,005) and with the current spouse or cohabiting partner of the primary respondent. This project uses a sub-sample of households, which is limited to white and African American respondents who were married or cohabiting in wave 2 of the NSFH (n = 5,647).

Measures

Domestic Violence. All measures for the analysis are described in Table 1. The outcome measure is whether a male assaulted a female intimate (spouse or co-habiting partner) during the 12-month period preceding the interview. The NSFH measures of domestic violence were modeled after the well-known Conflict Tactics Scale (CTS) (Straus et al. 1980). NSFH respondents are asked how often during the past year arguments with the respondent's spouse or partner resulted in the respondent hitting, shoving, or throwing things at their spouse or partner. Respondents also are asked how often arguments resulted in the spouse or partner becoming similarly violent toward the respondent. The five-category response set ranges from "none" to "four or more" times. Because responses to the violence items are extremely skewed, the response categories were collapsed to create a dichotomous variable in which 0 indicates that neither partner reported violence and 1 indicates that either the male reported becoming physically violent with the female, or the female reported that the male became physically violent toward her, or both report violence by the male toward the female. Because under-reporting of violence is more likely to be a problem than over-reporting (Szinovacz and Egley 1995), in cases where the reports of male violence did not agree, a code of 1—indicating assault—was assigned nevertheless.[1]

The severity of incidents of intimate violence can vary dramatically from a simple shove to homicide. It is important to note that the measures used here most likely only tap what Michael Johnson (1995) calls "common couple" violence, and not what he terms "patriarchal terrorism." Patriarchal terrorism refers to repeat long-term extreme physical and psychological abuse. Although women suffering from patriarchal terrorism may be present in the NSFH sample, the available measures are not well-suited to identifying them. In addition, because the NSFH asks about violence that arises out of arguments, it may miss violence that emerges via other interpersonal dynamics such as irrational attacks, drinking-induced aggression, or acts of inappropriate "discipline." This is a weakness of the NSFH measures, but we do not think it will cause us to seriously underestimate the amount of intimate violence or to misspecify its causes. Undoubtedly some women are victimized by unprovoked attacks by their male partners. Nevertheless, we suspect that males who attack their female partners in an unprovoked fashion will also be likely to attack them during or after arguments. Asking about violence that arises out of arguments, thus, will capture or identify these violent men, and miss only those men who victimize their partners only outside of arguments. Further, we note that even if the amount of non-argument driven violence is not trivial, it would not affect the conclusions reached in our article except if there are race-based differences in this type of violence. We are unaware of any literature that shows such differences.

1. To investigate whether this coding decision influences the results, we identified couples in which both parties agreed that the male had been violent (coded 1) and compared them to couples in which there was either no violence or no agreement on violence (coded 0). Coding violence in this way reduces the number of male violent couples available for analysis from 298 down to 73 (about 75 percent). Despite this reduction, the basic relationships remain the same. Both race and concentrated disadvantage have the same zero-order relationship with male violence in that African Americans still have higher rates than white (2.0 versus 1.2, respectively) and violence is still more heavily represented among couples living in disadvantaged versus advantaged neighborhoods (2.2 percent versus 0.7 percent, respectively). In multivariate analyses, the results show the same patterns as observed with the other coding. However, because of the reduction in sample size some of the results do not reach significance at the .05 level.

Table 1 • *Measures for the Analysis (N = 5,647)*

Model	*Categories*	*Mean*	*S.D.*
Outcome			
Adult male assaulted female intimate	0 = no, 1 = yes	.05	.22
Respondent characteristics			
African American	0 = no, 1 = yes	.12	.33
Age	18–97	39.2	14.2
Subjective financial strain	−1.6 – 2.0	−.03	.77
Job instability	0–5	.31	.72
Education	0–20	13.2	3.0
Income to needs ratio	0–76	4.8	4.3
Drinking problems	−.73–8.1	0.0	1.0
Neighborhood characteristics			
Concentrated disadvantage	−1.3–6.8	0.0	1.0

Community Context. Delineating geographic neighborhoods is difficult, because the concept "neighborhood" is not precise (Furstenberg and Hughes 1997). Ideally, neighborhoods should be measured in relatively small geographic units (Miethe and Meier 1994; Taylor 1997). The smallest geographic unit to which NSFH can define the location of respondents is the census tract. Thus, census tracts serve as our proxies for neighborhoods (see Wooldredge 2002, for arguments supporting the examination of census tracts as local neighborhoods.) Some research conducted as part of the Denver Neighborhood Study suggests that block groups may be a more appropriate unit of analysis for measuring neighborhood effects, but this same research indicates that "most of the differences between block-group and census-tract units were small, and the use of census tracts is therefore not likely to produce substantially different results" (Gephart 1997:11). Accordingly, data were abstracted from the 1990 census for the appropriate census tracts and merged with the NSFH survey data.

To measure community context, we created an index of neighborhood disadvantage. Robert A. Sampson, Jeffrey D. Morenoff, and Felton Earls (1999) used an index based on five census tract measures that reflect *concentrated disadvantage.* The measures are defined by the percent of single parents, percent non-white, percent unemployed, percent of families on public assistance, and percent below the poverty line. We modeled our measure of concentrated disadvantage after this index, but because our focus is on race, we deleted the percent non-white from our version of the index. After transforming the remaining four items to z-scores, they were summed and divided by the number of indicators to form the index of concentrated disadvantage, which has an alpha reliability of .92.[2]

For the second stage of the analysis where the bivariate relationship between race and assault is specified by certain categories of concentrated disadvantage, we examine neighborhoods falling into the top 20 percent and bottom 30 percent of the disadvantage scale. Just as there are crime-related disadvantages associated with living in an area of concentrated poverty, there are crime-related advantages of living in areas of concentrated affluence (Sampson

2. The individual components of the index of concentrated disadvantage appear to be related to the measure of intimate violence in the same way. Individually, they all have positive but weak zero order correlations with violence (r's = .053 to .066). We also ran our analyses with percent non-white included in the index and the results did not change. Indeed, they were more supportive of our argument because when percent non-white is included in the index, race is insignificant in Model 3 of Table 4.

et al. 1999). In areas of concentrated affluence, informal social control processes seem to be particularly strong (Sampson et al. 1999). Hence, if ecological context is more important than an individual's race for predicting intimate assault, we should find no relationship between race and assault within either (extreme) cluster of neighborhoods.

According to Sampson and associates (1999), concentrated disadvantage is connected to violent street crime via a number of social-organizational processes in neighborhoods, including intergenerational closure, reciprocated exchanges, and more generally, neighborhood-collective efficacy (Sampson et al. 1997). These neighborhood social-organizational processes mediate the association of concentrated disadvantage with violent street crime. Although the data at our disposal do not permit us to measure directly the organizational processes identified by Sampson and colleagues, we can determine whether concentrated disadvantage is associated with intimate violence as it is with violent street crime. If we do find similar associations, future researchers can investigate whether collective efficacy or other organizational processes mediate these relationships.

Individual-Level "Risk" Measures. For the complete model predicting intimate assault, it is necessary to control for elements of economic status (and other risk factors) at the individual level in order to avoid a spurious relationship between neighborhood disadvantage and assault. These compositional differences in individuals across census tracts must be controlled to provide more valid estimates of contextual effects at the macro level (Hunter and Iversen 1991). Also, based on our previous discussion of possible individual-level effects on domestic violence, the inclusion of these predictors will permit us to ascertain the relative magnitude of compositional versus contextual effects involving the economic status of individuals versus neighborhoods.

In choosing the measures of individual economic status, we were guided by Patricia Voydanoff and Brenda W. Donnelly's (1988) typology of economic distress. Drawing from their work, we focus on three different dimensions of economic distress. *Employment instability* refers to how often an individual experiences intervals of unemployment during a period. It was operationalized with self-report information from the male respondent on the number of intervals of unemployment he experienced between waves 1 and 2. *Economic deprivation* refers to the insufficiency of current income to meet needs (Voydanoff 1990). We assume that economic deprivation creates stress, which may lead to intimate violence. Using data on household size and the total household income, we calculated an income-to-needs ratio, which is the household income divided by the poverty line for households of that size. *Subjective financial strain* refers to the perception of financial inadequacy and worries about economic resources. Wave 2 includes two items that tap into the respondent's evaluation of his or her financial situation. Both partners in a couple are asked to indicate how satisfied they are with their finances, with response categories ranging from "very dissatisfied" (7) to "very satisfied" (1). Respondents are also asked how often they worry about the sufficiency of their income. Response categories range from "worry all the time" (5) to "never worry" (1). These items were transformed to z-scores and summed in order to form an index of subjective financial strain with an alpha coefficient of .79. Higher scores indicate greater strain. This measure appears to have some construct validity. In analyses not reported here, we investigated the relationship between the measures of objective economic distress and the index of subjective financial strain using OLS regression. As expected, each of the objective indicators had a significant effect on subjective strain in the expected directions.[3] The results indicate that how couples interpret their finances is to some extent grounded in objective economic realities. The overall R^2 for the model, however, was a modest .13, which suggests that much of the variation in interpretation is idiosyncratic in nature or caused by economic factors that

3. Results available on request from the first author.

we have not measured. Finally, as an indicator of social class that is independent of our economic measures, we include the male's educational attainment.[4]

Drug and alcohol use by males have long been viewed as important risk markers for intimate violence (Jasinski and Williams 1998; Straus et al. 1980). Hence, we include a measure of the male's drinking problem. In wave 2 of the NSFH, respondents are asked whether they had had a drink in the past 30 days. If the respondent indicated yes, follow-up questions asked the respondent to indicate the number of days he had had a drink, the typical number of drinks per day, and the number of days in which the respondent had had five or more drinks. The alcohol variables were factor analyzed using principal components analysis with varimax rotation. The results showed that the questions on number of days drinking, average number of drinks per day, and number of days with five or more drinks tap an underlying construct of male drinking. One factor emerged with an eigenvalue greater than 1. The factor scores for male drinking habits were saved and used as the measure of male drinking problems.

Previous research indicates that intimate violence is inversely related to age. Accordingly, we include age of the potential offender as a control.[5]

Analytic Strategy

As stated previously, the analysis proceeds in four stages. The first two stages focusing on bivariate relationships between race and domestic assault involve simple cross-tabulation and chi-square analyses. The last two stages focusing on the step-wise and race-specific models involve logistic regression analyses.

Although we include measures constructed from two different units of analysis (individuals versus census tracts), multi-level modeling techniques are unnecessary due to the approximate 1:1 ratio of individuals to census tracts in the national sample. Coefficients and standard errors produced from pooled models where only a few individuals (at most) share the same cluster are comparable to coefficients and standard errors produced from hierarchical modeling techniques (Bryk and Raudenbush 1992).

The final segment of the analysis (focusing on race-specific models) requires tests for significant differences between the magnitudes of relationships involving the same predictors between the two models. The procedure involves a test for the equality of coefficients derived from independent samples (e.g., the coefficient for concentrated disadvantage in the model predicting African American assaults versus the coefficient for disadvantage in the model predicting white assaults). The test used here was introduced by Clifford Clogg, Eva Petkova, and Adamanitos Haritou (1995) for samples larger than 120. Based on how the national sample of households was drawn, we can assume that the two groups of white and African American males were selected independently from each other. The formula for the test divides the difference between two unstandardized regression coefficients by the square root of the sum of each coefficient's variance. These scores follow a normal (z) distribution. Paternoster and associates (1998) have demonstrated the applicability of the Clogg formula for independent samples to maximum likelihood coefficients.

Results

Table 2 shows the bivariate relationship between race and domestic violence in wave 2 of the NSFH. As expected, the rate among African Americans is significantly higher than among

4. In NSFH2, male and female educational attainment correlate moderately strongly, r = .63.

5. We investigated whether the relationship between intimate violence and age is non-linear. It is not. As a predictor, age is superior to age-squared and age-logged.

Table 2 • *Bivariate Relationship between Race of Male Respondent and Whether Respondent Engaged in Intimate Violence*

	Race		
Intimate Violence	*African Americans n (%)*	*Whites n (%)*	*Total n (%)*
Yes	65 (9.6)	233 (4.7)	298 (5.3)
No	611 (90.4)	4,738 (95.3)	5,349 (94.7)
Total	676	4,971	5,647

$\chi^2 = 28.9$, $p < .001$.

whites. Indeed, among African Americans the rate is over twice as high (9.6 percent versus 4.7 percent, respectively).

Table 3 displays the cross-tabulations of a respondent's race by intimate violence, broken down by level of concentrated disadvantage (most disadvantaged neighborhoods versus least disadvantaged). Because of the small cell sizes in some cases, we used Fisher's exact test to assess the significance level of the second panel in this table. As hypothesized by Sampson and Wilson (1995), the rate of violence among African Americans *and* whites varies by ecological context. The rate of domestic violence among African Americans is positively related to the level of neighborhood disadvantage. In the most disadvantaged neighborhoods, the rate is 11.4 percent. Among the few African Americans who live in advantaged neighborhoods, the rate is reduced in half to 5.7 percent. As the theory would predict, the same sort of relationship also holds for whites, with whites in the most disadvantaged neighborhoods having much higher rates than whites in the least disadvantaged neighborhoods (7.9 percent versus 3.5 percent, respectively).

Besides showing that rates of violence for *both* race groups vary by ecological context, Table 3 also shows that the bivariate relationship between race and violence is greatly reduced in size if African Americans are compared to whites in similar ecological contexts.

Table 3 • *Relationship between Race of Male Respondent and Intimate Violence as a Function of Neighborhood Type*

	Race		
Intimate Violence	*African Americans n (%)*	*Whites n (%)*	*Total n (%)*
Most disadvantaged neighborhoods (top 20th percentile)[a]			
Yes	47 (11.4)	55 (7.9)	102 (9.2)
No	366 (92.1)	639 (88.6)	1,005 (90.8)
Total	413	694	1,107
Least disadvantaged neighborhoods (bottom 30th percentile)[b]			
Yes	3 (5.7)	57 (3.5)	60 (3.5)
No	50 (94.3)	1,587 (96.5)	1,637 (96.5)
Total	53	1,644	1,697

[a] $\chi^2 = 3.69$, not significant.
[b] Fisher's exact test, $p = .288$ (one sided).

Among couples residing in the most disadvantaged neighborhoods, the difference in domestic violence rates between whites and African Americans is not significant ($p > .05$), and the same is true among couples residing in the least disadvantaged neighborhoods.

Table 3 also illustrates the much higher concentration of African Americans in the most disadvantaged neighborhoods, reinforcing yet another observation made by Sampson and Wilson (1995). Over 61 percent of African American NSFH respondents live in the most disadvantaged areas, versus only 14 percent of white respondents. Conversely, 33 percent of whites live in the least disadvantaged areas versus less than 8 percent of African Americans.

Although the findings displayed in Table 3 suggest that the correlation between race and domestic violence may be a function of the different ecological contexts occupied by African Americans and whites, there are other possible explanations. An important alternative interpretation relies upon the notion of selection.[6] Perhaps people who occupy disadvantaged areas live in these areas because of individual- and couple-level characteristics that are related to domestic violence. For example, from the perspective of self-control theory (Gottfredson and Hirschi 1990), one could argue that individuals with low self-control are more likely to live in disadvantaged areas because they are less likely to be employed in well-paying jobs that would permit them to live in better neighborhoods. Their low levels of self-control, in turn, might increase their likelihoods of engaging in domestic violence. This scenario, if true, would generate a spurious relationship between neighborhood type and domestic violence. Thus, it is important to explore the relationship between race, neighborhood type and domestic violence while controlling for other individual- and couple-level variables. This strategy will also permit us to determine whether the relationship between race and domestic violence is a function of the correlation of race with other characteristics that influence domestic violence, such as economic distress and/or drinking problems.

Table 4 presents results of a step-wise logistic regression analysis that explores these alternative possibilities. The independent variables are entered in stages to see if either the individual-level "risk" measures or neighborhood disadvantage render a nonsignificant relationship between race and domestic violence.

Model 1 of Table 4 displays the magnitude of the significant zero-order relationship between race and domestic violence (odds ratio = 2.6). Model 2 reveals that the race/domestic violence relationship remains statistically significant even when all of the individual-level risk measures are added (odds ratio = 2.4, $p < .001$). In other words, the odds of experiencing violence at the hands of their partner remain twice as high for African American women relative to white women, even when controlling for age, economic distress, level of educational attainment, and male drinking behaviors.

Including neighborhood disadvantage in Model 3, however, produces several notable results. First, the measure of neighborhood disadvantage is highly significant ($p < .001$) with an odds ratio of 1.31. (Note that this is fairly strong given that the odds ratio reflects change for *each* unit increase along the ratio scale of disadvantage.) Second, the odds ratio for race is substantially reduced from 2.4 to 1.5 (though it remains significant), suggesting that neighborhood disadvantage is responsible for much of the covariation between race and domestic violence displayed in Model 1. Thus, the difference in the risk of violence between white and African American women decreases notably once we take into account neighborhood context. Of course, the effect of neighborhood context should not be overstated. As indicated in Model 3, individual risk factors, including race, still play a role in determining women's risk of victimization. Overall, though, the results suggest that the correlation between race and

6. We use the term "selection" here in the sense used by statisticians. We do not mean that people deliberately choose or select to live in disadvantaged areas. Rather, we mean that people with certain individual-level characteristics may be more likely to live in disadvantaged areas than in advantaged areas. If these same characteristics are also associated with some outcome variable, such as intimate violence, then an observed correlation between community context and violence is a spurious rather than a causal relationship.

Table 4 • *Step-Wise Logistic Regression Models Predicting Whether Adult Male Respondent Engaged in Intimate Violence (Odds Ratios Reported)*

Variables	*Model 1*	*Model 2*	*Model 3*
Respondent characteristics			
Race	2.60***	2.41***	1.51*
Age		.93***	.93***
Subjective financial strain		1.84***	1.83***
Male job instability		1.26**	1.26**
Male education		.97	.99
Income to needs ratio		1.00	1.01
Male drinking problems		1.31***	1.31***
Neighborhood characteristics			
Concentrated disadvantage			1.31***
−2 LL	1,861.3	1,625.7	1,610.6
Model χ^2	29.0	264.6	279.8
Block χ^2	29.0***	235.6***	15.1***
N	4,392		

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

domestic violence is confounded with the different ecological contexts in which African Americans and whites reside.

The other variables in the model operate as expected. Age is negatively associated with violence (odds ratio = .93, $p < .001$). Two measures of economic distress—subjective financial strain and male job instability—are positively associated with domestic violence (odds ratios = 1.83 and 1.26, respectively). Finally, as expected, male problems with alcohol (odds = 1.32) are significantly and positively associated with the likelihood of domestic violence.

The results presented in Tables 3 and 4 indicate that the dramatic differences in domestic violence so often observed between whites and African Americans are in part a function of their location in different ecological contexts. Are there other differences between the white and African American experience of domestic violence? Table 5 presents the results of this investigation.

The race-specific models displayed in Table 5 are important for delineating significant differences *between* the models in the strength of the individual- and aggregate-level predictors. This permits examination of whether micro- and macro-level influences are conditioned by a respondent's race. (The statistical significance of relationships *within* each model are not particularly noteworthy given that such differences could be driven primarily by differences in sample size between the two groups.) Most important in this regard is the absence of a significant difference in the effect of concentrated disadvantage on domestic violence between the two groups ($z = -.65$, $p > .05$). In other words, neighborhood disadvantage maintains essentially the same influence on likelihoods of intimate violence for African Americans and whites. This is a predicted relationship under the racial invariance thesis applied to individual-level data, as likelihoods of domestic violence should vary in the same way for both African Americans and whites experiencing comparable ecological conditions.

Unlike the nonsignificant difference in the effects of neighborhood disadvantage between African Americans and whites, there are two individual-level relationships that differ significantly in magnitude between the two groups. Specifically, age is a slightly stronger predictor for white males ($z = -2.02$, $p < .05$), and the relationship involving drinking problems is slightly stronger for African Americans ($z = 1.99$, $p < .05$). Overall, substantive differences between the two models are not large, suggesting that the micro- and macro-level

Table 5 • ***Race-Specific Logistic Regression Models Predicting Whether Adult Male Respondent Engaged in Intimate Violence (Odds Ratios Reported)***

Model	*African Americans*	*Whites*	*z-test*[a]
Respondent characteristics			
Age	.90***	.94***	−2.02*
Subjective financial strain	1.61*	1.87***	−.57
Job instability	1.06	1.31***	−.99
Male education	.95	.99	−.46
Income to needs ratio	1.02	1.01	.04
Drinking problems	1.78***	1.26***	1.99*
Neighborhood characteristics			
Concentrated disadvantage	1.26*	1.38***	−.65
−2LL	253.8	1,345.6	
Model χ^2	72.6	189.2	
Nagelkerke R^2	.29	.15	
N	451	3,941	

[a] Clogg test for equality of maximum likelihood coefficients from race-specific models.
* $p < .05$ ** $p < .01$ *** $p < .001$.

indicators examined here do not constitute greater "catalysts" for domestic violence among African Americans.

Discussion

Although the correlation between race and intimate violence against women has long been observed, there have been few attempts to understand or explain its meaning. Drawing on insights from social disorganization theory and recent research on urban poverty, we have investigated a contextual hypothesis about this correlation. Following Sampson and Wilson (1995), we view the link between race and domestic violence through a contextual lens that highlights two important facts. First, African Americans and whites reside in very different ecological contexts regardless of their individual-level characteristics. Second, rates of crime for both African Americans and whites vary by ecological characteristics. Taken together these facts suggest a powerful role for community context in explaining the link between race and crime. We have extended this line of thinking to the specific crime of intimate violence against women.

Our results provide evidence supporting the racial invariance thesis applied to the individual level, and it appears that the contextual approach taken here is a fruitful one that deserves further study. Rates of domestic violence do indeed vary by type of community for both African Americans and whites. In both groups the rate of intimate violence is highest in the most disadvantaged communities and lowest in the least disadvantaged communities. Further, the bivariate correlation between race and domestic violence is substantially reduced or disappears altogether when whites are compared to African Americans in similar ecological contexts. This finding is highly significant because, as Clifford R. Shaw and Henry D. McKay (1942:614) noted long ago, it is impossible that researchers will ever be able to find African Americans and whites that occupy comparable ecological contexts. In part, this is true because even the worst places that whites live are better than the average context of African American communities (Sampson 1987). In addition, even if similar structural conditions

were found to exist, regardless of where they live, African Americans live in the shadow of a history of segregation and hostility from a dominant white culture that even the poorest whites never experience. Nevertheless, even though the measure of community context used here certainly does not result in exactly comparable groups, we still observe a substantial reduction in the race differential for domestic violence.

Another powerful piece of evidence for the importance of community context in affecting rates of domestic violence comes from the multivariate analyses. Even after a large number of individual-level variables are included in the model, neighborhood context is still highly significant. Further, when neighborhood context is entered into the equation it substantially reduces the effect of race on intimate violence, but it has almost no effect on the other individual-level relationships. Introducing the other individual-level variables, in turn, has almost no effect on the size of the coefficient for race. Consistent with the contextual approach, this finding suggests that the correlation between community context and intimate violence does not represent a compositional effect that results from self-selection of individuals into particular types of neighborhoods. Rather, the contextual effect of neighborhood disadvantage is real, and it accounts in part for the significant zero-order correlation between race and intimate violence. The finding that neighborhood disadvantage also maintains comparable effects on domestic violence for African Americans and whites separately also underscores the applicability of Sampson and Wilson's (1995) original observation to the individual level, namely that the violent crime rate for African Americans "should thus vary with specific ecological conditions in the same way that the white crime rate does" (p. 40).

Finally, we note that although we can shape a situation via statistical controls for the purposes of analysis, the real world still exists. And in the real world, many more African Americans live in disadvantaged contexts than do whites. As a result of this obstinate fact, the bivariate relationship between race and domestic violence will continue to show a race differential. The theoretical interpretation and understanding of that relationship can be altered more readily than the real world situations that give rise to it.

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