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Patterns of local segregation: Do they matter for neighborhood crime? ☆

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ABSTRACT

In this paper, we extend recent research on the spatial measurement of segregation and the spatial dynamics of urban crime by conceptualizing, measuring, and describing local segregation by race–ethnicity and economic status, and examining the linkages of these conditions with levels of neighborhood violent and property crime. The analyses are based on all 8895 census tracts within a sample of 86 large U.S. cities. We fit multilevel models of crime that incorporate measures of local segregation. The results reveal that, net of city-level and neighborhood characteristics, White–Black local segregation is associated with lower violent and property crime. In contrast, local segregation of low income from high income households is connected with higher crime, particularly neighborhood violence.

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Urban areas are characterized by the uneven distribution of social groups across geographic space. This is most noticeable in pervasive levels of residential segregation by race, ethnicity, and economic status across U.S. cities and areas within cities (Fischer, 2003; Fischer et al., 2004; Jargowsky, 1996, 1997; Logan and Stults, 2011; Logan et al., 2004; Massey and Denton, 1993; Parisi et al., 2011). Many studies show that such segregation is associated with more crime and other social problems for neighborhoods with high concentrations of disadvantaged and minority residents (Charles, 2003; Cutler and Glaeser, 1997; Krivo et al., 2009; Massey, 2001; Peterson and Krivo, 1999, 2010a). In contrast, segregation is linked with lower crime and better social and institutional resources for localities with more advantaged and White populations (Bonilla-Silva, 2001; Krivo et al., 1998; Peterson and Krivo, 2010a). While informative, such work largely conceptualizes and measures residential segregation as the extent to which racial, ethnic, or economic groups live in different neighborhoods without considering where such communities[1] are located relative to one another (Cutler and Glaeser, 1997; Krivo and Peterson, 1996; Massey

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[1] Throughout the paper, we use the terms neighborhood and community as synonyms to aid with readability. In the data, methods, and results, we also use census tracts as a term for describing neighborhoods.

and Denton, 1993; McNulty, 2001; Peterson and Krivo, 1993, 1999, 2010a). Yet it is increasingly clear that the inherently spatial nature of segregation, whereby different communities are considered in the context of other neighborhoods that are nearer or farther away, has implications for the geographic distribution of crime and other social outcomes (e.g., Debbink and Bader, 2011; Tita and Radil, 2010).

Most conclusions regarding the segregation–crime link stem from analyses using one of two approaches. They either examine segregation measures that summarize overall differences in the geographic locations of race–ethnic and economic groups throughout a city or metropolitan area (e.g., Feldmeyer, 2010; Krivo et al., 2009; Peterson and Krivo, 2010a) or employ spatial regression techniques that incorporate geographic clustering of crime (or another outcome) into the modeling (Cohn and Jackman, 2011; Griffiths, 2013; Griffiths and Chavez, 2004; Morenoff et al., 2001; Tita and Radil, 2010). Studies using the former approach demonstrate that crime, particularly violent crime, is higher in cities and metropolitan areas where Blacks and Latinos are segregated in different neighborhoods from Whites. Analyses applying spatial regression models show that violence is highly clustered in space and that it diffuses across nearby areas in ways that are linked with the segregation of Blacks from Whites (Griffiths, 2013; see also Tita and Radil, 2010 for a review). While these approaches demonstrate a consistent relationship of segregation with crime, neither captures how the specific residential locations of Whites, Blacks, Latino/as[2], the poor, and the affluent relative to one another vary across individual neighborhoods within a city or metropolitan area and, in turn, affect neighborhood crime. As a result, we do not know how the local concentration of race–ethnic and economic groups in pockets of homogeneity or diversity vary and relate to crime rates. In this paper, we address these issues by: (1) describing the local spatial dynamics of residential segregation by race–ethnicity and economic status more fully than has been accomplished to date for a sample of 86 large cities; and (2) exploring how these patterns are related to urban neighborhood crime.

Our framework recognizes that *local* segregation should be distinguished from regional segregation (Peterson et al., 2006). We consider *regional segregation* as the unequal distribution of groups (e.g., racial, ethnic, economic) across all neighborhoods within a broad region (city, county, metropolitan area). *Local segregation* refers to similarity with respect to racial, ethnic, or socioeconomic composition between sets of neighborhoods that are contiguous or otherwise spatially linked to one another (e.g., through physical features such as roadways). We consider neighborhoods as small socially meaningful areas where people live and carry out many regular activities. For our analyses, we represent neighborhoods using census tracts. These small statistical units are often similar to communities where processes of social (dis)organization, institutional resources, social interactions, and external investments and political power play out and interconnect across communities (rather than simply between individuals or very small areas such as blocks). Information on crime is also available for census tracts in the data that we analyze. Regions refer to larger geographic areas that are politically or socially integrated; they vary in size from small incorporated places to large metropolitan areas. Here, we examine large cities (places with populations over 100,000) as regions that have social and political significance including for crime and the control of crime (e.g., policing). Given these definitions of neighborhoods and regions, every neighborhood within a city is considered as more or less *locally* segregated depending on the extent to which it is similar or dissimilar from other census tracts that are nearby.

The distinction between regional and local segregation is related to the notion of the scale of segregation developed by Reardon and colleagues (Lee et al., 2008; Reardon and Bischoff, 2011; Reardon and O'Sullivan, 2004; Reardon et al., 2008, 2009). The Reardon approach considers how the locations of groups across various spatial scales (i.e., areas that range from notably smaller to considerably larger than census tracts) contribute to an overall regional (i.e., metropolitan) pattern of segregation. Thus, their orientation is similar to ours in considering segregation at various levels of geography. However, Reardon and colleagues measure and analyze *metropolitan* segregation taking space explicitly into account, while we conceptualize and measure *local* segregation as a property that varies in degree across neighborhoods within a region. This variation in localized patterns of segregation of ethnoracial and economic groups is an aspect of urban inequality that should predict neighborhood crime.

In this paper, we begin by discussing how local segregation by race–ethnicity and economic status is a conceptually meaningful property of urban communities. We then ask how levels of White–Black, White–Latino, and low–high income local segregation vary across urban neighborhoods. Next, we argue that ethnoracial and economic local segregation are associated with social conditions that act either as facilitators of crime or buffers against crime. In this discussion, we acknowledge that the local segregation–crime connection is also reinforced by the greater ability of Whites and high income households to move wherever they want, particularly to Whiter, higher income, and lower crime neighborhoods (e.g., Logan and Stults, 1999). Finally, we explore empirically whether greater local segregation of ethnoracial and economic minorities is associated with more crime, over and above the influences of the racial and economic composition and social disorganization within focal neighborhoods. Conversely, we examine whether greater local segregation of White and economically advantaged populations is independently linked with lower violent and property crime.

1. The importance of local segregation

A large literature describes and explains segregation by race, ethnicity, and economic status for cities and metropolitan areas (Charles, 2003; Iceland, 2009; Logan and Stults, 2011). A host of different measures demonstrate that Black–White

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[2] For simplicity, hereafter we refer to the Latino/a population as Latino.