Published in final edited form as:

Sociol Forum (Randolph N J). 2013 December 1; 28(4): 811–841. doi:10.1111/socf.12058.

Racial/Ethnic Composition and Violence: Size-of-Place Variations in Percent Black and Percent Latino Effects on Violence Rates¹

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Abstract

According to racial invariance positions and mainstream sociological perspectives on race and crime, race differences in structural conditions should account for most if not all of the racial composition (or percent black) effect on aggregate-level violence rates. However, prior research (mostly conducted prior to 1990) generally provides mixed or contrary evidence for this position, showing instead that greater concentrations of blacks are linked to increased violence even after accounting for racial differences in socioeconomic conditions. The current study uses recent data and a novel unit of analysis to go beyond extant research in two ways. First, we include percent Latino in our examination of the extent to which both racial and ethnic composition effects on violent crime rates are mediated by racial/ethnic disparities in socioeconomic disadvantage. Second, we test whether racial/ethnic composition effects are conditioned by size of place, through the use census places as a uniquely varying unit of analysis. We find that both black and Latino composition effects are partly explained by controlling for structural conditions (especially structural disadvantage), but this characterizes smaller places much more than the largest, most urbanized places.

Keywords

ethnicity; place; race; racial composition; racial invariance; violence

¹We acknowledge assistance provided by the Population Research Center at Penn State University, which is supported by an infrastructure grant by the National Institutes of Health (2R24HD041025-11). Special thanks also to Umash Prasad of the California Bureau of Criminal Information and Analysis and David J. van Alstyne of the New York State Division of Criminal Justice Services for their assistance in compiling, accessing, and addressing questions about the California–New York data.

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INTRODUCTION

The disproportionality in violent crime across places with varying racial and ethnic compositions has been a long-standing topic of research in sociology and criminology, with roots dating back to the Chicago School of sociology. Of notable importance is the foundational research of Shaw and McKay (1942) and their observation that over time, rates of crime by *area* remained relatively constant—regardless, that is, of which racial or ethnic group resided there. This finding suggested that characteristics of the area, not of the individuals living in the area, regulated levels of crime. High rates of crime in inner-city areas (“transition zone”), for example, persisted despite changes in the composition of particular immigrant and ethnic groups because these areas were characterized by poverty and other crime-conducive social conditions that remained despite shifts in their ethnoracial composition.

Based on this reasoning, researchers have formulated what in recent years has come to be called the “racial invariance” hypothesis—that structural factors (poverty, disadvantage) have similar effects on crime rates across all race or ethnic groups. Subsequently, this position has also been extended to suggest that “structural dissimilarity is at the heart of racial differences in violence” (Peterson and Krivo 2005:336) and that variation in rates of violence across areas with different racial and ethnic compositions results largely, perhaps even solely, from differences in structural circumstances across white and black communities (see reviews in Peterson and Krivo 2005, 2010; Shihadeh and Shrum 2004; Steffensmeier et al. 2010). Thus, if communities with larger shares of racial/ethnic minorities (e.g., high percent black) exhibit greater violence, it is because those localities have greater concentrations of poverty and other structural disadvantages.

Though the Chicago School’s conceptualization of racial composition effects on place-based crime rates encompassed a variety of racial and ethnic minority groups, empirical research on the topic has largely been limited to studying the spatial relationship between percent black and violent crime rates. At issue in particular has been whether the higher rates of violence in communities with larger concentrations of black residents could be accounted for by higher levels of structural disadvantage and inequality in these locales. The general conclusion has been that percent black is strongly and persistently associated with higher rates of violence and that this relationship is only weakly attenuated after controlling for community structural conditions (family structure, poverty, unemployment, concentrated disadvantage). These assessments include Pratt and Cullen’s (2005) meta-analysis of articles published between 1960 and 1999, which finds considerable evidence that violent crime is disproportionately concentrated in cities and other large ecological units where relatively more African Americans reside. Similarly, in their earlier review of aggregate-level research on violence, Land and colleagues (1990) find that even after accounting for other structural conditions, percent black (or “non-white”) was consistently linked to higher rates of violence (e.g., in more than 85% of the models reviewed across 21 different studies). Taken together, prior work clearly indicates that the percentage of black (or non-white) residents is among the strongest and most stable macro-level predictors of violent crime, even net of structural controls (Shihadeh and Shrum 2004).

The robustness of the percent black finding is both puzzling and unsettling for many social scientists (see review in Shihadeh and Shrum 2004). The finding is unsettling, first, because it appears to contradict Shaw and McKay's earlier conclusions and also is inconsistent with the racial invariance proposition that the relationship between race and crime is "rooted ... in the structural differences among communities, cities, and states in economic and family organization" (Sampson and Wilson 1995:41; see also Krivo and Peterson 2000; Krivo et al. 2009). Second, this finding raises concern because the relationship between percent black population and the violent crime rate of a locality could be interpreted as reflecting race-specific traits or cultural orientations. That is, analysts have tended to explain the persistence of a percent black effect net of structural controls in one of two ways (or combination of both): (1) as due to cultural orientations that encourage the use of violence to settle disputes which leads to high homicide and violence rates among blacks (Anderson 1999; Lane 1986; Wolfgang and Ferracuti 1967); or (2) as due to individual-level or biological traits of blacks that contribute to their being more violence prone (Rushton and Whitney 2002; Wilson and Herrnstein 1985). As Shihadeh and Shrum (2004:511) put it, the biological explanation in particular "is disquieting at best" for the majority of sociologists and criminologists.

Our overall aim in this article is to extend prior work on the relationship between racial composition and violence with a research design that addresses important gaps in the empirical literature and that better establishes the theoretical scope of the racial composition hypothesis. Specifically, our primary objectives are to broaden the scope of the racial (minority) composition hypothesis by investigating *percent Latino* as well as percent black effects on violence and by establishing whether minority composition effects are conditioned by *size of place*, with more recent data and a novel unit of analysis.

The first gap in research we seek to address is the overall scarcity of research on the racial composition–violence issue over the past 1 to 2 decades, largely in response to Land and associates' (1990) critical review of prior research on percentage black and other macro-level predictors of aggregated violence rates. As Land and colleagues (1990) explain in their classic piece and updated review (McCall et al. 2010), many of the studies purporting to examine percent black as a macro-level predictor of violence rates suffer from collinearity problems (i.e., percent black is highly correlated with other macro-level predictors like poverty or female-headed households). Many studies also are prone to the "partialling fallacy," which occurs when the explained variance for several collinear predictors is allocated to one variable that might have a slightly higher correlation with the dependent variable. Because of concerns about the partialling fallacy, the trend since Land et al. (1990) has been for scholars to shy away from explicit tests of racial composition effects. Instead, researchers have opted to either include percentage black as a simple control variable, or as Land et al. (1990) recommended, combine it with other variables (e.g., family disruption, joblessness, poverty) to create a "disadvantage index" that avoids problems of collinearity among structural covariates. However, the inclusion of racial composition in a disadvantage index conceptually and theoretically equates percent black with disadvantage as a matter of definition. The problem with this strategy is that once the index is created, no further discussion of the specific effect of racial composition is possible (Shihadeh and Shrum 2004). As a result, studies exploring race composition effects on crime (including reviews

and meta-analyses, e.g., Pratt and Cullen 2005; Worrall 2008) are limited to analyses that were conducted in earlier or “pre–Land et al.” time periods (1970s, 1980s, early 1990s) and that were often flawed by collinearity among key structural predictors.

A second shortcoming of prior research is that it has largely been limited to assessments of percentage *black* effects on violence rates. Although there is a rapidly growing body of innovative work examining the association between Latino immigration and crime (Feldmeyer 2009; Harris and Feldmeyer 2013; Martinez et al. 2010; Ousey and Kubrin 2009; Shihadeh and Barranco 2010; Stowell et al. 2009), there have been few direct and focused treatments examining percent Latino effects on violence rates. Rather, percent Latino is often included as a control variable in prior research, but is not the primary variable of interest. This oversight is unfortunate because it is inconsistent with the broader emphasis historically of the Chicago School on racial and *ethnic* minorities, and because it overlooks Latinos, now the largest minority in the United States. As we argue below, inattention to Latino composition effects is concerning, considering (1) that Latinos experience levels of socioeconomic disadvantage comparable to blacks; and (2) that emerging “immigrant revitalization” perspectives (Martinez 2002; Martinez et al. 2010) suggest that Latino concentration may not contribute to increased violence the same way that percent black does (see Feldmeyer 2010; Ousey and Kubrin 2009; Velez 2006).

The third limitation is that virtually all of the studies that have addressed the racial composition issue have used cities or other large locales as study units, apparently because of the ready availability of both official crime statistics and census data that better cover large (e.g., counties, standard metropolitan statistical areas) compared to smaller spatial units. However, drawing from prominent theoretical perspectives in sociology that incorporate cultural as opposed to strictly structural elements in their explanatory framework (e.g., Fischer’s [1975, 1995] subcultural theory of urbanism), there are solid reasons for expecting that the effects of minority racial composition on violence rates may depend on the *size of the locality*. As we elaborate below, racial composition effects on violence rates may be greater in the larger urban areas that have been the focus of prior studies but much weaker or negligible in smaller localities that have not been targeted in prior research. Such a finding would also lend support to a structural-cultural interpretation of racial composition effects—that is, a large disadvantaged African American or Latino population might provide the “critical mass” (Fischer 1975) necessary for the transmission of violence-related subcultural norms, while also being at odds with a biological or race-specific trait explanation (Anderson 1999; Sampson and Wilson 1995; Steffensmeier and Ulmer 2006).

The present study addresses these limitations by examining racial composition effects across *localities of varying sizes*, using California and New York violent arrest data that allow us to test for the effects of percent black as well as percent Latino on aggregate violence rates. An added contribution of our study is the use of census places as the spatial unit of analysis. As we explain more fully below, because they vary considerably along a variety of dimensions (size, racial composition, socioeconomic well-being, levels of violence), census places serve as a strategic unit of analysis for determining whether size-of-place conditions the relationship between racial/ethnic composition and rates of violence.

MINORITY RACE VERSUS MINORITY ETHNICITY EFFECTS

The first aim of our study is to expand analyses of racial composition effects beyond an assessment of percent black effects to also examine the impact of percent *Latino* on violence rates. Although prior research on Latino immigration and crime has included percent Latino as a predictor of aggregate-level violence (Alaniz et al. 1998; Martinez 2000; Martinez et al. 2010; Ousey and Kubrin 2009; Stowell et al. 2009; Wadsworth 2010), Latino composition has received far less direct theoretical or empirical consideration compared to effects of percent black. Thus, there is a need for direct assessment of percent Latino effects on violence, particularly in light of the rapidly growing U.S. Latino population and divergent perspectives about the possible effects of Latino composition on violence. On the one hand, Latinos experience many of the same socioeconomic disadvantages and structural hardships found in disadvantaged black communities, as well as some unique sets of challenges and strains (e.g., language barriers, challenges associated with immigration and assimilation) (Feldmeyer 2009, 2010; Martinez 2002; Ousey and Kubrin 2009; Stowell 2007; Velez 2006). Taken together, these structural similarities suggest that Latino composition may be linked to violence in much the same way that we find for percent black, at least before controlling for disadvantage levels. On the other hand, emerging “immigrant revitalization” perspectives suggest that despite structural similarities between Latino and black communities, Latino concentration may not contribute to increased violence to the degree that percent black does (Martinez 2002; Martinez et al. 2010; see also Feldmeyer 2010; Velez 2006; Wadsworth 2010).

Drawing from sociological writings on immigrant assimilation and ethnic economies, the central argument of these positions is that Latino populations are somewhat insulated or buffered from deleterious structural conditions that contribute to violence (e.g., poverty, unemployment, educational deficits) by protective influences of Latino immigrant communities—including strong kinship bonds, support networks, ethnic economies, and cultural bonds that enhance community social controls and provide a buffer against crime (Cohen-Marks and Stout 2011; Light and Gold 2000; Martinez 2002; Portes and Rumbaut 2006). As evidence, studies consistently show that while Latino disadvantage is high (approaching levels found in many black communities), their violence rates tend to fall between the relatively low rates of whites and the higher rates of blacks, but closer to white rates (Steffensmeier et al. 2010, 2011). Thus, there is some indication that the effects of percent Latino on violence may differ from those of percent black.

A second related aim of our study is to contribute to the recently renewed discussion about the proposition of *racial invariance* in the structural causes of crime, which implies that the effects of racial composition on crime are rooted in socioeconomic structural differences between units (Sampson and Wilson 1995). In their recent assessment of scope and conceptual issues surrounding the invariance proposition, Steffensmeier and colleagues (2010) identify the racial composition issue as representing one key dimension of the invariance hypothesis; specifically, whether disadvantage or other structural covariates are able to *render null* the effects of percent black (or percent Latino) (see also Krivo et al. 2009; Ousey 1999; Peterson and Krivo 2005; Shihadeh and Shrum 2004). Based on this argument, higher rates of violence in black and/or Latino communities are due to higher

levels of structural deprivation (rather than race or ethnic differences in culture or in biology). Or as Shihadeh and Shrum (2004:510) summarize, structural/racial invariance perspectives imply “there is scant justification for holding that racial composition should have a significant impact on crime rates once other factors are controlled.” However, as Steffensmeier et al. (2010) note, there has been a scarcity of research (since the Land et al. 1990 review) that directly addresses the relationship between violence and racial/ethnic composition.

SIZE-OF-PLACE EFFECTS

Our third main aim is to explore size-of-place variations in the effects of racial composition on violence rates. Drawing on several major strands of sociological writings on concentrated disadvantage and the structure-culture interrelationship, we propose that racial composition effects on violence might vary depending on *size of place*. Notably, they will be stronger (and more robust to controls for structural disadvantage) in large, populous urban locales (like those examined in prior research) where structural conditions create a fertile ground for development of cultural orientations that are more tolerant of crime/violence. Three perspectives suggest the role of culture in helping to account for race differences in violence (particularly in urban settings) because of the existence of orientations or attitudes that foster violence in certain situations: (1) social disorganization theory and extensions of anomie theory identifying criminal subcultures as adaptations to inequality and structural disadvantage (Cloward and Ohlin 1960; Cohen 1955; Shaw and McKay 1942), (2) William Julius Wilson’s social or cultural isolation theory of inner-city culture (Wilson 1987, 2009; also see Anderson 1999; Steffensmeier and Ulmer 2006), and (3) Claude Fisher’s (1975, 1995) subcultural theory of urbanism. Each perspective also recognizes that *structure and culture are interrelated*. These perspectives do not adopt a “blame the victim” stance focusing on a “culture of poverty” with negative and self-perpetuating subcultural traits that presumably acquire a life of their own. Rather, culture is viewed as a set of normative responses to long-term concentrated deprivation and exposure to objectively harsh structural conditions and clusters of disadvantage that tend especially to characterize underclass areas in large urban localities (Anderson 1999; Sampson and Wilson 1995; Steffensmeier and Ulmer 2006).

Extensions of *anomie and social disorganization* perspectives (Cohen 1955; Cloward and Ohlin 1960; Harer and Steffensmeier 1992) contend that subcultural adaptations emerge in response to long-term socioeconomic deprivation in large, urban areas. Cohen (1955) and Cloward and Ohlin (1960) extended anomie theory by demonstrating that delinquent subcultures can arise among working-class and lower-class youth in response to the blockage of conventional opportunities for economic attainment or social status. In particular, Cloward and Ohlin argued that delinquent subcultures favoring violence were likely to arise in areas characterized by anomie and social disorganization (Clinard 1964). Although not part of his early work on anomie theory, Merton (1997) later recognized and applauded these extensions of his anomie framework in which basic structural conditions generate subcultures conducive to criminal motivations, thereby helping to explain the social distribution of crime within a society.

According to older and more recent versions of social disorganization theory, larger and more densely populated urban areas are commonly characterized by structural conditions, such as poverty, population mobility, heterogeneity, and family disruption. These conditions weaken mainstream norms and ultimately contribute to increased crime. Likewise, the structural conditions of urban environments may inhibit social organization and cohesion among community members (e.g., weakened social bonds, diminished collective efficacy) and create barriers for developing informal social controls and for enforcing mainstream norms. Shaw and McKay (1942) recognized that such structural conditions were likely to affect “the content of the culture in communities” (Cullen and Agnew 2006:94). Similarly, social learning theories suggest that in response to prolonged exposure to persistent disadvantage and shared relative deprivation in urban areas, cultural adaptations or patterns of “differential social organization” may emerge that are more tolerant of violence or more favorable for crime and antisocial behavior (Jensen and Akers 2003; Matsueda 1988; Sutherland 1947; Ulmer and Steffensmeier 2006). Jensen and Akers (2003) argue that social disorganization theory should be augmented by a recognition that, beyond a weakening of conventional social bonds and controls, cultural or subcultural variations favorable to crime can be generated by group-level adaptations to social structural conditions, especially long-term ones.

An example of how subcultural adaptations can arise out of prolonged structural disadvantage and social disorganization is provided by the work of Wilson Julius Wilson. Wilson (1987, 2009; also see Anderson 1999; Sampson and Wilson 1995) suggests that segregation and the ecological concentration of structural disadvantage lead to social isolation and the development of oppositional cultures that undermine social control in urban areas. This inner-city disadvantage and social isolation has a long history in the United States (Lane 1986) but has been exacerbated in recent decades by economic restructuring and out-migration of the middle class from central cities. These trends together have depleted employment and social capital from urban areas and contributed to formation of an urban underclass. As a result, Wilson argues that inner-city black communities have experienced patterns of concentrated deprivation and isolation from mainstream norms that are unmatched in white communities (see Sampson and Wilson 1995). In turn, these conditions have made urban, low-income black communities more vulnerable to the development of cultural adaptations that support or tolerate crime/violence, as illustrated in Anderson’s (1999) description of the “code of the streets.”

Further highlighting the importance of urban subcultures and crime is Claude Fisher’s (1975, 1984, 1995) subcultural theory of urbanism, which posits that population *size* and *diversity* are important antecedents for subcultural formation. Notably, that populous and diverse urban areas are particularly fertile sites for the emergence and sustainability of subcultures. These subcultures may include those centered around criminal activity but also extend to other alternative lifestyles or behaviors, including artistic/bohemian lifestyles, religious practices, and cultural milieus centered around race/ethnicity, nationality, leisure activities, pastimes, or sexual identity. Fischer (1975:1321) argues that subculture formation is more likely in highly urbanized areas because their larger populations provide greater diversity of lifestyles and normative orientations and the “critical masses” of individuals

necessary for forming and sustaining “social worlds” that support unconventional lifestyles and norms. The proximity and density of these large populations in urban areas increases the likelihood that individuals with unconventional interests or norms will come into contact with one another and develop subcultures around those interests (Fisher 1995; see also Tittle 1989; Tittle and Grasmick 2001). In addition, Fischer suggests that the durability and intensity of subcultures may be stronger in more urbanized environments due to the larger critical masses of people adhering to a subculture as well as contact between differing subcultural systems, which often serves to reinforce one’s own group boundaries, identity, behaviors, and norms. As a result, subcultures in highly urban places are likely to be more developed and “institutionally complete,” leading to a deeper immersion into the subcultural community for urban residents (Fischer 1975:1325).

By implication, this can produce what Edwin Sutherland (1947) called “differential social organization,” which fosters norms and definitions favorable to law violation (see also Jensen and Akers 2003; Matsueda 1988; Ulmer and Steffensmeier 2006). Further, these same processes would presumably also contribute to the sustaining of deviant subcultures that might initially emerge as an adaptation to social disorganization or anomie. That is, the diversity and size of highly urban areas (described by Fischer), combined with the concentration of poverty and disadvantage in some isolated pockets of the urban landscape (described by Wilson and anomie-disorganization perspectives) may combine to create fertile environments for subcultural adaptations that promote or tolerate violence. According to some writers (Sánchez-Jankowski 2008), for example, densely populated housing projects in some poor urban neighborhoods increase strains among residents and exacerbate cultures of scarcity and violence. In contrast, the development, stability, and intensity of such subcultures would be limited in small communities that do not experience the same degree of concentrated disadvantage and isolation from mainstream society and that also lack the critical masses and diversity of behaviors, lifestyles, and normative orientations found in highly urban areas (see also Lee and Bartkowski 2004).

Taken together, these structural-cultural strands suggest that racial composition effects on violence, and the ability of structural factors to account for these effects, may depend on the size of place examined and are likely to be stronger in larger, urban locales as compared to smaller communities. In the larger urban locales, structural factors alone may not tell the whole story of race composition effects on violence—rather, cultural adaptations that emerge in response to prolonged structural hardship, social isolation, and urbanism may also foster violence (see Harer and Steffensmeier 1992). In this light, it is not surprising that structural variables by themselves have been unable to fully account for percent black effects on violence in prior analyses examining the most highly populated urban areas.

HYPOTHESES

Consolidating these themes, our analysis assesses four hypotheses. The first hypothesis derives from the well-established traditional structural position that disadvantage will be robustly associated with rates of violence, while the other hypotheses derive from the structural-cultural position that structural disadvantage will only partly null the effects of racial/ethnic composition on violence. Percent black effects are expected to be stronger and

more persistent than percent Latino effects (e.g., because Latino populations are more protected from violence-generating structural conditions than similarly disadvantaged black populations and less likely to be exposed to the types of cultural orientations toward violence described above). Additionally, size of place will condition the effects of minority composition on violence rates (e.g., effects will be more persistent in large urban locales which offer more fertile settings for emergence of subcultures and alternative normative orientations toward violence).

Hypothesis 1: Rates of violence will be positively associated with levels of socioeconomic disadvantage (net of controls).

Hypothesis 2: The effects of percent black and percent Latino on violence will be reduced after controlling for socioeconomic disadvantage, but these effects will not be fully explained away.

Hypothesis 3: Rates of violence will be positively associated with percent black and percent Latino, net of socioeconomic disadvantage, but the association for percent black will be stronger than the association for percent Latino.

Hypothesis 4: The ability of structural disadvantage to account for racial composition effects will differ depending on size of place—racial/ethnic composition effects will persist in larger urban places after controlling for structural disadvantage but will be nullified after controlling for disadvantage in smaller locales.

DATA AND METHODS

To assess these hypotheses, we use data on (1) violent-crime arrests drawn from California and New York state crime reporting programs and (2) race/ethnic composition and socioeconomic/structural conditions of these states' populations drawn from 2000 U.S. Census data (Summary Files 1 and 4). The data are aggregated to the *census place-level*, which serves as our unit of analysis.

The use of census places as our study unit has certain advantages. First, they vary considerably in size, racial/ethnic composition, structural characteristics, and violent offending. Incorporated census places include non-overlapping geographic units tracked by the U.S. Census Bureau, ranging from small towns, villages, and boroughs housing several thousand residents up to the largest metropolitan statistical areas (MSAs) that have dominated prior race composition–crime studies (U.S. Census Bureau 1994, 2000; for more detailed discussion of census places, see Feldmeyer 2009, 2010; Harris and Feldmeyer 2013; Steffensmeier et al. 2010).⁵ In contrast to prior analyses focusing exclusively on very large places (e.g., the largest 100–150 cities/MSAs) or on very small locales (neighborhoods), the

⁵The U.S. Census Bureau defines a census place as “a concentration of population; a place may or may not have legally prescribed limits, powers, or functions” but must have “a name, be locally recognized, and not be a part of any other place” (U.S. Census Bureau 1994:9-1). The current analysis includes census places (cities, boroughs, municipalities, towns, and villages) that are incorporated and officially recognized by California and New York state governments. In California, cities and towns may be considered for incorporation if they meet the state requirement of 500 registered voters. To be incorporated in New York, villages must have at least 500 people and at least 100 people per square mile, and city incorporation requires a special act of the state legislature (U.S. Census Bureau 1994, 2000). Census designated places (CDPs), which are places followed by the U.S. Census Bureau but not officially recognized by state governments, were not included in the current analysis due to limited availability of arrest data for these locales.

wide variation in census place-level data make them particularly well suited for assessing our central research questions—whether percent black and Latino effects on violence *vary with the size of place examined*. Second, because they include many smaller locales, census places have more internal homogeneity within place compared to highly aggregated locales (e.g., states, MSAs, cities, or counties) that tend to vary widely from neighborhood to neighborhood within city boundaries. As a result, census places may be more theoretically appropriate for assessing community-level structural effects and processes related to crime compared to MSAs and highly aggregated locales that contain higher intra-unit variation (see Feldmeyer and Steffensmeier 2009; Shihadeh and Shrum 2004). Third, compared to very small places (e.g., neighborhoods), census places are also large enough to provide adequate numbers of incidents or arrests for serious acts of violence (i.e., homicide) to allow meaningful statistical analysis. In addition, these data provide wider geographic coverage than neighborhood-level data, which are typically drawn from only one or two cities. These data cover two of the more populous and diverse states that account for sizable shares of racial/ethnic minorities (especially Latinos) and crime in the United States. Specifically, California and New York together encompass approximately 16% of all blacks (about 5 million) and 40% of all Latinos (about 14 million) living in the United States. (U.S. Census Bureau 2008) and also account for between 15% to 20% of all Violent Index arrests (U.S. Department of Justice 2010).⁶

To ensure reliability in measures of violence and socioeconomic conditions, we include only those census places that have a total population of 10,000 or above in the year 2000, yielding a total of 479 places. This sample of census places has an average population of approximately 81,000 residents, but ranges widely in population, from places with as few as 10,000 to locations with more than 1 million residents.

Dependent Variables

The dependent variables in this study are census place-level arrest rates per 100,000 persons for each of the following violent offenses: homicide, robbery, rape, and aggravated assault. Arrest data are well suited for measuring violence because they reflect violent *offending/offenders*, as compared to offense data that reflect violent occurrences. Nonetheless, arrest data are subject to some well-known criticisms, namely that (1) arrest counts underestimate true levels of offending and (2) they may reflect greater enforcement in areas with larger minority concentration (rather than true differences in violent behavior). These concerns are more relevant for less-serious forms of violence (e.g., simple assault, some aggravated assaults) but are less problematic for more serious offenses like homicide and robbery that are more reliably reported to the police and are more likely to result in arrest (Steffensmeier and Haynie 2000; LaFree et al. 2008). Thus, our analysis and discussion of results focuses in particular on the more serious offenses of homicide and robbery that are well established as measures of violent offending (LaFree et al. 2008). Additionally, as discussed below, all

⁶The current analysis is limited to California and New York because they offer some of the only statewide data on serious violent offending that can be expeditiously aggregated to the census place level. Additionally, these states are advantageous because the combined California and New York Latino populations (63% Mexican, 9% Puerto Rican, 1% Cuban, and 3% Dominican) generally parallel the U.S. Latino population composition (59% Mexican, 10% Puerto Rican, 3% Cuban, and 2% Dominican) (U.S. Census Bureau 2008). However, we recognize that these data may not be as generalizable to states with different racial/ethnic profiles (e.g., Florida) or to states that are not traditional immigrant gateways (e.g., North Carolina).

models include a control for police per capita to account for potential differences in enforcement capacity across census places. However, we also acknowledge that links between racial/ethnic composition and arrest rates must be interpreted with some caution, particularly for less-serious offenses, which we return to later in our discussion of caveats and directions for future research.

Following prior research, all violence measures are calculated using 5-year averaged arrest figures for 1998–2002 to add stability to the rates and also ensure adequate arrest counts for statistically rare offenses (homicide). We also applied square root transformations to all violence measures to normalize distributions of the dependent variables, accounting for their positive skewness.⁷

Independent Variables

The primary variables of interest are racial/ethnic composition, measured as the *percent black* and the *percent Latino* residents in the census place population.⁸ We also explored using measures of percent foreign-born Latinos and percent native-born Latinos to distinguish between immigrant and non-immigrant Latino populations. However, preliminary analyses revealed no differences in effects of percent Latino using these alternative measures.

Drawing from prior racial invariance research and from structural theories of crime (anomie/disorganization), we also include a number of well-established measures of disadvantage and structural conditions that may be linked to both race/ethnic composition and violence. We created a *structural disadvantage index* using principal components analysis (see Land et al. 1990) that combines four different elements of census place disadvantage—*poverty* (percent of residents below the poverty line), *unemployment* (percent males unemployed), *education* (percent residents over 25 without a high school degree or equivalent), and *family structure* (percent female-headed families with children under 18 years old).⁹ We also include two measures of racial/ethnic residential segregation. Specifically, we measure *black–white segregation* and *Latino–white segregation* using Index of Dissimilarity (D) measures of racial/ethnic residential evenness, which reflect the percentage of black or white (or Latino and white) residents that would have to move to different census block groups to achieve perfect racial integration.¹⁰ We measure *residential mobility* as the percentage of households that experienced housing turnover during 1995–2000. Our *immigration* measure reflects the percentage of census place residents that are foreign born and arrived in the United States between 1990 and 2000. Last, we included controls for population and

⁷We square-root transform arrest rates for several reasons. First, the dependent measures were positively skewed, and square-root transformation provided a more normal distribution of arrest rates than using a natural log transformation (supplemental analysis reveals similar substantive results using a log transformation) (for similar application, see Phillips 2002). Second, we ran models using both nontransformed independent and dependent variables. These models provided invalid fitted values (e.g., predicted rates less than zero) and indicated that the assumption of linearity did not fit the data.

⁸Due to the complexities of the current analysis (size-disaggregated effects, comparisons of %Black and %Latino effects), further disaggregation of the Latino population by nationality (e.g., %Mexican, %Cuban, %Puerto Rican) is beyond the scope of this project. However, such analyses offer a fruitful avenue for future research and are highly important in light of the wide variation in structural constraints as well as economic and political resources across Latino groups (Light and Gold 2000; Portes and Rumbaut 2006).

⁹Factor loadings for the specific measures of structural well-being/disadvantage included in the disadvantage index were all greater than .60 and loaded onto a single latent factor, which we refer to as *structural disadvantage*. (Factor loadings: Poverty = .946; Unemployment = .643; Education = .804; Female Headed Families = .826)

demographic characteristics of places that are likely to be linked to both race/ethnic composition and violence: *population density* (residents per square mile) and logged overall *population size* of a census place; *young male population* (the percentage of the population aged 15–24 and male); *state* (dummy variable indicating whether the census place is in New York or California); and *police per capita* (officers per 1,000 residents) as a control for variation across census places in law enforcement activity.¹¹

Analytic Procedures

Our analysis proceeds in two stages. First, we estimate ordinary least squares (OLS) models for each offense to assess the effects of race/ethnic composition and other structural conditions on census-place violence rates. For each measure of violence, we first estimate a reduced or “baseline” model that includes our measures of census-place racial composition and all controls (except for the disadvantage index). We then estimate a second model for each offense that adds the disadvantage index in order to assess whether percent black and percent Latino effects on violence can be explained away or rendered null once we account for the structural disadvantage of census places.¹²

Second, we examine whether the percent black and the percent Latino effects on violence *depend on the size of place examined*. To do this, we disaggregate our sample of census places into subsamples of “small” (population = 10,000 to 25,000; N = 180), “medium” (population = 25,001 to 50,000; N = 135), and “large” locales (population > 50,000; N = 164) based on population size, and then replicate our earlier analyses for each subsample.¹³

Because we relied on 5-year averages of arrest counts, there were relatively few census places reporting zero values for violent arrests. For homicide, zero values occurred in 88 census places (out of 479), whereas zero values were not problematic for the other measures

¹⁰D values for Black-White segregation were calculated as

$$D = (1/2) \sum_{i=1}^n |(b_i/B) - (w_i/W)|, \text{ where}$$

b_i = the black population in block group i , B = the black population in the census place,
 w_i = the white population in block group i , and
 W = the white population in the census place.

In supplemental analyses, we also used racial/ethnic isolation (P^*) as an alternative to the D measures used here, which produced similar findings. However, black and Latino isolation measures were highly collinear with one another and with our racial/ethnic composition measures ($r > .8$). Thus, we rely on D values, which have far more modest associations with our other predictors and which are among the most commonly used measures of segregation.

¹¹Counts of law enforcement officers were drawn from year 2000 agency-level Uniform Crime Report data (U.S. Department of Justice, Federal Bureau of Investigation 2004), which were aggregated to the census-place level using the 2000 Uniform Crime Report Crosswalk file (U.S. Department of Justice, Bureau of Justice Statistics 2002) and then combined with total population figures from the 2000 U.S. Census to create the police presence measure.

¹²Model 1 for each offense was estimated using stepwise OLS procedures to observe the changes in %Black and %Latino effects on our dependent measures as each control was added. Race/Ethnic composition effects on violence observed in our models were not substantially influenced by any of the control variables added in Model 1.

¹³The size-disaggregated subsamples were created based on natural breaking points in population size within the data that preserved adequate sample sizes for statistical analysis. In preliminary analyses, we applied a variety of different population breaking points to create alternative subsamples. Alternative groupings included the following: two samples using 100,000 as a dividing point; two samples using 50,000 as a dividing point; three samples using 50,000 and 100,000 as dividing points; and three samples using 25,000 and 75,000 as cutoff points. Substantive findings were remarkably similar regardless of the cutoff points used to distinguish large versus small places and closely paralleled the findings shown in our main analysis. It is worth noting that we also explored using rural/urban comparisons in addition to size-of-place comparisons. However, after applying selection criteria (i.e., populations >10,000), nearly all census places in our sample are categorized as “urban” by the U.S. Census Bureau.

of violence. However, to account for places with low homicide frequencies in our homicide models, we used two alternative methods. First, we assigned a value of 0.1 to the rates in those census places not reporting any homicides over the 5-year period, before applying square-root transformations (see Moody and Marvell 2009; Schwartz 2006). Second, we conducted an alternative supplemental analysis in which we replicated the homicide models using count-based negative binomial methods, a strategy commonly used to account for the rare nature of serious violent offending (such as homicide). The results from negative binomial regression (available upon request) closely parallel those derived from the OLS models reported below.¹⁴

Because multicollinearity among predictors is a common concern for aggregate-level analyses, we took several steps to address this potential problem. Although variables were selected primarily on theoretical grounds, association between predictors also shaped our selection of variables and encouraged us to combine related variables into composite measures (i.e., the disadvantage index). As a result, independent variables in our models are all correlated approximately at or below $r = .60$, and variance inflation factor (VIF) scores for all variables are below acceptable limits (below 4.0). In addition, we conducted diagnostic tests and supplemental analyses to address other potential sources of bias and ensure that our analysis did not violate other OLS assumptions (e.g., tests for homoscedasticity, influential outliers, spatial autocorrelation).¹⁵

RESULTS

Table I displays descriptive statistics for measures of racial/ethnic composition, violence, and structural conditions of census places both for the sample as a whole and for the size-disaggregated subsamples of “small,” “medium,” and “large” places. One key feature of our sample, as indicated by the standard deviations, is the considerable variability across the census places in both the dependent and independent variables. For example, the standard deviation values indicate that racial/ethnic composition patterns for the total sample vary widely, with some census places having very few Latinos or blacks and other locales being more than 60% black and 90% Latino. Similarly, there is considerable variation across census places in levels of violence and in structural disadvantage.

In addition, Table I illustrates some noteworthy differences as well as many similarities in the characteristics of our size-disaggregated subsamples. Arrest rates for violent crime,

¹⁴Negative binomial results for homicide paralleled the OLS results presented here, showing that both %Black and %Latino have positive and significant effects on place-level homicide rates, net of the full set of structural and demographic controls. Results from size-disaggregated negative binomial models were also similar to those shown here, indicating that racial/ethnic composition effects on homicide are more robust (net of controls) in larger locales.

¹⁵In addition to collinearity tests, we conducted regression diagnostics and supplemental analyses to assess the influence of outliers, heteroskedasticity, and spatial autocorrelation. No outliers were identified using standard DFFIT cutoff points. Cook's D tests revealed several potential outliers (all very small census places with large arrest rates), which did not substantively influence the results when removed from supplemental analyses. We conducted Breusch-Pagan/Cook-Weisberg tests and visually assessed plots of residuals versus fitted values to assess heteroskedasticity. Although our analysis did not show strong signs of heteroskedasticity, we estimated supplemental analyses using alternative estimation procedures to account for potential bias from outliers and heteroskedasticity (e.g., quantile regression and multivariate linear models with robust standard errors; see Squalli 2009, 2010), which produced findings similar to those described here. Last, we inspected the spatial distribution of census places and ran some preliminary diagnostics to assess whether spatial autocorrelation could be a problem. There were few large clusters of census places sharing common borders within the data, and preliminary analyses revealed no significant effects of spatial autocorrelation.

especially homicide, are higher in the largest census places. The largest census places also tend to have slightly higher percentages of black and Latino residents, greater racial/ethnic segregation, and more population density compared to smaller locales. All three subsamples have fairly similar levels of structural disadvantage, residential mobility, immigrant concentration, percentages of young males, and police per capita. Standard deviation values also differ across size-disaggregated subsamples for several variables. Among our dependent measures, homicide and robbery rates vary more widely among large places than among small locales, while rape and aggravated assault rates have the greatest variability among small locales. With respect to racial/ethnic composition, variation in percent black is slightly greater among large locales compared to small locales. In contrast, variation in percent Latino is greatest among the sample of small census places.¹⁶

Table II displays the bivariate relationships between variables and provides preliminary evidence about potential associations between race/ethnic composition, structural circumstances, and violence. These bivariate findings indicate that the percent black and percent Latino population are significantly linked to higher rates of violence for all the offenses examined: on average, correlations between .2 and .52 for percent black and correlations greater than .4 between violence and percent Latino. Similarly, the bivariate associations between structural disadvantage and the violence measures are even stronger (correlations above .60). In addition, percent black and percent Latino are positively related to measures of structural disadvantage ($r = .37$ and $r = .58$, respectively) and other measures of structural conditions (residential mobility, population size, density), which in turn are correlated with higher violence rates. These patterns are at least suggestive that structural disadvantage (along with other structural variables) might account for the relationship between racial/ethnic composition and violence rates. On the other hand, that the percent minority-disadvantage correlations are not higher suggests that the census places in these data display adequate overlap in the levels of disadvantage of predominantly white, black, and Latino places. To sort this out, we look to our multivariate analysis in which we more rigorously test (1) whether structural conditions are able to account for the effects of percent black and percent Latino on violence rates and (2) whether these effects depend on the size of place.

Multivariate Results

We turn now to the reduced multivariate models in Table III (without the structural disadvantage index) predicting violent offense rates with percent black, percent Latino, and control variables.

We look first at the control variables in the reduced model, where several findings in Table III are noteworthy (see Model 1). First, we find that demographic variables and structural

¹⁶There is a potential concern that restricted variation in racial/ethnic composition measures in small places but not in large places could create the image of size-of-place differences in racial/ethnic composition effects on violence. However, this does not appear to be a serious concern for the current analysis. First, although the variation in %Black is slightly lower in small locales, it is not insubstantial. Small locales in our sample range from approximately zero up to as much as 30% black. Second, and as noted above, %Latino actually has the greatest variation in small places. Third, %Black (and %Latino) effects on robbery, rape, and aggravated assault are actually strongly significant in small locales (Model 1, Table IV). It is only when disadvantage is added in our second model that these effects drop out of significance. Thus, the slightly lower levels of variation for %Black among small places do not appear to bias our results or prevent racial/ethnic composition effects from reaching significance.

controls such as percent young males, population size, and residential mobility have small to moderate effects on violence rates. Net of other factors, locales with greater residential mobility, Latino–white segregation, population size, and population density tend to have higher rates of violence. However, these effects differ somewhat across offense types and are not significant for all four measures of violence. The percentage of young males in the population and black–white segregation are linked to slightly lower rates of violence for some offenses. However, our later size-disaggregated analyses reveal that the negative effects of black–white segregation are driven largely by effects among smaller locales. In contrast, black–white segregation has either positive or null effects on violence rates in larger census places. Second, police per capita is significantly linked to higher violence rates, with the effect being especially strong for robbery, rape, and aggravated assault, which may reflect the reactive stance in policing to concentrate enforcement efforts in high crime or violence localities (Maltz 1994). Overall, effects of the control variables are generally consistent with those reported in previous aggregate-level research (see reviews in Parker 2008; Peterson and Krivo 2005; Steffensmeier et al. 2010).¹⁷

Turning next to our primary variables of interest, Table III (Model 1) reveals that racial and ethnic composition is related to higher violence rates, *net of controls* for key demographic variables (age structure, population size, density) and police per capita (i.e., all of the control variables except structural disadvantage). Percent black is significantly and positively related to rates of homicide, robbery, rape, and aggravated assault, indicating that census places with larger shares of black residents have higher rates of violence. Additionally, we find that composition effects also hold for Latinos and that violence rates are significantly higher in places with larger shares of Latinos. Examination of the standardized coefficients in Table III also reveals that these race/ethnic composition effects are consistently among the strongest predictors of violence, especially for the more serious offenses of homicide ($B = 0.34$ for %Black; $B = 0.49$ for %Latino) and robbery ($B = 0.37$ for %Black; $B = 0.44$ for %Latino).¹⁸

Next, in Model 2 we describe the full models for each crime that include the structural disadvantage index. According to the racial invariance thesis and structural perspectives on crime, the disadvantage index is expected to be strongly related to violence rates (net of controls), and to considerably reduce and perhaps even null the racial composition effect.

Notably, we find that the disadvantage index is consistently and strongly associated with higher violence rates across all four measures of violence. As illustrated by the standardized coefficients, structural disadvantage is the strongest predictor of rates of homicide ($B = 0.44$), robbery ($B = 0.44$), and rape ($B = 0.55$) and is among the strongest predictors of assault ($B = 0.50$). These findings are important because they are generally consistent with

¹⁷In supplemental analyses, we explored the possibility of adding a control for *differential institutional engagement among youth* (McCall et al. 2013; Thomas and Shihadeh 2012) as a variable that might account for variability across census places in the effects of age structure (e.g., ages 15–24) on violence rates, and that also might help to explain %Black and %Latino effects on violence. However, these measures were highly correlated with the structural disadvantage index and with measures of racial/ethnic composition (ranging approximately from $r = .6$ to $.8$). It is worth noting, however, that in prior analyses of these data at the county-level (California only), we did find some evidence that differential institutional engagement reduced race effects on violence.

¹⁸To further exhaust the data, we included quadratic terms for %Black and %Latino to identify any potential curvilinear effects of racial/ethnic composition on violence. None of the quadratic terms were significant, which suggests that the effects shown here are not curvilinear.

previous research on structural correlates of violence rates. Also, on the face of it, they provide a strong basis for the invariance proposition that greater concentrations of poverty and disadvantage could account for our earlier finding that localities with higher proportions of racial or ethnic minorities have higher levels of violence.

As we examine next, however, this is only partly the case. Table III clearly shows that measures of structural disadvantage and social-demographic characteristics of census place explain away *some but not nearly all* of the effects of race/ethnic composition on place-level rates of violence. Model 2 (Table III) shows that the violence-generating effects of percent black and percent Latino, though reduced, remain significant and are remarkably persistent across all four violence measures, even after accounting for structural conditions of locales. In fact, only one effect (percent Latino on rape) is reduced to nonsignificance after introducing the structural disadvantage index.

Although the racial/ethnic composition effects on violence remain significant, it is also important to note that the magnitude of these effects—particularly for Latinos—are substantially reduced after controlling for disadvantage. For example, the percent black effects are reduced by about one-third for homicide (Model 1, $B = 0.34$; Model 2, $B = 0.23$) and robbery (Model 1, $B = 0.37$; Model 2, $B = 0.26$). Disadvantage reduces the percent black effects for rape and aggravated assault by about two-thirds. In addition, the effect of percent Latino is cut by more than 60% for homicide (Model 1, $B = 0.49$; Model 2, $B = 0.17$) and by more than 75% for robbery and rape after controlling for structural disadvantage.

Taken together, these findings provide an overall mixed picture for the racial invariance hypothesis and structural theories of crime (e.g., anomie-disorganization perspectives). On the one hand, we find that structural disadvantage does indeed explain a sizable portion of the race/ethnic composition effects on violence, which is consistent with structural-invariance positions. It is also important to highlight that, based on additional model estimates, the disadvantage index by far was the structural variable most responsible for reducing the effects of racial composition on violence rates, and was generally the strongest predictor of violence rates across crime types. The substantial effect of the disadvantage index was consistent across all of the violence measures and was observed for both percent black and percent Latino. On the other hand, we find that (1) structural conditions are unable to *fully* account for racial/ethnic composition effects and (2) the effects of percent black on violence are more persistent than percent Latino effects and are harder to nullify via structural controls. Thus, despite evidence that structure shapes race composition effects on crime, our findings also suggest that structure *alone* provides an incomplete picture of this relationship and that there may be additional (e.g., cultural) influences that contribute to these relationships. This in particular seems to be the case for localities with concentrated black populations where the percent black effect strongly persists even after accounting for the sizable influence of structural conditions.

Size-of-Place Partitioned Multivariate Models

We now turn to another central question of our analysis, whether racial/ethnic composition effects on violence vary across size-disaggregated subsets of small (10,000–24,999 residents), medium (25,000–49,999 residents), and large (50,000+ residents) census places.

As discussed earlier, cultural (or structural-cultural) perspectives offer plausible reasons for hypothesizing that the relationship between racial composition and violence may depend on size of place examined. Specifically, that percent black (and perhaps percent Latino) effects on violence are less likely to be nulled by structural controls when the study units involve large urban locales because such places are more susceptible to the emergence of cultural adaptations that foster the use of violence (beyond the influence of structural effects).

The results from our size-of-place disaggregated analysis are summarized in Table IV, which shows the effects of percent black and Latino, net of controls (Model 1) and then including the disadvantage index (Model 2), for the four crime types across small, medium, and large places.

We make two main observations here. First, size of place considerably shapes the effects of racial/ethnic composition on violence rates and the ability of structural variables to account for those effects. We find overall that racial and ethnic composition effects on violence are stronger and more robust in larger and more urban places but are reduced to null in the smallest places, net of controls for structural disadvantage and other structural conditions.

Second, some differences exist in the way that size of place shapes percent black versus percent Latino effects on violence rates. Size of place has a more clear-cut effect on percent black than on percent Latino. Net of controls, the percent black effect is substantial and strongest in the larger urban localities. The effect is reduced and of moderate size in medium-size places, and is reduced even more in smaller places where the effect is essentially trivial and nulled. The effect of percent Latino is generally smaller than the percent black effect in both large- and medium-sized places (however, the effect size is similar for homicide in largest localities). Notably, in our full models with all controls (Model 2), the percent Latino coefficient is significant in only 3 of 12 comparisons (i.e., four separate crime models for three place sizes), whereas the percent black coefficient is significant in 6 of 12 comparisons. Interestingly, the percent Latino effect is greater than the percent black effect in small places, though only one coefficient (for aggravated assault) is significant.

Turning first to our analysis of small census places (Table IV, top panel), we find that racial/ethnic composition effects on violence are largely nonsignificant after accounting for concentrated disadvantage, residential mobility, and other structural and demographic characteristics of census places. Among smaller places, only the effect of percent Latino population on aggravated assault remains significant and positive, indicating that arrest rates for assault are higher in places with greater shares of Latinos (net of controls). However, we interpret this finding with some caution, given that (1) percent Latino effects are rendered null for the more serious and reliably measured offenses of homicide and robbery, and (2) assault is more easily shaped by enforcement practices and strategies and may reflect greater use of arrest (rather than higher levels of assault) in places with large concentrations of Latinos (see Schwartz 2006).

In contrast, our analysis of larger and more urban census places provides a markedly different picture and reveals substantial persistence in percent Latino and especially percent

black effects on violence in the face of structural controls (Table IV, bottom panel). Among larger census places, percent black effects on violence remain significant and positive for all four offenses after including all controls for disadvantage and other structural conditions in Model 2. By comparison, percent Latino effects remain positive and significant for homicide ($B = 0.24, p < .01$) and aggravated assault ($B = 0.17, p < .01$), but are nullified with structural controls in our analysis of robbery and rape. Thus, our findings provide consistent evidence that black and to a lesser extent Latino population concentration in larger places is linked to higher levels of violence, and that these effects cannot be fully accounted for with structural controls.¹⁹

The analysis of medium-sized places provides mixed evidence, showing some similarities to both the “large” and “small” models as well as some variation in percent black versus percent Latino effects. Similar to the analysis of small places, we find that Latino composition effects on violence are reduced to nonsignificance for all four offenses after accounting for disadvantage. The percent black effect drops to nonsignificance for rape and aggravated assault. However, the black composition effects among midsized places are persistent for the more reliably measured offenses of homicide ($B = 0.19$) and robbery ($B = 0.22$) after accounting for disadvantage and structural conditions. Thus, it appears that structural conditions of places can better account for Latino composition effects on violence in midsized locales, while percent black effects on violence are somewhat more persistent in the face of structural controls.²⁰

CONCLUSIONS

Two decades after Land et al. (1990) illustrated the remarkable stability of racial composition effects on crime, social scientists are still struggling to account for the effects of minority composition or percent black on aggregate levels of violence. Our study advances the debate by offering the first *size-of-place disaggregated* analysis of racial and ethnic composition effects on violence, with recent data and a novel unit of analysis. Our study also offers several key contributions and implications for the debate surrounding the racial invariance thesis about whether the structural sources of violence are similar across racial and ethnic groups; and, by extension, whether socioeconomic disadvantage is able to account for the effects of racial composition on a locality’s violence rate.

First, consistent with our theoretical framework and hypotheses, our size-disaggregated models provide only mixed support for racial invariance approaches and structural perspectives which suggest that the link between racial/ethnic composition and violence

¹⁹In addition to our size-disaggregated models, in alternative analyses we estimated models for the full sample of census places that included interaction terms between population size and race/ethnic composition measures (%Black and %Latino). Findings from the alternative models parallel those shown here and again indicate that %Latino and especially %Black effects are more robust and persistent in more populous locales.

²⁰In supplemental analyses, we replicated all models from Tables III and IV using measures of black disadvantage and Latino disadvantage (rather than measures for the total population) to account for race/ethnic-specific structural circumstances. For Table III, results of the supplemental models were nearly identical to the findings shown here. There was also little change in %Black and %Latino effects in Table IV (size-disaggregated models) when using measures of black and Latino disadvantage. Specifically, only 3 of the 64 coefficients for %Black and %Latino in Table IV differed when using race/ethnic-specific measures of disadvantage rather than the “total” disadvantage measures used here: (1) the effect of %Latino on assault in small places dropped out of significance in Model 2, (2) the effect of %Black on robbery was marginally significant in mid-sized places in Model 2, and (3) the effect of %Latino on robbery was significant in large places in Model 2.

rates results wholly from group differences in structural conditions. Structural disadvantage (along with other structural variables) nulls a meaningful portion of the race/ethnic composition effects on violence rates. However, the portion of the effects explained by disadvantage depends on the crime type (racial/ethnic composition effects are more persistent for homicide and robbery than for rape and assault), the race/ethnic group under consideration, and *especially on the size of place*. Structural controls fully account for race/ethnic composition effects on violence in smaller locales. Similarly, in mid-sized locales percent Latino effects are rendered null for all offenses. These findings reaffirm the importance of social structure in race/ethnic–violence relationships and illustrate the central role that structural conditions play in driving race/ethnic composition effects on violence.

However, as also was hypothesized, we find that racial/ethnic composition effects on violence are stronger and much more persistent in larger and more urbanized places. In addition, we find that in larger and mid-sized places, the effects of percent black are larger and more persistent than the effects of Latino concentration after accounting for structural disadvantage and other social-demographic characteristics. Notably, these differences in percent Latino and percent black effects may stem from a combination of factors. Large Latino populations are less likely to face the severe concentration of disadvantage found among some black populations and may have less exposure to subcultural adaptations that contribute to violence. In addition, immigrant revitalization perspectives suggest that protective, revitalizing effects found among Latino populations may help attenuate or even reverse any potential connections between Latino composition and violence (see Feldmeyer 2009; Martinez et al. 2010; Ousey and Kubrin 2009). Regardless of the precise reasons for these differences, our findings taken together provide a generally mixed picture for racial invariance positions. That is, although structural disadvantage largely attenuates racial/ethnic composition effects, the persistence of percent Latino and especially percent black effects in urban areas indicates that structural factors *alone* cannot fully account for race/ethnic composition effects on violence.

Second, the unexplained portion of the percent black or percent Latino effects are most evident in the larger urban locales where we might expect cultural templates to develop that also influence violence levels, as described by Anderson (1999) and others. As reviewed earlier, large highly urbanized spaces are particularly susceptible to the development of cultural niches and subcultures, including subcultures that are more tolerant of the situational display of violence than is manifest in the general culture. From this perspective, it makes sense that racial composition effects are so persistent in our subsample of large places or in the total sample that pooled larger and smaller places. After all, it is precisely in larger urban environments that one might expect to find cultural adaptations to disadvantage and social isolation that then foster violence above and beyond any existing structural effects. On balance, therefore, our findings are more consistent with an integrated approach that incorporates structural as well as cultural features to account for racial/ethnic composition effects on violence.

Third, the current study has important methodological implications for future aggregate-level research on race/ethnicity and crime by documenting the importance of considering alternative units of analysis and particularly those that vary widely in size and structural

conditions. Our results illustrate the value of disaggregating analyses by size of place and the potential drawbacks of relying exclusively on large (or small) study units. Given the theoretical and methodological arguments presented here combined with our findings, it is apparent that relationships that exist among smaller study units (e.g., census tracts, neighborhoods) may operate differently than when considering large, highly aggregated locales (MSAs, counties). We argue that the standard practice of assessing only one type of locale (e.g., the 100 largest MSAs, or several hundred census tracts in one city) may present an incomplete or potentially biased picture of race/ethnicity and crime (see Shihadeh and Shrum 2004 for a parallel view).

While our analysis advances the scope of theory and research on the racial composition/crime relationship in several important ways, additional research is needed that builds on our findings and addresses caveats of the current study. Due to data limitations and concerns about multicollinearity, we are unable to control for all structural characteristics that may be linked to both racial/ethnic composition and violence. Factors such as gang affiliation, religious participation, civic engagement, and other structural indicators that are not available in U.S. Census data may also account for some of the remaining racial/ethnic composition effects on violence shown here (see reviews in Lee 2008; Peterson and Krivo 2005; Steffensmeier et al. 2010). In addition, differential engagement with conventional institutions among young people across places may be an additional explanation for some of the persistent racial/ethnic composition effects (McCall et al. 2013; Thomas and Shihadeh 2012). Due to data limitations, we also are unable to directly measure the presence of cultural milieus and norms toward violence (and whether such cultural patterns vary by size of place) that we suggest might help account for persistent racial/ethnic composition effects. Several scholars have begun to empirically assess the role of culture in shaping race/ethnic-crime relationships and its intersection with structural conditions of communities (see Matsueda et al. 2006; Steffensmeier and Ulmer 2006; Stewart and Simons 2010). However, these efforts have not yet targeted race/ethnic composition effects on violence and have not explored whether cultural adaptations toward violence and their links to structure and race/ethnicity vary with the size of community.

Longitudinal analyses of racial/ethnic composition and crime are also an important avenue for future research. As in most prior studies of racial/ethnic composition and crime, the current analysis relies on cross-sectional models to identify links between racial/ethnic composition, structural disadvantage, and violence. As a result, we are unable to decisively establish whether disadvantage separately shapes both racial composition and violence or whether racial/ethnic composition works through disadvantage to influence violence. Notably, this caveat does not negate the findings of the current analysis. For both of these scenarios, structural perspectives suggest that disadvantage should account for any observed link between racial/ethnic composition and violence. Thus, the persistence of percent black (and to a lesser degree percent Latino) effects in the largest locales is still a key observation that diverges from purely structural approaches. However, future research that uses longitudinal analyses is needed to better establish the causal pathways in these relationships and to identify potential mediating and reciprocal effects between racial/ethnic composition, disadvantage, and violence. Future research should also explore differences between percent Latino and percent black effects like those seen here, to discern how the unique

characteristics of these populations (e.g., history of slavery, immigration, assimilation processes) may account for variation in black versus Latino composition effects on violence.

As discussed earlier, there are also potential concerns with relying on arrest data to measure violent offending. Specifically, the concern for the current study is that links between racial/ethnic composition and violence may simply reflect greater police attention and enforcement (rather than higher rates of offending) in places with larger percentages of black and Latino residents. We take several steps to minimize those concerns by controlling for police per capita in each locale and focusing on serious violent offenses that are more reliably measured and less susceptible to bias and differential enforcement practices. As a result, our analyses of homicide and robbery are less likely to be influenced by differential policing practices across locales. However, we acknowledge that some of the racial/ethnic composition effects on violence that persist in large places may simply reflect a greater willingness to formally arrest suspects in locales with relatively large black or Latino populations (particularly for offenses like assault that are more susceptible to police influence). Although we are unable to establish the extent of bias (if any) in the current data and have taken multiple steps to account for such effects, it is a noteworthy caveat. To address this issue, future studies might expand upon the current analysis using alternative sources of crime data (self-report, victimization records).

Last, there is a need for research that uses alternative units of analysis (neighborhoods, MSAs, counties) and additional states beyond California and New York to assess the generalizability of our results. Notably, California and New York census places generally reflect urban environments, thus there is a need to replicate these analyses for more rural states and units of analysis to identify whether our findings are generalizable to less urban settings.

In sum, our findings are consistent with structural-cultural approaches, such as those described by Anderson (1999), Wilson (1987, 2009), and Steffensmeier and Ulmer (2006), which suggest that it may be beneficial to move beyond “structure only” perspectives and shift toward approaches that can account for the intersecting influences of both structural conditions *as well as* variations in culture and norms shaping race/ethnicity effects on crime (Cohen 1955; Cloward and Ohlin 1960; Jensen and Akers 2003; Ulmer and Steffensmeier 2006). Although we suggest there is value in incorporating cultural themes, we strongly disagree with cultural perspectives that frame racial/ethnic groups as fundamentally “different in kind” or which suggest there are innate traits, personality differences, or “vast psychological divides” across race/ethnicity (see review in Covington 2003: 256, 276). Nor do we suggest that cultural influences should replace or even take priority over structural conditions in accounting for race/ethnic–crime relationships. Structural factors clearly explain a large portion of the link between race and violence in our analysis. However, we argue that structure alone offers an incomplete picture of race/ethnic composition effects on violence. Our position is not new—rather, it closely echoes the classical themes raised by Edwin Sutherland (1947), Robert Merton (1997), and Shaw and McKay (1942) who saw perspectives that spoke of poverty and social disorganization alone as inadequate to explain class and race differences in crime. Thus, in order to obtain a richer understanding of race/ethnicity and violence, we urge researchers to move beyond strictly structural approaches

toward balanced positions that better incorporate cultural frameworks as a complement to structural approaches—particularly in the types of large, urban locales that have dominated research on race and crime.

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Table 1

Means and Standard Deviations for Independent and Dependent Variables for the Total Sample and Size-Disaggregated Subsamples

VARIABLES	TOTAL		SMALL PLACES		MIDSIZE PLACES		LARGE PLACES	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Dependent - (arrest rates/100,000)								
Homicide	11.44	5.30	12.25	16.94	15.30	19.35	22.79	21.84
<i>Homicide (sq. root)</i>	3.38	2.30	2.71	2.23	3.27	2.16	4.22	2.24
Robbery	171.72	35.03	149.58	140.27	183.75	144.92	288.21	200.06
<i>Robbery (sq. root)</i>	13.10	5.92	10.92	5.53	12.51	5.23	15.99	5.72
Rape	28.02	6.33	34.00	31.09	31.06	25.75	37.39	23.79
<i>Rape (sq. root)</i>	5.29	2.52	5.04	2.95	5.03	2.41	5.79	1.97
Aggravated Assault	986.30	188.60	1,114.80	1,082.32	1,074.43	859.69	1,322.43	680.01
<i>Aggravated Assault (sq. root)</i>	31.41	13.73	29.24	16.17	30.01	13.24	34.93	10.14
Independent								
% Black	5.11	8.61	2.03	4.68	4.70	7.62	8.86	11.02
% Latino	24.20	23.43	20.79	25.79	24.43	23.45	27.78	20.02
Structural Disadvantage Index	0.00	1.00	0.03	1.03	-0.13	1.01	0.08	0.95
% In Poverty	12.05	7.73	12.18	8.45	11.05	7.67	12.74	6.86
% Unemployed Males	24.05	6.31	25.02	7.52	23.15	5.30	23.74	5.47
% With High School Degree (or equivalent)	79.12	14.30	79.39	15.88	79.83	14.11	78.22	12.54
% Female-Headed Families With Children	10.26	4.65	10.09	4.52	9.82	4.60	10.81	4.79
Black-White Segregation	33.37	14.86	31.25	15.18	32.17	13.75	36.77	14.90
Latino-White Segregation	28.73	13.14	24.52	12.10	28.14	12.95	33.95	12.69
% Foreign-Born 1990-2000	7.10	5.51	5.06	4.96	7.30	5.40	7.30	5.40
Residential Mobility	47.16	8.52	45.89	9.69	46.76	8.24	48.89	7.01
% Males Age 15-24	7.09	2.74	7.24	3.51	6.90	2.61	7.08	1.66
Total Population Size	80,980.07	256,482.69	16,284.44	4,522.25	35,435.42	7,245.21	190,428.40	419,060.26
Density (people/sq. mile)	4,622.27	5,025.13	3,139.61	2,998.56	4,468.34	4,021.17	6,387.21	6,745.43
New York	0.30	0.46	0.41	0.49	0.31	0.47	0.17	0.38
Police per Capita	1.39	0.97	1.45	0.89	1.35	1.01	1.35	1.03
N	479		180		135		164	

Table II

Bivariate Correlation Matrix of Independent and Dependent Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Homicide	1.000															
2. Robbery	.699**	1.000														
3. Rape	.592**	.650**	1.000													
4. Aggravated Assault	.572**	.654**	.766**	1.000												
5. % Black	.438**	.513**	.304**	.199**	1.000											
6. % Latino	.458**	.444**	.419**	.646**	.060	1.000										
7. Structural Disadvantage	.611**	.633**	.669**	.661**	.374**	.581**	1.000									
8. Black-White Segregation	.149**	.195**	.047	-.042	.394**	.019	.233**	1.000								
9. Latino-White Segregation	.260**	.248**	.186**	.117*	.335**	.159**	.268**	.611**	1.000							
10. % Foreign Born 1990-2000	.340**	.371**	.233**	.381**	.159**	.624**	.301**	.095*	.304**	1.000						
11. Residential Mobility	.244**	.260**	.451**	.557**	.067	.250**	.325**	-.164**	.045	.177**	1.000					
12. % Males Age 15-24	.132**	.131**	.252**	.223**	.105*	.285**	.387**	.004	.024	.150**	.478**	1.000				
13. Population Size (ln)	.355**	.439**	.193**	.211**	.383**	.153**	.102*	.286**	.441**	.341**	-.010	.127**	1.000			
14. Population Density	.337**	.480**	.176**	.173**	.288**	.305**	.265**	.242**	.273**	.481**	.030	.004	.418**	1.000		
15. New York	-.191**	-.206**	-.272**	-.623**	.143**	-.477**	-.058	.297**	.134**	-.370**	-.004	-.470**	-.172**	-.064	1.000	
16. Police per Capita	.177**	.273**	.230**	-.021	.254**	-.205**	.213**	.323**	.207**	-.002	.060	-.052	.107*	.260**	.402**	1.000

*
p<.05**
p<.01

Table III

Ordinary Least Squares Multivariate Regression Models of Violence

	HOMICIDE				ROBBERY				RAPE				AGGRAVATED ASSAULT			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	b	B	b	B	b	B	b	B	b	B	b	B	b	B	b	B
% Black	.090	.339 **	.060	.225 **	.252	.370 **	.174	.256 **	.071	.243 **	.029	.100 **	.314	.199 **	.107	.068 **
% Latino	.049	.490 **	.017	.172 **	.111	.435 **	.030	.117 *	.051	.469 **	.008	.071	.328	.551 **	.112	.188 **
Structural Disadvantage	–	–	1.010	.438 **	–	–	2.596	.438 **	–	–	1.390	.548 **	–	–	6.899	.501 **
Black–White Segregation	–.016	–.106 *	–.019	–.123 **	–.021	–.053	–.028	–.071	–.021	–.121 **	–.024	–.143 **	–.037	–.040	–.055	–.060
Latino–White Segregation	.008	.045	.004	.024	–.024	–.054	–.033	–.074	.020	.104 *	.015	.078	.053	.051	.029	.028
% Foreign Born 1990–2000	–.044	–.104 *	–.013	–.032	–.131	–.121 **	–.052	–.048	–.088	–.191 **	–.046	–.100 *	–.412	–.165 **	–.204	–.081 **
Residential Mobility	.035	.129 **	.004	.016	.099	.143 **	.021	.030	.089	.299 **	.047	.158 **	.458	.284 **	.250	.155 **
% Males Age 15–24	–.086	–.102 *	–.103	–.122 **	–.213	–.099 *	–.256	–.119 **	–.040	–.044	–.064	–.069	–.416	–.083 **	–.532	–.106 **
Total Population Size	.343	.144 **	.464	.195 **	1.082	.177 **	1.394	.227 **	–.006	–.002	.161	.061	–.244	–.017	.584	.041
Density (people/sq. mile)	1.5E-05	.033	1.0E-05	.021	2.1E-04	.173 **	1.9E-04	.162 **	–2.1E-05	–.041	–2.8E-05	–.056	–1.5E-04	–.055	–1.9E-04	–.068 **
New York	–.037	–.007	–.457	–.092	–.910	–.071	–1.988	–.155 **	–.756	–.138 *	–1.333	–.243 **	–12.318	–.414 **	–15.183	–.510 **
Police per Capita	.502	.213 **	.279	.118 **	1.684	.278 **	1.111	.183 **	.953	.368 **	.646	.249 **	3.483	.247 **	1.959	.139 **
Constant	–3.030	*	–1.391		–6.160	*	–1.949		–.392		1.862		8.047		19.236	**
R-Square	0.451		.523		0.58		.653		0.478		.591		0.72		.814	

* p<.05
** p<.01

Table IV

Ordinary Least Squares Size-Disaggregated Multivariate Regression Models of Violence^a

	HOMICIDE ^b				ROBBERY ^b				RAPE ^b				AGG ASSAULT ^b			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	b	B	b	B	b	B	b	B	b	B	b	B	b	B	b	B
SMALL PLACES																
% Black	.012	.026	.001	.001	.173	.147	*	.138	.117	.070	.112	*	.001	.001	.375	.109
% Latino	.055	.637	**	.023	.295	.118	.552	**	.032	.149	.076	.668	**	.026	.433	.691
Structural Disadvantage			.829	.384	**			2.418	.452	**			1.416	.496	**	7.005
MEDIUM PLACES																
% Black	.086	.307	**	.054	.191	*	.224	.329	**	.152	.223	**	.076	.241	**	.325
% Latino	.036	.376	**	.000	-.004	.119	.518	**	.039	.170	.040	.379	**	-.003	.307	.529
Structural Disadvantage			1.123	.517	**			2.499	.474	**			1.347	.554	**	7.414
LARGE PLACES																
% Black	.089	.448	**	.047	.238	**	.239	.468	**	.133	.261	**	.087	.491	**	.322
% Latino	.059	.513	**	.027	.236	**	.104	.356	**	.024	.083	.033	.324	**	-.001	-.008
Structural Disadvantage			1.240	.513	**			3.124	.524	**			1.321	.639	**	5.859
TOTAL SAMPLE (N = 479)^c																
% Black	.090	.339	**	.060	.225	**	.252	.370	**	.174	.256	**	.071	.243	**	.314
% Latino	.049	.190	**	.017	.172	**	.111	.435	**	.030	.117	*	.051	.469	**	.328
Structural Disadvantage			1.010	.438	**			2.596	.438	**			1.390	.548	**	6.899

* p<.05

** p<.01

^a. Model 1 for each offense includes all controls except structural disadvantage, whereas Model 2 includes disadvantage and the full set of controls.

^b. Significance values refer to unstandardized coefficients.

^c. Coefficients for the total sample (from Table III, Model 2) are shown for comparison purposes.