BRIEF REPORT

COLLEGE STUDENTS' PERCEPTIONS OF COLLECTIVE EFFICACY: RESULTS FROM A NONURBAN SAMPLE

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Although the relationship between neighborhood characteristics and collective efficacy is well established in urban populations with community samples, it is unclear if this relationship holds in rural areas. The current study fills this gap by assessing the perceptions of adolescents from nonurban areas to examine the relationships between neighborhood characteristics and collective efficacy in areas with lower population density. Our sample comprised 402 late adolescents attending a Midwestern university (average age 19.1 years). Consistent with previous studies using urban neighborhoods, we found that higher concentrated disadvantage was related to lower levels of social cohesion, regardless of population density. However, neither residential stability nor concentrated immigration was predictive of social cohesion. None of the neighborhood characteristics significantly predicted social control, after controlling for population density. © *2012 Wiley Periodicals, Inc.*

In recent years there has been an increase in research on the role of neighborhood social disorganization and collective efficacy in predicting individual behavior. Decreased collective efficacy, defined as the link between mutual trust and a shared willingness to intervene for the common good of the neighborhood, has been linked to undesirable

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outcomes such as higher rates of delinquency (Duncan, Duncan, Okut, Strycker, & Hix-Small, 2003; Osgood & Chambers, 2000; Sampson, Raudenbush, & Earls, 1997). It is also thought that two elements, social cohesion and social control, make up collective efficacy. Social cohesion, or mutual trust that forms among neighbors, is believed to be weak in ethnically heterogeneous areas. This decrease in cohesion is expected to lead to a decreased ability of residents to exert informal social control over the behaviors of groups of delinquent youth in the neighborhood, demonstrating the link between lower neighborhood collective efficacy and higher rates of crime in the neighborhood.

The seminal study of social disorganization and collective efficacy by Sampson et al. (1997) identified three objectively assessed dimensions that account for the most variance in collective efficacy: concentrated disadvantage, concentrated immigration, and residential instability. According to this study on Chicago neighborhoods (as well as several subsequent studies, see: Cantillon, 2006; Duncan et al., 2003), concentrated disadvantage is conceptualized as higher proportions of Census-level variables (i.e., objective measurements of "demographic, social, economic, and housing" data assessed decennially by the United States Census Bureau; U.S. Office of Planning, Environment, and Realty, 2011). in a neighborhood, including individuals below the poverty line, unemployment, female head of households, and percentage of African American residents. Concentrated immigration is thought to reduce social cohesion by increasing the ethnic heterogeneity of a neighborhood and impeding communication among dissimilar neighbors (Elliott et al., 1996; Shaw & McKay, 1942). Finally, in neighborhoods with high levels of residential instability, it would be expected that neighbors would be less likely to form stable bonds and develop the shared set of norms that characterize neighborhood social cohesion. Together, these neighborhood characteristics have been found to predict residents' reported collective efficacy, which, in turn, corresponds with neighborhood rates of delinquency and crime (Cantillon, 2006; Sampson et al., 1997).

Limitations of Current Literature

Although the amount of research in this area has grown, and the relation between collective efficacy in urban neighborhoods and Census-level variables is well established, there are gaps in the generalizability of the results because of constraints on the characteristics of the samples used. Most research on predictors of collective efficacy has been conducted with urban samples of adults in the community (e.g., Sampson et al., 1997). The few relevant studies with nonurban samples have not tested whether established links between neighborhood disadvantage variables and collective efficacy are dependent on population density (Osgood & Chambers, 2000; Wilkinson, 2007). It can be challenging to conduct research with populations that are geographically widely distributed, but it is necessary to more closely examine assumptions about neighborhood dynamics that are grounded in research conducted primarily in urban areas. It is possible that concentrated disadvantage, concentrated immigration, and residential instability could have different implications for collective efficacy in regions where neighbors do not live in dense urban blocks.

The Current Study

This study is unique in that it examines the relationships between collective efficacy and concentrated disadvantage, concentrated immigration, and residential instability in a rural to semirural sample. As this is a preliminary study, a convenience sample of college

students is used, different from the sample recruited in Sampson et al.'s (1997) study. Existing research indicates that adolescents can provide important information about characteristics of their home neighborhoods and, by using a convenience sample, important preliminary information about a challenging population can be gathered (Bisegger, Cloetta, & Ravens-Sieberer, 2008; Pretty, Conroy, Dugay, Fowler, & Williams, 1996). In addition, this study is distinctive in that participant addresses were gathered, allowing for a precise determination of the population density of the participants' neighborhoods.

METHOD

Participants and Procedures

Four hundred and two individuals were recruited from undergraduate psychology classes at a Midwestern state university through an online experiment recruitment system. Two participants were excluded from analyses because their home address was outside of the United States (and thus could not be coded from data in United States Census database) and one additional participant was excluded for living in an area with a population density that diverged greatly from the rest of the sample ($z = 14.6$). The mean age of participants was 19.1 years (standard deviation [*SD*] = 1.1 years) and the majority of these participants were female (66.7%). Most participants identified as Caucasian (84.7%).

Measures

Census-level variables. Participants were asked to provide their mailing address for the home in which they had lived immediately prior to coming to college. GeoLytics software (GeoLytics, Inc., U.S. Census 2000 version) was used to obtain the Census block groups of the participants. Census 2000 data were used to construct contextual data for respondents at the Census block group level, including population density, neighborhood disadvantage, concentrated immigration, and residential stability (Sampson et al., 1997).

Following the example of Sampson et al. (1997), the following Census variables were extracted as possible measures of concentrated disadvantage: percentage of persons below poverty level, percentage of unemployment, percentage of female-headed households, and percentage of African Americans. Concentrated immigration and residential stability were measured using the same Census variables as Sampson et al. (1997). A principal components analysis with Promax rotation indicated that these variables did load on their appropriate factors, with 69.9% of the variance explained. To compute the concentrated disadvantage, concentrated immigration, and residential stability variables, the *z*-scores of the eight Census variables were calculated and then averaged accordingly.

Social cohesion. Social cohesion was assessed using the collective efficacy items proposed by Sampson et al. (1997). The social cohesion subscale comprises five items that ask participants the extent to which they agree (on a 5-point scale) with statements about the connectedness and trustworthiness of their neighbors. Social cohesion scores were calculated by computing the sum of the five items ($\alpha = .86$).

Social control. Social control was assessed using the collective efficacy items proposed by Sampson et al. (1997). The social control subscale comprises five items that ask participants the extent to which they agree (on a 5-point scale) with statements about how

willing one's neighbors are to enforce neighborhood values or norms. One item reduced the internal consistency of this subscale and was subsequently dropped ("How likely is it that neighborhood residents would organize to try to do something to keep the fire station open?"). Thus, the social control scores were calculated by computing the sum of the four items ($\alpha = .81$).

RESULTS

Most respondents reported living in a rural area (mean population density = 1832.5). Approximately 73.5% of our sample resides in areas with less than 2,500 people per square mile (21% of the United States' population live in areas of this minimal population; Office of Planning, Environment, & Realty, 2011). The remaining 26.5% of our sample reported residing in more urban areas. It should be noted, however, that these areas, when compared to Sampson et al.'s (1997) sample, still have low population densities (less than 50,000 persons per square mile).

Regression Analyses

Three hierarchical regressions were conducted to determine if each of the three observed neighborhood variables predict social cohesion, while controlling for population density. Similarly, three hierarchical regressions were conducted with the same variables to predict social control. Step 1 of each analysis entered one of the neighborhood variables and population density. In Step 2, the interaction term (centered population density x centered neighborhood variable) was entered to test whether population density moderated the relation between the neighborhood variable and social cohesion (or social control). None of the regression analyses were significant for predicting social control.

Concentrated disadvantage. In Step 1, population density and concentrated disadvantage accounted for 5% of the variance in social cohesion, with concentrated disadvantage as the significant predictor (see Table 1). In Step 2, concentrated disadvantage remained a significant predictor of social cohesion, but there was no increase in variance explained.

Residential stability. The results from the regression examining the association between residential stability and social cohesion indicate that in Step 1, population density and residential stability accounted for 3% of the variance in social cohesion, with residential stability and population density both emerging as significant predictors (see Table 1). In Step 2, population density remained significant, whereas residential stability became nonsignificant.

Concentrated immigration. Population density, in Step 1, accounted for a significant portion of the variance in social cohesion (see Table 1), but concentrated immigration was not significantly related to social cohesion. These similar relationships were found in Step 2, with no indication of an interaction effect between concentrated immigration and population density.

Table 1. Predicting Social Cohesion

CD			*RS*			*CI*		
	ΔR^2	β *(Step)*		ΔR^2	β *(Step)*		ΔR^2	β *(Step)*
Step 1:	.05**		Step 1:	.03**		Step 1:	.02*	
Pop. density		−.07	Pop. density		−.13*	Pop. density		−.16**
CD		−.20**	RS		.11*	CI		.02
F (Step)	$F(2, 394) = 11.68^{**}$		*F* (Step)	$F(2, 394) = 6.92^{**}$		*F* (Step)	$F(2, 394) = 4.49$*	
Step 2:	.00		Step 2:	.00		Step 2:	.00	
Pop. density		−.06	Pop. density		−.12*	Pop. density		−.14*
CD		−.18**	RS		.09	CI		.07
Pop. density X CD		−.04	Pop. density X RS		.08	Pop. density X CI		−.11
F (Step)	$F(3, 393) = 7.89^{**}$		*F* (Step)	$F(3, 393) = 5.49^{**}$		*F* (Step)	$F(3, 393) = 4.27^{**}$	

Note. CD = concentrated disadvantage; RS = residential stability; CI = concentrated immigration; pop. = population.
*$p < .05$. **$p < .01$.

DISCUSSION

This study addressed a major gap in the research on neighborhood collective efficacy in nonurban settings. Consistent with studies on urban neighborhood effects, we found that higher concentrated disadvantage is related to lower levels of social cohesion even when controlling for population density. Residential stability initially demonstrated similar effects; however, the strength of the effect was small and became nonsignificant when the interaction between residential stability and population density was entered. These preliminary results suggest that residential stability may play a different role or be less important than other neighborhood characteristics in nonurban samples. In contrast to the body of literature on urban neighborhoods, concentrated immigration did not predict social cohesion.

These results suggest both similarities and differences in the prediction of social cohesion in nonurban areas. Lower population density predicted lower social cohesion, possibly because as neighbors become more geographically distant there exist fewer informal opportunities to interact and develop shared norms. Residential stability may have similar effects, with neighbors in areas of high residential mobility having less opportunity to develop stable relationships. However, in the current nonurban sample, the role of residential stability is not as robust as might be expected in an urban sample, suggesting that in less dense areas other variables (such as concentrated disadvantage) might be more important in predicting the development of shared community norms.

In contrast to existing literature on neighborhood effects, the current study found no association between concentrated immigration and social cohesion. One possible reason why this finding does not match research in Chicago or other urban neighborhoods is that "concentrated immigration" is misleading in a nonurban sample. The majority of participants lived in areas with Hispanic residents making up fewer than 2% of their block groups, and only 2.3% ($n = 10$) lived in areas with 10% or more residents being Hispanic or foreign-born. This is a striking difference from Sampson et al.'s (1997) sample. It may be that in the current sample, there was inadequate variation in concentrated immigration to detect its effects.

Of most concern in our findings, social control was not predicted by any of the neighborhood characteristics. It could be that nonurban neighborhoods have qualities that buffer against the effects of neighborhood disadvantage on social control, or that social control is predicted by other types of variables in less densely populated areas. It is also possible that the social control measure used—which includes items such as "If a group of children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it?"—is not as applicable in settings where neighbors are not clustered together in densely populated communities. Future research on social control or other community-level predictors of delinquency in rural communities should examine other possible measures of social control, possibly integrating attention to ways in which residents may exert influence on youth without necessarily being immediate witnesses of youth activities.

There are some limitations to this study that should be considered and addressed in future research. First, this was a convenience sample of college students. While sampling adolescents contributes to the literature, it would be beneficial for future research to assess noncollege-bound adolescents. Finally, the current study had a limited sample size, which, although it sampled broadly across a Midwestern state, did not include sufficient numbers of participants from each block group to permit nesting of respondents within neighborhoods. As a result, our measures of collective efficacy are analyzed at the indi-

vidual level. Future research with nonurban populations may face greater challenges to surveying multiple respondents from the same community than might be encountered in an urban study, but aggregating across multiple reports on the same community would provide a more accurate assessment of the collective efficacy of that community.

Despite these limitations, this study uniquely contributes to the literature on neighborhood effects. By obtaining respondent addresses, we were able to pinpoint their geographic location and use a precise measurement of population density and Census variables. Previous literature has been limited to using larger levels of analysis (e.g., individual or combined Census tracts; Osgood & Chambers, 2000), which often cross neighborhood lines and may contain different types of communities within the same tract, whereas block groups were used in the current study. Most importantly, the relationships between the objective neighborhood variables and perceived collective efficacy differ in some important ways from those found in urban samples. Given that the role of neighborhood control and cohesion is understudied in rural and suburban areas, our findings offer insight and set the foundation for future studies on collective efficacy in nonurban regions.

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