

FEAR OF GANG CRIME AND THE PHYSICAL ENVIRONMENT

IN EAST AUSTIN, TEXAS

BY WARD A. ADAMS

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Ward A. Adams, B.A.

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CHAPTER 1

STATEMENT OF RESEARCH PROBLEM

Brief Background of Research Problem

Fear of crime is a significant social problem with many adverse affects, and not just for victims of crime. Fear of crime has been shown to sharply inhibit personal freedom and movement (Liska, Sanchirico, and Reed 1988; Keane 1998; Fisher and Nasar 1992; Gates and Rohe 1987). Fear of crime can also provoke severe emotional response and feelings of vulnerability (Ferraro 1994; Maxfield 1984), and psychological distress due to concerns of safety (Norris and Kaniasty 1991; Liska, Sanchirico, and Reed 1988). Fear of crime can also impact entire communities, causing deterioration of community social and psychological ties (Liska and Baccaglini 1990; Perkins et al. 1990; Riger, Gordon and LeBailly 1981; Taylor, Gottfredson and Brower 1984). Research on fear of crime has centered on both individual-level and community-level factors to explain fear of crime. Community-level research has focused on the degree to which characteristics of the built environment influence fear of crime.

Significance of Research

This study contributes to the understanding of fear of crime by addressing the following issues. First, this research focuses on fear of crime associated with gangs. Most

research focuses on fear of crime in general, not on fear of crime associated with specific groups such as gangs (Lane and Meeker 2000). Such research may be timely: The number of gangs operating in the United States is increasing, and are found in cities of all sizes. (Hagedorn 1998; OAG 1999). Gangs are also becoming more violent, and are becoming more involved in narcotic sales and drug trafficking (Hagdorn 1998). Additionally, research has shown that the predictors of fear of crime in general are different than fear associated with gang crime (Meeker 2000). Second, this research makes a contribution to the theoretical debate by investigating the applicability of defensible space and incivilities theories in explaining perceptions of fear of gang crime. Finally, residents are asked to identify two areas in their neighborhoods. One area where they perceive the fear of gang crime is high and another where fear of gang crime is low.

Similar research has been undertaken. Three studies examine defensible space characteristics and their effects on perceived vulnerability to crime among police, criminals and residents (Ham-Rowbottom, Gifford, and Shaw 1999; Macdonald and Gifford 1989; Shaw and Gifford 1994). Fisher and Nasar (1995) examine how prospect, concealment, and blocked escape affect perceived safety on a college campus. While similar to what is proposed here, these investigations constrained respondent selection of areas considered unsafe or vulnerable to crime to those constructed by the researchers. This analysis does not constrain respondents in any way. Survey respondents are free to identify any area at all within their local area. This strategy allows for a more realistic assessment of the environment of such areas.

The findings of this research could have real world benefits for urban residents. First, in attempting to determine if defensible space, incivilities or both of these types of

environmental characteristics are related to perceptions of fear points to possible modifications to existing built environments. For example, residents may personalize property to signal criminals that the property is maintained and defended, thus reducing fear. Findings could also point to proactive urban planning techniques and construction methods that could work to reduce fear. For example, the City of Austin could install more streetlights in areas of perceived high fear to provide surveillance opportunities for residents. Findings of this study could likewise point to design features that could be incorporated into new construction, such as clear viewing of the immediate area surrounding a property, places to sit and view the immediate area, ample outdoor lighting, and a variety of personalized features to symbolize home ownership.

Identifying areas that are perceived as areas of high fear will help police by locating potential areas of gang activity. Similarly, residents, due to cues or indicators from the urban environment, may incorrectly categorize certain areas as “fear spots”, when in reality there is little or no gang-related criminal activity in the area. Identification of such areas will aid local authorities and neighborhood associations in reducing the fear of gang crime by targeting areas for site renewal and education of local residents.

CHAPTER 2

LITERATURE REVIEW

The relationships between the built environment, crime, and the fear of crime have received a great deal of attention since Jane Jacobs and Oscar Newman first made their observations in the 1960s and 1970s. Jane Jacobs wrote in 1961 that citizens of urban environments do not feel safe walking their own streets (Wagner 1997), and concluded that the safest areas were those that were easily surveillable by residents (Perkins et al. 1993). Oscar Newman further investigated the relationship between the built environment and crime and developed a theory centered on the idea of defensible space (Newman 1973). Other research has examined how social and physical incivilities, or signs of social disorder, are related to the fear of crime. The following section provides more detail on the tenants of defensible space and incivilities theories and how they explain fear of crime.

Defensible Space Theory

Although Jane Jacobs is usually cited as a pioneer in defensible space research, Oscar Newman is credited with developing the concept of defensible space. Newman defines defensible space as “a model for residential environments that inhibits crime by creating the physical expression of a social fabric that defends itself” (Newman 1973).

Defensible space theory states that architectural design can produce a feeling of ownership or territoriality among residents, which compels them to protect their living space (Hope 1995). Potential offenders sense this territoriality, and refrain from criminal activity in areas that are perceived as defended. Potential offenders refrain from criminal activity because they make rational decisions regarding the potential for apprehension (Cisneros 1995). If the potential offender concludes that the chances for getting caught are high, he/she will refrain from criminal activity.

Real and symbolic barriers as well as surveillance opportunities play important roles in defensible space theory. Real barriers are fences, walls, and other objects that inhibit entrance (Perkins 1993). Symbolic barriers are objects that do not physically impede potential offenders from entering. They do, however, signify where personal space starts and public space ends (Perkins 1993). Real and symbolic barriers have been referred to as displays of territorial concern (MacDonald and Gifford 1989). Surveillance opportunities allow clear viewing or monitoring of an area and include outdoor lighting and sitting areas (Perkins 1993). While the majority of research in defensible space theory has primarily focused on the relationship between real and symbolic barriers and surveillance opportunities and the occurrence of crime (Cisneros 1995; Perkins et al. 1993; Taylor et al. 1984; Macdonald and Gifford 1989; Shaw and Gifford 1994; Ham-Rowbottom, Gifford and Shaw 1999; Wagner 1997; Donnelly and Kimble 1997; Lasley 1998; Phillips 1996; Crystal 1995), researchers have also attempted to assess the applicability of the theory to explaining fear of crime. A study conducted in Glasgow, Scotland examined fear of crime among 33 residents living near a park that installed outdoor lighting, which according to defensible space theory provides surveillance

opportunities for residents. The analysis showed that outdoor lighting did little to reduce the fear of victimization (Nair, Ditton and Phillips 1993). Gated communities, a type of barrier, should, according to defensible space theory, repel criminals. Research conducted in gated and nongated, high-income and low-income communities has shown that high-income, gated communities report a higher perceived sense of safety than their high-income, nongated counterparts. However, no difference in perceived sense of safety was found between nongated and gated low-income communities (Wilson-Doenges 2000). Taylor and others (1984) demonstrated that defensible space features in the form of real and symbolic barriers indirectly influence fear at the block level through increasing territorial functioning, which they defined as the control over access to an area and the activities that go on there. Street closures and traffic diverters have been cited as a viable method to control crime and the fear of crime. Traffic diverters are devices designed to modify traffic flow. Street closures and traffic diverters increase surveillance opportunities by increasing the number of local residents using the streets, which in turn makes recognition of strangers more likely (Wagner 1997). Wagner (1997) found that residents in a neighborhood that installed traffic diverters were less fearful than residents in the control neighborhood.

Social and Physical Incivilities

The incivilities model has several variations (Covington and Taylor 1991). The central idea is that incivilities, which are defined by Perkins and others (1993) as symbols of social disorder, send cues or messages to residents about the underlying condition of the neighborhood (Covington and Taylor 1991). Residents react to these cues by

associating them with a breakdown of formal and informal social controls, and subsequently perceive a greater risk of personal victimization (Box, Hail and Andrews 1988; Covington and Taylor 1991; Fisher and Nasar 1995; Perkins et al. 1993; Perkins and Taylor 1996; La Grange, Ferraro and Supancic 1992). Researchers have examined both social and physical incivilities (Covington and Taylor 1991; La Grange, Ferraro and Supancic 1992; Perkins and Taylor 1996; Perkins et al. 1993). Physical incivilities include abandoned buildings, disrepair or dilapidation of the built environment, litter, abandoned cars, and graffiti. Social incivilities include prostitutes, loitering youth gangs and homeless persons, drug dealing, and rowdy behavior. Several analyses find support for the relationship between social and physical incivilities and the fear of crime (Box, Hale and Andrews 1988; Covington and Taylor, 1991; Lewis and Maxfield 1980; Perkins and Taylor 1996; Rohe and Burby 1988; Taylor and Covington 1993). Others have found that the effects of incivilities are mediated through perceptions of risk of victimization (LaGrange, Ferraro and Supancic 1992).

Errors of Omission and Commission

Research on fear of crime has three limitations. First, most research does not focus on the fear of crime associated with specific groups, such as gangs. This lack of specificity may have to do with the lack of reliable data on gang crime (Hagedorn 1998). In Texas, for example, police departments report a total of 3,550 gangs in Texas, sheriffs report 650, and prosecutors report a total of 1,300 gangs in their jurisdictions (Office of the Attorney General 1999). There are also problems with the definition of a gang, which can vary widely geographically and within jurisdictions, thereby subsequently causing

measurement error (Hagedorn 1998). Gang crime may also be underestimated. It is becoming increasingly more difficult to identify gang members because wearing colors or other gang paraphernalia is becoming less common, especially among gangs with profit-oriented motives (Hagedorn 1998). The second issue concerns how the fear of crime is measured. According to Lane and Meeker (2000),

most studies have not examined fear of particular crimes (Ferraro, 1995; Roundtree and Land, 1996; Warr, 1994). Measures of fear of crime are often broad (i.e., the standard General Social Survey and Gallup questions) and fail to delineate in their wording either types of crime (e.g., "random" assaults by gang members or other strangers versus "nonrandom" assaults by intimates). In fact, neither of the two most widely used questions in surveys even mentions the word *crime*, making it difficult to understand respondents' answers (Ferraro, 1995; Lagrange and Ferraro, 1987, 1989; Warr, 1994).

Finally, related research has constrained respondent selection of areas considered unsafe or vulnerable to crime to those constructed by the researchers. This present study addresses these limitations of past research in the following ways. First, the focal point of this research concerns fear associated with a specific group, a gang, which has been shown to have different predictors than those associated with fear of crime in general (Lane and Meeker 2000). Second, the question used to gather information on fear of crime specifically asks about the fear of gang crime, which eliminates any ambiguity about the exact meaning of the question. Third, I ask residents and police to identify an area they perceive as one where the fear of gang crime among residents is high, and another area where they perceive residents are unafraid of gang crime. Survey respondents are not confined to selecting areas constructed by the researcher and are free to identify any area at all, thus allowing for a more realistic assessment of the environment of such areas.

CHAPTER 3

RESEARCH METHOD

Working Research Questions

The central purpose of this research is to determine if either theoretical perspective is useful in discriminating areas of high fear of gang crime from low fear areas. The following hypotheses emerge based on past research:

Hypothesis 1: Locations perceived by residents as areas where fear of gang crime is highest will consist of fewer defensible space characteristics than those perceived as areas of low fear.

Hypothesis 2: Locations perceived by residents as areas where fear of gang crime is highest will consist of more physical incivilities than those perceived as areas of low fear.

Data Sources

Fear locations: block locations for the analysis were collected through surveys of East Austin neighborhood association leaders and East Austin police officers.

Defensible space and incivilities: defensible space and incivilities characteristics of block locations identified by police and resident association leaders were measured through the Block Environmental Inventory (BEI). The Block Environmental Inventory (BEI), an instrument developed to measure environmental characteristics at the block level, has effectively reduced the problems of relying only on the subjective reports of residents by focusing exclusively on inanimate objects and using trained raters (Perkins et al. 1990, Perkins et al. 1993, Perkins and Taylor, 1996). The BEI allows for the recording of more than 50 characteristics in three categories that have been found to be associated with the fear of crime and actual crime rates (Perkins n.d.).

Study Area

There are several reasons to focus on Texas and on Austin. There is general agreement among Texas law enforcement officials that there is a significant gang problem in Texas, although it has appeared to stabilize after a period of growth (OAG 1999). The number of gangs in Texas varies from 650 to 3,550, depending on the jurisdiction reporting (OAG 1999). Gangs in Texas' largest cities are also becoming more violent, more numerous, and better organized (OAG 1998). Austin, Texas is an ideal area in which to conduct research of this nature because it is a large, fast-growing city. From 1990 to 2000, Austin's population grew 41 percent from 465,422 to 656,526 (U.S. Bureau of the Census 2001). Austin, Texas has also experienced a significant increase in gang-related criminal activity during the 1990's, resulting in the formation of the Gang Suppression Unit in 1993 (City of Austin Police Department 2001). I will focus on East

Austin specifically because gang membership is typically higher among minority populations and the economically distressed (Egley 2000).

Data Collection

Fear Locations. Collection of data on the location of fear spots in East Austin was accomplished by surveying 112 neighborhood association leaders in East Austin and police officers in the gang suppression unit and central east subcommand of the City of Austin police department. Resident association leaders received the survey by mail; police officers completed the survey at their command headquarters. Residents in Austin self-define their neighborhoods. Address information on neighborhood associations for survey purposes was gathered from the City of Austin Planning Department, which surveyed neighborhood associations between 1998 and 2001. Neighborhood associations were selected based on location and zip code. An association was considered an East Austin neighborhood association if all or even a small portion of the zip code boundary of the association leader's mailing address fell within the area contained within State Highway 290 East, Interstate Highway 35, State Highway 71 East, and the East Austin City Limit (see Figure 1).

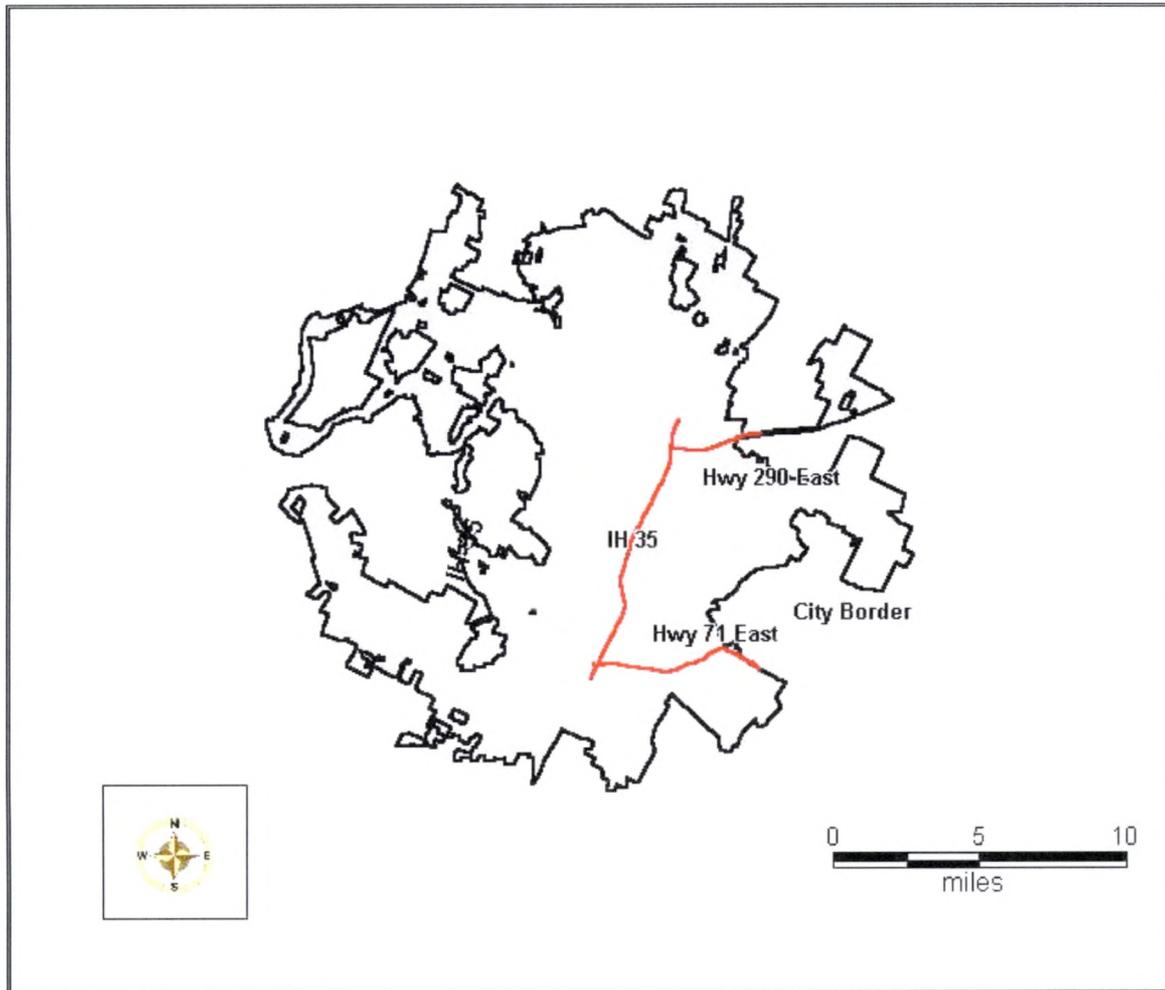


Figure 1. Study Area.

I followed standard mail survey practices for collecting location information from resident association leaders. I conducted three mailings of resident association leaders to insure a sufficient response rate. All association leaders received a survey instrument, cover letter, and a self-addressed stamped envelope during the first mailing. Finally, phone calls were made to all association leaders who did not return the survey after completion of all three mailings. Police surveys were completed during morning “show-ups,” which are essentially musters held daily within each command. The central east subcommand crime analyst agreed to collect data from as many police officers working in

in the central east command as possible. Survey data from the gang unit was collected in a similar fashion.

Defensible Space and Incivilities.

I used the BEI for assessing defensible space and incivilities characteristics of eight randomly selected residential properties per block, as is recommended by the author of the BEI (Perkins n.d.). Using eight residential properties per block insures that the characteristics of residential properties are accurately measured. If there are eight or less residential properties on the block in question, all properties were utilized.

To randomly select residential properties, I :

1. Assigned a number to residential properties on each block, and
2. Selected eight residential properties randomly from each block using a random number table.

Variables

The dependent variable for this study is a dichotomous variable representing high- and low- fear locations identified by neighborhood association leaders and police responding to the surveys. The dependent variable is dichotomous because there are only two possible classifications for locations identified by survey respondents: high-fear or low-fear areas. There are two categories of independent variables, which are based on defensible space and incivilities theories of fear of crime.

Dependent Variable:

High- or Low-Fear Area. Police and resident association leaders identified high and low-fear block locations by survey. A location is coded “1” if it has been designated as an area of high fear of gang crime, “0” if it has been classified as an area of low fear.

Independent Variables:

Defensible Space Characteristics. Defensible space characteristics include several indicators measured at the block and property level, such as adequate lighting, surveillance opportunities, and barriers to entry.

Incivilities. Physical incivilities include trash, vandalism, and dilapidated buildings.

Definitions and Measurement

Neighborhood Association Leader Locations: The following questions will address information on areas where resident association leaders perceive fear of gang crime to be highest and lowest (see Appendix).

1. In what area of your neighborhood is the fear of being victimized by gangs or gang members the highest? Please use a street name and the block number associated with the area.
2. In what area of your neighborhood is the fear of being victimized by gangs or gang members the lowest? Please use a street name and the block number associated with the area.

Police Officer Locations: Police officers will receive similar questions. However, because police officers are familiar with most of East Austin, the scope of the questions are at the city rather than neighborhood scale.

1. In what area of East Austin is the fear of being victimized by gangs or gang members the highest? Please use a street name and the block number associated with the area.
2. In what area of East Austin is the fear of being victimized by gangs or gang members the lowest? Please use a street name and the block number associated with the area.

Defensible Space Characteristics and Social and Physical Incivilities: I use the BEI to measure ten variables of block locations specified by survey respondents. Eight of the ten variables operationalize defensible space concepts and the remaining two measure physical incivilities concepts. Each of these has been used in past research to operationalize aspects of defensible space and incivilities theories (Perkins et al. 1990, Perkins et al. 1993, Perkins and Taylor, 1996). Below are the ten variables I used and a description of how I measured them.

Defensible Space Characteristics:

1. **Percent of residences with security, alarms, or block watch signs.** I examined eight sample homes on each block for security signs such as alarms, patrol or block watch stickers on doors and windows. If the property had any of these or related items, the house was coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes on the block with any of the aforementioned security-related characteristics.
2. **Percent of residences on block with street visibility.** For each sample home I determined if the sidewalk or street was visible from the first floor window. If the street was visible from the first floor, the house was coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes on the block with an obstructed view of the sidewalk or street.
3. **Percent of residences with barrier on property.** For each sample home I determined if it had a fence, wall or hedge on the property. If so, the house was coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes on the block with any kind of barrier.

4. **Percent of residences with private unbroken light in front of property.** I looked for intact porch lights or any other outdoor lighting on each of the sample homes. All homes with intact lights were coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with private unbroken lights.
5. **Percent of residences with security bars or gates.** I examined the sample homes for bars or gates on front and side windows. Homes with bars or gates on it's windows were coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with security bars or gates on windows.
6. **Percent of homes with a sitting area.** I examined each sample home for the presence of a sitting area such as a porch or stoop large enough to sit on. Homes with a sitting area were coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with a sitting area.
7. **Percent of homes with signs of a dog.** I examined each sample home for the evidence of the presence of a dog, such as a "beware of dog" signs, droppings, and dog houses. Homes with evidence of a dog were coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with evidence of a dog.
8. **Number of decorations.** I examined each sample home for evidence of decorations, which include any statuettes, planters, window boxes, and awnings. The measurement for my analysis is the average number of decorations per residence.

Physical Incivilities:

9. **Percent of residences with presence of litter.** For each home I gauged whether all the litter on the property and halfway across the street could fit into a shoebox if swept up. Homes that met the requirement were coded as "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with shoebox litter on and around the property.
10. **Percent of residences with chipped exterior paint or broken fixtures.** I examined each home for peeling paint and broken fixtures. Peeling paint must be such that it indicates a substantial lack of exterior maintenance. Homes with either of these characteristics were coded as a "1" and "0" if otherwise. The measurement for my analysis is the percent of homes with chipped exterior paint or broken fixtures.

Data Manipulation

I used the Statistical Package for the Social Sciences (SPSS) to manipulate and analyze data collected for this analysis. The units of analysis of this study are the blocks identified by survey respondents. Accordingly, I aggregated the ten variables outlined earlier to the block-level. In the analysis section I describe the data and perform hypothesis testing. Description is important because it gives the reader an overall sense of the characteristics of the study population. In the descriptive portion of the analysis section, I describe incivilities and defensible space characteristics for high- and low-fear block locations. All ten predictors are measured at the interval level of measurement. Accordingly, I describe all interval level variables using the mean measure of central tendency.

In the inferential portion of the analysis section I test the two specific hypotheses outlined in the working hypotheses section. I start with bivariate statistical tests between the dependent variable and the ten predictors to determine which characteristics appear to be statistically associated with the dependent variable. The dependent variable of interest is dichotomous (“1” if the area is a high fear area and “0” if otherwise). Consequently, I conduct two-sample t-tests for discerning differences in mean values among high- and low-fear areas. Because of the nature of the dependent variable, Ordinary Least Squares (OLS) regression is ill suited for the analysis (Demaris 1992; Hosmer and Lemeshow 1989). Logistic regression is the analytical tool of choice for analyzing dichotomous data (Demaris 1992; Hosmer and Lemeshow 1989). Consequently, I used logistic regression analysis to determine which defensible space and incivilities indicators are useful in

discriminating high fear areas from low fear of gang crime areas. A logistic regression analysis provides an estimate of each defensible space and incivility characteristic while simultaneously controlling for the effects of the other predictors. Only predictors that are statistically associated with the dependent variable at the bivariate level are used in the logistic regression analysis. In order for the indicators of either theory to be considered useful, the sign of the relevant predictors must be in the direction outlined by the appropriate hypothesis and statistically associated with dependent variable.

CHAPTER 4

ANALYSIS OF DATA

Survey Response Discussion

Block locations for the study were collected through surveys of Austin Police Department (APD) officers in the central-east subcommand and gang suppression unit and 112 East Austin neighborhood association leaders. After the third mailing, I telephoned neighborhood association leaders that did not respond to the survey. Ultimately, seven surveys were returned because of incorrect addresses or the respondent no longer lived at the address. Sixty-two surveys had no response at all. Forty-three of the 112 neighborhood association leaders responded to the survey, for a response rate of 38 percent (see Table 1). Austin police completed a total of 40 surveys for an estimated response rate of 29 percent. An estimated response rate is reported for two reasons. First, Austin police commands were unable to divulge the denominator for calculating the response rate, the total number of patrol officers, following the terrorist attack on September 11, 2001 for security reasons. Second, the number of police officers in that area of Austin is never static, but is in a constant state of flux. However, I was given an estimate of 140 officers working in the central east subcommand at any given time. Using this figure for the denominator, a total of 29 percent of officers responded to the survey. However, the response rate is likely higher than 29 percent because the number of

officers used for the denominator (140 officers) contains administrative and support officers, who were not part of the survey.

Table 1. Survey Response Summary.

Disposition	Police Surveys	Association Surveys
Completed	40	43
Incorrect Address/ No Longer at Residence	--	7
No Response	--	62
Response Rate	29%	38%
Total	140	112

Survey Respondent Characteristics

Table two presents demographic and other characteristics for police and neighborhood association leader survey respondents. According to table two, an overwhelming majority of resident association leaders have lived in East Austin for more than 10 years (90.5 percent) and have been involved in their neighborhood associations for more than ten years (40.5 percent). Neighborhood association leaders are white (40.5 percent), male (59.5 percent), and have a mean age of 54 years who have at least some college education (62 percent). It should be noted that while most neighborhood association leaders responding to the survey are white, the majority (54.7 percent) of the respondents are African American or Hispanic. In comparison, most police officers responding to the survey have five years or less experience as police officers in East Austin (60 percent), are much younger than association leaders (mean age of 37.4 years) and are Hispanic (42.5 percent). Nearly three-fourths of police officers work in the central-east subcommand (72.5 percent).

Table 2. Survey Respondent Characteristics.

Survey question	Response	Residents		Police	
		N	Percent	N	Percent
Length of Time Living in East Austin	1 to 5 years	1	2.4	-	-
	6 to 10 years	3	7.1	-	-
	More than 10 years	38	90.5	-	-
Length of Time with Neigh. Association	Less than a year	2	4.8	-	-
	1 to 5 years	13	31.0	-	-
	6 to 10 years	9	21.4	-	-
	More than 10 years	17	40.5	-	-
	Missing	1	2.4	-	-
Central East or Gang Unit?	Central East Command	-	-	29	72.5
	Gang Unit	-	-	11	27.5
Length of Time on Force in East Austin	Less than a year	-	-	4	10.0
	1 to 5 years	-	-	20	50.0
	6 to 10 years	-	-	7	17.5
	More than 10 years	-	-	9	22.5
	Missing	-	-	-	-
Race/Ethnicity	White	17	40.5	14	35.0
	Hispanic	9	21.4	17	42.5
	African American	14	33.3	6	15.0
	Other	0	0.0	3	7.5
	Missing	2	4.8	0	0.0
Gender	Female	17	40.5	37	92.5
	Male	25	59.5	3	7.5
Education	H.S. Diploma or GED	5	11.9	3	7.5
	Technical School	0	0.0	1	2.5
	Some college	13	31.0	21	52.5
	College degree	13	31.0	12	30
	Some graduate school	2	4.8	2	5
	Graduate school	9	21.4	1	2.5
Average Age		-	54.0	-	37.42

High or Low Fear of Gang Crime Locations

Police and neighborhood association leaders identified a total of 38 unique block locations. Nineteen of these block locations were identified as high-fear areas, and the remaining 19 locations were identified as low-fear areas. Nine blocks identified by survey respondents were either completely nonresidential (8 blocks) or vacant (1 block). These

properties fall outside the scope of hypothesis testing, which is centered on the characteristics of residential properties only. Consequently, 11 high-fear and 18 low-fear blocks for a total of 29 are used in the analysis. Figure two shows the locations of the blocks identified by survey respondents.

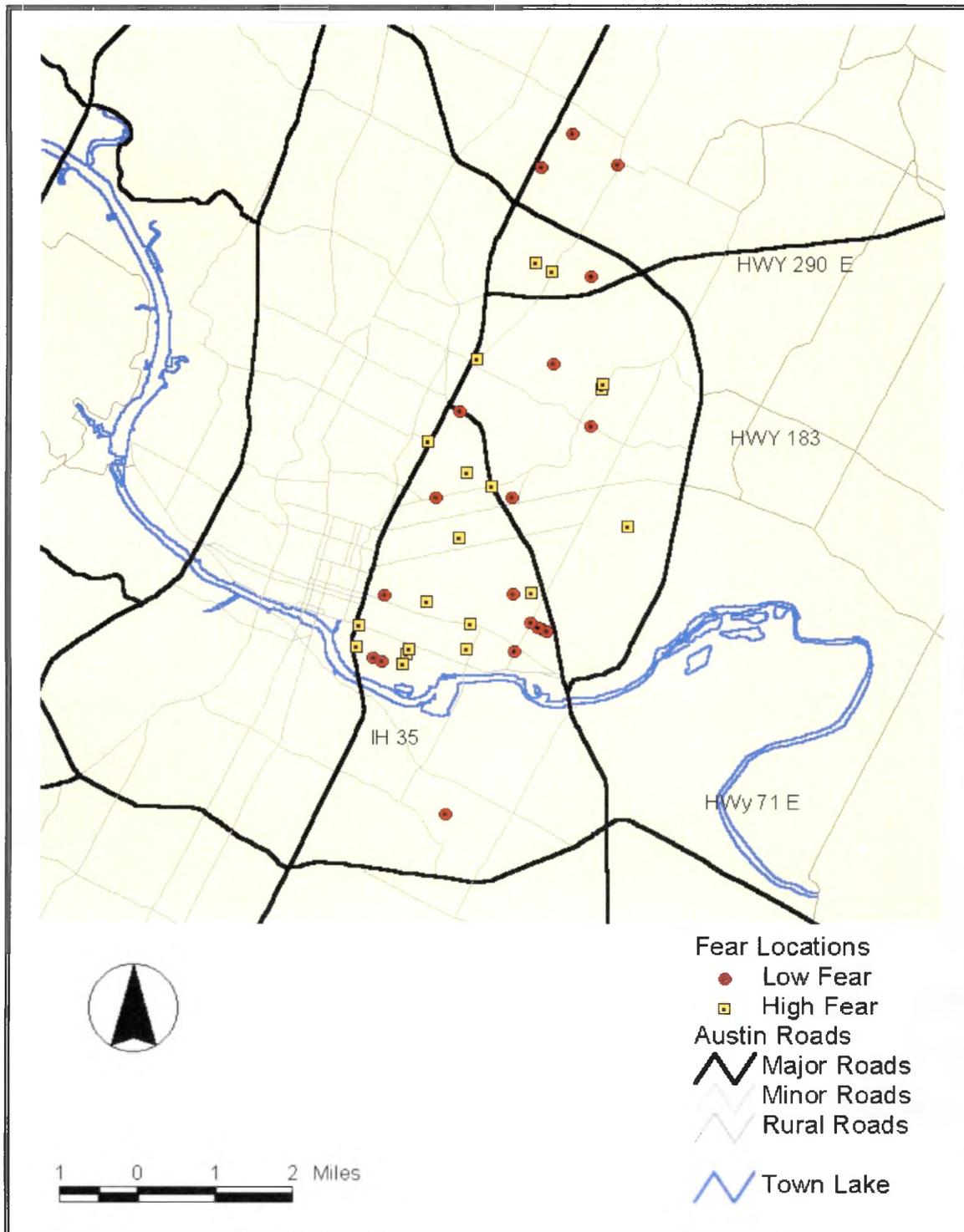


Figure 2. Locations of High and Low Fear Blocks.

Description of Independent Variables

Table 3 describes defensible space and incivilities characteristics by block type. Overall, most homes on each block have outside sitting areas (77.87%), private outdoor lighting (60.45%), a clear view of the street (62.08%), and about half of homes on each block have a barrier (49.55%). Twenty-three percent of homes or less on each block have indications of security systems, litter on or near the property (21.31%), bars on windows (24.32%), or signs of a dog (10.17%). Lack of exterior maintenance is very rare overall. On average, less than 5 percent of homes on each block are in serious disrepair.

Bivariate Statistical Tests of Hypotheses One and Two

T-tests for differences in means show that high and low fear blocks differ substantively on only two defensible space measures (Table 3). Thirty-seven percent of homes on high fear blocks have bars on windows, compared to only 16 percent of homes on low fear blocks ($p = .026$). Nearly 73 percent of homes on low fear blocks have private outdoor lighting, in contrast to 40 percent of homes on high fear blocks ($p = .007$). The remaining defensible space indicators were found statistically unrelated to how resident association leaders characterize areas in terms of gang-related fear. There is no statistical difference between high and low fear areas concerning the two incivilities predictors, litter on or near the property and lack of exterior maintenance (Table 3).

Table 3. Descriptive Statistics and Bivariate Statistical Tests.

Variable	All Blocks	Low Fear	High Fear	Mean Difference	Significance
Defensible Space					
Decorations	3.03	2.78	3.45	.6759	N.S.
Alarms	23.08%	27.00%	16.70%	10.32%	N.S.
Barrier	49.55%	46.23%	54.98%	8.75%	N.S.
Bars*	24.32%	16.30%	37.45%	21.14%	.026
Dog Signs	10.17%	12.00%	7.18%	4.80%	N.S.
Lighting*	60.45%	72.90%	40.10%	32.80%	.007
Porch	77.87%	78.24%	77.27%	.97%	N.S.
Visibility	62.08%	60.30%	65.00%	4.70%	N.S.
Incivilities					
Chipped Paint	3.51%	3.24%	3.95%	.71%	N.S.
Litter	21.31%	15.28%	31.20%	15.90%	N.S.
Number of Cases	29	18	11	--	--

*Significant at the 0.05 level.

Logistic Regression Analysis

Table 4 shows results from the logistic regression analysis. Only two of the ten variables, bars on windows and private outdoor lighting, were found statistically related to perceptions of neighborhood association leaders at the bivariate level, and are the only variables used at this stage of the analysis. Logistic regression is used to determine if either of the above predictors remains significant while controlling for the other factor simultaneously. A global test of model adequacy, the model chi-square statistic, is analogous to the F statistic in ordinary least squares (OLS) regression. The model chi-square tests whether all coefficients in the model are equal to zero (Demaris 1992). The chi-square value is 16.936 and is statistically significant ($p = .001$), indicating that at least one coefficient in the regression model is not equal to zero.

Table 4. Logistic Regression of Block Type on Defensible Space.

Predictor	Beta	Std. Error	Chi-Square	Significance	Exp(B)
<i>Private Outdoor Lighting</i>	-0.058	0.022	6.906	0.009	0.944
<i>Bars on Windows</i>	0.065	0.026	6.092	0.014	1.067
<i>Constant</i>	1.026	1.123	0.835	0.361	2.790
<i>Pseudo R-Square</i>	60.2%	--	--	--	--
<i>Model Chi-Square Statistic</i>	--	--	16.936	.001	--

Another method used to determine model adequacy is by assessing how much variation is accounted for by the predictor variables. While there is no true measure of variation in logistic regression, a "pseudo" R-square can be calculated that is roughly similar to the R-square in OLS (Demaris 1992). Outdoor lighting and bars on windows explain 60.2 percent of the variation in block type in the sample. Assessing the model's ability to classify correctly the dependent variable is another method for determining model fitness (See Table 5). Overall, approximately 86 percent of blocks were classified correctly. The model was better at classifying low fear areas, categorizing nearly 89 percent correctly. However, the model was only somewhat less successful at classifying high fear areas. The model identified almost 82 percent of high fear blocks correctly. Overall, the model fits the data fairly well. But there is room for improvement. Forty percent of the variance is left unaccounted for, and almost 20 percent of high fear blocks were not classified correctly. This outcome indicates that important predictor variables may have been left out of the model.

Table 5. Block Type Classification Table.

Classification Table			
	Low Fear	High Fear	Percent
Low Fear	16	2	88.9%
High Fear	2	9	81.8%
Overall Classification:			86.2%

Consistent with the Chi-square test for model adequacy, both outdoor lighting ($p = .009$) and bars on windows ($p = .014$) remained statistically significant while controlling for the other predictor variable. The coefficients of variables in the logistic regression model estimate the change in the log odds of being coded as a high-fear location for a one unit change in the predictor variable. The directions of the regression coefficients are consistent with the findings at the bivariate level as well. Blocks with a higher concentration of homes with private outdoor lighting have a lower log odds of being regarded as areas of fear by resident association leaders. Blocks with a higher concentration of homes with bars on windows have a higher log odds of being perceived as areas where residents are afraid of gang victimization. However, the odds ratios show that there is not a great deal of difference between block types. The odds ratio for private outdoor lighting, 0.944, shows that blocks with a higher concentration of homes with outdoor light are only somewhat less likely to be perceived as less fearful areas. The odds ratio for bars on windows, 1.067, shows that blocks with a higher concentration of homes with bars on windows are just slightly more likely to be perceived as high fear areas.

Predicted Probabilities

While the results may not lend concrete support for defensible space theory, they can still be used to help identify areas where fear of gang crime may be pervasive among residents by examining the extent of lighting and bars on windows in a given area. Identification of such areas can be useful to police, urban planners, homeowners, and homebuilders to improve the safety and well being of East Austin residents. Identification is accomplished by predicting probabilities for individual cases based on values of predictor variables, which in this case are outdoor lighting and bars on windows. A logistic regression model allows the researcher to calculate the probability that an observation is coded with a "1" on the dependent variable. In this case, being coded as a "1" on the dependent variable indicates that survey respondents believe residents are fearful of gang-related criminal activity on a particular block. Table 6 shows probabilities associated with several levels of outdoor lighting and bars on windows. The first probability is calculated for the average of both independent variables. The average block, where 61 percent of the homes have private outdoor lights and 24 percent of homes have bars on windows, has only a 12 percent chance of being perceived as a fearful area. In contrast, a block where all homes have bars on windows and no outdoor lighting has nearly a 100 percent chance of being considered a high fear area.

Table 6. Predicted Probabilities

	Lights	Bars	Probability
Mean	61%	24%	12.15%
1 Std. Dev. Above	94%	49%	9.39%
1 Std. Dev. Below	28%	0%	16.47%
100 % Lights	100%	0%	0.30%
100 % Bars	0%	100%	99.85%

CHAPTER 5

FINDINGS

A major purpose of this study is to assess the applicability of defensible space and incivilities theories in understanding how the built environment influences perceived fear of gang crime. Defensible space, according to the theory, reduces fear through features of the built environment, which encourage dwellers to protect and defend their property. The incivilities model states that signs of disorder or incivilities provoke fear of victimization by sending messages of social disarray to residents and passersby.

At the bivariate level, tests for difference in means found no statistical association between high and low fear areas in regard to the majority of defensible space characteristics. Defensible space theory did, however, find mixed support with two defensible space measures, outdoor lighting and bars on windows. Blocks with more homes with private outdoor lighting are perceived by association leaders as areas where residents are not fearful of gang crime. Contrary to hypothesis one, however, high fear areas have a higher concentration of homes with bars on windows. Defensible space theory suggests that bars on windows would encourage a sense of security among residents because they communicate the defended and protected nature of the environment. The results at the bivariate level suggest, however, that this characteristic may have the opposite effect on perceived fearfulness of residents.

Hypothesis two states that blocks with higher concentrations of homes with incivilities in the form of litter and lack of exterior maintenance would be associated with perceptions of gang-related fear among residents. The analysis found that high and low fear areas are nearly identical in regard to the concentration of homes with lack of exterior maintenance. The difference in the percent of homes with litter on or near residential property was found statistically insignificant. Consequently, litter and lack of exterior maintenance were not included in the logistic regression analysis. The logistic regression procedure confirmed the findings at the bivariate level. In short, defensible space theory found mixed support at the bivariate and multivariate level of analyses, while the incivilities model found none at the bivariate level, and could not be confirmed at the multivariate level.

CHAPTER 6

IMPLICATIONS AND CONCLUSIONS

Are defensible space and incivilities theories useful in predicting locations where fear of gang crime might be extensive? The incivilities perspective does not appear to be of any use in understanding fear of gang crime in this context. However, there are some possible explanations that may be responsible for these findings. There appears to be a fairly substantial difference (16 percent) between high and low fear areas with regard to litter on or near the property, but the p-value for the test of mean differences is .127. While not quite at traditional levels of statistical significance (p-value of .05 or less), it is certainly close. An explanation for such a seemingly substantive finding lacking statistical significance may be due to the sample size. Small sample sizes contain less statistical power to discern effects that may otherwise be detected by larger samples (Taylor et al. 1984). Another explanation for the poor performance of the incivilities model may be due to a lack of relevant predictors in the analysis. There were only two in the analysis, but two widely used indicators of physical incivilities, vandalism and graffiti, were not included in this study because their occurrence has been sharply curtailed as a result of police intervention in East Austin.

The findings suggest that defensible space may be of some use in understanding how the environment influences perceptions of fear of gang crime. But there are some

qualifications here as well. First, defensible space is most frequently used to discern how the characteristics of a study participant's own dwelling is related to his or her fear of crime. This study, on the other hand, presents a departure from this application by examining how the built environment in the form of defensible space and incivilities characteristics are related to the fear of persons external to that environment. It may be that certain defensible space features in this context, such as bars on windows, act more like the theoretical behavior of incivilities – they send cues or signals that communicate the potential for gang-related criminal activity. Finally, three defensible space measures (signs of a dog, sitting areas, and presence of security related products) were found to be statistically unrelated to perceived fear. However, there appear to be sizable differences in means among block types for these predictors, and were in the hypothesized direction posed by defensible space theory. Again, the problem may be a lack of statistical power related to the size of the sample, which may be obscuring significant results (Taylor et al. 1984).

CHAPTER 7

REPLICATION AND QUESTIONS FOR FUTURE STUDY

Study Limitations

This study represents an exploration of the applicability of two widely used theories in fear of crime research to fear of crime associated with specific groups, gangs. Consequently, there are several methodological considerations that may have some bearing on the results of the study. These issues would have to be addressed before a definitive answer can be supplied concerning the usefulness of both theories in this context.

Data Collection Methods. Only gang suppression unit and the central-east subcommand police officers were surveyed for block locations, rather than a sample of all officers working on the east side of Austin. Surveying a sample of all police officers may produce locations with characteristics that may alter the findings of this analysis. Similarly, results may be skewed due to the nonresponse of a majority of East Austin neighborhood groups during the survey process. I also gathered data from neighborhood association leaders rather than the neighborhood residents themselves under the assumption that the experiences of the neighborhood association leaders would allow them to speak accurately on the behalf of residents. Finally, residents may have been unable to convey

accurately the precise locations of high or low fear areas for this analysis. This situation would lead to a significant degree of measurement error.

Quantity and Type of Independent Variables. As stated earlier, the incivilities model was underrepresented in this analysis. Other relevant indicators of physical incivilities as well as defensible space should be found if possible and incorporated into the research process to provide a better test of both theories.

Sample Size. A potential reason for lack of statistical significance may be related to sample size (Taylor et al. 1984). Future research should replicate this study with an appropriate number of locations to ensure that every variable has a chance to reach statistical and substantive significance. Consequently, the results of this analysis should be interpreted with caution.

Study Area. Two widely used measures of physical incivilities, vandalism and graffiti, were not used because they are not widely found in East Austin due to police efforts to reduce their occurrence. This may indicate the need for a more suitable study area in which to test the incivilities perspective.

Questions For Future Study

As this research study progressed, questions concerning how commercial property and the type of neighborhood are related to fear of gang crime were uncovered, as well as the thought that other methodologies may be conducive to the analysis of the type of data

used in the study. Addressing these issues may help to increase knowledge concerning gangs and gang crime:

Commercial Property. Nine (24 percent) out of the 38 blocks reported by survey respondents were completely nonresidential. An exploratory regression analysis of block type on property type shows that commercial properties are more than 13 times more likely to be identified as high fear areas than areas with some residential property. Additionally, commercial blocks were more likely to have convenience stores or bus stops on or near their locations. By their nature, convenience stores and bus stops experience extensive loitering-like behavior, which suggests that social, not physical incivilities may be at work in these areas. Future research should consider examining the role of such areas and social incivilities in the production of fear of gang crime.

Homogenous Study Area. This analysis was conducted on two qualitatively different types of neighborhoods--traditional downtown neighborhoods, and newer suburban neighborhoods further away from the Austin's urban center. Residents in different types of neighborhoods may react differently to various characteristics of the built environment. Future analyses may want to compare neighborhood types or focus on a more homogenous group of block locations for theoretical testing.

Group Differences. A variety of data was collected during the data collection process, including demographic information. Examining how gender, race/ethnicity, and age impact perceptions of areas would provide useful information. A comparison of police

and resident association leader perceptions would extend the understanding of fear of criminal activity as well.

Spatial Point Pattern Analysis. The data collected for this study is especially appropriate for examining whether there is in fact any clustering of fear areas observed by eye. Future research should collect and model similar point data to test if the distribution of fear areas in East Austin is completely random or does exhibit a systematic pattern (Bailey and Gatrell 1995). After the identification of any fear clusters, a more comprehensive set of predictors can be assembled after examining the areas to provide a more sophisticated model of fear of gang crime in East Austin. In summary, this study tested the applicability of two widely utilized theories in general fear of crime analyses to perceptions of fear of gang crime. While the results were less than satisfying, they could still be used to help identify possible areas of fear of gang-related crime. Second, this study uncovered several interesting avenues for future research that may help to further explain how areas are perceived in terms of fear of gang crime. Having accomplished these two items, this research made progress in attaining its goals of increasing knowledge and understanding of the processes that shape fear of crime in East Austin, Texas.

APPENDIX**Neighborhood Association Survey Instrument**

1. How long have you lived in East Austin?

1. Less than a year
2. 1 to 5 years
3. 6 to 10 years
4. More than 10 years

2. How long have you been involved with the leadership of your neighborhood organization?

1. Less than a year
2. 1 to 5 years
3. 6 to 10 years
4. More than 10 years

3. What is your racial/ethnic background?

1. White
2. Hispanic
3. African American
4. Asian
5. Other (Please Specify) _____

4. How old were you on your last birthday? _____

5. Please state your gender:

1. Male
2. Female

6. What is your highest level of education?

1. Less than 9th grade
2. Some high school
3. A high school diploma or GED
4. Technical school
5. Some college
6. College degree
7. Some graduate school
8. Graduate degree

7. Based on your experiences with the residents in your neighborhood, what percent of the crime in your neighborhood would you say is committed by gangs or gang members?

8. Based on your experiences with the residents in your neighborhood, how many street gangs do you think are or were operating in your neighborhood:

1. Now? _____
2. One year ago? _____
3. Five years ago? _____

Please state the degree to which you agree with the following statements:

9. Residents are fearful of being victimized by gangs or gang members in your neighborhood.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

10. Fear of being victimized by gangs or gang members in your neighborhood has **increased** over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

11. Fear of being victimized by gangs or gang members in your neighborhood has **decreased** over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

12. Fear of being victimized by gangs or gang members in your neighborhood has **remained the same** over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

13. **More** residents are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

14. **Fewer** residents are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

15. **More or less the same number** of residents are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

16. In what area of your neighborhood is the fear of being victimized by gangs or gang members the highest? Please use a street name and the block number associated with the area.

17. What would you say is the main reason that fear of being victimized by gangs or gang members is so high in the area of your neighborhood you just mentioned?

18. In what area of your neighborhood is the fear of being victimized by gangs or gang members the lowest? Please use a street name and the block number associated with the area.

19. What would you say is the main reason that fear of being victimized by gangs or gang members is so low in the area of your neighborhood you just mentioned?

20. Over the last 5 years have you or your family or anyone else you know changed their lifestyle because of street gang activities? If so, how? **Please circle all that apply:**

1. Staying inside at night
2. Always locking gates or house doors
3. Avoiding certain areas
4. Traveling in groups
5. Never walking anywhere
6. Carrying a weapon
7. Other _____

21. How often have residents in your neighborhood complained about being the victim of a crime committed by a gang or gang members during the last five years?

1. Never
2. Rarely
3. Sometimes
4. Often

22. Is there any particular type of person in East Austin that is most frequently victimized by gangs or gang members? **Please circle all that apply.**

1. No type of person is more victimized
2. Students
3. African Americans
4. Hispanics
5. Men
6. Women
7. Children
8. Older persons
9. Other gang members
10. Other _____

23. Which types of crimes are most frequently committed by gangs in East Austin? **Please circle all that apply:**

1. Tagging/graffiti
2. Vandalism
3. Theft
4. Burglary
5. Robbery
6. Auto Theft
7. Aggravated Assault
8. Arson
9. Drug sales
10. Rape
11. Other _____

24. Which ethnic/racial groups are involved in gangs in your neighborhood? **Please circle all that apply:**

1. White
2. Hispanic
3. African American
4. Asian
5. Other _____

25. Have you ever been a member of gang?

1. Yes
2. No

26. Have you ever been a member of gang in East Austin?

1. Yes
2. No

27. Which of these ethnic/racial groups are **most involved** in gangs in East Austin?

Please circle all that apply:

1. White
2. Hispanic
3. African American
4. Asian
5. Other

28. Based on the reports of residents in your neighborhood, what kind of gang is most responsible for the crime committed by gang members in your neighborhood over the last year?

1. Hate gangs
2. Street gangs
3. Other _____

29. What type of property is most frequently the target of gang crime in your neighborhood?

1. Residential property
2. Commercial property
3. Public property

30. How often would you say your neighbors “watch out” for strangers or keep an eye out for anything unusual in your neighborhood?

1. Never
2. Sometimes
3. Frequently
4. All the time

31. What would you say is the average yearly household income of residents in your neighborhood **compared to other East Austin neighborhoods**?

1. Residents earn less money per year on average
2. Residents earn about the same amount of money on average
3. Residents earn more money per year on average

32. How would you characterize the racial/ethnic composition of your neighborhood?

1. Few or no minorities live in the neighborhood
2. Some minorities live in the neighborhood
3. Many minorities live in the neighborhood

33. How would you characterize the condition of the homes and yards in your neighborhood?

1. No homes and yards are in good repair
2. Some homes and yards in good repair
3. Most homes and yards are in good repair
4. All homes and yards are in good repair

34. What percent of the property in your neighborhood would you say is nonresidential (i.e., stores, churches)? _____

35. What percent of the residents in your neighborhood have:

1. Bars on the windows _____
2. Bars on the doors _____
3. Fences around their homes _____

36. What percent of the residents in your neighborhood have outdoor lighting to illuminate their property at night? _____

37. In your mind, what is the most serious problem posed by gangs in East Austin today? Please use the space below for your answer.

This concludes the survey. Thank you very much for your time. If you have any questions concerning the survey, please call me (Ward Adams) at: 267-0582 (home), or 463-5526 (work), or contact me by email: wardadams@hotmail.com.

Police Survey Instrument

1. How long have you been an officer on the Austin Police Force?

5. Less than a year
6. 1 to 5 years
7. 6 to 10 years
8. More than 10 years

2. How long have you worked in East Austin as a police officer?

1. Less than a year
2. 1 to 5 years
3. 6 to 10 years
4. More than 10 years

3. What is your rank? _____

4. What unit do you work in? _____

5. What is your racial/ethnic background?

1. White
2. Hispanic
3. African American
4. Asian
5. Other (Please Specify) _____

6. How old were you on your last birthday?

7. Please state your gender:

3. Male
4. Female

8. What is your highest level of education?

1. Less than 9th grade
2. Some high school
3. A high school diploma or GED
4. Technical school
5. Some college
6. College degree
7. Some graduate school
8. Graduate degree

9. What percent of the crime in East Austin would you say is committed by gangs or gang members? _____

10. How many street gangs do you think are or were operating in East Austin:

1. Now? _____
2. One year ago? _____
3. Five years ago? _____

Please state the degree to which you agree with the following statements:

11. East Austin residents are fearful of being victimized by gangs or gang members.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

12. Fear of being victimized by gangs or gang members in East Austin has **increased** over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

13. Fear of being victimized by gangs or gang members in East Austin has decreased over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

14. Fear of being victimized by gangs or gang members in East Austin has remained the same over the last five years.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

15. More residents in East Austin are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

16. Fewer residents in East Austin are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

17. More or less the same number of residents in East Austin are complaining to you of being the victim of a crime committed by gangs or gang members now than five years ago.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

18. In what area of East Austin is the fear of being victimized by gangs or gang members the highest? Please use a street name and the block number associated with the area.

19. What would you say is the main reason that fear of being victimized by gangs or gang members is so high in the area of East Austin you just mentioned?

20. In what area of East Austin is the fear of being victimized by gangs or gang members the lowest? Please use a street name and the block number associated with the area.

21. What would you say is the main reason that fear of being victimized by gangs or gang members is so low in the area of East Austin you just mentioned?

22. How often have East Austin residents complained about actually being victimized in the last year?

1. Never
2. Rarely
3. Sometimes
4. Often

23. What kind of gang is most responsible for the crime committed by gang members in East Austin over the last year?

1. Hate gangs
2. Street gangs
3. Other _____

24. Have the types of street gangs present in East Austin changed over the last five years? If so, how? Please use the space below for your answer.

25. Do you know where the gangs named above primarily operate in East Austin? Please use a street name and the block number associated with the area you are describing. Please use the space below for your answer.

26. Which ethnic/racial groups are involved in gangs in East Austin? Please circle all that apply:

1. White
2. Hispanic
3. African American
4. Asian
5. Other

27. Which of these ethnic/racial groups are most involved in gangs in East Austin? Please circle all that apply:

1. White
2. Hispanic
3. African American
4. Asian
5. Other _____

28. What percent of gangs operating in East Austin have connections outside Austin? _____

29. What purpose do the outside connections used by gangs in East Austin serve? Please use the space below for your answer.

30. What percent of a typical East Austin neighborhood would you say is marked by graffiti? _____

31. Is there any particular type of person in East Austin that is most frequently victimized by gangs or gang members? ***Please circle all that apply.***

1. No particular type of person is more frequently victimized
2. Students
3. African Americans
4. Hispanics
5. Men
6. Women
7. Children
8. Older persons
9. Other gang members
10. Other (Please specify) _____

32. Which types of crime do gangs in East Austin most frequently commit? **Please circle all that apply:**

1. Tagging/graffiti
2. Vandalism
3. Theft
4. Burglary
5. Robbery
6. Auto Theft
7. Aggravated Assault
8. Arson
9. Drug sales
10. Rape
11. Other_____

33. Over the last 5 years have East Austin residents changed their lifestyle because of street gang activities? **IF YES, how? Please circle all that apply:**

1. Staying inside at night
2. Always locking gates or house doors
3. Avoiding certain areas
4. Traveling in groups
5. Never walking anywhere
6. Carrying a weapon
7. Other_____

34. What type of property in East Austin is most frequently the target of gang crime?

1. Residential property
2. Commercial property
3. Public property

35. Where is street gang activity the highest in East Austin? Please circle **ONE** area on the map provided.

36. In your mind, what is the most serious problem posed by gangs in East Austin today? Please use the space below for your answer.

This concludes the survey. Thank you very much for your time. If you have any questions concerning the survey, Please call me (Ward Adams) at 463-5526 during regular business hours, or at 267-0582 to contact me at home. Or, email me at wardadams@hotmail.com.

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VITA

Ward A. Adams was born in Lemoore, California, on February 13, 1963, the son of Edward S. and Judith A. Adams. After leaving Rockledge High School in Rockledge, Florida, in 1981, he served in the United States Navy until 1984. He started his college education at Brevard Community College at Cocoa, Florida, in 1989, earning the Associate in Arts and the Associate in Science degrees. He completed one semester of college at the University of Central Florida, at Orlando, Florida, in the spring of 1993. He received the Bachelor of Arts from the University of Florida in 1995, graduating with highest honors. He completed one year of graduate work at the University of Texas in 1995. During the following years, he was employed with the Research and Oversight Council on Workers Compensation as a research specialist II in Austin, Texas. He is currently employed as a research specialist IV in the research and evaluation department of the Texas Workforce Commission. In September 1998, he entered the Graduate School of Southwest Texas State University, San Marcos, Texas.

Permanent Address: 1302 Alma Dr.
 Austin, Texas 78753

This thesis was typed by Ward A. Adams