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Emily M. Wright

Michael L. Benson

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Emily M. Wright, *University of South Carolina*

Michael L. Benson, *University of Cincinnati*

Recent evidence indicates that contrary to some criminological theories, immigrants are less violent than native-born Americans. The relationship between immigrant status and reduced violence appears to hold at both the individual and neighborhood levels of analysis. This phenomenon has been referred to as the immigrant or Latino paradox. It has been suggested, although rarely examined, that cultural differences and strong social networks among immigrants account for their lower violence rates. These factors even appear strong enough to counterbalance the crime-promoting effects of economic disadvantage. This study investigates whether such patterns extend to intimate partner violence. Consistent with research on other forms of violence, we find that neighborhoods with greater concentrations of immigrants have lower levels of intimate partner violence. This relationship appears to be partially mediated by cultural norms and social ties. Keywords: immigration, social disorganization, intimate partner violence, culture, social ties.

Recent research has challenged the historical stereotype that immigrants increase crime on the streets. Indeed, numerous investigations have found that immigrants are less violent at the individual level (see Sampson, Morenhoff, and Raudenbush 2005), and that higher concentrations of immigrants at the aggregate level are associated with lower levels of aggregate violence (Desmond and Kubrin 2009; Lee, Martinez, and Rosenfeld 2001; Martinez and Lee 2000; Martinez, Lee, and Nielsen 2004; Sampson et al. 2005). These results have suggested to some that there is an "immigrant paradox" or "Latino paradox" (e.g., Sampson and Bean 2006).[1] That is, even though immigrants are assumed to experience such crime-promoting conditions as cultural alienation and economic deprivation, their presence in neighborhoods nevertheless appears paradoxically to reduce rather than to increase crime.

Two interrelated explanations have been proposed to account for this paradox. First, Robert Sampson (2008) has presented a cultural importation model. He suggests that immigrants may bring with them cultural perspectives regarding the acceptability of violence that are different from the violent "code of the streets" (e.g., Anderson 1999) subculture thought to characterize many disadvantaged American neighborhoods. The penetration of immigrants into American society appears to have either diluted the violent nature of American culture or created buffers against it. The second explanation for the Latino paradox invokes the strong social networks characteristic of immigrants and the neighborhoods in which they live (Chiswick and Miller 2005; Lee et al. 2001; Martinez and Lee 2000; Martinez et al. 2004; Nielsen, Lee, and Martinez 2005; Portes and Rumbaut 2001). Strong social networks are theorized to lead to greater informal social control and hence to reduced violence and crime (Bellair 1997; Bursik and Grasmick 1993; Kasarda and Janowitz 1974; Shaw and McKay 1942). The cultural importation and social networking explanations of the immigrant paradox may be mutually reinforcing. Cultural affinity has long led immigrants to settle close to one another in ethnic enclaves. This proximity then promotes the establishment of social ties and increased social capital (Portes and Rumbaut 2001). Together, strong ties and a shared culture that opposes interpersonal violence lead to reduced levels of crime and violence among immigrants.

In this article, we extend this line of research and add to the limited macro-level empirical evidence on immigration (Ousey and Kubrin 2009) by exploring whether these patterns hold for a form of crime that has not yet been investigated with regard to immigration—intimate partner violence (IPV). Further, we address the gap in research regarding immigration and the factors that mediate its influence on various negative outcomes (see also Ousey and Kubrin 2009). Specifically, we examine the impact of concentrated immigration on neighborhood rates of IPV net of individual-level influences and explore whether the impact of neighborhood immigration works through strong social ties and shared values on crime and deviance.

Immigration and Crime: Changing Patterns

In the early twentieth century, growth in immigration from Europe led to greater ethnic diversity in urban neighborhoods, which in turn was associated at that time with increased crime (Sampson 2008). Indeed, the concept of ethnic heterogeneity was one of the building blocks of social disorganization theory (Shaw and McKay 1942). It was theorized that high levels of ethnic diversity disrupted the formation and extent of social ties (Kornhauser 1978), which then reduced the control and supervision capacities of the neighborhood (Bursik and Grasmick 1993; Kornhauser 1978). Ruth Kornhauser (1978) suggested that heterogeneity hampered effective communication between residents, thereby reducing the ability of residents

to collectively identify neighborhood problems and develop solutions.

However, as Sampson (2008) argues, we may now be witnessing a different pattern. Contemporary research has clearly documented that increased immigration is associated with reduced violence and crime (Browning 2002; Desmond and Kubrin 2009; Lauritsen 2001; Lee et al. 2001; Martinez and Lee 2000; Morenoff, Sampson, and Randenbush2001; Sampson 2008; Sampson et al. 2005). Not surprisingly, the impact of immigration on crime has received increased attention in recent years, and various explanations have been proposed to account for this relationship. Some have suggested that immigration is associated with reduced crime levels because of strong social ties among immigrants as well as their cultural values (e.g., Chiswick and Miller 2005; Desmond and Kubrin 2009; Lee et al. 2001; Martinez et al. 2004; Portes 1998; Portes and Rumbaut 2001; Sampson and Bartusch 1998; Sampson and Bean 2006), but very few studies have examined these intervening factors empirically (e.g., Ousey and Kubrin 2009).

New immigrants settle where their family or friends have previously settled; this proximity with other immigrants creates social ties and social networks between residents (Chiswick and Miller 2005; Portes 1998; Portes and Rumbaut 2001). Research suggests that family and friendship ties may be particularly important among immigrants. Family ties provide community residents with strong emotional support (Wellman and Wortley 1990), while friendship ties provide opportunities for employment and wider integration in the community (Granovetter 1973; Portes 1998). It has been proposed that social ties among immigrants can make immigrant communities feel like mini-homelands, help to preserve cultural norms, and pro- vide ethnic solidarity. Social ties may also provide resources to aid in the adaptation to Ameri- can life, such as by helping new immigrants to learn the language and pick up local cultural norms (Chiswick and Miller 2005; Desmond and Kubrin 2009). Thus, family and friendship ties may be particularly important to new immigrants because of the support, information, and opportunities they provide (Chiswick and Miller 2005; Portes and Rumbaut 2001). Employment opportunities are especially important in offsetting the impact of disadvantage on crime, which is one reason why Ramiro Martinez and his colleagues (e.g., Lee et al. 2001; Martinez and Lee 2000) contend that informal networks created in immigrant neighborhoods are particularly strong inhibitors to crime. Similarly, Scott Desmond and Charis Kubrin (2009) suggest that immigrant communities may shield residents from the crime-inducing effects of American culture, disadvantage, and discrimination, in part because of their strong ties and networks.

Immigrant enclaves may also protect immigrants' cultural identities and their bonds to the values and beliefs of their countries of origin. Indeed, one reason why new immigrants tend to settle in areas already occupied by other

immigrants is because they share a cultural affinity. Although originally believed to increase deviance levels because they promoted cultural conflict (see Sellin 1938), the cultural norms of today's immigrants appear to be less tolerant of deviance than those of previous immigrants (Sampson and Bartusch 1998). It is, of course, important to be careful in making broad generalizations about different cultural groups. How- ever, some research suggests that the culture of honor underlying today's violent code of the streets is more likely to have originated from immigrants who came from the English border- lands centuries ago rather than recent Latino immigrants (Fischer 1989; Nisbett and Cohen 1996). Indeed, today's Latino immigrants appear to be less tolerant of deviance (e.g., adolescents fighting, smoking, drinking, etc) than African Americans or non-Latino whites, both at the individual and aggregate levels of analysis (Sampson and Bartusch 1998).

Thus, not only do high levels of immigrants within neighborhoods build community cohesion among residents through their social ties, their cultural backgrounds may also inhibit the acceptance of high levels of crime in their neighborhoods. Immigrants who consider their community a "community of choice" often cite their commitment to friends and family as primary reasons to remain in their immigrant neighborhood and continue their commitment to the community (Glaser, Parker, and Li 2003). Immigrants in these types of neighborhoods also report that their neighborhood is safe and has low levels of crime (Glaser et al. 2003). Contrary to traditional social disorganization theory, then, increases in immigration in neighborhoods may not lead to social disorganization, but may instead stabilize neighborhoods by creating new social and economic institutions (Martinez and Lee 2000).

Immigration and Intimate Partner Violence

To date, the flurry of research and speculation on immigration and crime has focused almost exclusively on ordinary street crime. Do the patterns outlined above apply to inti- mate partner violence as well? For two reasons, we suggest that they do. First, a growing body of research has found that community-level processes and conditions are associated with IPV (Benson et al. 2003; Benson et al. 2004; Lauritsen and Schaum 2004; Lauritsen and White 2001; Miles-Doan 1998). Using a variety of different data sets, methodologies, and analytical techniques, investigators have shown that IPV is influenced by many of the same neighborhood conditions that are known to influence street crime, such as economic disadvantage. However, to date, no one has explored concentrated immigration as a primary neighborhood predictor of IPV. Second, as we explicate below, it is reasonable to expect that the same mechanisms linking neighborhood characteristics to street crime—notably social ties and cultural values—also play a role in the neighborhood prevalence of IPV. Prior re- search on IPV at the individual

level and theory at the aggregate level strongly suggests that both social ties and cultural values are important elements that influence IPV victimization and perpetration.

Social Ties and Social Isolation

At the individual level of analysis, the degree to which women are embedded in net- works of strong social ties is widely recognized as an important protective factor against IPV (Baumgartner 1993; Brown 1992; Heise 1998; Klein and Milardo 2000; Michalski 2004). Mary Pat Baumgartner (1993) argues that "as the degree of social support available to the wife increases, the likelihood of violence against her decreases." Indeed, the women who are most vulnerable to IPV victimization are those who are socially isolated from others (Michalski 2004).

Social ties are hypothesized to reduce IPV victimization in several different ways. First, they are important in the prevention of or escape from violent relationships (Stets 1991) because they provide outlets for the victims of partner violence to seek help. The number of friends that a victimized woman has influences her ability to leave violent situations. Women with few ties to others outside of their intimate relationship may have very few people to turn to for assistance (emotionally, physically, or financially) in order to leave abusive relation- ships (Brown 1992; Van Wyk et al. 2003). Second, few ties or contacts with others reduce the chances that violence within a relationship will be recognized or brought to the attention of others, thus keeping the abuse private (Van Wyk et al. 2003). Finally, friendship networks and ties to others increases the level of social control that can be exerted on individuals within a relationship by those outside of the relationship; in other words, disapproval of violence from persons with whom individuals in an abusive relationship have ties may inhibit violence be- tween the partners (Stets 1991; Van Wyk et al. 2003).

With regard to IPV, the influence of social ties has been conceptualized and explored primarily at the individual level. That is, social ties have been conceptualized as an individual-level attribute that is related to the risk of IPV victimization among women. In relation to street crime, however, social ties and its conceptual cognate social networks have been treated primarily as aggregate-level characteristics of neighborhoods (Bellair 1997, 2000; Browning, Feinberg, and Dietz 2004; Kasarda and Janowitz 1974; Sampson 1988; Warner and Roundtree 1997; Wilcox Rountree and Warner 1999). Researchers have investigated how communities characterized by dense networks of ties between residents differ in crime-related outcomes from communities in which residents are socially isolated from one another. Results typically show that rates of street crime are lower in communities characterized by strong social net- works compared to communities with weak ties (Kasarda and Janowitz 1974; Sampson 1988; Sampson, Morenhoff, and

Gannon-Rowley 2002; Silver and Miller 2004) primarily because social ties increase supervision (Bellair 1997, 2000; Bursik and Grasmick 1993; Sampson 1988) and facilitate the transmission of values about acceptable behaviors (Warner 2003). We suggest that the same processes may be at work regarding IPV. That is, strong networks of social ties within a neighborhood may inhibit IPV through increased surveillance, subsequent social control, and the transmission of attitudes that disapprove of violence between partners. Increased informal surveillance (Bellair 2000) may increase the likelihood that violence within relationships will be made publicly known. Social ties may also increase the likelihood that neighborhood informal social control[2] will be exercised because of the trust and reciprocity that ties foster among neighbors (Putnam 2000). As Barbara Warner (2003) argued, neighborhood social ties may also facilitate the transmission of values that disapprove of violence between intimates. Thus, we hypothesize an inverse relationship between com- munity-level measures of social ties and the prevalence of IPV. Further, we suggest that social ties are one mechanism that may mediate the relationship between immigrant concentration and IPV.

Cultural Values and Patriarchal Attitudes

Sampson's (2008) cultural importation model suggests that immigrants have cultural perspectives on violence that differ from the violent code of the streets subculture found within inner city neighborhoods (Anderson 1999; Bursik 2009). In a similar vein, Graham Ousey and Kubrin (2009) suggest that immigrants may be a self-selected group with low criminal propensity. Hence, when immigrants converge in sufficient numbers in urban neighborhoods, their presence dilutes the violent nature of the American culture and shifts the balance of cultural power, so to speak, toward *conventional* as opposed to criminal value systems. Of course, as Robert Bursik (2009) recently pointed out, the idea that disadvantaged urban neighbor- hoods may have multiple and shifting value systems has a long history in criminology (e.g., Kobrin 1951; Sellin 1938; Shaw and McKay 1942),and continues to influence contemporary theorizing on urban street crime (Anderson 1999; Sampson and Wilson 1995).

Like street crime, violence in the home has also been linked to the broader social and cultural environment (Dobash and Dobash 1979; Heise 1998; Michalski 2004). Feminist theorists, for example, have attempted to explore how patriarchal laws, values, and customs that perpetuate male domination and female subordination foster violence against women (Do-bash and Dobash 1979; Duffy and Momirov 1997; Sanday 1981). Others have shown that at the individual level, patriarchal attitudes within families are

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2. However, the negotiated coexistence model (Browning et al. 2004) would suggest that in some cases ties to neighbors who condone partner violence may actually inhibit the reporting of intimate partner violence.

linked to the likelihood of IPV (Stith et al. 2004; Sugarman and Frankel 1996). This relationship is also explained in terms of dominance and control within partnerships (Dobash and Dobash 1979; Wilkinson and Hamerschlag 2005).

In addition to the link between patriarchy and IPV, there is another intriguing line of evidence regarding cultural influences on IPV. This research is particularly relevant to the present study, because it focuses on IPV among Mexican American women. Several studies have found a correlation between the level of acculturation of Mexican American women and their risk of experiencing IPV (Caetano et al. 2000; Kantor, Jasinksi, and Aldarondo 1994; Lown and Vega 2001; Sorenson and Telles 1991). For example, according to Anne Lown and William Vega (2001), Mexican American women born in the United States have twice the odds of being abused compared to their counterparts born in Mexico, even after adjusting for other correlates of IPV. Overall, the research suggests that the longer Hispanic women have spent in America, the greater the likelihood they will be victimized by IPV. Such evidence is in line with Sampson and colleagues' (2005) findings regarding Latino immigrant violence in Chicago. They found that new (first and second generation) immigrants' violence levels were significantly lower than third generation immigrants' violence levels. The increased likelihood of street violence (and similarly, IPV) may result from the process of acculturation to Ameri- can society, whereby the traditional extended family orientation and social support networks characteristic of immigrant families are disrupted, leaving immigrants more prone to violence (Keefe 1984; Vega 1990). With the data at our disposal, we cannot assess whether this acculturation process applies to IPV, although it is certainly plausible that it does. We nonetheless expect neighborhoods populated by large numbers of immigrants to have lower levels of IPV compared to neighborhoods with fewer immigrants.

Taken together, then, several different lines of theory and research suggest there is a cultural component to IPV. However, to date, the cultural aspects of IPV have been explored primarily at either the individual level (Caetano et al. 2000; Kantor et al. 1994; Lown and Vega 2001; Smith 1990; Sorenson and Telles 1991; Stith et al. 2004) or the broadest societal level (Dobash and Dobash 1979). We seek to explore the relationship between culture and IPV at a level that falls between these two extremes, that is, at the neighborhood level. We extend Sampson's cultural importation model to IPV to examine whether neighborhood cultural values influence IPV.

At the neighborhood level, we view culture as referring to the collective commitments and involvements of residents in conventional or nonconventional values and activities (Wilcox, Land, and Hunt 2003).

Neighborhoods with a large proportion of residents or families who feel that violence in families is morally wrong and who are committed to maintaining the sanctity of the home as a place of peace and security create a local cultural orientation or, as Sampson and William Julius Wilson (1995) describe it, a cognitive landscape in which the use of IPV is rebuked and not tolerated. We might call these "family-oriented" neighborhoods. Other neighborhoods, however, may be dominated by a "code of streets" mentality (Ander- son 1999) in which violence is regarded as an acceptable means of settling disputes and it is expected that people will mind their own business and ignore whatever does not directly concern them. These might be considered "street-oriented" neighborhoods. Following Sampson (2008) and others (e.g., Ousey and Kubrin 2009), we suggest that as the proportion of immigrants in a neighborhood increases, the neighborhood as a whole will become more family oriented, because immigrants bring with them such an orientation. We suggest that this shift will affect the behavior of neighborhood residents in general so as to reduce opportunities for men to engage in IPV against their female partners. Hence, we hypothesize that neighbor- hoods characterized by high concentrations of immigrants will evidence lower rates of IPV than neighborhoods with few immigrants. Further, we anticipate that variation in residents' attitudes toward crime, deviance, and the acceptability of family violence will mediate the link between immigrant concentration and neighborhood rates of IPV.

Other Neighborhood Characteristics and Intimate Partner Violence

In the past, theory and research on IPV has been strongly focused on the individual level of analysis. Because of the family's special characteristics of privacy and intimacy, IPV was thought to be primarily a function of individual- and couple-level characteristics and interactional dynamics (Straus, Gelles, and Steinmetz 1980). That the most proximate causes of IPV operate at these levels of analysis cannot be denied. Yet, a growing body of research has demonstrated that, like street crime, IPV is not simply an individual-level phenomenon. It is also influenced by neighborhood characteristics, especially concentrated economic disadvantage (Benson et al. 2000, 2003; Browning 2002; Lauritsen and Schaum 2004; Lauritsen and White 2001; Miles-Doan 1998; Van Wyk et al. 2003; Wooldredge and Thistlethwaite 2003). For ex- ample, in a series of studies using data from the National Survey of Families and Households, Michael Benson and colleagues demonstrated that living in a neighborhood characterized by concentrated disadvantage dramatically increases a woman's risk of IPV net of a large number of individual- and couple-level correlates. Convergent findings have appeared in studies by Rebecca Miles-Doan (1998), Christopher Browning (2002), and Janet

Lauritsen and her colleagues (e.g., Lauritsen and Schaum 2004; Lauritsen and White 2001). In addition, some research suggests that residential stability, a mainstay of the traditional social disorganization perspective, also influences IPV (Browning 2002; Li et al. 2010), although results are mixed regarding its effect. Some studies have found indicators of residential stability to be positively associated with IPV (O'Campo et al. 1995) while others have found null effects (Benson et al. 2003; Browning 2002). Since disadvantage and residential stability are often linked in contemporary urban areas (Warner and Pierce 1993; Wilson 1987), we expect that residential stability should be related to higher levels of partner violence.

However, the effects of neighborhood structure on IPV are still debated. In his important work regarding disadvantage, collective efficacy, and intimate partner violence, Browning (2002) found that the structural features of neighborhoods in Chicago (e.g., disadvantage, im- migration concentration, and residential stability) were not related to partner violence after individual and relationship characteristics were controlled. Accordingly, he concluded that his results "challenged the expectations of social disorganization theory with respect to the impact of neighborhood structure" on IPV (Browning 2002). There are reasons, however, to be cautious about this conclusion. Browning's analysis of IPV was based on a sample size of only 199 respondents distributed across 77 neighborhoods. As he notes, having so few respondents in each neighborhood makes it difficult to identify neighborhood-level effects.

The present study differs from Browning's in two ways. First, Browning conceives of immigration as an indicator of ethnic heterogeneity that from the perspective of traditional social disorganization theory should impede communication between residents. Hence, in his view, it should be positively associated with IPV. We argue here that immigration works in exactly the opposite manner. Therefore, our theoretical expectations are different. Second, we have access to a much larger sample than Browning, which provides better opportunities to identify and examine neighborhood-level effects. As our results show, it is premature to conclude that the structural characteristics of neighborhoods have no effect on rates of IPV.

The Current Study

Our study focuses on the effect of concentrated immigration on neighborhood rates of IPV and attempts to discern whether this effect is mediated by social ties and cultural norms. The value of this study is two-fold: first, we examine ties and culture as mechanisms by which immigrant concentration has been theorized to impact aggregate rates of crime, and second, we examine these relationships after individual-level correlates of IPV have been taken into account. Although our primary focus is at the neighborhood level of analysis, it is important to consider the impact of individual-level predictors of IPV as potential control variables, especially given

prior statements regarding the individual nature of violence between partners (e.g., Gelles 1983; Sampson and Raudenbush 1999).

Therefore, we include individual-level measures relating to age, race, income, employment status inconsistency, educational attainment, alcohol or drug abuse, patriarchal views, social isolation, relationship status, and the number of children in the household, as these fac- tors have been found to predict partner violence and victimization. Prior research has found that young minority individuals from low socioeconomic strata with low education and occupational attainment are at increased risk to engage in as well as be victimized by IPV (DeMaris et al. 2003; Lockhart 1987; MacMillian and Gartner 1999). Also, individuals who use drugs or abuse alcohol, ascribe to traditional gender role ideologies and have low social support from others are at increased risk to experience or engage in this type of violence (Caetano, Schafer and Cunradi 2001; Kaufman Kantor and Straus 1987; Stets 1991; Stith et al. 2004; Sugarman and Frankel 1996). The type of relationship (e.g., dating, cohabiting, or married) that couples are engaged in also influences the likelihood of IPV. Couples who are dating or cohabiting, compared to those who are married, are more likely to experience IPV, and the number of dependent children in the household is also positively related to the likelihood of IPV (De- Maris et al. 2003; Stets 1991; Voydanoff 1990). Further, the economic and financial balance of power between partners also predicts the occurrence of IPV (Atkinson, Greenstein, and Lang 2005; MacMillian and Gartner 1999). For example, the use of coercive control and violence by men against women appears more likely when women are employed but their partners are not (MacMillian and Gartner 1999).

Although a variety of theoretical accounts have been put forth to explain these relationships, we do not address them here. We include these measures in our study in order to determine whether neighborhood immigrant concentration influences IPV after such effects have been accounted for.

Based on the theories and research reviewed above, we explore the following two theoretical expectations:

1. Controlling for individual- and couple-level characteristics, neighborhood levels of immigrant concentration, disadvantage, and residential stability will be associated with

neighborhood prevalence rates of IPV. Specifically, disadvantage and residential stability will be positively associated with IPV, while immigrant concentration will be negatively associated with IPV.

2. The influence of disadvantage, stability, and immigration on the prevalence rate of IPV will be mediated by neighborhood-level measures of social ties and cultural values toward crime, deviance, and family violence.

Methods
Data

This study used data from the Project on Human Development in Chicago Neighborhoods(PHDCN) (Earls et al. 2002a). The PHDCN collected data from 343 neighborhood clusters (NCs) in Chicago. The NCs were derived from 847 contiguous census tracts in the city of Chicago. The census tracts were grouped by seven categories of racial and ethnic composition (e.g., 75 percent or more African American) and three levels of socioeconomic status (e.g., high, medium, low); based on these groupings, the census tracts were then collapsed into 343 NCs. Each of the NCs comprised about 8,000 residents.[3] From these NCs, data for the PHDCN were collected in several different surveys and studies. We used data from the Community Survey (Earls et al. 2002a), the Longitudinal Cohort Study (Earls et al 2002b), and the 1990 U.S. Census to derive the measures needed for our investigation.

Individual-level predictors of IPV were created from data collected between 1994 and 1997, during the first wave of the Longitudinal Cohort Study (LCS). The LCS sampled 6,228 children, adolescents, or young adults from 80 neighborhood clusters and followed them over a period of seven years. During the LCS, the primary caregivers in the household were also interviewed. The primary caregiver was considered to be the adult male or female who spent the most time taking care of the subject.[4] Young adult subjects of the LCS who were 18 years or older were also asked the same questions as the primary caregivers of younger children. Since our study is concerned with intimate partner violence against women in relationships, we focused only on female caregivers and female young adult subjects who reported being in a married, cohabiting, or dating relationship within the year prior to the PHDCN study. Hereafter, we refer to the subjects of this study (e.g., the female caregivers and young adult subjects) as the respondents. Our final sample includes 4,640 respondents who reported being in a relationship during the year prior to the PHDCN study. Data on our dependent variable and the individual-level independent variables are taken from the LCS.

3. "Neighborhood clusters" and "neighborhoods" will be used interchangeably throughout the remainder of this study.
4. Most (93.2 percent) of the primary caregivers in the original PHDCN were females.

Data for the neighborhood measures of social ties and cultural norms were derived from the Community Survey portion of the PHDCN. The Community Survey took place between 1994 and 1995, and surveyed a sample of residents from all 343 NCs; residents were asked questions regarding their neighborhood's political and organizational groups, cultural values, and social networks, among other topics. The Community Survey segment of the PHDCN followed a three-stage sampling design where city blocks were sampled within each NC, dwelling units were then sampled within blocks, and one adult resident was sampled within each dwelling unit. This study examines the 80 neighborhood clusters in which the individual respondents from the LCS were nested.[5]

Finally, to examine neighborhood structural characteristics pertaining to concentrated immigration, concentrated disadvantage, and residential stability, we abstracted data collected during the 1990 U.S. Census. Recall that each NC was comprised of a number of contiguous census tracts. To provide census information at the NC level, staff at the Inter-University Consortium for Political and Social Research (ICPSR) matched census tract information with corresponding neighborhood clusters[6] and calculated census-derived information for each NC. This study uses the data created from ICPSR's endeavor to measure the structural characteristics of the 80 NCs in which the respondents resided.

Measures

Table 1 describes the measures used in this study. All level-one measures were provided by the respondents and refer to characteristics of the individuals within the relationship (e.g., female's age, male's substance use) or characteristics of the couple (e.g., married, cohabiting, or dating). Therefore, we hereafter refer to those measures as individual-level or level-one predictors.

Intimate Partner Violence. The outcome variable examined in this study measures the prevalence of female IPV victimization. The measure of IPV was derived from the Conflict Tactics Scale interview portion of the LCS. Respondents were asked how many times during an argument with their partner in the past year their partner had: kicked, bit, or hit them with their fist; hit or tried to hit them with something; beat them up; choked them; threatened them with a knife or a gun; and used a knife or fired a gun. These acts of physical aggression are considered severe acts of violence (Straus 1979; Straus et al. 1996).

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5. The data from the Community Survey were provided by respondents who were largely independent of the respondents in the LCS.

6. The matching process was conducted by researchers at ICPSR in order to ensure the confidentiality of the participants of the PHDCN.

The *prevalence of IPV* was defined as a dichotomous measure, indicating whether the female had ever been victimized by any of the above acts of severe violence at least once during the past year. We use a dichotomous measure of IPV because the distribution of IPV is highly skewed as well as to be consistent with previous research in this area (Benson et al. 2000, 2003; Benson et al. 2004; Browning 2002; Lauritsen and Schaum 2004). In addition, the use of a dichotomous measure is appropriate given our focus on explaining variation in the overall prevalence of IPV across neighborhoods, as opposed to explaining variation in the severity of IPV among couples, which is a different, though certainly important, question (e.g., Johnson 1995; Johnson and Ferraro 2000). Approximately 15 percent of the women in this sample experienced severe IPV at least one time during the preceding year. This estimate is similar to other estimates derived from large-scales surveys on IPV. For instance, the National Family Violence Survey (NFVS) estimates that over 16 percent of U.S. couples engage in intimate violence each year (Straus et al. 2006).

Level-One Variables. The victim's age, race, immigration status, education, employment status inconsistency, substance abuse, and isolation, and their male partner's substance abuse and patriarchal views were considered to be key predictors of IPV victimization among females. *Age* is the female's age in years, while *education* was an ordinal measure indicating the highest level of education reached by the female (1 less than high school . . . , 3 more than high school). As shown in Table 1, females in this study, on average, were about 32 years old and most had not graduated from high school. To assess the economic balance of power in relationships, we created a measure of *employment status inconsistency*. This dichotomous measure was coded 1 if the female was employed but the male was not and 0 for all other combinations of employment status between the two partners. Two separate dichotomous variables, *Latino* and *African American*, tapped the race/ethnicity of the female.[7] Forty-six percent of the females in this sample were Latino, while 33 percent were African American. *Non-Latino immigrant* indicates that the female was not born in the United States (i.e., reported being an immigrant) and is not Latino. Only 6 percent of the females in the sample as a whole were non-Latino immigrants.[8] *Male and female substance abuse* was captured with two dichotomous variables (1 yes, 0 no). Substance abuse indicates that drinking and/or drug use were reported to have caused problems with the male's or female's health, family, or job, or resulted in encounters with the police. These problems were relatively rare; 9 percent of males and 3 percent

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7. Non-Latino white served as the reference category.
8. There is significant overlap in immigration status and Latinos in this sample; fully 85.1 percent of female immigrants were Latino, and the remaining 14.9 percent were non-Latino.

Table 1 • *Descriptive Statistics*[a]

	$\bar{x}$	Standard Deviation	Minimum	Maximum

Dependent variable				
Prevalence of IPV	.15	.35	.00	1.00
Level-one independent variables				
Age	31.96	8.62	15.00	82.38
Education	1.97	.93	1.00	3.00
Employment status inconsistency	.03	.16	.00	1.00
African American	.33	.47	.00	1.00
Latino	.46	.50	.00	1.00
Non-Latino immigrant	.06	.23	.00	1.00
Substance abuse by male	.09	.29	.00	1.00
Substance abuse by female	.03	.17	.00	1.00
Patriarchal views	.42	.49	.00	1.00
Social isolation	−.01	1.00	−.93	3.31
Family size	5.37	2.03	2.00	14.00
Income	3.95	1.94	1.00	7.00
Cohabitation	.73	.44	.00	1.00
Level-two independent variables				
Concentrated immigration	−.00	1.00	−1.27	2.54
Concentrated disadvantage	.00	1.00	−1.59	2.42
Residential stability	−.00	1.00	−2.12	1.72
Any friends in NC	.83	.08	.62	.98
Any family in NC	.45	.17	.00	.86
Intolerance of deviance	.00	.27	−.61	.52
Privacy of family fighting	.58	.13	.25	.85

[a]Descriptive statistics are based on 4,640 individuals within 80 neighborhood clusters.

of the females had substance abuse problems. *Patriarchal views* indicated that the male partner in the relationship made most of the decisions in the relationship (coded as 1 ⬜ yes, 0 ⬜ no). The measure was designed to identify couples in which decision-making power was not equally shared between the partners. Table 1 shows that the male partner made most of the household decisions in 42 percent of couples.

Social isolation was a factor (eigenvalue ⬜ 2.07; alpha ⬜ .61) composed of variables tapping whether the female has one or more friends that they can tell anything to; whether they feel close to some of their friends; whether they have family members who help them find solutions to their problems; whether they have friends who would take time to talk about their problems; and whether they feel alone even when they are with friends (reverse coded). Higher numbers on this variable reflect higher levels of isolation.

Family size reflected the number of biological and nonbiological members of the family living in the household, while *income* was an ordinal variable (1 ⬜ ⬜ $5,000; 2 ⬜ $5,000-$9,999; 3 ⬜ $10,000-$19,999 . . . , 7 ⬜ > $50,000) denoting the total maximum personal or household income earned in the past year. Most couples reported earning between $10,000 and $19,999 during this time period. *Cohabitation* was a dichotomous variable indicating whether the couple was married or partnered and living together (coded as 1) versus dating but not cohabiting (coded as 0). Most females (73 percent) in our study were living with or had lived with their partners during the PHDCN study period.

Level-Two Structural Variables. Following the social disorganization model, the structural characteristics examined in this study were concentrated

immigration, concentrated disadvantage, and residential stability. Based on research by Sampson and colleagues (1997), these measures were created through principal components factor analysis of the neighborhood cluster census data described above.[9] *Concentrated immigration* was comprised of the percent Latino ($\bar{x}$ ⬚ 28.42; *sd* ⬚ 28.80; range ⬚ 0.00 to 95.78) and foreign-born residents ($\bar{x}$ ⬚ 19.53; *sd* ⬚14.75; range ⬚ 0.00 to 63.78) in a neighborhood cluster (r ⬚ .66, p ⬚ .01). *Concentrated disadvantage* included the percent of residents in a neighborhood cluster who were below the poverty line, receiving public assistance, African American, unemployed, younger than 18 years old, and living under female-headed households (alpha ⬚ .70). *Residential stability* was assessed as the percent of residents who had lived in the same house for five years and the percent of owner-occupied homes in a neighborhood cluster (r ⬚ .71, p ⬚ .01).

    Level-Two Intervening Mechanisms. The intervening social mechanisms examined here were derived from the Community Survey portion of the PHDCN. Social ties and cultural norms have been suggested as mechanisms by which neighborhood immigration impacts crime and violence rates. We therefore examined various measures of these constructs to determine if they do, indeed, mediate the effects of concentrated immigration on neighborhood IPV rates. We assessed separate measures of residents' family and friendship social ties, given evidence that each plays a unique role in the integration into the community (e.g., Granovetter 1973; Portes 1998; Wellman and Wortley 1990). Specifically, *any friends in NC* is a dichotomous variable indicating the proportion of residents who have at least one friend living within their neighborhood. Similarly, *any family in NC* is also a dichotomous variable reflecting the proportion of residents who have at least one relative or in-law living within their neighborhood. As shown, 83 and 45 percent of residents reported having at least one friend or family member, respectively, living within their neighborhood.

    We use two measures to assess the cultural context in neighborhoods. The first measure assesses neighborhood attitudes in regards to deviance in general, while the second assesses neighborhood attitudes towards family violence. Regarding deviance in general, we followed the procedures used in previous analyses of the PHDCN (e.g., Browning 2002; Browning et al. 2004; Morenoff et al. 2001; Raudenbush and Sampson 1999; Sampson and Raudenbush 1999; Sampson, Raudenbush, and Earls 1997), and used a three-level item response model to create an *intolerance of deviance* scale. This scale measured neighborhood residents' attitudes about the wrongfulness of drinking, drug use, and fighting among teenagers. Residents were asked how wrong they considered it to be for 13- to 19-year old teenagers to smoke cigarettes, use marijuana, drink alcohol, and get into fist fights (neighborhood internal consistency reliability ⬚ .511; see

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    9. Unlike Sampson and associates (1997), however, our factor analyses were conducted on the 80 NCs examined in this study.

Raudenbush and Sampson 1999 for more details regarding item response scale reliabilities across aggregates). Responses were given from one to five on a likert-type scale ranging from "not wrong at all" to "extremely wrong." Due to the skew in these response categories, the measure was dichotomized; categories of "not wrong at all" and "a little wrong" were combined and coded as 0, whereas "wrong," "very wrong," and "extremely wrong" were combined and coded as 1. As such, the intolerance for deviance measure for the item response model indicates the degree to which neighborhoods did *not* tolerate deviance. Although these forms of deviance may seem far removed from IPV, we include them in our models for methodological and theoretical reasons. First, this measure has been used in prior research on race and street violence with the PHDCN (Sampson and Bartusch 1998), and one of our objectives is to see whether the neighborhood determinants of IPV are the same as those for street violence. Accordingly, we must use similar measures of neighborhood conditions in our models. Second, according to the proponents of broken windows theory, tolerance of minor forms of deviance is often associated with more serious forms of crime (Kelling and Coles 1996). Hence, we theorize that neighborhoods that do not tolerate these minor forms of deviance will also be much less likely to tolerate any form of interpersonal violence, including IPV, than neighbor- hoods that regard such activities as acceptable.

Finally, as a measure of neighborhood culture more directly related to our focus on IPV, we drew on an item from the Community Survey in which respondents were asked how much they agreed or disagreed with the statement that fighting between friends or within families is nobody else's business. The five response categories ranged from "strongly disagree" to "strongly agree." Responses were dichotomized to create the *privacy of family fighting* measure, which indicates the proportion of residents in a neighborhood cluster who either dis- agreed or strongly disagreed (coded as 1) with the statement. Fifty-eight percent of residents disagreed or strongly disagreed with the statement that fighting between friends or family was nobody else's business. In keeping with our theoretical argument regarding street- versus family-oriented neighborhoods, we theorize that neighborhoods in which family fighting is not viewed as a private matter create fewer opportunities for men to engage in IPV without fear of reaction and disapproval from neighbors.

Analytic Strategy

Hierarchical statistical modeling techniques (Raudenbush and Bryk 2002) were used to construct the measure of intolerance of deviance, as well as to estimate the separate and combined effects of individual- and neighborhood-level predictors on IPV. Two separate HLM models were used. The first was the three-level item response model that identified and created the measure of intolerance of deviance. For this model, indicators of neighborhood intolerance of deviance were taken from residents' responses to

the PHDCN Community Survey, as described in the previous section. This construct cannot be directly observed and is therefore considered a latent variable (Raudenbush and Bryk 2002). As such, intolerance of deviance is instead measured by several indicators; these indicators are residents' responses to sur- vey questions. Following Sampson and colleagues (1997), Browning (2002; Browning et al. 2004), and Morenoff and associates (2001), an item response model used the responses to the Community Survey questions to create the measure of intolerance of deviance. Like these researchers, the level-three residuals from the item response model were used in this study as the neighborhood scores of intolerance for deviance.[10]

The second set of HLM models were two-level hierarchical Bernoulli models designed to examine the primary objectives of this study. That is, HLM 6 (Raudenbush et al. 2004) software was used to examine the effects of neighborhood characteristics on neighborhood prevalence rates of IPV after individual-level effects had been examined.

When examining the prevalence of IPV, the level-one outcome in the hierarchical Bernoulli model is the log-odds of a female experiencing IPV at least one time during the past year, whereas the outcome at level two is the proportion of females within each NC experiencing IPV in the past year. Due to the different outcomes used in multi-level modeling, multiple steps were necessary in order to determine whether each outcome significantly varied across individuals as well as aggregates. The first step for each bi-level model involved deriving estimates of the variation existing in the outcome at level one as well as at level two. This involved determining whether the variation in IPV between neighborhoods was significant ($p \leq .05$).

The second step, examining "random coefficients" models, involved the estimation of individual-level (level-one) predictors on the prevalence of IPV. This allowed for the examination of the significance and magnitude of those effects, as well as a determination of which effects differ significantly across neighborhoods (at the $p \leq .05$ level). The random coefficients model determines whether level-one relationships with IPV vary significantly across neighborhoods. The effects of employment status inconsistency, African American, Latino, non- Latino immigrant, substance abuse by females, patriarchal views, and income did not vary significantly across neighborhood clusters, and were therefore "fixed" for the estimation of all subsequent models (e.g., "intercepts-as-outcomes," described below). Allowing the level-one slopes to vary randomly in the level-one model is a more rigorous test of the contextual effects because such predictors could account for some variation in the level of IPV that might otherwise be explained by

10. A description of the item response model is provided in the Appendix.

neighborhood predictors. All level-one predictors were grand mean-centered in order to determine the proportions of between-neighborhood variation in IPV that are explained by the compositional differences of neighborhoods.

The third step, the "intercepts-as-outcome" models, examined the main effects of neighborhood characteristics on the outcomes at level two (e.g., neighborhood rates of severe female IPV victimization). This step also allowed all fixed and varying level-one predictors to influence IPV before the effects of neighborhood variables were estimated. Thus, this model allowed for the estimation of neighborhood effects on neighborhood IPV outcomes after level- one predictors had been controlled.

Results

Tables 2, 3, and 4 present the results of this study.[11] Before turning to our main concern, the effects of neighborhood factors on IPV, we first briefly discuss the level-one results. Table 2 demonstrates that, consistent with previous research at the individual level, older women with higher levels of education living in higher income households are less likely to be victimized by IPV (e.g., Bachman and Saltzman 1995). African American women and females whose partners abuse substances and who hold patriarchal views are more likely to be victimized by IPV, as are those in larger households (e.g., Caetano et al. 2001; DeMaris et al. 2003; Kilpatrick et al. 1997; Stith et al. 2004; Sugarman and Frankel 1996). Finally, female non-Latino im- migrants are significantly less likely to be victims of partner violence. Nonsignificant variables included employment status inconsistency, Latino ethnicity, substance abuse by the female, social isolation, and cohabitation.

Next, we turn to the effects of neighborhood-level conditions on the prevalence of IPV, focusing first on the structural variables and social ties (see Table 3). Model 1 shows that concentrated immigration, concentrated disadvantage, and residential stability are significant structural predictors of neighborhood rates of IPV. Consistent with recent findings on immigration and street violence rates (Desmond and Kubrin 2009; Lee et al. 2001; Martinez and Lee 2000; Martinez et al. 2004; Nielsen et al. 2005; Sampson 2008; Sampson et al. 2005), immigration appears to *reduce* the levels of partner violence within neighborhoods, but the relationship is significant only at the $p \leq .10$ level. In supplemental analyses, we analyzed our models using each separate measure, percent Latino, and percent foreign born, in order to explore whether our results for "concentrated immigration" were driven primarily by one or the other. The results suggest that neither percent Latino nor percent foreign born separately influence prevalence rates of IPV and neither exert undue influence on our results.[12]

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11. Collinearity was not a problem for any models presented.

12. It is not clear why the index of concentrated immigration is significant (albeit marginally) even though its individual components are not significantly related to IPV.

Perhaps the processes we hypothesize to work with immigrants in reducing violence are also evidenced among nonimmigrants who are culturally and ethnically similar to immigrants. Even though some of the Latinos in the percent Latino measure may not technically be immigrants (that is, foreign born) we assume that they are likely to live in enclaves with Latino immigrants, since immigrants tend to live by people of similar ethnicity when they first arrive in a new country (e.g., Chiswick and Miller 2005; Portes 1998). Thus, the Latinos who are not immigrants are still likely to be exposed to, receptive to, and affected by the crime-inhibiting characteristics that Latino immigrants bring with them. It is therefore possible that considering percent Latino and percent foreign-born together instead of separately captures this phenomenon more accurately, and may explain why the index of concentrated immigration is more powerful than its individual components.

Table 2 • *Random Coefficients Model Predicting the Prevalence of IPV[a]*

	γ	SE
Intercept	−1.64**	.04
Level-one independent variables		
Age	−.02**	.00
Education	−.10*	.04
Employment status inconsistency[b]	−.23	.17
African American[b]	.38**	.11
Latino[b]	−.09	.12
Non-Latino immigrant[b]	−.48**	.16
Substance abuse by male	.69**	.12
Substance abuse by female[b]	.22	.21
Patriarchal views[b]	.24**	.07
Social isolation	.04	.03
Family size	.05**	.02
Income[b]	−.13**	.02
Cohabitation	.05	.09
χ^2	107.11	
Variance component	.11	

[a]Results are based on 4,640 individuals within 80 neighborhood clusters.
[b]Coefficient does not vary significantly ($p \geq .05$) across neighborhood clusters.
*$p \leq .05$ **$p \leq .01$ (two-tailed tests)

Models 2, 3, and 4 in Table 3 present the results regarding neighborhood social ties and IPV rates. The results indicate that only ties with friends are significantly related to IPV in neighborhoods; family ties, on the other hand, are not significantly associated with IPV rates. Notably, the prevalence of ties with friends in neighborhoods appears to mediate the impact of concentrated immigration and residential stability on IPV. However, because the effects of concentrated immigration and residential stability were only marginally significant in Model 1, we caution that our results may not indicate a true mediating effect by social ties. This is especially true regarding family ties, since they are not significant predictors of IPV in Models 3 or 4 of Table 3. The

findings remain essentially unchanged when both measures of ties are added to the analysis as shown in Model 4.

Table 3 • *Level-Two Main Effects (Social Ties) on the Prevalence of IPV (Level-One Intercepts as Outcomes)*[a]

	Model 1		Model 2		Model 3		Model 4	
	γ	SE	γ	SE	γ	SE	γ	SE
Intercept	−1.64***	.03	−1.65***	.03	−1.64***	.03	−1.64***	.04
Structural variables								
Concentrated immigration	−.09*	.05	−.08	.05	−.06	.05	−.07	.05
Concentrated disadvantage	.14***	.05	.05		.05		.17***	.05
Residential stability	.08*	.04	.04		.04		.04	.04
Social ties								
Any friends in NC	—	—	.39	—		—	−.75*	.41
Any family in NC	—	—	—	−.32		.27	−.22	.27
χ²	91.09**		90.47**				89.50**	
Variance component	.08		.08		.08			

[a]Based on 80 neighborhood clusters.
*$p \leq .10$ **$p \leq .05$ ***$p \leq .01$ (two-tailed tests)

Concentrated disadvantage and residential stability on the other hand, operate as expected by increasing the likelihood of violence between partners (Benson et al. 2000, 2003; Benson et al. 2004; Browning 2002; Nielsen et al. 2005; Van Wyk et al. 2003).

Table 4 • *Level-Two Main Effects (Cultural Norms) on the Prevalence of IPV (Level-One Intercepts as Outcomes)*[a]

	Model 1		Model 2		Model 3		Model 4		Model 5	
	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE
Intercept	−1.64***	.03	−1.64***	.03	−1.64***	.03	−1.64***	.03	−1.64***	.03
Structural variables										
Concentrated immigration	−.09*	.05	−.07	.05	−.11**	.05	−.10*	.06	−.06	.06
Concentrated disadvantage	.14***	.05	.15***	.05	.14***	.05	.15***	.05	.21***	.05
Residential stability	.08*	.04	.06	.04	.09**	.04	.08*	.04	.01	.04
Cultural norms										
Intolerance of deviance	—	—	−.14	.13	—	—	−.11	.14	−.12	.12
Privacy of family fighting	—	—	—	—	−.83***	.26	−.82***	.27	−1.07***	.26
Social ties										
Any friends in NC	—	—	—	—	—	—	—	—	−.60*	.32
Any family in NC	—	—	—	—	—	—	—	—	−.72**	.36
χ²	91.09**		90.98**		88.61**		88.36**		85.62**	
Variance component	.08		.08		.08		.09		.09	

[a]Based on 80 neighborhood clusters.
*$p \leq .10$ **$p \leq .05$ ***$p \leq .01$ (two-tailed tests)

Finally, we examine the effects cultural norms and our other level-two variables on neighborhood rates of IPV. The results shown in Table 4

indicate that the relationship between neighborhood cultural norms and IPV is complex and may depend on the content of the norms in question. Family-related norms are important while norms about general deviance appear not to matter as much for IPV. Specifically, and contrary to our expectations, our general measure of intolerance of deviance is not a significant predictor of IPV (see Model 2 in Table 4). Hence, even though it appears to reduce the effect of immigration to insignificance, we are reluctant to conclude that this is a true mediating effect. It appears that intolerance of deviance in general is not related to IPV in the way that it is with street crime (Sampson and Bartusch 1998).

However, consistent with prior theorizing about immigrants and their value systems (e.g., Chiswick and Miller 2005; Desmond and Kubrin 2009; Lee et al. 2001; Morenoff and Astor 2006; Ousey and Kubrin 2009; Portes 1998; Portes and Rumbaut 2001; Sampson 2008; Samp- son and Bartusch 1998; Sampson and Bean 2006), it appears that cultural norms regarding family violence in particular do, in fact, matter for IPV. The results in Model 3 of Table 4 indicate that rates of IPV are significantly lower in neighborhoods where cultural norms support outside interventions in situations of family violence—that is, where residents do not believe that fighting between family members is a private matter. It is intriguing to find that when our measure of attitudes toward the privacy of family fighting is included, both concentrated immigration and residential stability become significant at the $p \leq .05$ level. We speculate that this means that concentrated immigration has a suppressive effect on IPV only when it is associated with certain cultural values regarding the family. That is, where residents believe that family fighting is not a private matter the effect of concentrated immigration appears to be stronger. Nonetheless, this finding suggests that Sampson's (2008) ideas about cultural importation apply to IPV as well as ordinary street violence. When both measures of culture are included in Model 4, the results remain substantively unchanged. Finally, in Model 5 of Table 4, when both cultural values and social ties are included in the model, the coefficient for concentrated immigration is reduced in both magnitude and significance. Neighborhood opposition to the privacy of family fighting, and social ties (both with family and friends) significantly reduce the prevalence rate of IPV, and appear to mediate the effect of concentrated immigration on IPV. Surprisingly, in Model 5, family social ties has a significant negative effect on partner violence when it is included with all of the other neighborhood predictors. We speculate that this could be due to its relationship with cultural norms regarding the privacy of family fighting, which might be stronger or weaker among certain types of families and their members.[13]

13. However, we caution that at the neighborhood level our sample includes only 80 NCs. Using all seven predictors at this level may begin to strain the statistical limits of our model. Therefore, we urge readers to focus on the general pattern of results, which suggests that friendship ties are the more consistent predictors of IPV.

Finally, although it was not a primary aim of this study, we note that neighborhood social ties nor cultural norms mediate the effect of concentrated disadvantage on IPV rates. This finding supports previous research regarding the harmful direct impact of disadvantage on neighborhood levels of IPV (Benson et al. 2003; Benson et al. 2004; Browning 2002; Lauritsen and Schaum 2004; Lauritsen and White 2001; Miles-Doan 1998), and further suggests that such an effect is not mitigated by social ties with friends or family members or value systems that do not condone partner violence.

Discussion and Conclusions

We examined whether the level of immigrant concentration influences the likelihood of IPV in neighborhoods, and whether this effect is related to social ties and cultural norms. Our study was informed by social disorganization theory and recent evidence regarding im- migrants and street violence. While there has been ample theorizing regarding the linkages between immigration and crime via social ties and cultural values, like Ousey and Kubrin (2009), we found very little empirical evidence thus far examining these issues at the macro level. Therefore, our study not only examines an important issue in and of itself—IPV—but it also extends our empirical understanding of the specific ways in which immigration impacts neighborhood rates of violence. We believe that our findings support three main conclusions, which we elaborate on below.

First, contrary to Browning (2002), our results suggest that neighborhood structure is related to IPV but in more complex ways than are anticipated by traditional social disorganization theory. As one would expect based on traditional social disorganization theory, concentrated disadvantage was positively associated with IPV but concentrated immigration works in an unexpected way. Neighborhoods with high levels of immigrant populations enjoy lower levels of violence between partners; that is, concentrated immigration is *negatively* related to IPV and functions as a protective structural factor against such violence. This relationship was hypothesized and is consistent with recent research findings regarding immigrant concentration and ordinary street crime and violence (e.g., Desmond and Kubrin 2009; Lee et al. 2001; Martinez and Lee 2000; Martinez et al. 2004; Nielsen et al. 2005; Ousey and Kubrin 2009; Sampson 2008; Sampson et al. 2005). However, this finding is contrary to the expectations of social disorganization theory as it has been traditionally conceptualized. Based on our results, we follow Ramiro Martinez and Matthew Lee (2000) and suggest that concentrated immigration actually *increases* neighborhood control *regarding violence between partners*, instead of decreasing such control. Further, our findings reveal that this control may be due to the patterning of social ties and cultural norms that immigrants bring

with them when they enter American neighborhoods.

Second, our results demonstrate that social ties and cultural norms can operate as neighborhood-level mechanisms that significantly impact partner violence. These findings are consistent with evidence that individual-level cultural norms or attitudes (Holtzworth-Munroe et al. 1997; Stith et al. 2004; Sugarman and Frankel 1996) and social ties (e.g., Stets 1991; Van Wyk et al. 2003) impact IPV. However, as *community* mechanisms, cultural norms and social ties have rarely been examined with regard to neighborhood levels of partner violence. We found that social ties with friends (but not with family members) serve as a protective factor against high rates of IPV in neighborhoods, a finding that bolsters the case for considering community ties on this outcome. Recall, however, that our measure of social ties at the individual level was not a significant predictor. Further, neighborhood friendship ties appear to mediate the effects of concentrated immigration on IPV. We believe that our results support the need to examine family and friendship ties separately, although we acknowledge our measures of social ties do not necessarily capture the "strength" of ties as much as the accessibility or breadth of ties in a neighborhood. Also noteworthy are the findings that neighborhood social ties do not mediate the effects of concentrated disadvantage on IPV levels. Therefore, although social ties have been proposed as mediating factors with street crime (Sampson and Groves 1989), our results suggest that they may not operate in the same manner with regard to IPV. Instead, it appears more likely that friendship ties are effective at reducing IPV independently of disadvantage.

Social ties come in different forms (e.g., family versus friendship, weak versus strong, etc.) and each type of tie may have different effects. For instance, Barry Wellman and Scot Wortley (1990) found that family ties among residents in a Canadian community provided strong emotional support while friendship ties provided companionship and linkages to other social networks within the community. Loose friendship ties (e.g., neighbors, coworkers) may be more important for increasing residents' access to broad community integration (Portes 1998), while strong dense ties may limit this opportunity (Granovetter 1973). Our results are consistent with such research in that friendship ties reduced the likelihood of IPV within a neighborhood, but family ties did not. We speculate that more friendship ties in a neighbor-hood increases the likelihood that IPV will be discovered, and also increases the likelihood that victims and offenders will be linked to appropriate service and aid agencies (e.g., police, hospitals, shelters, counseling, etc). Family ties, on the other hand, may work differently. In- deed, some research suggests that strong ties between family members may not help women avoid violent victimization. For instance, one study of Mexican women found that strong ties actually promoted traditional gender norms that fostered violence against women (Agoff, Herrera, and Castro 2007). In some

communities, families may feel more loyal to and protective of the perpetrator than the victim of violence (Renzetti 2007). Although being embedded in a network of strong social ties may usually operate as a protective factor for women, there may be situations in which this is not the case. For instance, sometimes family members may provide such strong emotional support to one another (see Wellman and Wortley 1990) that it becomes "unconditional" support. In these situations, family members may be less likely to intervene on violent couples particularly if it is the perpetrator who has the ties and not the victim. On the basis of the data at our disposal here, however, we cannot be certain why our measure of family ties is not significantly related to IPV in the same way as our measure of friendship ties. We believe that the issue of how social ties and social networks influence IPV is still an open question, deserving of future research.

Our final point concerns immigration and cultural norms. Our findings indicate that certain family-related cultural norms are linked to lower levels of IPV. Neighborhoods where residents believe that fighting between family members and friends is not a private matter enjoy lower rates of IPV. However, we acknowledge that our measure of cultural norms regarding partner violence is less than perfect in that it does not directly tap attitudes toward IPV or the privacy of IPV. We therefore caution readers in their interpretation of our findings. Nevertheless, we can speculate that in neighborhoods where violence between family members is not regarded as a private matter, potential IPV offenders recognize that if they engage in this type of behavior it will not be ignored or tolerated. Hence, they perceive fewer opportunities to offend against others with impunity. Thus, cultural norms regarding family violence can enhance the effect of concentrated immigration, so that immigration becomes a more powerful inhibitor of IPV in these areas. This finding confirms previous theorizing that the cultural values of immigrants may inhibit violence rather than foster conflict and deviance (e.g., Chiswick and Miller 2005; Desmond and Kubrin 2009; Ousey and Kubrin 2009; Portes and Rumbaut 2001; Sampson and Bartusch 1998; Sampson and Bean 2006).

Despite what we believe are meaningful and important results, we acknowledge that our study has some limitations that should be mentioned. First, our results are based on one major urban area, and as such, we cannot determine whether the immigration effects we reported here are evident in other areas (see, e.g., Lauritsen and Schaum 2004; Lee et al. 2001; Martinez et al. 2004). However, we note that according to Browning (2002) and Block (1987), Chicago is similar to other large northern urban areas regarding rates of IPV and many urban areas throughout the United States have relatively large and growing immigrant populations. Yet, we recognize that immigration fluctuates over time. Our results are derived from data that was collected in the 1990s, when it is likely that many first- and second-generation Latino immigrants were moving or had recently moved to the United States. We do

not have the data here to determine if these Latino/immigration effects last over time and throughout generations of immigrants; we can only say that our findings here might support such a notion. Additionally, future research should examine whether the effects of concentrated im- migration on various types of crime differ by ethnic group (e.g., non-Latino), as we could not address those questions in our study. Finally, our sample consisted of predominantly young, minority, and disadvantaged female participants. This is both a strength and a weakness. Since we were interested in examining the effects of immigrant status and disadvantage on IPV rates, such a sample is useful because immigrants tend to be young, minority group members, and disadvantaged. However, it also means that we do not know if our results would be replicated among more affluent and less diverse individuals; future research should consider this issue.

Overall, our findings have relevance for the study of IPV as well as for the more general area of immigration and crime. Consistent with much recent work on IPV, our results indicate that IPV is not solely a function of individual- or couple-level characteristics (Benson et al. 2000, 2003; Benson et al. 2004; Browning 2002; Lauritsen and Schaum 2004; Lauritsen and White 2001; Miles-Doan 1998; Van Wyk et al. 2003). Women's vulnerability to IPV depends also on the economic, cultural, and demographic makeup of their neighborhoods of residence. In addition to economic disadvantage, immigrant concentration appears to be an important structural factor that conditions the prevalence of IPV. Happily, however, immigration has the opposite effect of economic disadvantage. It reduces rather than exacerbates IPV. More broadly, our results add evidence to the growing body of research showing that America's seemingly intractable crime problems cannot be blamed on its open borders or the immigrants who cross them.

Appendix: Intolerance for Deviance Item Response Model
Level-One Model

Borrowing from Raudenbush and Sampson (1999), intolerance of deviance was created using a three-level Bernoulli item response model. Residents were asked how wrong they considered it to be for 13- to 19-year old teenagers to smoke cigarettes, use marijuana, drink alcohol, and get into fist fights (neighborhood internal consistency reliability ⬚ .511; see Raudenbush and Sampson 1999 for more details regarding item response scale reliabilities across aggregates). Responses were given from one to five on a likert-type scale ranging from "not wrong at all" to "extremely wrong." Due to the skew in these response categories, the measure was dichotomized; categories of "not wrong at all" and "a little wrong" were combined and coded as 0, whereas "wrong," "very wrong," and "extremely wrong" were combined and coded as 1. As such, the measure of intolerance of deviance for the item response model indicates whether respondents were *in*tolerant of deviance

or tolerant of deviance.

The level-one model of the item response model adjusted the within-person tolerance for deviance by item difficulty, missing data, and measurement error. Here Y_{ijk} is person j of neighborhood k's response to item i of the intolerance of deviance questions coded as 1 if the response is affirmative (intolerant) and coded as 0 if the response to question i of intolerance of deviance is not affirmative (tolerant). m_{ijk} is the probability that Y_{ijk} □ 1. The Bernoulli model

holds that $Y_{ijk} = \log\left(\frac{\mu_{ijk}}{}\right)$ so that:

$$logit\left(Y_{ijk}\right) = \pi_{jk} + \sum_{p=1}^{t-1} \alpha_p X_{pijk}$$

Where j is a person within neighborhood k; i is a response to a survey question from the Community Survey; $logit(Y_{ijk})$ is the log-odds of the probability that Y_{ijk} □ 1; p_{jk} is the adjusted log-odds of respondent j of neighborhood k being intolerant of any of the deviance items; a_p is the difficulty of item p within the intolerance of deviance scale; and X_{pijk}, p □ 1 . . . , t □ 1 are dummy variables representing t □ 1 of the t items that measure intolerance of deviance.

Thus, the probability, $logit(Y_{ijk})$ □ 1, of respondent j of neighborhood k being intolerant of devi- ance, (Y_{ijk}), depends on his or her intolerance of other p deviance items as well as the severity, a_p, of item p on the t-item intolerance of deviance scale. Each X is centered around its grand mean, and one item of the intolerance of deviance scale ($t - 1$) is not represented by a dummy variable in order to serve as the reference item.

Level-Two Model

The level-two model estimated neighborhood intolerance of deviance scores adjusting for the social composition of each neighborhood. In particular, potential biases in intolerance of deviance resulting from characteristics related to gender (1□ female, 0 □ male), marital status (dichotomous variables for married, separated, or divorced, and single), homeownership (1 □ yes, 0 □ no), eth- nicity and race (composed of dichotomous variables for Latino and African American), residential mobility (measured as the number of moves in the past five years), years in the neighborhood, age, and a composite measure of socioeconomic status (measured by a factor of education, in- come, and occupation) were controlled at level two of the item response model. Therefore, across residents within neighborhoods and controlling for potential respondent bias, the true scores of the latent construct intolerance of deviance vary randomly around the neighborhood mean:

$$\pi_{jk}\quad_k + \ \delta_q \chi_{qjk} + u_{jk} \qquad \sum_{q=1}^{11}$$

Where X_{qjk} is the value of covariate q associated with respondent j in neighborhood k; and d_q is the partial effect of that covariate on the expected response of resident j in neighborhood k to intolerance of deviance items. Thus, p_{jk} is the level of intolerance of deviance for person j of neighborhood k. b_k is the neighborhood level of intolerance of deviance, adjusting for the social composition of the respondents in neighborhood k. The random effects are assumed to be bivariate normally distributed.

Level-Three Model

Finally, the level-three model allowed each neighborhood's level of intolerance of devi- ance to vary randomly around a grand mean:

$$b_k = g + u_k$$

So that g is the grand mean intolerance of deviance and u_k is a bivariate normally distributed random effect associated with neighborhood k. Again, the empirical Bayes residual from the level-three model constitutes the neighborhood level of intolerance of deviance after control- ling for item difficulty and neighborhood social composition; the empirical Bayes residual was therefore used as the "true" neighborhood score on intolerance of deviance.

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