An Investigation of the Influence of the Spatial Distribution of Neighborhood Violent Crime on Fear of Crime

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Abstract

Although crime rates dramatically declined during the 1990s, recent statistics indicated more than one third of the U.S. population continued to be afraid of areas within one mile of their home. Statistics such as this imply spatial dependence, but the importance of space in statistical analyses of fear of crime has remained relatively underexplored. The current study contributes to research on fear of crime by assessing the importance of crime rates in nearby neighborhood areas in addition to conventional individual- and neighborhood-level predictors of fear of criminal victimization. Results indicate that individuals who lived near neighborhoods that featured higher rates of violent crime were more likely to report being afraid of violent crime, but that the influence of violent crime rates in nearby neighborhoods was lessened after other features of their home neighborhood were controlled. In particular, the results highlight the importance of neighborhood communities as a protective factor against fear of crime.

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Introduction

Statistics recently released by Gallup (Dugan, 2015) indicate that about one third of Americans were concerned about being victimized by a crime in an area within one mile of their neighborhood although crime rates have declined dramatically since the early 1990s. Prior research found fear of crime was the product of individual and neighborhood factors. Individual-level factors associated with higher fear of crime include age, sex, race, socio-economic status, and whether the individual was previously victimized by crime (Ferraro, 1995; Schafer, Huebner, & Bynum, 2006; Skogan, 1990; Snedker, 2015; Sutton & Farrall, 2005). Macrolevel analyses of fear of crime found residents of neighborhoods who perceived their neighborhood to be unsafe (Covington & Taylor, 1991; Jackson, 2004; Taylor, 2001) and/or who belonged to communities characterized by lower levels of social cohesion and organizational participation (Garcia, Taylor, & Lawton, 2007; Taylor, 2001) were more likely to be concerned about crime. Although recent research recognized the simultaneous importance of individual and context factors for fear of crime, an area that has gone underexplored was the importance of changes in neighboring areas (Brunton-Smith & Sturgis, 2011; Doran & Lees, 2005; Snedker, 2015; Wyant, 2008). Interestingly, research that accounted for spatial dependence controlled for either variation in neighborhood demographics (Doran & Lees, 2005) or the extent to which individuals in neighboring areas were afraid of crime (Wyant, 2008). This was important because survey questions such as the one used by Gallup asked whether respondents were afraid of criminal victimization in areas near their home, not whether respondents were afraid of people in areas near their home or whether they were aware of the extent to which individuals in neighboring areas were afraid of crime.

   The current study contributes to research on fear of crime by assessing whether variation in violent crime rates in neighboring areas predicted whether individuals were fearful of criminal victimization. The analyses focus on the City of Baton Rouge, Louisiana, because media reports and crime statistics highlighted it as one of the most violent cities in America (Federal Bureau of Investigation, 2013; Fuchs, 2013; Johnson, 2013). Previous research found that media discussions of the prevalence of violent crime were associated with increased fear of crime (Chiricos, Hogan, & Gertz, 1997; Jackson, 2005). Although the primary contribution of this study is the assessment of the importance of spatial variation in

neighborhood rates of violent crime, the current study also contributes to research on fear of crime by exploring this issue in a medium-sized city. The results indicate individuals who lived in or near areas that featured higher rates of violent crime were more likely to report being afraid of violent crime, but that the influence of neighborhood violent crime rates on fear of crime was lessened after other neighborhood characteristics were controlled.

Explanations of Fear of Crime

Research on fear of crime has drawn upon three theoretical frameworks: the vulnerability model, the disorder model, and the social integration model (Alper & Chappell, 2012; Brunton-Smith & Sturgis, 2011; Bursik & Grasmick, 1993; Wyant, 2008). The vulnerability model emphasizes individual characteristics associated with different levels of concern about criminal victimization, while the disorder and social integration models emphasize contextual features of neighborhoods and neighborhood communities that influence concern about criminal victimization. The proceeding sections explore the importance of each of these perspectives for the broader literature and the current study.

Individual Vulnerability

Research on individual characteristics associated with vulnerability has identified many characteristics associated with differential concern about crime. Assessments of factors associated with vulnerability found fear of criminal victimization was more common among women (Franklin & Franklin, 2009; McNeeley & Yuan, 2016; Pain, 2001; Reid & Konrad, 2004; Schafer et al., 2006; Wyant, 2008), racial and ethnic minorities (Brunton-Smith & Sturgis, 2011; Day, 1999; Snedker, 2015), lower class individuals (McGarrell, Giacomazzi, & Thurman, 1997; Will & McGrath, 1995), unmarried individuals (Cossman & Rader, 2011; Toseland, 1982), and those who had experienced a criminal victimization (Alper & Chappell, 2012; Brunton-Smith & Sturgis, 2011; Snedker, 2015). Research on vulnerability also found that age was an important factor, but results were not consistent with some studies reporting greater fear among the elder (Mirrlees-Black, Budd, Partridge, & Mayhew, 1998; Gubrium, 1974 and others reporting greater fear among younger individuals (Ferraro, 1995; Pain, 2001; Skogan, 1990). Overall, the findings of this research indicate fear of crime tends to be higher among individuals who were less able to protect themselves against or who were at greater risk of criminal victimization.

Neighborhood Disorder

Much of the research on neighborhood predictors of fear of crime drew upon the disorder model, which was rooted in the Broken Windows/ Incivilities Thesis. The Broken Windows/Incivilities Thesis argues fear of crime and occurrences of crime tend to be more common in neighborhoods characterized by signs of social (public arguments, public drunkenness) and physical disorder (graffiti, vandalism) because the visibility of these incivilities discourages neighborhood residents from spending time in their neighborhood outside of their home or engaging with other neighborhood residents (Kelling & Coles, 1996; Taylor, 2001; Wilson & Kelling, 1982). The decreased time spent in public or engaging with their neighbors allows low-level criminal activities to flourish, which further encourages neighborhood residents to feel unsafe in their neighborhood (Kelling & Coles, 1996; Taylor, 2001). Although conceptually appealing, empirical assessments of the Broken Windows/Incivilities Thesis produced mixed evidence.

Research on the importance of disorder for fear was generally supportive. Hinkle and Weisburd (2008) found perceptions of social disorder and observed levels of physical disorder were strongly associated with fear of crime. Similarly, research by Markowitz, Bellair, Liska, and Liu (2001) and Wyant (2008) found perceptions of incivilities in a neighborhood predicted fear of crime even after controlling for characteristics of the neighborhood including the amount of violent crime in the respondent's neighborhood. More recently, McNeeley and Yuan (2016) reported individuals who lived in neighborhoods that featured higher rates of incivilities were more likely to perceive themselves at greater risk of victimization. Findings by Snedker (2015), however, provide a caveat to the influence of disorder on fear of crime as it was found disorder was a stronger predictor of fear of crime for women than men.

Assessments of the importance of disorder for actual crime rates also indicated mixed support for the theory. Skogan's (1990) research on the correlation of disorder and violent crime in Chicago identified a strong positive correlation of disorder with robbery. Similarly, Kelling and Coles (1996) highlighted a strong correlation between the use of order maintenance policing strategies based upon the broken windows thesis implemented and dramatic reductions in felonies overall and robberies in particular in the New York City subway system. Furthermore, more sophisticated analyses conducted by Rountree, Land, and Miethe (1994) found neighborhood burglary rates in Seattle were higher in neighborhoods where incivilities were common.

Other research, however, did not find disorder was associated with crime. Sampson and Raudenbush (1999) found the association of disorder and crime was spurious as crime and disorder were the result of low collective efficacy. Similarly, research by Rosenfeld, Fornango, and Rengifo (2007) found order maintenance policing had a modest negative impact on homicide and robbery rates in New York City, but the authors also found changes in the socio-economic and racial composition of neighborhoods had stronger negative associations with homicide and robbery rates. Doran and Lees (2005) help to put these unsupportive findings in context as they suggest environmental improvements will reduce fear of crime if they have an impact on social factors, such as the strength of the local community or changes in the socio-economic and racial composition of neighborhoods.

An additional problem for the Broken Windows/Incivilities Thesis pertains to the association of neighborhood crime rates with fear as research on the relationship of neighborhood crime with fear of criminal victimization yielded mixed results. For example, Brunton-Smith and Sturgis (2011) and Kruger, Hutchinson, Monroe, Reischl, and Morrel-Samuels (2007) found fear of criminal victimization was significantly higher in neighborhoods characterized by higher crime. In contrast, research by Carvalho and Lewis (2003) and Schafer et al. (2006) did not find fear of crime was a function of neighborhood crime rates. Although these results were contradictory, they were also difficult to compare due to differences in research design. Brunton-Smith and Sturgis (2011) and Kruger et al. (2007) analyzed multilevel models that assessed the simultaneous importance of multiple individual and neighborhood factors. In contrast, Schafer et al. (2006) assessed multilevel models, but the only neighborhood-level measure included was a measure of the personal crime in the neighborhood. Furthermore, Carvalho and Lewis (2003) sampled disadvantaged urban residents from a sample of Chicago welfare recipients, which limited the number of neighborhoods included in the analysis. Therefore, it is reasonable to expect neighborhood crime rates will be influential in predicting whether neighborhood residents were afraid of criminal victimization.

Where quite a few assessments of the disorder model incorporated measures of the crime rates in which the respondent lived, the importance of characteristics of neighboring areas was largely underexplored. Neighborhoods were not completely isolated from each other, which meant that events that occurred in neighboring areas likely had implications for the focal neighborhoods. For example, Pain, MacFarlane, Turner, and Gill (2006) and Doran and Lees (2005) found individuals avoid particular areas perceived to be dangerous. In contrast, Wyant (2008) found that although fear of crime displayed significant clustering among neighborhoods, levels of fear in

neighboring areas were not important in multivariate models. The current study explores this issue by assessing the significance of the spatial lag of violent crime in neighboring areas.

Social Integration

Whereas the disorder model focuses on the neighborhood environment, the social integration model emphasizes the ability of neighborhood communities to inhibit fear of crime (Alper & Chappell, 2012; Lewis & Salem, 1986; Markowitz et al., 2001). This framework is grounded in the social disorganization/collective efficacy framework, which predicts crime will be higher in neighborhoods characterized by concentrated disadvantage, residential instability, and racial and ethnic heterogeneity because these factors weaken local communities (Sampson, 2012; Sampson, Raudenbush, & Earls, 1997; Shaw & McKay, 1942/1969). Although much of the research on fear of crime described the importance of fear for community organization, few assessments of the disorganization framework included measures of fear of crime (Woldoff, 2006). An important consideration when bringing fear into such models was that fear was linked to social integration and collective efficacy, which co-varied, but were distinct concepts (Gibson, Zhao, Lovrich, & Gaffney, 2002). Social integration referred to whether residents knew their neighbors, talked to their neighbors, and felt as if their neighborhood was "home" (Gibson et al., 2002; Morenoff et al., 2001). In contrast, collective efficacy referred to the intensity of social cohesion and the willingness of neighborhood residents to intervene on behalf of the common good (Sampson, 2012; Sampson et al., 1997). The key distinction between these concepts was that collective efficacy assumed a shared sense of expectations of appropriate behavior (Gibson et al., 2002). Most research on fear of crime did not distinguish between these concepts because they were so closely tied together (Taylor, 2001).

Assessments of the social integration model support claims that fear of crime was higher in neighborhoods characterized by weaker community. Alper and Chappell (2012) tested the vulnerability, disorder, and integration models against each other and found the integration model did the best job of predicting fear of crime as its measure of trust in neighbors was more strongly associated with fear of criminal victimization than prior victimization experiences or perceptions of neighborhood disorder. Similarly, Gibson et al. (2002) found residents of socially integrated neighborhoods perceived greater collective efficacy in their local community, which made them less concerned about crime. Furthermore, Markowitz et al. (2001) found cohesion, neighborhood crime and disorder, and fear of crime were all part of a reciprocating

cycle where cohesion was negatively associated with disorder, disorder was positively associated with fear, and fear was associated with reductions in cohesion. Taken together, the results of these studies show clear evidence of a relationship between social integration and fear, but that how integrated individuals were in the local community was also influenced by features of the neighborhoods in which they lived.

Current Study

Prior research found fear of crime was associated with individual characteristics associated with vulnerability to criminal victimization and characteristics of neighborhoods in which individuals lived such as signs of social and physical disorder and the strength of the local community. Neighborhoods are not independent entities though, which means that events in adjacent areas have the potential to influence how individuals perceive their own neighborhood or nearby areas. This is especially important for research on fear of crime given that survey questions about fear of crime often asked whether individuals were concerned about criminal victimization in their neighborhood area or within one mile of their home. The current study explores this issue by assessing the importance of individual characteristics and neighborhood characteristics including neighborhood violent crime rates and the violent crime rate of nearby areas for whether individuals were afraid of criminal victimization in the area within one mile of their home.

East Baton Rouge Parish as a Case Study of Fear of Crime

East Baton Rouge Parish serves as an interesting case study for fear of crime research for a few reasons. *Crime in the United States* reports released as part of the Uniform Crime Report have consistently shown violent crime rates were higher in Southern United States than other regions for more than a decade, and that Louisiana was especially violent as it featured the highest homicide rate in the United States in 2013 (Fuchs, 2013; Johnson, 2013). Furthermore, statistics released by the Uniform Crime Report indicate that Baton Rouge was one of the most violent cities in Louisiana between 2005 and 2013 as it was second only to New Orleans (Federal Bureau of Investigation, 2013). Given prior research that highlighted the importance of media for fear of crime (Chiricos et al., 1997; Jackson, 2005), such media accounts and the availability of such information about the prevalence of violent crime in Baton Rouge were likely associated with elevated levels of fear. The high rate of violent crime in Baton Rouge makes it an especially

interesting place to assess the predictors of fear of crime as previous research found mixed results with regard to whether local crime rates influenced how concerned individuals were about criminal victimization.

Analysis Strategy

Consistent with the studies conducted by Brunton-Smith and Sturgis (2011) and Wyant (2008), the current study utilized multilevel regression with the outcome variable indicating whether respondents were concerned about walking in an area within one mile of their home at night (0 = *no*, 1 = *yes*). Given the dichotomous dependent variable, hierarchal generalized linear models were assessed using the PROC GLIMMIX procedure in SAS (Ene, Leighton, Blue, & Bell, 2015). The Level 1 variables assess variation in individual-level characteristics including age in years, race, sex, marital status, and trust in neighbors. The Level 2 variables assess variation in neighborhood characteristics including concentrated disadvantage, residential mobility, the crime rate of the neighborhood, and a spatial lag of violent crime in neighboring areas to assess the importance of crime in other parts of the city.

Data and Measures

The current study utilizes data from three sources. Information for the dependent variable and Level 1 control variables was collected from the Baton Rouge Social Survey (BRSS), a representative survey of demographic characteristics, behaviors, and attitudes of the residents of East Baton Rouge Parish that has been conducted annually since 2000. The BRSS began asking respondents to identify the neighborhood in which they lived beginning in 2005, which facilitated the placement of respondents within census tracts. This data were weighted according to the Census tables of the joint distribution of age, gender, and race/ethnicity. Information on the characteristics of neighborhoods (census tracts) was collected from the 2008-2012 American Community Survey 5-Year data (hereafter, ACS 5-year). Neighborhood data on violent crime in the City of Baton Rouge were made available by the Baton Rouge City Police Department and East Baton Rouge Sheriff's Office and provided to the researchers by the Crime Analysis Research Division of the East Baton Rouge Sherriff's Office. Additional information on crimes reported to the Louisiana State University Police, which is an independent policing organization, was collected for the tract in which Louisiana State University was located.

Table 1. Descriptive Statistics.

	M/ Proportion	SD	Minimum	Maximum	Missing	N
Dependent variable						
Fear of crime	0.504	0.501	0	1	41	2,463
Level 1 variables						
Age	44.91	17.656	18	95	26	2,478
Black	0.41	0.492	0	1	0	2,504
Male	0.466	0.498	0	1	2	2,502
Married	0.49	0.500	0	1	0	2,504
Crime victim in last year	0.151	0.358	0	1	559	1,934
Neighborhood trust	3.225	0.869	1	4	794	1,711
Level 2 variables						
Poverty	0.092	0.840	−1.07	2.02	0	72
Residential mobility	0.353	0.714	−0.49	4.32	0	72
Violent crime rate (Log)	1.097	0.901	−0.79	3.221	0	72

Dependent Variable

Fear of crime has been measured in a variety of ways including whether respondents were afraid to walk in an area near their home (Dugan, 2015; Lewis & Salem, 1986; Markowitz et al., 2001) and how worried respondents were about criminal victimization for specific forms of crime (Jackson, 2004; Markowitz et al., 2001). The current study measured fear of crime through the BRSS question that asked respondents whether there was an area within one mile of their home in which they were afraid to walk alone at night. As recognized by Markowitz et al. (2001), this measure captures the emotional dimension of fear, but does not allow for the comparison of differences involving risk perception.

Independent Variables

Individual level. The Level 1 variables were collected from the BRSS and were selected because they were highlighted by assessments of the vulnerability model as important predictors of fear of crime. Table 1 displays the descriptive statistics for these variables used in the multilevel regression analyses. Respondents' age was measured in years at the time of the interview (*M* age = 44.91). Black, sex, married, and victim were all dichotomous variables where individuals with the

identified attribute were coded 1 and all others coded 0. About 41% of the BRSS respondents were Black, about 46% were male, about 49% were married, and about 15% reported being the victim of a crime in the past year. Neighborhood trust measured how much respondents trusted their neighbors on a 4-point scale (1 = *trust them not at all*, 2 = *trust them only a little*, 3 = *trust them some*, 4 = *trust them a lot*). The mean value for the trust measure (3.225) indicates BRSS respondents tended to have a great deal of trust in their neighborhoods. The number of cases for the victim and neighborhood trust items is lower because these questions were not asked on the 2008 and 2009 BRSS.

Neighborhood level. Information on the characteristics of neighborhood populations was collected from the 2005-2009 ACS 5-year survey (Table 1). Concentrated disadvantage was measured by replicating the index developed by Sampson and colleagues (Sampson, 2012; Sampson et al., 1997) and included the percent of residents receiving public assistance, percent living below poverty, unemployment rate, percent with less than a high school education, percent female-headed households, and percent Black. Positive values indicate greater concentration of disadvantage. Residential stability was measured by the percent of homeowners who have lived in their home for at least 5 years. As identified in Table 1, about 35% of residents in the average tract had lived in their home for at least 5 years. This value was relatively low and was likely a function of the time used for the ACS 5-year data, which included the mass migration of residents from New Orleans to Baton Rouge in the wake of Hurricane Katrina.

Neighborhood crime rates were computed by aggregating the number of violent index crimes reported to Baton Rouge Police, the East Baton Rouge Sherriff's Office, and Louisiana State University Police to the tract level for each year between 2005 and 2009. The annual crime counts were then averaged before being divided by the tract population and multiplied by 1,000 to determine the rate of violent crimes per 1,000 residents for the period 2005 to 2009. Descriptive analysis indicated the computed violent crime rate was skewed, so the natural log was computed and incorporated into the models instead. The mean rate of violent crime prior to log transformation was 4.34 incidents per 1,000 residents. The logged violent crime rate more closely approximated a normal distribution.

It was important to account for spatial dependence of violent crime in the current study because the survey item used to measure the dependent variable asked respondents whether they are afraid of criminal victimization within one mile of their home, which may have included areas other than their neighborhood. The spatial dependence of fear of crime and the violent crime rate in Baton Rouge were assessed in GeoDa by analyzing the bivariate

Table 2. Unconditional Multilevel Logistic Regression of Fear of Crime (Standard Error in Parentheses).

Intercept	0.211** (0.054)
Variance components	
Intraclass correlation	0.019
Level 2 intercept	0.065* (0.028)
Model fit	
-2 Log Likelihood (-2LL)	3,355.41

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

Moran's I statistic of the mean percentage of BRSS respondents in each neighborhood who reported being afraid of criminal victimization in the area within one mile of their home with the violent crime rate of each neighborhood (Anselin, 1988). The results indicated significant spatial clustering (0.087, $p < .01$). Spatial dependency was accounted for by creating a spatial lag of violent crime in GeoDa using a first-order queen matrix. Higher values of this measure indicate individuals were more likely to report being afraid of crime if the areas near where they lived were characterized by higher violent crime rates.

Results

The results of the multilevel analyses are presented in Tables 2, 3, and 4. Results from the null model (Table 2) indicate the proportion of BRSS respondents who reported being very afraid of crime within one mile of their home varied significantly by neighborhood. The intraclass correlation 0.019 was low as it indicates that 1.9% of the observed variation in the proportion of respondents who were very afraid of criminal victimization within one mile of their home was explained by neighborhood differences. While the explained variance across neighborhoods is substantially smaller than found in previous research, it remained important to assess neighborhood-level predictors of fear of crime because the results of the Moran's I analysis described earlier and the results of the null model discussed presently both indicated significant variation in fear of crime across neighborhoods.

Model 1 (Table 3) assessed the importance of individual-level characteristics highlighted by the vulnerability hypothesis. Consistent with prior research, males were less likely to report being afraid of criminal victimization, and those victimized by crime in the past 12 months were more likely to be afraid of victimization. Age and married were not significant predictors of fear or crime in the current study. The negative coefficient for the Black

Table 3. Multilevel Logistic Regression of Fear of Crime in Baton Rouge Models 1 Through 4 (Standard Error in Parenthesis).

	Model 1			Model 2			Model 3			Model 4		
	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio
Intercept	0.190**	0.061	—	0.181**	0.058	—	0.182**	0.058	—	0.178**	0.061	—
Age	0.002	0.003	1.002	0.002	0.003	1.002	0.002	0.003	1.002	0.006	0.003	1.006
Black	−0.649***	0.144	0.522	−0.655***	0.144	0.520	−0.651***	0.145	0.521	−1.043***	0.165	0.354
Male	−1.126***	0.108	0.324	−1.122***	0.1084	0.326	−1.124***	0.108	0.325	−1.132***	0.116	0.322
Married	−0.158	0.104	0.854	−0.159	0.104	0.853	−0.159	0.104	0.853	−0.136	0.116	0.873
Crime victim in last year	0.303*	0.139	1.353	0.303*	0.139	1.354	0.304*	0.139	1.355	0.117	0.151	1.124
Neighborhood trust	—			—			—			−0.467***	0.074	0.628
Poverty	—			—			0.004	0.005	1.000	0.001	0.006	1.001
Residential mobility	—			—			0.026	0.084	1.087	0.149	0.103	1.161
Violent crime rate (logged)	—			0.137*	0.060	1.147	0.133	0.092	1.142	0.122	0.096	1.130
Spatial lag of violent crime	—			—			—			—		
Variance components												
Level-2 intercept	0.067* (0.034)			0.062* (0.033)			0.053 (0.035)			0.051* (0.026)		
Model fit												
−2 Log Likelihood (−2LL)	2,439.74			2,437.09			2,118.51			2,436.14		

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

Table 4. Multilevel Logistic Regression of Fear of Crime in Baton Rouge Models 5 Through 7 (Standard Error in Parenthesis).

	Model 5			Model 6			Model 7		
	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio	Coefficient	SE	Odds ratio
Intercept	−0.002	0.105	—	0.008	0.118	—	0.075	0.125	—
Age	0.002	0.003	1.002	0.002	0.003	1.002	0.005	0.003	1.006
Black	−0.654***	0.145	0.520	−0.652***	0.145	0.521	−1.039***	0.165	0.354
Male	−1.122***	0.108	0.326	−1.123***	0.108	0.325	−1.134***	0.116	0.322
Married	−0.159	0.104	0.853	−0.159	0.104	0.853	−0.136	0.113	0.873
Crime victim in last year	0.303*	0.139	1.354	0.304*	0.139	1.356	0.118	0.151	1.126
Neighborhood trust		—			—		−0.464***	0.074	0.629
Poverty		—		0.001	0.005	1.001	0.003	0.005	1.003
Residential mobility		—		0.081	0.093	1.085	0.135	0.101	1.145
Violent crime rate (logged)		—			—			—	
Spatial lag of violent crime	0.209*	0.097	1.233	0.199†	0.116	1.220	0.119	0.124	1.126
Variance components									
Level 2 intercept	0.445† (0.031)			0.443† (0.031)			0.043 (0.034)		
Model fit									
-2 Log Likelihood (-2LL)	2,435.48			2,434.33			2,115.15		

†p < .10. *p < .05. **p < .01. ***p < .001.

variable is worth noting because this contradicts prior research that fear of crime was higher among racial and ethnic minorities (Brunton-Smith & Sturgis, 2011; Day, 1999; Snedker, 2015). While the finding that Blacks were less afraid of crime was contradictory to what was expected, research by Brunton-Smith and Sturgis (2011) suggests whether racial and ethnic minorities were more fearful of crime was a function of the neighborhoods in which they lived. Indeed, results highlighting the importance of trust in one's neighbors for fear of crime in the proceeding section support this suggestion.

The results in Model 2 indicate that even after controlling for individual characteristics associated with vulnerability, individuals who resided in higher crime neighborhoods were more likely to report being afraid of criminal victimization. The influence of neighborhood violent crimes disappears in Model 3, which controlled for other neighborhood-level characteristics. This was likely a function of the spatial concentration of poverty and violent crime in particular parts of the city but could also be a function of neighborhood trust as results in Model 4 show that individuals who reported more trust in their neighbors were less likely to report being afraid of crime even after controlling for individual- and neighborhood-level predictors.

Much of the survey research on fear of crime asked individuals whether they were afraid of criminal victimization near their home, which implied a spatial component that was underexplored in research to date. Model 5 (Table 4) regressed fear of crime on the individual characteristics associated with vulnerability and a spatial lag of violent crime. The positive coefficient for the spatial lag (0.209*) shows that individuals were more likely to report being afraid of crime if they lived in a neighborhood that bordered areas characterized by higher rates of violent crime. Of more interest, however, is that the influence of the spatial lag of violent crime maintained at least marginal significance (0.199†) after controlling for the characteristics of the neighborhoods in which respondents lived.[1] Model 7 included the neighborhood trust measure and shows that the influence of crime rates in neighboring areas failed to reach significance after neighborhood trust was controlled. Together, the results suggest that individuals may be more concerned about crime in other neighborhoods than their own due to decreased familiarity.

Discussion and Conclusion

This study advances research on fear of crime by assessing the importance of the violent crime rate within an individual's neighborhood as well as the violent crime rates of surrounding neighborhoods. Assessing the importance of the spatial distribution of violent crime was important because survey items about fear of crime often asked whether individuals were afraid of criminal

victimization within one mile of their home, which may include areas other than their neighborhood. Two key findings stand out. First, the results indicate neighborhood variation in violent crime within one's home neighborhood and in neighboring areas was a significant predictor of fear of crime, but this influence was limited. Second, neighborhood predictors of fear of crime more generally were less predictive of fear of crime than the amount of trust respondents had in their neighbors.

Similar to Brunton-Smith and Sturgis (2011) and Kruger et al. (2007), the current study found respondents who lived in higher crime neighborhoods were more likely to be afraid of criminal victimization. This makes sense as individuals living in higher neighborhoods were at greater risk of criminal victimization and were therefore more likely to be concerned about victimization. That the influence of neighborhood violent crime rates on fear of crime disappeared after controlling for other neighborhood characteristics was not without precedent as previous research suggested that it may be difficult to determine whether individuals were fearful of criminal victimization due to the amount of crime in their neighborhood or whether their fear was symbolic of non-crime-related neighborhood issues such as the prevalence of signs of incivilities or the acceptance of neighborhood street culture (Bursik & Grasmick, 1993; Lewis & Maxfield, 1980; McNeeley & Yuan, 2016).

The analyses that incorporated a spatial lag of violent crime partially teased out the relationship of neighborhood violent crime rates on fear of crime. Similar to the main effect of neighborhood violent crime, the coefficient for the spatial lag of violent crime was positive, which indicates individuals who lived near higher crime neighborhoods were more likely to be afraid of crime. The importance of the spatial lag of neighborhood violent crime declined in substance and significance after controlling for characteristic of the respondents' neighborhoods. This suggests that respondents were likely aware of the amount of violence in areas near their home, but that they were more concerned with their immediate surroundings.

The second key finding of the current study was in relation to the importance of neighborhood trust for fear of crime. Specifically, the current study found individuals who were more socially integrated, as measured by intensity of trust in one's neighbors, were less likely to report being afraid of crime even after controlling for an array of individual and neighborhood characteristics highlighted by the vulnerability and disorder models, respectively. This makes sense given the support for the integration model found in recent research that found residents of higher crime neighborhoods may be less likely to perceive their neighborhood as unsafe if they have a high degree of trust in their neighbors (Alper & Chappell, 2012; Gibson et al., 2002; McNeeley & Yuan, 2016). This also supports Doran and Lee's (2005)

suggestion that strategies aimed at reducing fear of crime should focus on improving the strength of local communities over or in addition to improvements to neighborhood environments.

While the current study makes important contributions to research on fear of crime, it suffered from a few of limitations that future research should improve upon. Similar to the analyses conducted by Wyant (2008), the primary limitation of the current study was related to the modifiable areal unit problem as the spatial lag of violent crime was created at the neighborhood level and likely included areas well outside of the one-mile radius reference asked about in the BRSS question about fear of crime. The current study was also unable to incorporate measures of physical disorder, as the BRSS did not ask questions about perceptions of neighborhood quality, which was found to be a strong predictor of fear of crime in previous studies (Covington & Taylor, 1991; Snedker, 2015). In addition, the data used in the current study pooled survey and crime data for the period 2005-2009, during which time, a number of important events occurred that potentially influenced how concerned the residents of Baton Rouge were about crime. For example, Thomas (2007) highlighted the importance of rumors about criminal activity in Baton Rouge that arose during the influx of residents from New Orleans in wake of Hurricane Katrina.

Overall, the results of the current study indicate neighborhood factors were important for determining how concerned individuals were about criminal victimization, but the importance of these factors was overshadowed by the amount of trust individuals had in their neighbors. A substantial body of research has found that features of neighborhood community such as trust can mediate the association of neighborhood characteristics with violent crime, but a much smaller amount of research has assessed the importance of the strength of local community for fear of crime. The results of the current study suggest neighborhood communities may play a similar role in the reduction of fear of crime as was reported by Sampson and colleagues (Sampson, 2012; Sampson et al., 1997) for reductions in actual crime as residents of neighborhoods who were more trusting of their neighbors were less fearful of crime in their home neighborhood or in other parts of the city. Therefore, efforts should be undertaken to proactively encourage cohesion and trust among neighborhood residents, as this will improve the quality of life by encouraging a greater sense of safety and security in the neighborhood. Such efforts should result in decreased fear of crime, which in turn could potentially result in reduced crime in the future, as neighborhood residents may feel more empowered to engage in informal means of social control.

Note

1. The simultaneous importance of the violent crime rate of respondents' neighborhoods and the spatial lag was not assessed due to multicollinearity. The results of this model are available upon request.

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