

PARKS AND THE GEOGRAPHY OF FEAR

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Abstract

Crime and safety have been issues of interest among park manager for many years. These problems not only effect participation in parks, but also could have a negative impact on the overall experience. Recently, researchers have been integrating programs like geographical information systems with empirical data to study and analyze this problem. This study incorporates different set of data to better understand crime patterns in Gainesville, FL parks. Data from the U.S. Census Bureau, Gainesville Police Department, onsite park survey and Gainesville Parks and Recreation Department were used. Results from the survey indicate that most people feel very safe in Gainesville's parks. GIS analysis and police reports demonstrate a lack of criminal activities among most of the city parks. The importance of this study is to demonstrate what is happening and where park managers and administrators can use this information to improve the areas most affected by crime.

1.0 Introduction and Rationale

Crime continues to be a critical global and national issue. There has been a considerable amount of academic discussion on the effect of crime on visitors and tourists (e.g. Bairner & Shirlow 2003; Pendleton & Thompson 2000; Manning et al. 2001). Concerns about crime and safety affect recreation in a number of ways. In some areas of the United States perceptions of safety and crime are considered to be important constraints for people participating in outdoor leisure activities. The most obvious constraint would be displacement; that is, fear is often one of the principal reasons visitors give for avoiding specific areas.

Over the years a variety of efforts have been made to control crime in parks, including increased police patrols, camera installation, and improved and increased lighting in high risk areas. Developments in technology are being integrated into these efforts to better understand and analyze crime, but crime remains difficult to predict. Some studies (e.g. Bowers & Hirschfield 1999) have shown a pattern between the distribution of criminal activities and the locations of victims and aggressors. Geographical information systems (GIS) have become useful tools in the fight against crime. Police and park managers are using these systems to better understand relations between place, social conditions, and criminal activities (Eckblom 1988).

1.1 Crime

Bairner & Shirlow (2003) showed that crime could act as a constraining factor for any outdoor activity. There are three types of constraints: intrapersonal, interpersonal and structural. Fear of crime is intrapersonal as it prevents us from engaging in our daily activities. Researchers have been emphasizing the importance of crime, especially in highly populated areas. Some researchers have studied the "when" and "where" of criminal activity in an attempt to predict and understand this behavior. Cohen & Felson, (1979) explained the regularities in the distribution of criminal activities and their victims. In this theory three components must be present: an available target, a motivated offender and the lack of a guardian to prevent the crime. If these components regularly occur in an area or community, then crime can be expected. Other researchers (e.g. Wiles 1988) have stated that the type and distribution of demographics and residence have a direct relationship with crime.

1.2 GIS and Crime

The relations between place, social conditns, and criminal activities can be facilitated by systems capable of analyzing spatial data (Eckblom 1988). Geographical information systems (GIS) are tools capable of representing geographic phenomena and their relationships with social structures. GIS is useful as an analytical tool in that it can be utilized to demonstrate spatial relations between disjointed data sources (crime

reports, census information and land use). Pendleton et al. (2000) suggested that criminal occupation and activity within parks may follow a recognized. Spatial representation of this sequence can be represented using GIS.

Today, GIS is being used to help park and recreation managers learn more about their park users. This technology aids in the measurement of specific geographic information of a recreational facility, and description of the spatial distribution of different conditions around that area, including crime (Lee et al. 2004).

2.0 Objectives

The purpose of this study is to identify the locations of both criminal activities and city parks in Gainesville, FL, to determine if crime is affecting use of the parks. Also, it will analyze perceptions of and responses to safety issues in order to better understand the attitudes of park users towards crime and safety.

3.0 Methods

In 2004, about 1,500 onsite interview surveys were collected from randomly selected users of the Gainesville Recreation and Parks Department (GRPD) facilities and programs. Visitors' perceptions of park safety, facilities and service were analyzed, along with demographics (U.S. Census Bureau data) and criminal activity (police crime data) of the surrounding geographic area. ArcGIS was used to spatially analyze the criminal occurrences near the park locations and to represent a relationship between them. Cluster analysis of the parks was performed to differentiate those parks near higher criminal activities.

Descriptive statistical analyses were used to examine park users' responses. Frequencies, means and standard deviations were calculated to obtain gender, age, and area of residence. Analysis of variance (ANOVA) was used to measure differences between the relationships of residents, age groups, gender, and users' park perception.

4.0 Results

Survey responses indicated a near even gender distribution. A majority of those interviewed were

Table 1.—Survey Demographic

Gender	n	%
Male	698	49.6
Female	714	50.6
Total	1412	100

Age (years)	n	%
Under 21	166	11.8
21-40	848	60.3
41-50	177	12.6
51-60	114	8.1
61+	92	7.2
Total	1397	100

Live in Gainesville	n	%
Yes	1091	78
No	307	22
Total	1398	100

between 21 and 40 years old, and a small percentage was over 61 years old. Most of the people interviewed resided within the Gainesville city limits (Table 1).

Participants felt that promoting a healthier lifestyle and increasing life satisfaction were the most important benefits gained from visiting the city parks. Most of the respondents felt that keeping children occupied was the second most important benefit gained from visiting a park (Table 2).

Responses showed that most of the parks and facilities were generally considered safe. Participants generally felt that the parks were safe for themselves and their family. The lack of lighting was the most important reason for GRPD parks being considered unsafe, followed closely by lack of adequate law enforcement (Table 3).

An ANOVA between park perceptions and age groups suggest little discrepancy between participants and their perceptions of parks in Gainesville. Only "overall quality," "park safe for my family," "adequate lighting," and "parks help keep children occupied" showed

Table 2.—Benefits of parks

Park Benefits	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Mean	Std. Dev.
Keeps children occupied	4%	4%	17%	37%	37%	3.98	1.046
Helps reduce crime	4%	9%	22%	40%	26%	3.74	1.059
Strong feeling of community	4%	9%	25%	40%	22%	3.68	1.032
Increases community awareness	5%	11%	33%	34%	18%	3.5	1.049

Table 3.—Respondents' opinions on safety of GRP

Park Attributes	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std. Dev.
Park is safe for my family	25%	61%	11%	3%	1%	1.9	0.72
Adequate law enforcement	7%	21%	49%	18%	5%	2.9	0.92
Adequate lighting at night	7%	26%	42%	19%	7%	2.9	0.99
Sufficient emergency information	8%	35%	37%	15%	5%	2.7	0.98
Children are safe using the park	18%	56%	19%	6%	1%	2.2	0.83
Condition of the park is safe	18%	66%	13%	3%	0%	2.0	0.68
Park is unsafe at night	6%	21%	44%	21%	8%	3.0	0.99

significant difference between the groups (Table 4). Post-hoc analysis showed that age group 51-60 years differed significantly from the 21-30 years and 31 - 40 years groups in "general safety of the parks." Additionally, the 12-30 years group differed significantly from the 31 - 40 years age group for "parks safe for my family" (Table 5). No other groups showed significant differences. A t-test was performed to find differences between gender, but no significant differences were found between these groups.

5.0 Discussion

Crime distribution statistics imply that most of the criminal activities occur in areas away from the parks. In fact, most of Gainesville's parks have a very low rate of criminal activity (one to five cases for the last 4 years) (Figure 3). There are two parks that exhibit a high number of criminal cases (over 25), but all other are under 25 criminal cases in the last 4 years. Most of the city parks are surrounded by below average income or poor families (less than \$15,000 a year) (Figure 2). For the maps we buffered the area around the city parks to 50 meters to have a better understanding of the

relationship with low-income areas. Results show that in Gainesville there is no relationship between low-income areas and crime rate (Figure 2).

In this study, demographic condition does not seem to be a factor in crime rates. Survey results showed that people feel reasonably safe in parks, and that crime is not a factor preventing people from recreating in public areas. The data suggests that this city park does not attract crime; however, more information is necessary to determine whether the creation of these parks has helped curb crime. One thing we are certain is that people feel very safe going to public parks and that crime or safety is not an issue that prevent them from recreating.

6.0 Conclusion

Data obtained from Gainesville, FL indicates a higher incidence of criminal activity away from the city parks than near the parks, regardless of area demographics. Within this study area, crime seems randomly distributed, with little evidence to suggest any concentration near city parks.

Table 4.—Mean and standard deviation for age group and park perception.

	Park Attributes							
	Park safe for my family		General safety		Adequate lighting		Keep children occupied	
Age	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
21-30	2.0	0.72	1.2	1.30	2.9	0.99	3.7	1.22
31-40	1.8	0.69	1.1	1.24	3.1	0.99	3.8	1.09
41-50	1.9	0.77	1.3	1.69	2.9	0.99	4.2	0.90
51-60	1.9	0.71	1.8	2.52	2.8	0.96	4.2	0.97
61-70	2.0	0.74	1.0	0.82	2.8	0.89	4.0	0.93
Above 70	1.9	0.69	1.1	1.10	2.9	1.13	4.0	1.01

Table 5.—Analysis of variance for age group and park attribute.

Park Attributes		SS	df	MS	F
Overall quality	Between Groups	46.813	5	9.363	
	Within Groups	3420.995	1351	2.532	3.697**
Park safe for my family	Between Groups	7.229	5	1.446	
	Within Groups	704.876	1368	0.515	2.806***
Adequate lighting	Between Groups	15.562	5	3.112	
	Within Groups	1296.026	1329	0.975	3.192**
Keep children occupied	Between Groups	33.218	5	6.644	
	Within Groups	1053.661	993	1.061	6.261***

Reported are only groups with significant difference.

*P < .05, ** P < .01, *** P < .001.

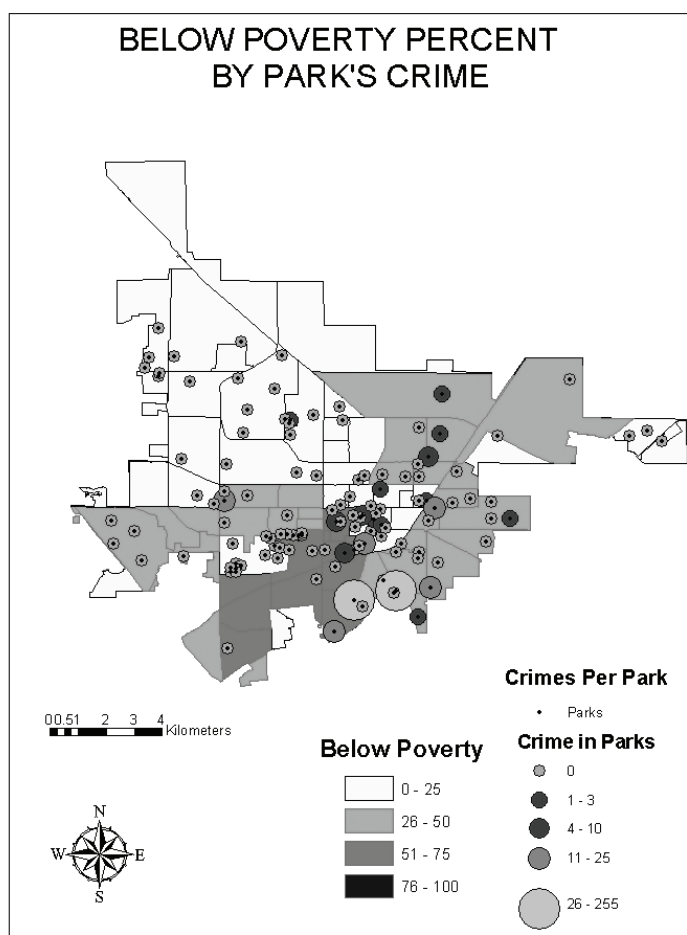


Figure 1.—Map of Number of Crimes versus Percentage of Population below Poverty

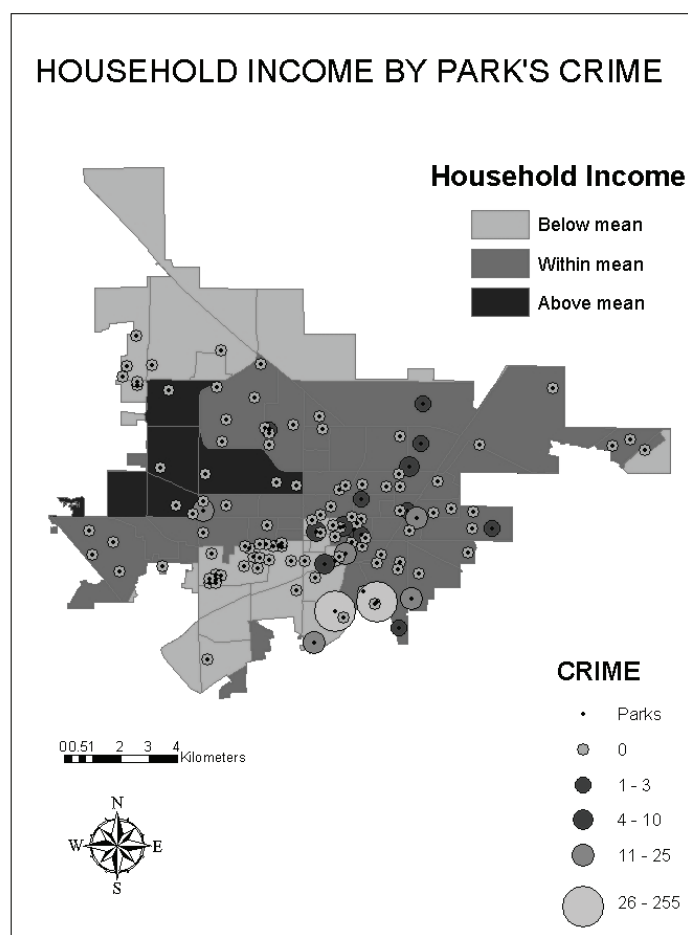


Figure 2.—Map of Number of Crimes versus Average Household Income

According to the results of this study, crime is not a factor constraining people from recreating in city parks, with the majority of respondents indicating feeling very safe within the parks in general.

GIS offers park managers the ability to integrate various data into a holistic planning tool in which valuable information can be disseminated among the recreating public. Park should create a program to work with the police using spatial analysis to monitor criminal activities; this way the public can choose which parks to use or to avoid. Also, this information will give the police a better idea of where most of the criminal activity is, thus allowing a focused collaboration between law enforcement and the city parks department.

7.0 Citations

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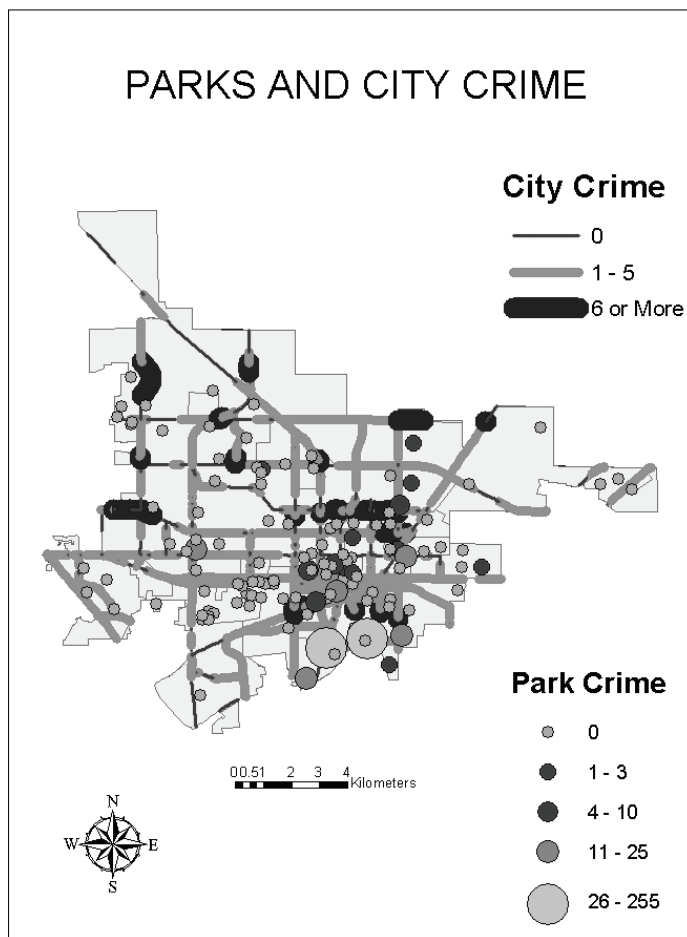


Figure 3.—Map of Number of Crimes versus Percentage of Population below Poverty

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