Graffiti and Perceptions of Safety: A Pilot Study Using Photographs and Survey Data

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Past research has demonstrated that incivilities, including graffiti, play a strong role in determining attitudes about safety and crime in local areas. This research was a pilot project that utilized both photography and standard quantitative survey research techniques to examine the impact of graffiti on perceptions of safety. We used photographs of graffiti and survey results to demonstrate that graffiti was related to perceptions of safety in local neighborhoods. More importantly, we also found that graffiti was not a unidimensional construct in terms of its impact on attitudes concerning safety. The research presented here established that reactions to graffiti vary widely based on the type of graffiti and, to some extent, differ by individual characteristics and victimization experiences. That is, different categories of graffiti, as developed by analysis of survey results associated with photographs of graffiti, evoke various levels of concern over safety. This research suggested that attempts to classify graffiti and reactions to it as a uniform phenomenon may be misguided.

Keywords: vandalism, graffiti, fear of crime

INTRODUCTION

Research demonstrates that fear of crime and perceptions of safety have an impact on both individuals and neighborhoods. A number of individual and contextual variables play a role in determining the level of fear that individuals experience. Variables such as gender, race, age, prior victimization, social integration, and perceptions of increasing crime rates have all been shown to impact attitudes concerning safety in local neighborhoods. The physical neighborhood conditions also play an important role in neighborhood sentiment. Graffiti, as a form of incivility, is one physical aspect that can influence residents' attitudes regarding neighborhood safety.

The purpose of this study is to understand the relationship between the presence of graffiti and perceptions of safety associated with local geographic areas. Our overall goal is to examine the interplay of a variety of individual characteristics with reactions to various types of graffiti.

PAST RESEARCH

Neighborhood Incivilities and Deterioration

It is rare for one particular article to garner the interest, impact, and debate in academic circles that an article by Wilson and Kelling (1982) managed to achieve. In their well-known "broken windows" article, the authors assert that attention to relative small matters in a neighborhood can be important in the larger overall neighborhood context and history. Their work implies that physical decay and neglect in the neighborhood provides clues to would be criminals that the informal social controls of the neighborhood have broken down and that residents no longer care about the social or physical conditions of the area. This apparent neglect and lack of attention, in their view, can lead to more serious crime. The roots of this approach, although not labeled as a broken windows perspective, can be traced to the work of Jane Jacobs (1961). She suggested that neighborhoods be developed in a manner to promote pedestrian traffic and interaction among residents. Presumably, interaction among neighbors provides a means of informal social control for the area.

Research on the relationship between deteriorating neighborhood conditions, or incivilities, and crime has been, at most, guarded in its support for the theory. In their discussion of the literature, Miller and Wilson (2001) point out that this issue is more complicated than suggested in the initial broken windows article. They note that attempts to implement public policy based on this approach may have initially seemed successful (e.g., the declining rate of violent crime during the 1990s in New York City has been cited as an example) but point out that declining crime rates in New York and other cities may have been due to a number of contributing factors, such as demographic shifts in the number of young people in high crime prone years and the decline of the disastrous crack wars of the era.

The earlier work of researchers such as Skogan (1990) suggests that a relationship exists between neighborhood disorder and crime. Abandoned cars, burned buildings, and gang graffiti can serve to warn residents of danger (Skogan, 1990). Research examining the relationship between serious crime and the existence of incivilities in neighborhoods has called into question the causal linkage between these two variables. For example, Sampson and Raudenbush (1999) found that for most types

of crime, the relationship between public social disorder and crime is spurious. Their results demonstrate that collective efficacy, a measure of social cohesion and informal social control, is an important variable in explaining crime rates. Robinson, Lawton, Taylor, & Perkins (2003) suggest that it is reasonable to think that the causality may be reversed. That is, as fear increases residents may start to interpret local attributes in a more threatening manner (Robinson et al., 2003). Sampson and Raudenbush (1999) point out a related problem with the "disorder-crime link" as victimization and perceived disorder are in many cases assessed in the same survey suggesting a problem with assessing causality as those who have been victims may change their perceptions as a result of their victimization (p. 606). As Nolan, Conti, and McDevitt (2004) state, "although neighborhood disorder is associated with crime, its causal relationship has been challenged" (p. 115).

Despite findings that question the direct relationship and the direction of causality between neighborhood physical disorder and actual crime, a good deal of research has demonstrated that neighborhood incivilities, which may include graffiti, play an influential role in the feelings and perceptions that residents develop concerning local neighborhoods (Adu-Mireku, 2002). Whether this relationship is causal or merely correlated, the evidence demonstrates that concern over incivilities and concern about crime appear together among neighborhood residents as they may interpret incivilities as "signs of crime" (Kanan & Pruitt, 2002, p. 541). This association can be particularly true in the case of illegal graffiti, which is itself evidence that a crime has been committed. The presence of this form of vandalism may suggest to local residents that future crime is likely to occur in the community.

One potential problem that exists with much of the research that brings together signs of disorder with attitudes about crime and victimization is that it draws from surveys based on subjective views of the respondents (Sampson & Raudenbush, 1999). However, some research has attempted to link objective physical conditions with subjective assessments of the local residents. For example, Austin, Furr, and Spine (2002) found that both subjective and objective indicators of housing and neighborhood conditions impact perceived levels of safety in the local area, suggesting that both subjective perceptions and actual physical conditions are important.

A spiral of neighborhood deterioration can occur as incivilities increase. As residents withdraw from further upkeep and maintenance in the neighborhood, further growth in incivilities may follow. As Ross and Mirowsky (1999) state, "physical disorder–such as litter, graffiti, and vandalism–also indicates that social control has broken down" (p. 413). The perception of neighborhood disorder can decrease feelings of collective efficacy among residents (Gibson, Zhao, Lovrich, & Gaffney, 2002). Perceived disorder is also associated with erosion of social ties (Ross & Jang, 2000), which may in turn impact satisfaction with the community (Ladewig & McCann, 1980; Wasserman, 1982). These findings suggest that neighborhoods can descend into a spiral of social and physical decay.

The model of informal social control presented by Greenburg and Rohe (1986) suggests that perceptions of social order, and the corresponding perception that residents can control deterioration, have an impact on attitudes about crime. When residents feel that they have some control over their neighborhood, they may feel more committed to the well-being

of the area and more likely to participate in the physical upkeep and social life of the area. Residents can find satisfaction with their local area of residence declining as the upkeep of dwellings deteriorates (Miller, Tsemberis, & Malia, 1980). Local residents tend to associate neighborhood conditions such as trash and abandoned buildings with unsatisfactory ratings (Dahman, 1985). These indicators of a decline in social controls can further the continuing decay of the neighborhood.

Graffiti can suggest that crime is present (Kanan & Pruitt, 2002) and those concerned about graffiti may equate it with violent crime and the presence of gang activity. Many of the same factors that evoke fear of crime in local residents also evoke fear of gangs, even though the magnitude may vary (Katz, Webb, & Armstrong, 2003). These perceptions may increase the level of fear of crime and lower the level of perceived safety that residents experience when encountering an area that contains graffiti. Residents who think that they have witnessed gang and drug related behaviors tend to believe that other types of disorder and crime have also increased (Crank, Giacomazzi, & Heck, 2003).

According to Ferrell (1996), the presence of graffiti can be used to create a "moral panic" by powerful interests groups in a city. Graffiti can also be used by youth to create their own cultural space, particularly if they are being restricted from participation in other public spaces (Ferrell, 1997). The transfer of power and redefinition of an urban area can indicate to local residents that they have lost, or are losing, control of their neighborhood to forces that may have different interests in the community.

The concepts of normlessness, or anomie, associated with the work of Emile Durkheim (1951) can also prove useful in understanding the sentiment of residents as they perceive their neighborhoods declining and slipping from their control. Residents may notice neglect and decay and believe that the norms that have regulated behavior in the past have broken down. Additionally, the lack of sufficient norms to regulate desirable behavior can lead to "social disorganization," which may be associated with the development of criminal behavior in the area (Kornhauser, 1978; Shaw & McKay, 1942).

When a neighborhood is free of vandalism and litter and structures are neat and well-cared for, potential criminals may be deterred because they perceive that their chances of being detected and reported are stronger (Greenberg & Rohe, 1986). Negative physical aspects of a neighborhood indicate that social controls are breaking down in the area (Ross & Mirowsky, 1999). "Therefore, neighborhood physical conditions may influence both subjective evaluations of residents, such as fear of crime, and the objective physical and social environment" (Austin, Woolever, & Baba, 1994, p. 83).

Individual Characteristics and Attitudes about Crime

Research has repeatedly shown that attitudes about crime in local neighborhoods are related to a variety of personal or demographic characteristics, such as age, race, gender, and income (e.g., Austin, Furr, & Spine, 2002; Donnelly, 1988; Skogan and Maxfield, 1981). In general, women tend to express higher levels of concern over crime related issues (e.g., Austin, Furr, & Spine, 2002; Perkins & Taylor, 1996; Skogan & Maxfield, 1981), but not

always at a statistically significant level (Furr, Austin, Cribbs, & Smoger, 2005). Despite lower rates of personal victimization, factors such as vulnerability to rape and socialization may play a strong explanatory role in understanding the higher levels of fear expressed by women (Gomme, 1986). Men, on the other hand, may discount issues such as victimization and fear (Smith & Torstensson, 1997).

Race is another important variable to consider when examining issues related to fear of crime and perceptions of safety. There is a large body of research that supports the notion that non-Whites are more concerned about issues related to crime and safety than are Whites (e.g., Acierno, Rheingold, Resnick, & Kilpatrick, 2004; Skogan & Maxfield, 1981). While race is an important variable to include in an analysis of safety related concerns, it appears to be one of many factors that can be mitigated by sociodemographic and neighborhood contextual variables (Baba & Austin, 1989).

Victimization experiences are also a potentially important influence on attitudes regarding neighborhood safety. However, this relationship is not as direct and universally supported as one might initially suppose. On one hand, a respectable body of literature supports the idea that past experiences of victimization and concern over crime related issues are associated (e.g., Austin, Furr, & Spine, 2002; Greenburg & Rohe, 1984; Skogan & Maxfield, 1981). On the other hand, residents who live in high crime areas may still report satisfaction with safety in their local area (Taub, Taylor, & Dunham, 1981) and that they feel safe enough to walk around the neighborhood at night (Forde, 1993). The role of victimization in explaining attitudes about crime is a part of a larger web of neighborhood interaction patterns, context, and experiences (Myers & Chung, 1998).

PURPOSE

Despite the impact of individual characteristics, research has shown that perceived neighborhood problems (i.e., trash and litter, graffiti, loose dogs, vacant houses, noise, people drunk/high in public, abandoned cars, and unsupervised youth) are a stronger influence on fear of crime than demographic variables (Dowler, 2003). Overall, neighborhood sentiment, including concern over crime and safety related issues, seems to involve a complex web of causal and correlational factors. These variables range from demographic variables to victimization and also include neighborhood physical and social contextual influences.

Our research was concerned with graffiti, a unique form of incivility. Graffiti may take on various forms and be used for a variety of purposes. Some graffiti is produced under the auspices of local authorities with the purpose of beautification or to convey anti-crime messages. Other types of graffiti may increase perceptions that social controls have broken down in the neighborhood, while some forms may actually provide indications to residents that social controls are increasing. We contend that graffiti is not unidimensional, as it is sometimes portrayed in the popular media and in some academic research.

It is not clear what role various forms of graffiti play in issues related to fear of crime and levels of perceived safety expressed by respondents. The role of graffiti seems to be

similar to that of other incivilities, such as broken windows and abandoned buildings. Past research has concluded that the presence of incivilities, including graffiti, increases concern about crime in a neighborhood, but it is not clear what type of graffiti has the strongest impact on crime related concerns. Our research provided some tentative answers to these issues, as we examined the level of perceived safety expressed in relationship to a variety of graffiti images.

METHODS

Graffiti Images

Various forms of graffiti were photographed by one of the authors within the city limits of Louisville, Kentucky. An attempt was made to photograph a diversity of types of graffiti from a variety of neighborhoods and locations. Previous research has recorded graffiti verbatim (e.g., Green, 2003; Little & Sheble, 1987; Stocker, Dutcher, Hargrove, & Cook, 1972,) or has used photographs that were later categorized by researchers (Hagen, Ender, Themann, & Hagen, 1999). We chose to use photographs to portray as accurately as possible the actual graffiti and then categorized the graffiti based on responses from respondents. Photography is perhaps the best method of presenting graffiti to participants short of physically taking them to the graffiti sites. The graffiti in the photographs ranges from depictions that appeared to be gang related to graffiti that seems to have been constructed, or at least sanctioned, by local community based groups. This latter form of graffiti tends to portray a positive message.

Participants

To keep the project to a reasonable time level for showing the pictures to respondents, we reduced the number of photographs to twenty-four. The respondents consisted of a convenience sample of undergraduate students at the University of Louisville, which is a public urban university with a large number of commuter students. All participants were enrolled in sociology courses but represented a variety of majors. Therefore, the sample should not be considered representative of the general population. Data from one hundred respondents were analyzed in this project.

For this study, 71% of the respondents were females and 14% were married. The mean age of respondents at their last birthday was 23.9 years. Self-identification resulted in 82% identified as “white,” 14% as “black,” and 4% as “other.” In terms of criminal victimization, 50% reported being a victim of a property crime while the comparable figure for violent crime victimization was 22%.

Procedures and Data

Respondents were presented with one slide photograph at a time in a group classroom setting and were asked to answer thirteen questions for each photograph of graffiti. They were instructed to provide quick and initial responses to all of the photographs as each photo was presented for only a brief period of time. The scale of four questions utilized in this

analysis was designed to assess perceptions of safety in the physical area of the graffiti. These items have been used and verified using factor analysis techniques in past research (Austin, Furr, & Spine, 2002; Keil & Vito, 1991). In constructing the scales, missing cases were omitted on an analysis by analysis basis. That is, cases were excluded that had a missing value for a variable that was utilized in each particular test.

Utilizing the perceptions of safety scale (Austin, Furr, & Spine, 2002; Keil & Vito, 1991), respondents were asked to answer each question as it pertained to the neighborhood in which the photograph of graffiti was taken. In past research, these items were used to construct a scale to assess the level of perceived safety expressed by respondents in regard to their own neighborhood. In this research, we asked respondents to assess the level of perceived safety that they would associate with each photograph of graffiti. Therefore, we were able to analyze a score of perceived safety from each respondent for each graffiti photograph. The questions included: a) in this neighborhood, people do not need to lock their doors when they leave their homes for a short period of time; b) people who live in this neighborhood have to worry about someone breaking into their homes to steal things; c) people in this neighborhood can walk around at night without fear of being attacked or bothered by strangers; d) people in this neighborhood can leave their personal property outside and unattended without fear that it will be damaged or stolen. Potential responses were four Likert-type items ranging from strongly agree to strongly disagree without a neutral or no opinion category.

RESULTS

Factor Analysis

A factor analysis using an orthogonal rotation was used to determine if various forms of graffiti could be grouped together based on factor loading of responses to the perceptions of safety scale. The factor analysis was based on the four perceptions of safety items for each of the twenty-four photos of graffiti. An initial factor analysis revealed the slides to be omitted from further analysis. Next, four distinct factors emerged with high loadings for three photographs in each group resulting in twelve photographs for further analysis. Visual analysis of the four groupings of three photographs also helped confirm the distinctions revealed by the factor analysis.

The first three photographs are pictured in Appendix A and are labeled “gang graffiti” (alpha = .88) due to the presence of gang related material in each of the photographs. The three photographs in Appendix B are labeled “hip hop style graffiti” (alpha = .80) somewhat consistent with Ferrell (1996) and Brewer (1992). A third set of factor loadings revealed graffiti that we labeled “message graffiti” in Appendix C (alpha = .70) due to the presentation of a clearly defined message or messages in writing and/or symbols with little highly stylized graffiti. A fourth type of graffiti which consists of “murals” is presented in Appendix D (alpha = .75). This type of graffiti contained what we describe as positive socially sanctioned mural graffiti, which may have been constructed as a result of community groups trying to portray a positive message to onlookers.[1]

Using the four item perceptions of safety scale, a mean level was calculated for each of the four groupings and it decreased in order of Appendix A through Appendix D. That is, gang related graffiti evoked the lowest level of perceived safety followed by hip hop style graffiti with the highest level of perceived safety associated with the mural graffiti.

T-Tests

A *t*-test was performed to determine if the difference in the means of the various groups were statistically significant.[2] Table 1 reports the results of this analysis. A *t*-test of paired samples indicated that the mean level of perceived safety expressed for each group of graffiti photographs was statistically different from all of the others, with one exception. As indicated in Table 1, the only two groups of graffiti that did not exhibit a statistically significant difference in mean level of perceived safety are the message graffiti (MSGFEAR) and the positive message murals (POSFEAR). All other pairings resulted in statistically significant levels. These findings suggest that responses to graffiti are not universal and depend to a large extent on the type of graffiti and the message portrayed with significant differences between all pairs except those at the highest levels of perceived safety.

Table 1
Paired Samples Tests

All Cases									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	.19	5.02	.52	-.84	1.22	.37	92	.711
Pair 2	GANGFEAR POSFEAR	6.22	5.73	.59	5.04	7.40	10.46	92	.000
Pair 3	HHFEAR POSFEAR	4.52	5.64	.57	3.37	5.66	7.84	95	.000
Pair 4	GANGFEAR MSGFEAR	5.76	5.67	.58	4.59	6.93	9.79	92	.000
Pair 5	HHFEAR MSGFEAR	4.26	5.19	.53	3.20	5.32	8.00	94	.000
Pair 6	GANGFEAR HHFEAR	1.52	4.64	.47	.58	2.47	3.20	94	.002
Males									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	-6.00	5.62	1.12	-2.92	1.72	-.53	24	.599
Pair 2	GANGFEAR POSFEAR	5.72	6.45	1.29	3.05	8.38	4.43	24	.000
Pair 3	HHFEAR POSFEAR	4.26	7.02	1.37	1.43	7.10	3.10	25	.005
Pair 4	GANGFEAR MSGFEAR	5.88	5.35	1.07	3.66	8.09	5.48	24	.000
Pair 5	HHFEAR MSGFEAR	4.80	6.08	1.19	2.34	7.26	4.02	25	.000
Pair 6	GANGFEAR HHFEAR	1.15	6.18	1.21	-1.34	3.65	.95	25	.350

Females									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	.52	4.82	.59	-.65	1.70	.88	66	.379
Pair 2	GANGFEAR POSFEAR	6.46	5.51	.67	5.11	7.80	9.58	66	.000
Pair 3	HHFEAR POSFEAR	4.59	5.13	.62	3.36	5.82	7.42	68	.000
Pair 4	GANGFEAR MSGFEAR	5.73	5.86	.72	4.30	7.16	7.99	66	.000
Pair 5	HHFEAR MSGFEAR	4.00	4.85	.58	2.82	5.17	6.79	67	.000
Pair 6	GANGFEAR HHFEAR	1.73	3.94	.47	.78	2.69	3.62	67	.001
Whites									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	.29	5.36	.60	-.91	1.50	.48	77	.628
Pair 2	GANGFEAR POSFEAR	6.65	5.95	.67	5.32	7.99	9.93	78	.000
Pair 3	HHFEAR POSFEAR	4.60	5.92	.66	3.28	5.91	6.94	79	.000
Pair 4	GANGFEAR MSGFEAR	6.06	5.93	.66	4.73	7.39	9.07	78	.000
Pair 5	HHFEAR MSGFEAR	4.22	5.46	.61	3.00	5.44	6.91	79	.000
Pair 6	GANGFEAR HHFEAR	1.91	4.79	.53	.85	2.97	3.59	80	.001
African Americans									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	-.90	2.02	.60	-2.26	.44	-1.49	10	.167
Pair 2	GANGFEAR POSFEAR	3.45	3.77	1.13	.91	5.99	3.03	10	.013
Pair 3	HHFEAR POSFEAR	3.33	4.29	1.23	.60	6.06	2.69	11	.021
Pair 4	GANGFEAR MSGFEAR	4.45	3.83	1.15	1.88	7.02	3.85	10	.003
Pair 5	HHFEAR MSGFEAR	4.18	3.86	1.16	1.56	6.78	3.58	10	.005
Pair 6	GANGFEAR HHFEAR	-.18	2.92	.88	-2.14	1.78	-.20	10	.841

Victims of Violent Crime									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	1.75	6.25	1.39	-1.17	4.67	1.25	19	.226
Pair 2	GANGFEAR POSFEAR	5.36	6.89	1.58	2.04	8.69	3.39	18	.003
Pair 3	HHFEAR POSFEAR	4.75	6.91	1.54	1.51	7.98	3.07	19	.006
Pair 4	GANGFEAR MSGFEAR	3.45	3.87	.86	1.63	5.26	3.98	19	.001
Pair 5	HHFEAR MSGFEAR	3.09	4.10	.89	1.22	4.96	3.45	20	.003
Pair 6	GANGFEAR HHFEAR	.45	4.75	1.06	-1.77	2.67	.42	19	.677
Non-Victims of Violent Crime									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	-.23	4.59	.53	-1.30	.83	-.43	72	.666
Pair 2	GANGFEAR POSFEAR	6.44	5.43	.63	5.18	7.70	10.20	73	.000
Pair 3	HHFEAR POSFEAR	4.46	5.32	.61	3.24	3.67	7.30	75	.000
Pair 4	GANGFEAR MSGFEAR	6.39	5.93	.69	5.01	7.78	9.20	72	.000
Pair 5	HHFEAR MSGFEAR	4.59	5.43	.63	3.33	5.85	7.27	73	.000
Pair 6	GANGFEAR HHFEAR	1.81	4.60	.53	.75	2.87	3.41	74	.001
Victims of Property Crime									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	1.08	5.37	.80	-.52	2.70	1.35	44	.181
Pair 2	GANGFEAR POSFEAR	6.17	5.57	.81	4.53	7.80	7.59	46	.000
Pair 3	HHFEAR POSFEAR	5.27	6.30	.91	3.42	7.12	5.73	46	.000
Pair 4	GANGFEAR MSGFEAR	4.76	4.79	.69	3.35	6.17	6.81	46	.000
Pair 5	HHFEAR MSGFEAR	4.10	4.37	.63	2.82	5.30	6.43	46	.000
Pair 6	GANGFEAR HHFEAR	.65	4.54	.64	-.65	1.95	1.00	48	.319

Non-Victims of Property Crime									
		Difference in Means	S.D.	Std. Error Mean	95% Interval Lower	Upper	t	df	Sig. 2-tailed
Pair 1	MSGFEAR POSFEAR	-.64	4.57	.66	-1.97	.68	-.97	47	.333
Pair 2	GANGFEAR POSFEAR	6.28	5.96	.87	4.51	8.05	7.14	45	.000
Pair 3	HHFEAR POSFEAR	3.79	4.89	.69	2.38	5.20	5.42	48	.000
Pair 4	GANGFEAR MSGFEAR	6.78	6.34	.93	4.89	8.66	7.25	45	.000
Pair 5	HHFEAR MSGFEAR	4.41	5.92	.85	2.69	6.13	5.16	47	.000
Pair 6	GANGFEAR HHFEAR	2.45	4.61	.68	1.08	3.82	3.61	45	.001

After an examination of the results for the total pool of respondents, we turn to separate analyses for various subgroups of respondents with comparisons based on race, gender, and victimization experiences. Past research has demonstrated that socioeconomic status (e.g., Baba and Austin, 1989; Skogan & Maxfield, 1981) and age (e.g., Keil & Vito, 1991; Skogan & Maxfield, 1981) can be important influences on attitudes of concern about crime. However, the nature of our sample prohibited us from adequately examining these two issues due to the lack of data on socioeconomic status and the relatively small level of variance in the age of respondents.

Gender

Table 1 also contains the results using the same method of analysis with the sample divided by gender. For males, there was no statistically significant difference in the mean level of perceived safety expressed for message graffiti (MSGFEAR) and positive mural (POSFEAR) graffiti. Men also did not express a significantly different level of perceived safety between gang related graffiti (GANGFEAR) and hip hop graffiti (HHFEAR). On the other hand, the results for women demonstrated that the only relationship between levels of perceived safety that was not statistically significant occurred between message graffiti (MSGFEAR) and positive mural graffiti (POSFEAR), which was similar to the results obtained when examining the total sample.

Race

We also examine the results based on self-reported race categorization but only looked at the differences between Whites and African-Americans. The results for Whites mirrored those of the entire sample as the only pair of graffiti types that did not exhibit a statistically significant difference in their levels of associated perceptions of safety were message graffiti (MSGFEAR) and positive mural graffiti (POSFEAR). Responses from African-Americans revealed the same similarity between message graffiti and the positive mural graffiti. However, African-Americans, like males, did not exhibit a significant difference in mean levels of perceived safety associated with hip hop graffiti (HHFEAR) and

gang related graffiti (GANGFEAR). The results based on race should be viewed with a high level of caution due to the low number of African-American respondents.[3]

Crime Victims

The next analyses presented in Table 1 distinguished between victims of violent crime and those who did not report ever being victimized by violent crime (attacked, mugged, or robbed). Victims of violent crime reported relatively similar levels of perceived safety associated with message graffiti (MSGFEAR) and positive mural graffiti (POSFEAR) and with the pairing of gang graffiti (GANGFEAR) and hip hop graffiti (HHFEAR) as was the case with males and African-Americans. For those reporting no violent victimization, the only difference of means that was not statistically significantly was from the results of comparing positive mural graffiti (POSFEAR) with message graffiti (MSGFEAR), as we found when analyzing the entire sample.

The next section of Table 1 allows for an examination of differences of means between those who reported experiencing property crime victimization and those who did not. The results indicate that both victims and non-victims of property crime report no statistically significant difference in their expressed mean level of perceived safety associated with message graffiti (MSGFEAR) and positive mural graffiti (POSFEAR). For victims, the mean levels of perceived safety expressed for gang (GANGFEAR) and hip hop (HHFEAR) graffiti did not differ significantly, similar to the results for victims of violent crimes, African-Americans, and males.

Summary of Results

A factor analysis of the perceptions of safety items revealed four distinct factors. The lowest perceived level of safety was associated with graffiti that appeared to be gang related. Depictions of positive mural graffiti were associated with the highest level of perceived safety of the four categories of graffiti.

The only two groups of graffiti that did not exhibit a statistically significant difference in mean level of perceived safety are the message graffiti and the positive message murals, when examining data from the entire sample. This suggests that respondents distinguish differences in various types of graffiti in relation to the level of safety they associate with the categories of graffiti, particularly regarding the types of graffiti that evoke the higher levels of concern with safety.

These results were consistent across sub-samples of females, Whites, and those who did not report experiences of criminal victimization (both violent and property crimes). On the other hand, males, African-Americans, and victims of both violent and property crimes did not report statistically significant differences in means of perceived levels of safety for neighborhoods with gang graffiti and hip hop graffiti. These sub-samples also did not report significant differences between message graffiti and mural graffiti. The total sample and all sub-samples reported statistically significant differences in mean levels of reported concern over safety for the pairing of gang graffiti and positive mural graffiti; hip hop graffiti and

positive mural graffiti; gang graffiti and message graffiti; and hip hop graffiti and message graffiti.

For some reason, victims of crime and those groups in society that tend to experience higher levels of violent victimization (males and African-Americans), did not appear to distinguish a significant difference between gang related graffiti and hip hop graffiti. Conversely, those who did not report victimization and those who tend to have lower levels of violent victimization in society (females and whites) appeared to distinguish between the two types of graffiti, as did the overall sample. These results suggest that those who have experienced victimization and those who have a greater statistical risk of victimization may not draw as sharp of a distinction between some types of graffiti as those who are at less risk and non-victims, particularly in regards to those types of graffiti that evoke higher levels of concern over safety (hip hop and gang related graffiti).

DISCUSSION

Despite decreases in crime, concern over crime related issues has remained an important concern for many people (DeFrances & Smith, 1998). A compromised sense of safety can lead to restriction of outdoor activities, depression, increased levels of anxiety, health problems, and social isolation, which in turn may lead to further loss of neighborhood order and social control (Ross & Mirowsky, 1999). This spiral of physical and social decay can lead to further deterioration, as each feeds on the other. Visual cues, such as graffiti, give local residents the impression that the neighborhood is slipping out of their control.

The social attitude of the community can be indicated by graffiti (Stocker, Dutcher, Hargrove, & Cook, 1972). It can also establish identity and contest or maintain power relations (Rodriquez & Clair, 1999). After a natural disaster, graffiti can "capture the sentiments of a community" (Hagen, Ender, Tiemann, & Hagen, 1999, p. 155). Graffiti may also be used by young people as a means of creating an individual personal space (McCormick, 2003). Powerful groups in a city can portray graffiti as a seemingly disproportionate threat and frame it as a major urban problem (Austin, 2001), thereby increasing public concern with the issue.

The research that we have presented on graffiti and perceptions of safety in local neighborhoods suggests that graffiti has many dimensions. That is, as it relates to perceptions of safety, there seem to be various categories of graffiti.

Serious precautions should be taken before applying our results to the general public. It should be kept in mind that this study is exploratory and utilized a convenience sample. Therefore, our results should not be generalized, but should be used to guide future research in this area. Additionally, our research dealt only with public (portrayed in public spaces), as compared to private graffiti, which is located in buildings (Rodriquez & Clair, 2000). Reactions and comparisons to private, or indoor, graffiti may be much different. An additional precaution is the lack of contextualization in our research. The graffiti was presented to respondents without the benefit of neighborhood context. That is, the social and

physical environment of the local area can presumably have an impact on reactions to particular forms of graffiti.

Attitudes about safety and fear of crime do not appear to be culturally universal, as research in Ghana revealed results different than those generally obtained from U.S. based projects (Adu-Mirek, 2002). This suggests to us that future research might find sub-cultural differences in reactions to graffiti between various types of neighborhoods.

With these issues and precautions in mind, it does seem clear from our research that public officials, law enforcement agencies, and community groups may need to broaden their conception of graffiti to understand that residents may react differently to various forms of graffiti. Killingbeck (2001) used the concept of "moral panic," as developed by Cohen (1980; original 1972), to examine the construction of school violence by the media. The term "moral panic" refers to reactions of "the media, the public and agents of social control" in amplifying the threat to the social order posed by someone or something (Killingbeck 2001:187). In this case, an understanding of moral panic can help in understanding the reactions to the production and presence of graffiti. This type of analysis of media representations of graffiti could prove useful in understanding community reactions to graffiti, while expanding on the work of Ferrell (1996). His work suggests that the attention given by anti-graffiti activists can actually serve to increase the visibility of work by graffiti artists and may also increase the demand for their work.

Public officials may interpret the presence of graffiti as an indication that control of the local area is in the process of transferring (Ferrell, 1996) increasing the likelihood that a moral panic will ensue. This issue of transference of power helps explain our findings that gang related graffiti evokes the highest level of concern about safety with mural graffiti evoking the lowest levels of concern. The existence of gang related graffiti may suggest to residents that control is shifting to gangs, presumably one of the groups to which local residents would least like to see increasing control in their neighborhood.

Some cities have policies designed to cover all non-sanctioned graffiti as soon as possible. Our tentative findings suggest that city government might prioritize its work in covering graffiti. It appears that some types of graffiti, for example gang related graffiti, are more of a threat to individuals than are other types. Prioritization of anti-graffiti enforcement can help to insure efficient use of resources.

Additionally, our research explores the potential of using established quantitative survey research techniques to analyze qualitative data such as photographs. It provides an example of how research can combine the use of scales that have been validated in past quantitative research with research involving a visual component. Some of the past research on graffiti has relied on categories established by researchers to analyze the data (Bartholome & Snyder, 2004; Green, 2003; Hagen, Ender, Tiemann, & Hagen, 1999; Little & Sheble, 1987; Stocker, Dutcher, Hargrove, & Cook, 1972) and dealt exclusively with nonpictorial graffiti (Rodriquez & Clair, 1999), however, our research demonstrates another methodology of utilizing a quantitative categorization of graffiti based on the responses of the subjects.

The exploratory nature of our study suggests that future research should examine the issues of graffiti and perceptions of safety with a more representative sample. Additionally, the use of other research techniques, such as focus groups, could help to uncover the emotional and cognitive reactions that various types of graffiti elicit. This approach could help in the further understanding of how individuals react to graffiti. Additionally, these focus groups could provide forums for the discussion of possible community sanctioned murals. Furthermore, the use of a more representative sample would allow for a more thorough examination of the impact of important demographic variables (such as age, gender, income, and race) on varying reactions to different types of graffiti.

We should keep in mind that graffiti is only a portion of the overall physical and visual experience available to neighborhood residents. However, our results do suggest that perceptions of safety, as they relate to graffiti, are not homogenous. Attitudes concerning crime are influenced by a number of factors and the relationships are not always clear and direct. From our research we conclude that graffiti, and more specifically the type of graffiti, plays a role in this issue.

ENDNOTE

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NOTES

[1] There is some overlap between two of the photographs. One of the images appears alone in one photograph, while also appearing as part of a larger image of graffiti in another photograph. We do not know what, if any, impact this duplication had on the results. Additionally, one of the graffiti photographs depicted an image of men boxing. Initially, this photographic representation might be viewed as a violent form of graffiti. However, boxing may be also viewed as a socially sanctioned activity to keep young men off of the streets, which places the photograph in a much more positive format. Louisville was the boyhood home of Mohammed Ali suggesting that this form of graffiti may need to be viewed in a broader social-historical context unique to this particular city.

[2] Tests of statistical significance are reported throughout this project. However, it should be noted that the authors are not implying that these tests represent the ability to infer the findings to a larger population. Statistical significance levels are reported because of their widespread use in social science literature, the need to establish some criterion that the results are most likely not due to chance, and their common use with nonrandom samples in social and behavioral science research. It is suggested that tests of statistical significance work reasonably well with studies based on nonrandom samples (Mohr, 1990). Mohr (1990, p. 73) discusses the use of significance testing as a "strength of relationship function." He states that regardless of the design, "the

results of the test give the probability that one would have obtained a statistic in a certain range of magnitude if one had actually implemented a randomization or random sampling procedure." For a further discussion of the applicability of tests of statistical significance to nonrandom samples, see Oakes (1986) or Edgington (1980).

[3] A Bonferroni correction was used to account for alpha inflation in all of the t-test analyses reported. These tables are not included. Using this correction method, two differences of means that were statistically significant were no longer significant. The paired sample *t*-test for the pairings of GANGFEAR with POSFEAR and HHFEAR with POSFEAR were no longer statistically significant in the differences in mean levels of expressed perceptions of safety for African-Americans. All other significant differences remained statistically significant.

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APPENDIX A
Gang Graffiti

APPENDIX B
Hip-Hop Style Graffiti

APPENDIX C
Message Graffiti

APPENDIX D
Murals


BREAK
CHAIN OF
!GNORANCE


EVERLAST