

NATIONAL EVALUATION OF CRIME PREVENTION STRATEGIES IN URBAN  
PARKS: USING RATIONAL CHOICE THEORY TO UNDERSTAND  
DECISIONS OF PARK DIRECTORS AND PROFESSORS

By

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL  
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

2011

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To my mom, Eileen McCormick; fiancée Lauren Szydlo, and my daughter, Savannah McCormick

## ACKNOWLEDGMENTS

I thank my committee chair and my committee for their support and guidance in writing of this dissertation. My dissertation committee consisted of Stephen Holland, (Chair) Bertha Cato, Richard Schneider, Rose Barnett, and Taylor Stein (External Committee Member). I owe a great debt of gratitude to Dr. Stephen Holland for the investment of time, energy, and intellectual guidance through this process. A special thanks to all of the individuals of my committee who were instrumental to my progression through this process. I would like to thank Kostas Karadakis and Kevin Cattinati for their assistance with the data analysis. Lastly, I would like to thank all my friends and family for their continued support during the last four years. I am especially thankful to my best friend and fiancée, Lauren, whose encouragement and support has made all the difference.

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Abstract of Dissertation Presented to the Graduate School  
of the University of Florida in Partial Fulfillment of the  
Requirements for the Degree of Doctor of Philosophy

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By

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May 2011

Chair: Stephen Holland  
Major: Health and Human Performance

Crime and fear of crime is increasing in recreational settings (Chavez, Tynon, & Knap, 2004, Manning et al., 2001; Pendleton, 2000; Shore, 1994). However, research on the effectiveness of crime prevention programs in urban parks, rural parks, or national forest/park lands is scarce. This dissertation utilized a three paper format to gain a more complete understanding of how Crime Prevention Through Environmental Design (CPTED) principles (observation, access control, territoriality and maintenance) are taught and applied in urban parks. Paper one evaluates crime prevention strategies currently being employed by public park managers in the United States. Paper two applies a combination of descriptive statistics and qualitative methods to investigate Rational Choice Theory as a decision making tool for implementing (CPTED) strategies to reduce crime and fear of crime in urban parks. The third paper examines whether and how CPTED is being taught at the college level. This paper also uses a combination of qualitative and quantitative methods to investigate college professors' decisions to teach CPTED using a Rational Choice framework.

In papers one and two, a web based survey link was e-mailed to the directors of municipal recreation and park agencies in the 250 largest cities in the United States. A total of 129 agencies responded (52%). In paper three, a different web based survey link was e-mailed to 100 college professors across the United States. A total of 72 professors responded.

The results indicate that 45% of park directors in the United States have received training in crime prevention strategies. A belief that the occurrence of crime was not a problem in parks was reported by 66% of park directors. However, when presented with the statement, “reducing fear of crime in the park that I manage is a priority” 55% of park directors agreed. Over two-thirds of the professors agreed that crime in parks was a problem; even more agreed that fear of crime in parks was a problem, but only one-third stated that they would make it a priority to do something about it. Only 24% of professors in this study included CPTED strategies in their classes. The main reason given for not including these strategies was “lack of knowledge” of CPTED.

There appears to be a need to bring awareness about fear of crime and strategies to the forefront of the field. Park directors should increase their efforts to reduce crime opportunities in their parks and most academicians’ need to increase their awareness and teaching of CPTED strategies to address problems that have real world applications. Further research in park safety for visitors is needed.

## CHAPTER 1 INTRODUCTION

This dissertation examines crime issues in urban municipal parks and the strategies used by upper level management of municipal park systems to combat crime in the 250 largest cities in the US, as well as an overview of how crime-related education is conducted in park and recreation related disciplines as reported by college instructors throughout the US. This dissertation will be implementing a three paper format and each paper will examine an important aspect of crime prevention in urban municipal parks and strategies to alleviate incidences of crime in parks. The first paper will inventory the strategies that parks are currently using to reduce crime and fear of crime in their parks. The second paper will examine upper level park managers attitudes towards a crime prevention strategy known as Crime Prevention Through Environmental Design or CPTED (pronounced sept –ted) utilizing the Theory of Rational Choice. Paper three will also use Rational Choice Theory to investigate college instructor's choices on whether to teach CPTED principles as part of a park planning or park management curriculum.

These three papers will integrate to answer important questions relating to crime and fear of crime in municipal parks. First, what strategies are currently being used to reduce crime and fear of crime in parks? Two, what are upper level manager's perceptions of crime in their parks? Are they aware of strategies such as CPTED principles and following the precepts of the Theory of Rational Choice; is it in their best interest to employ CPTED strategies to reduce crime and fear of crime in the parks that they manage? Thirdly, are CPTED principles being taught to students being trained by college and university parks and recreation management programs? This is an

important question because it will shed light on the academic perspective of crime and fear of crime in parks and it will establish a baseline for future academic research in the realm of crime and fear of crime in urban municipal parks.

### **Initial Interest in this Topic**

Studying fear of crime in parks was not an endeavor that I originally intended to pursue. I was working for a municipal park in the city of Lynchburg, Virginia. This city has a population of about 70,000 people. I had little interest in fear of crime in parks until 2004. That is when the City of Lynchburg hired the National Research Center, INC to conduct The National Citizens Survey<sup>®</sup> on the residents of Lynchburg. The purpose of this survey was to gauge residents' ratings of the quality of virtually every kind of local government service — from police, fire and trash haul to animal control, planning and cemeteries. Many dimensions of quality of life were included such as feelings of safety and opportunities for dining, recreation and shopping as well as ratings of the overall quality of community life and the target community as a place to raise children and retire (National Research Center, 2004). The survey was sent to 1,200 randomly selected households. The response rate from this survey was 431 residents for a 39% response rate. The questions were calculated on a 4 point Likert scale with the response options being “excellent, good, fair or poor” (National Research Center, 2004). Responses were reported on a 100-point scale and the National Research Center, claimed a 95% confidence interval for all questions (2004).

After a baseline of citizen responses were categorized, they were compared to jurisdictions similar to Lynchburg's based on population size, ethnic composition, educational status and income. It is in this comparison that Lynchburg scored extremely below the normal average, scoring only at the 19<sup>th</sup> percentile. This suggested that of the

73 similar jurisdictions that were compared to Lynchburg, 81% of them felt safer in their parks during the day than the citizens of Lynchburg reported feeling. These findings piqued my interest in this topic and as I explored it more, I found this type of fear is not just confined to the city of Lynchburg. Fear of crime in parks is not just a problem that is local, regional, or national. It is a global problem (Paulson & Robinson, 2004). Yet, in my initial searches, I could find little academic reporting or even awareness of this major issue and decided to make it my mission to explore it more.

### **The Problem: Crime and Fear of Crime in Parks**

Crime is a problem in every country, however, “the United States has more crime than any other nation in the world” (Paulson & Robinson, 2004, p. 14). According to Paulson and Robinson, the United States has the highest “crime frequencies (actual number of given crimes in a given place), [however,] America does not have the highest crime rates (number of crimes divided by the population)” (2004, p.14). Although this is not a statistic to be proud of, it does at least imply that Americans are not afraid to report crimes and that the government is not afraid to admit that problems exist. It is through understanding that problems exist that facilitates the solving of problems.

There are two reasons it is important to focus on urban cities. One is, because roughly 75% of the US population lives in urban areas (Paulson & Robinson, 2004). Two, despite the fact that urban parks such as Central Park in New York receives millions more visitors a year than the most visited National Parks, research about the use of urban parks is relatively scarce in the literature (Harnik, 2006).

According to Ousey (2000), a relationship between city size and the rates of street crimes (homicide, robbery, and burglary) exists. His research suggests that the higher the population of a city, the higher the rate of street crime. Since crime rates are the

number of crimes divided by the number of citizens, the increased population should not be a rationale for an increased number of crimes. However, Paulson and Robinson assert that approximately “95% of the street crimes occur in urban areas” (2004, p. 28). Apparently there must be something that is causing these disproportionate levels of crime in large urban cities; however, exploring that question is outside of the realm of this dissertation. What is relevant to this study is the assertion that crime is more of an issue in larger urban areas than in most rural areas.

### **Urban Cities and Crime**

Previous research has suggested that murder rates and robbery rates are higher in large cities (one million residents or more) however, since “1996, rates of homicide for large and medium cities are nearly identical (Paulsen & Robinson, 2004, p. 28). Robbery is associated with city size, with large cities of a million or more having the most robberies. Interestingly, the occurrence of burglary is highest in medium sized (250,000 to 499,999 residents) cities (Paulsen & Robinson, 2004). Furthermore, violent crimes such as aggravated assault and rape “are still roughly five times as frequent in urban areas than in rural areas” (Paulsen & Robinson, 2004, p. 30). These data seem to confirm that crime is more prevalent in larger cities. This is not to say that smaller communities do not have problems with crime. Nonetheless, these data support the proposition that more research is needed on crime prevention strategies in urban parks. For this dissertation, the author compares United State cities by population. The author decided to look at the 250 largest urban parks in the United States. The same strata that Ousey (2000) used to classify cities will be employed. Large cities are those with one million or more residents. Medium-large cities are classified as those with 500,000 to 999,999 residents. Medium cities have 250,000 to 499,999 residents. Medium-small

cities have 10,000 to 249,999 residents and small cities have less than 10,000 residents.

### **Crime in Urban Parks**

Is crime and fear of crime a real problem in today's urban parks? "Whether a park and recreation official manages an urban vest-pocket park or a campground in a national park or national forest, the interrelated problems of crime and vandalism pose a daily constraint to the provision of recreation opportunities" (United States Heritage Conservation and Recreation Service, 1979, p. 177). This is as true today as it was thirty years ago when this quote was published in The Third Nationwide Outdoor Recreation Plan. In fact, according the America's Great Outdoors plan released in early 2011, crime and fear of crime is deterring young people from using parks and green spaces. Criminal behaviours such as "muggings, gang violence, and drug use in parks" coupled with "broken street lights, overflowing garbage bins, and graffiti-cloaked restrooms [signals] an environment of neglect and danger" (Salazar, 2011, p. 87)

To find evidence of crime and fear of crime in today's parks, one only needs to examine the newspapers of any major city. The 2008 New York Daily News reported that, excluding Central Park, there were "308 major crimes in the city's 20 largest parks" within an eighteen month period and five of the major crimes were rapes and another five were murders (Rudish & Rouen, 2008, p. 6). "I feel threatened because there's a lot of gangs around here ...there should be more security in the park." was a quote given by a sixteen year old female high school student (Rudish & Rouen, 2008, p. 6). Unfortunately, crime rates seem to be rising in municipal parks. In 2010, the New York Daily News reported that "crime in Central Park has jumped by 45% this year" especially in the number of grand larcenies (Fanelli, 2010, p. 5). The Manhattan

greenspace's police precinct reported twenty-eight more major crimes than the same time period last year (Fanelli, 2010). The popular, long-running fictional television program, *Law and Order*, begins episodes every few weeks with a body being found in Central Park, and viewers seem not to be surprised or outraged. Drug trafficking in Pioneer Park, in Salt Lake City, Utah was so bad the police were receiving one-thousand calls a year for service for that park alone (Morgan, 2009). Eventually, the police installed four video surveillance cameras in plain view, so park visitors knew they were being watched and drug related crimes seemed to move to another location (Morgan, 2009). These actions have reduced the number of drug arrests in the park, however, no information could be found on the citizens' perceptions of safety in the park. The city of Atlanta plans to install over five hundred video cameras throughout the city and even in the municipal parks as a crime prevention initiative (Garner, 2011). Even small cities such as Banning, California (85 miles east of Los Angeles), with a population of fewer than thirty thousand residents, have fears about their municipal parks. Recently, a 13 year old girl was raped on the playground by her classmates in a municipal park in the city of Banning, California. A 12 year old girl was quoted that she sometimes "goes there with her 8- and 9-year-old brothers, but never alone" and a 16 year old male responded that "people smoke marijuana in the park, and it's a place where gangs hang out" (Asbury, Sears & Waldner, 2011, p. A-1). It seems that the fear of crime in municipal parks is warranted in major metropolitan areas and in smaller cities also.

Many parks are suffering financially, from national parks to municipal parks. In fact, "staff shortages are now so great that at many parks public education programs

have been suspended or eliminated, the monitoring of endangered species is being abandoned, poaching is on the rise, artifacts are being plundered, and crime in the parks is on the increase too, as there are simply not enough rangers to stop it” (Burton, 2004, p.177). This could start a downward cycle “as urban parks become neglected, they are perceived as increasingly dangerous places; this reduces the number of people visiting them, resulting in further decay and exacerbation of their problems” (Madge, 1997, p. 237). Another example of this evolving attitude is demonstrated in research conducted in Great Britain. A study reported that “91% of people believe that public parks and open spaces improve their quality of life. However, one in five people thinks that it is not worth investing money in the upkeep and maintenance of local parks and public open spaces because they will just get vandalized” (CABE Space, 2004, p. 1). With declining park budgets, managers will have to make better decisions in maximizing safety and minimizing costs.

Crime Prevention Through Environmental Design (CPTED) strategies could be a win-win opportunity for park managers. CPTED strategies can be less expensive because they focus on the design and maintenance of natural park environments. CPTED strategies are not reliant on expensive high-tech equipment or highly trained security personnel. In fact, CPTED principles can be effectively employed by existing maintenance personnel, if they are properly trained in CPTED strategies.

### **Lack of Research**

Research on crime and fear of crime in parks and recreation areas is not abundant (Chavez & Tynon, 2007; Manning et. al, 2001; Madge, 1997; Pendleton, 1998; and Westover, 1985). Part of the problem may be a lack of awareness or interest in crime and fear of crime in the parks and recreation research community. However, Westover

suggests that neither the “park agencies [nor the] park [law] enforcement divisions usually provide reliable, comparable empirical data demonstrating the nature, extent, location, or frequency of crime and incivility in recreation settings, thus little empirical evidence [exist] to indicate exactly how crime and incivility influence overall levels of park use, users' behavior within the park, or perceptions of park safety” (1985, p. 410).

Historically, research on park crime and crime prevention concentrated on vandalism, target shooting, carving, and graffiti (Christensen & Clark 1983; Samdahl & Christensen, 1985). Eventually crime research in parks began by investigating more serious crimes including: “larcenies, such as breaking and entering or theft” which accounted for half of all park crime, followed by drug abuse and then violent crimes (United States Heritage Conservation and Recreation Service, 1979 p. 177). However, violent crime only “represented just over 1% of the nearly 8,000 crimes” in the parks studied and a preoccupation with only violent crimes supported a belief that there was far less crime in parks than publicly assumed (United States Heritage Conservation and Recreation Service, 1979 p. 177).

Today, crime research and fear of crime in parks reveals that crimes committed in parks are the same as crime elsewhere throughout the world. Research has found that crimes in parks and recreational lands include:

urban-associated crimes (e.g., arson, body dumping, domestic violence, drive-by shooting, gang activity, murder, rape and sexual assault, suicide); assault (e.g., personal assault, criminal property damage, threats against property); drug activity (e.g., marijuana cultivation, meth labs, meth chemical dumps, armed defense of crops); and takeover or violence perpetrated by members of extremist and nontraditional groups (e.g., satanic cults, white power groups, EarthFirst!, survivalists, militia/supremacy groups). Later research at other USFS sites lent support to those findings (Tynon & Chavez, 2006, p. 154).

Urban parks and “local neighborhood parks became so infested with filth, condoms and needles from ‘campers’ that playground equipment was removed and the grounds were ‘bulldozed’ and fenced in so that nobody could use them, especially sad circumstances for the children for whom they were intended” (Sousa & Kelling, 2009, p. 43). Similar circumstances were occurring in virtually every city in America (Sousa & Kelling, 2009).

Recently, because of the interest in active living research and the availability of funding, research on fear of crime in parks is starting to appear in the literature. The research is focusing on crime as a constraint to park use (McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; Carter et al., 2003; Chiesura, 2004; Ching-hua Ho et al., 2005; Chavez, Tynon, & Knap, 2004).

### **Fear of Crime as a Constraint to Park Usage**

Recently, some empirical studies have asserted that fear of crime has a direct link to reduced physical activity, especially in youth of low social/economic backgrounds and minority populations (McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004). Health care professionals have reported that minority parents were less likely to take their children to parks to engage in physical activities because they had safety concerns (Gomez et al., 2004). Research found that children were victims of crime in parks and playgrounds in their own neighborhoods. Children, minority and non-minority, are mugged, assaulted, sexually harassed, raped, murdered and kidnapped by adults and other children in both urban and rural environments (Arenberg et al., 1984; Finkelhor 1984; Clemente & Kleiman, 1977; Covington & Taylor, 1991; Lagrange & Ferraro, 1987; Liska & Warner, 1991; Skogan, 1987; Warr, 1990). Blakely reported that 28% of children aged 7 to 11 admitted that they were afraid of being hurt by another

person if they went outside of their homes (1994). Another 50% reported that they had been harassed when outside of their homes and 12% said that they were physically assaulted when they went outside of their homes (Blakely, 1994). Therefore, it is easy to understand why concerned parents are not allowing their children to visit parks to get the physical activity that they need.

### **Gender and Fear of Urban Park Settings**

Research suggests that some women are afraid of municipal parks in urban areas (Shores, Scott, & Floyd, 2007). Gordon and Riger (1989) reported that urban parks were the second most feared environments, with streets and alleys seen as the most dangerous. Furthermore, another study asserted that 61% of women living in the 26 largest U.S. cities, reported feeling unsafe in urban environments (Gordon & Riger, 1989). Bialeschki and Hicks reported that women exercising in parks developed strategies such as: bringing a friend or dog; varying their times and locations of park usage; and informing others of where they are going and when they expected to return (1999). Research conducted in Britain found that “73% of respondents indicated that fear would influence where they would go in a park, 80% that these feelings of insecurity would change with time of day and 80% that perceptions of fear would alter if [they were] on their own or in a group” (Madge 1997, p. 244). “Of particular interest here are urban, outdoor spaces, specifically public parks, but there is little research to date addressing women’s uses of urban parks in the United States” (Krenichyn, 2004, p. 118).

### **Age and Fear of Park Settings**

Scott and Jackson’s research on constraints to park use found that “fear of crime” was the number one reason given by respondents 66 or older for why they did not use

the park, followed by “poor health and no one to go with” (1996, p. 7). Jorgensen and Anthopoulou’s research suggested similar results, finding that 49% of the “over 65’s” were afraid or stated that they had concerns for their safety in the park (2007, p. 272). Scott and Jackson found one consistent agreement among all of the participants, regardless of race, gender or age, they all showed a “uniformly high level of agreement about making the parks safer” (1996, p. 9).

### **Benefits of Parks**

The benefits of parks and green spaces can be found throughout the literature of a multitude of disciplines. Most of the benefits can be summarized into categories of economic, physical health, psychological health, community assets, environmental or a combination of these categories. Wolf, 2006 and McPherson et al., 2002, reported that millions of dollars are saved each year by trees and forests for storm water reduction, improved air quality, and the natural cooling benefits that trees provide through shade and transpiration.

Other economic benefits of parks and green spaces are the monies generated by commercial and retail businesses. For example, the sporting goods retail industry generated “14.5 Billion dollars and employed 137 thousand people in 1996” (Crossley & Jamieson, 1997). “Across the nation, parks, protected rivers, scenic lands, wildlife habitat, and recreational open space help support a \$502-billion tourism industry. Travel and tourism is the nation’s third largest retail sales industry, and tourism is one of the country’s largest employers, supporting 7 million jobs, including 684,000 executive jobs. At present rates of growth, the tourism/leisure industry will soon become the leading U.S. industry of any kind” (Trust for Public Land, 1996, p. 2).

Furthermore, Crompton has reported that people are willing to pay more for homes located near parks or protected green spaces (2000). This willingness to pay more for land near parks generates increased revenues for the communities through higher property taxes. However, what some find more impressive is the positive correlation between quality of life and recreational opportunities or park availability. Research has found that people consider quality of life (i.e., recreation and park availability) as a major factor in where they decide to live, work, and retire (Crompton et al., 1997). Also, retirees make a substantial contribution to the communities in which they reside, without as high a drain on the tax base, and when they look for a place to retire - recreational opportunities rate a close second to moving some place warm (Crompton, 2007).

Evidence suggests that a healthy life style, including exercise, helps people live longer and happier lives. A study conducted by the Center for Disease Control (CDC) reported that only about 25% of adults and about 29% of high school students get the recommended amounts of physical exercise (CDC, 2001). Furthermore, other studies have suggested that spending time in nature, parks, and green spaces can lower blood pressure and cholesterol levels, help with various minor ailments, as well as help speed the recovery time for major medical ailments (Frumkin, 2001, 2003). Wang and Dietz found that having a place to exercise, helps reduce obesity in children and therefore, this could translate into a savings of around \$125 million dollars annually in hospital costs for problems associated with overweight children (2002). Killingsworth, et al. (2003) reported that over 200,000 deaths a year could be attributed to living a sedentary life style, however, using parks and trail systems could provide people with the

recommended exercise needed to regain healthy lifestyles. Would the presence of a place to exercise make a difference in people's exercise behaviors? The CDC reported a 26% increase in exercise levels when they had new or improved access to parks (2001).

The psychological benefits of parks and green spaces have also been well documented. Wells, 2000; Taylor, Kuo, & Sullivan, 2001; Frumkin, 2001; and Trancik & Evans 1995; all provide support that natural settings are beneficial for children, even children with ADD/ADHD. Research on teens with behavioral disorders, has found that contact with nature has produced significant improvements in their behaviors (Frumkin, 2001). Research in adult populations have suggested that green spaces have numerous psychological benefits including: increased feelings of safety (Kuo, Bacaioa, & Sullivan, 1998); improving "attention restoration theory" (R. Kaplan & Kaplan, 1989; S. Kaplan, 1995; R. Kaplan, 2001); providing privacy (Hammit, 1982; Hammit & Brown, 1984; Hammit & Rutlin, 1995; and Hammit, 2002) and even reducing acts of aggression (Kuo & Sullivan, 2001).

In all, there are many benefits to having parks and green spaces that people feel safe to use. These benefits range from health to economics, improved community image, enhanced quality of life to protecting the ecosystems of the planet. But, people will not gain most of these benefits if they are afraid to use parks.

### **Rational Choice Theory**

Over the last 20 years, a substantial amount of criminological research has been conducted from the rational-choice perspective (Clarke & Cornish 1985; Grasmick & Bursik, 1990; McCarthy 2002; Nagin & Paternoster, 1993; Paternoster, 1989; Paternoster, Saltzman, Waldo, & Chiricos, 1983; Piliavin, Thornton, Gartner, &

Matsueda, 1986; Piquero & Tibbetts, 1996; Tibbetts & Myers, 1999). Research in the fields of parks, recreation, and tourism is more limited; however, some studies were found in related fields. For example, travel research (Bamberg & Schmidt, 1998; and Davidov, 2007) fisheries management (Acheson 2004; Acheson & Gardner 2005) and organic farming (Best, 2009) were located using rational choice theory.

The main premise of the Rational Choice Model is that an individual always “calculate[s] the costs and benefits” of the decisions that they make (Vold, Bernard, & Snipes, 2002, p. 203). Rational Choice Theory as used in criminology today was adapted from the work of Becker (1968) entitled “Crime and Punishment: An Economic Approach” and was published in the *Journal of Political Economy*. This was more of a mathematical model and was later adapted to more of a “decision diagram” model (Clarke, 1995, p. 98). This decision model approach explains criminal decision making as “purposive behavior designed to meet the offender’s commonplace needs for such things as money, status, sex, and excitement and meeting these needs involves the making of (sometimes quite rudimentary) decisions and choices, constrained as these are by limits of time and ability and the availability of relevant information” (Clarke, 1995, p. 98).

Support for the Rational Choice Theory can be found in the research of incentives, approaches and selection process targets that criminals chose (Walsh 1980; Maguire 1982; Bennett & Wright 1984; Nee & Taylor 1988; Biron & Ladouceur 1991; Cromwell, Olson, Wester, & Avary 1991; Walsh 1978; Carroll & Weaver 1986; Lejeune 1977; Feeney 1986; Kube 1988; & Nugent et al., 1989). An example includes the technological advancements in communications. The introduction of Caller-ID has

substantially reduced the occurrence of obscene and harassing phone calls (Clarke, 1990; Clarke, 1995). This technology facilitated the ability of abusers to be identified and convicted. Another example can be derived from studies of home burglary, because more women are in the work force, more homes are empty during the day and that makes them a less risky target. No one is home, therefore, the chance of getting caught is reduced and such residences are a more rational target than houses where people are obviously at home (Clarke, 1995).

According to Atlas 2008, offenders consider the following questions when deciding whether to commit a crime:

- 1 How easy will it be to enter the area?
- 2 How visible, attractive, or vulnerable do the targets appear?
- 3 What are the chances of being seen?
- 4 If seen, will the people in the area do something about it?
- 5 Is there a quick, direct route for leaving the site after the crime is committed? (Atlas, 2008, p. 55).

Rational Choice Theory is about making decisions. The basic premise is that humans will make the choice that offers the most benefit for the least cost. This assumes that the decision maker is able to calculate the expected gains or benefits and weigh them against the possible losses of making this decision. If the perceived potential gains outweigh the perceived potential losses, then the person is more likely to choose the action.

### **Park Directors, Rational Choice Theory, & CPTED**

Rational Choice Theory and criminal behavior has been adequately addressed in the crime prevention literature (Atlas, 2008; Brantingham, & Faust, 1976; Clark, 1995;

Jeffery, 1971; Loukaitou-Sideris, & Eck, 2007; Schneider & Kitchen, 2002; 2007).

However, no literature from the park director's perspective on decision making process to ensure a safe park was found.

According to Paternoster & Pogarsky (2009), Rational Choice Theory implies that decisions are based on considerations of the costs and benefits and that this requires the "collection of information about those costs and benefits, and a weighing of the costs/benefits before making a decision" (p. 104). However, as noted by McCarthy, (2002) this does not imply that all people have the same level of cognitive reasoning, nor do they all have access to the same levels of information or have the same mental dexterity in weighing costs and benefits. Therefore, "the rational choice perspective implicitly recognizes that decision making is both inherently natural and [a] highly individualized" method of making decisions (Bouffard, Exum & Collins, 2010, p. 400).

Rational choice theory has also been used in understanding city leader decision making (Feiock, 2007). Feiock makes the case that the context in which a rational choice is decided is as important as any other variable of the decision (2007). Feiock elaborates that "many situations generate only partial information that may be distributed asymmetrically and the structure of the situation may cause actors to view risk, uncertainty, information asymmetries, and the actions attributes of other participants differently" (2007, p. 48). In terms of municipal governments, collaboration between the parks and the police can be seen as a benefit; however, it could also be viewed as a cost, where duplication of work is not cost effective. Therefore, the context of the situation and even the outcomes of the situation may affect the Rational Choice decision model.

Another complexity of using Rational Choice Theory is deciding what kind of benefits are being measured and compared? When considering Rational Choice Theory, “one of the most prevalent assumptions is that individuals have preferences that are selfish, or that reflect their self-interest,” however, this can be hard to quantify (Schroeder, 1998, p. 40). For example, “altruism, concern for the state of society, and additional other-regarding values can be a source of such individual well-being, often called psychic well-being” (Schroeder, 1998, p. 40). Another form of fulfilling self-interest could be assisting a specific person or group of people. The warm feeling from helping someone you know or helping groups you know can be a benefit (Schroder, 1998). This differs from altruism in that the people being helped are known and the factor of reciprocity is a consideration. The last benefit option was discussed previously in this chapter and is the personal benefit of personal wealth, pleasure, gain or some other advantageous benefit for the individual making the decision(s).

An upper level park manager making a decision to create an urban wildlife area because he/she is concerned about the environmental deterioration of ecosystems in his/her region may be acting in an altruistic manner. The same manager may award a construction contract to a friend for the construction of a new park. Here the manager may be making the decision based on the reward of reciprocity or the good feelings of helping a friend. In both of these examples, the manager is receiving a benefit; however, it is not as clear or as easy to quantify as doing it to add to personal wealth or the avoidance of a painful situation.

The first goal of this dissertation is to identify the types of crime prevention strategies being used in urban municipal parks. Currently, no data exist on crime prevention strategies employed in urban municipal parks. This study will identify techniques being implemented in urban parks and this may be a baseline for future researchers interested in reducing crime and fear of crime in our parks. This will be the focus of chapter two (paper 1) of this dissertation.

The second goal of this dissertation is to evaluate urban park directors' access to information on CPTED strategies. Prior research suggests that less than half of the park directors surveyed in a statewide study of Florida municipal parks were knowledgeable of CPTED strategies (McCormick, et. al, 2010). It is important to know what information is available to park directors as they make decisions about reducing crime and fear of crime in the parks they manage. The third goal is to identify park directors' perceptions of benefits and costs of implementing CPTED strategies in the parks they manage using Rational Choice Theory. Goals two and three will be addressed in chapter 3 (paper 2).

The fourth goal is to assess college professors' knowledge of CPTED strategies and their attitudes and behaviors related to teaching these strategies to their students. Prior research suggests that less than 5% of the park directors surveyed in a statewide study of Florida municipal parks obtained training in CPTED from colleges or universities (McCormick, et. al, 2010). It is important to know what training options are available to park directors as they make decisions about reducing crime and fear of crime in the parks they manage. This research will measure college professors' perceptions of benefits and costs of teaching CPTED strategies in the park management curriculum using Rational Choice Theory.

Finally, the last goal of this dissertation is to accumulate the acquired additional information about crime prevention strategies currently used in parks, attitudes of park directors towards using CPTED in their parks, attitudes of college professors teaching related to crime prevention and park management, and develop a base of knowledge that will assist in reducing crime and fear of crime in urban parks.

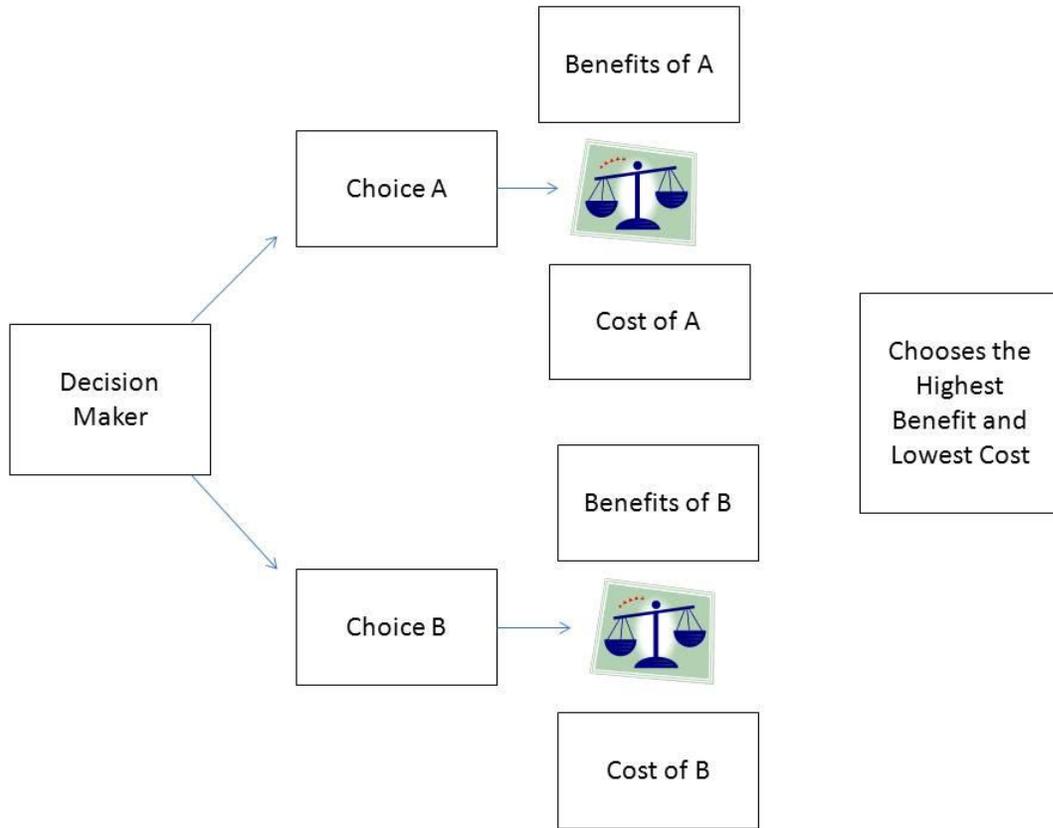


Figure 1-1. Rational Choice Model

## CHAPTER 2 MEASURING IMPLEMENTATION OF CRIME PREVENTION STRATEGIES IN URBAN MUNICIPAL PARKS

Crime and fear of crime is increasing in recreational settings (Chavez, Tynon, & Knap, 2004, Manning et al., 2001; Pendleton, 2000; Shore, 1994). However, research on the effectiveness of crime prevention strategies in urban parks, rural parks, or national forest/park lands is scarce. In 2006, Tynon and Chavez published an article entitled "Crime in the national forest: A call for research". In this article they proposed three questions: "what actions are effective in mitigating crime in a recreation setting and what should we adopt for a successful crime-stopping arsenal" and "how do[es] crime and violence affect decision making" of park directors in charge of our park lands (Tyron & Chaves, 2006 p. 154)?

According to Atlas, crimes including "vandalism, burglary, shoplifting, [and] assault" not only "endanger lives and threaten the built environment, but they have too often been undervalued, "inadequately addressed and [research into this area has been] poorly funded" (2008, p.3). Previous studies of crime and fear of crime have recommended the importance of getting citizens involved and addressing crime problems as they arise, this is what Sampson and colleagues (Sampson & Raudenbush, 1999; Sampson, Raudenbush, & Earls, 1997) refer to as collective efficacy. However, crime and fear of crime must be perceived as a problem first, then and only then, will actions be taken to correct the problem. Although research specifically addressing the perceptions of crime and fear of crime, as it relates to upper level park management personnel and how it affects their decision making cannot be found in the literature; a body of literature has focused on determining the characteristics associated with perceiving crime among neighborhood residents (Hipp,

2010; LaGrange & Ferraro, 1989; LaGrange, Ferraro, & Supancic, 1992; Robinson, Lawton, Taylor, & Perkins, 2003; Rountree & Land, 1996a; Wilcox, Quisenberry, & Jones, 2003). Furthermore, this body of literature suggests that perceptions of crime and fear of crime may differ from person to person within the same geographic area. Next, studies have advocated that “most people perceive their own neighborhood to be relatively crime free and safe as compared to other neighborhoods in a city, regardless of the actual crime levels in their neighborhood” Paulson & Robinson, 2004 p.42-43). Although no empirical studies could be found, it seems feasible that upper level park managers could also perceive their own parks as safe, regardless of the actual crime levels or the citizens’ perceptions of crime in parks.

Prior research addressing these incorrect perceptions of fear of crime has produced some interesting findings. Brantingham, Brantingham and Butcher (1986) found high associations between high levels of fear of crime and social incivilities (such as prostitution and panhandling) as opposed to serious crimes. Furthermore, research on the effect of labeling an area as unsafe due to a high crime rate indicates that such stigma can have negative consequences such as lowering property values and causing people to avoid such areas (Miller, 1999; Pyle, 1980). Therefore, some upper level park managers may think they have the citizen’s best interest in mind when they deny that a park has a crime problem. They may fear that by admitting to the problem, the situation will only deteriorate.

Finally, according to Pendleton and Thompson, “the literature and training on which park managers rely does not provide a comprehensive directive for understanding and managing crime in parks” (2000, p.63). Research on national forest

recreational areas conducted by Tyron and Chavez agreed, stating that “a lack of public awareness of criminal activities [suggested a communication problem] and ... many [of the] managers we spoke to, who were not law enforcement officers or special agents, had little knowledge of the problems and were surprised at the extent of them” (2000, p. 407). Although no previous research on urban park management’s knowledge of crime in their parks could be found, it is logical to assume that their knowledge (or lack of awareness) may be similar to those of national forest managers.

This study examines the attitudes of upper level park management decision makers who manage a municipal park system in the 250 largest parks in the United States. This research will provide insights into current safety priorities and practices of park managers concerning crime prevention strategies through specific research questions. The purpose of this study is to measure upper management’s perceptions of crime and fear of crime in the parks they manage, develop a baseline of crime prevention strategies reported to be currently used in urban parks and explore the factors affecting such implementation decisions by urban park and recreation administrators in metropolitan cities with populations above one hundred thousand residents.

### **Review of Literature**

Empirical studies have suggested that fear of crime has a direct link to reduction in park usage (Salazar, 2011; McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; Carter et al., 2003; Chiesura, 2004; Ching-hua Ho et al., 2005; Chavez, Tynon, & Knap, 2004; Molnar et al., 2004; Scott & Jackson, 1996). Parents have refused to let their children attend parks and playgrounds because of crime concerns (Clements, 2004; Gomez et al., 2004; Louv, 2005; Molnar et al., 2004 ).

Women have reported that urban parks were the second most feared environments in the city (streets and alleys were the most feared) (Gordon & Riger, 1989; Valentine, 1989). Scott and Jackson's research on constraints to park usage found that "fear of crime" was the number one reason mentioned by respondents 66 or older for why they did not use the park, followed by "poor health and no one to go with" (1996, p. 7).

Furthermore, Scott and Jackson's research found one consistent agreement among all of the participants, regardless of race, gender or age, they all showed a "uniformly high level of agreement about making the parks safer" (1996, p. 9).

### **Incivilities**

Research providing evidence for a significant relationship between conditions of incivility (or aesthetics) and fear of crime and/or perception of risk for victimization is also well documented (Appleton, 1975; Box et al., 1988; Covington & Taylor, 1991; Gates & Rohe, 1987; Lewis & Maxfield, 1980; Lewis & Salem, 1986; Skogan, 1986; Samdahl & Christensen, 1986; Ibitayo & Virden, 1996; Budruk & Manning, 2006).

Incivilities can be categorized into two categories, physical and social incivilities.

Physical incivilities "included abandoned housing, shuttered stores, graffiti, litter, vacant trash-filled lots, unkempt lawns, yards or housing exteriors, abandoned cars and since the mid-1980 s, the conversion of houses or apartments to drug-selling locations" (Robinson et al., 2003, p. 238). For parks, some of the most common incivilities would be discarded alcohol containers, drug paraphernalia, condoms, and graffiti or other destruction of park property. Social incivilities usually involve human behaviors such as "public drinking or drunkenness, rowdy and/or unsupervised teen groups, "hey honey" hassles, neighbors fighting or arguing, late night noise or parties, prostitutes, and from the mid-1980s on, public drug sales and the presence of crack addicts" (Robinson et. al,

2003, p. 238). Ferraro suggest that those who perceive more social or physical incivilities will report higher levels of perceived risks and increased levels of fear of crime (1994).

As the fear of crime increases, a spiral of behaviors are created which includes reducing time spent, especially at dusk and the evening, then, avoidance which in turn leads to greater physical deterioration of the environment. As the “physical deterioration remain[s] unrepaired over time [it] erode[s] [the] residents’ trust in one another, their informal control over the public spaces on the block as well as their time spent there” and this avoidance of the space encourages local delinquency, and signals “increased opportunities for delinquent behavior” (Robinson et al., 2003, p. 39). Recent research that supports incivility theory includes but is not limited to Chiesura, 2004; Bodin & Hartig, 2003; Kuo, & Sullivan, 2001; Taylor, Kuo, & Sullivan, 2001; Hilborn, 2009; Hull, & Harvey, 1989; Kuo, Bacaicoa, & Sullivan, 1998; Chiesura, 2004, Michael, Hull, & Zahm 2001; Herzog & Miller, 1998; Bodin & Hartig, 2003. This research has been conducted across various disciplines including; parks and recreation; urban planning; landscape architecture; sociology; criminology and other academic fields.

Budruk & Manning assert that incivilities in “recreation settings are a major cause of concern for both park managers and visitors” alike (2006, p. 6). Previous research on the effects of incivilities such as litter and graffiti suggests that tourist and park users are less likely to frequent an area with incivilities (Budruk & Manning, 2006; Anderson & Brown, 1984; Christensen, 1986; Heywood, Mullins, & Blower, 1983; Ibitayo & Virden, 1996). Research conducted by Noe, Hammitt, & Bixler (1979) found litter to be more tolerated in urban settings (though still not acceptable) than in nature settings and that

graffiti and vandalism were more common in urban parks, however, this behavior was not exclusive to urban areas. The literature suggests that park managers may be more sensitive to incivilities in parks than patrons (Budruk & Manning, 2006; Heywood, Mullins, & Blower, 1983; Ibitayo & Virden, 1996). Many visitors seem to develop a norm or expectation of seeing litter and graffiti in small amounts, without impacting them especially in urban areas (Budruk & Manning, 2006). As litter and graffiti becomes the norm or expectation, it is tolerated by those who live in or visit those settings.

However, according to Wilson & Kelling (1982) (authors of the Broken Windows Theory) this is a dangerous pathway to head down because disorder and crime are thought to be inextricably linked. Budruk & Manning (2006) is a good place to start but their findings have some limitations. Budruk & Manning's research was not interested in the meanings behind the litter and the graffiti their research. A few soda cans and a pizza box sends a different message than beer cans, hypodermic needles, and a broken crack pipe. A heart with the initials of two lovers carved in a tree or spray painted on a bolder sends a different message than red spray paint announcing "Blood 4 Life" or "MS-13" painted on a building. Budruk & Manning recommends that future research in incivilities explores "other avenues include[ing] visitor perceptions of litter and graffiti, impacts based on type of litter, [and] message conveyed by graffiti" (2006, p. 21).

### **Uniform Law Enforcement**

Other research has concentrated on law enforcement aspects of park management. Pendleton (1998) suggests that an increase in crime may persuade park personnel to adopt a hard law enforcement persona; making arrests and issuing citations instead of giving warnings and other softer approaches. Some researchers argue that a strong presence of "park rangers or park police" patrolling recreational

areas is necessary for people to feel safe (Harnik, 2006 p. 30). Others argue that a police presence in the park just leads to more fear of crime. The park visitor assumes that if there is a need for a park police officer, then there must be a lot of crime in this park. Some studies suggest that standard police patrols or rapid response to police calls for service had little impact on crime or on fear of crime in communities (Kelling et al., 1974; Spelman & Brown, 1981).

Harnik asserts that “the universe of park security is divided into two groups: those cities with armed park police and those with unarmed park rangers (in radio contact with the regular city police force)” (2006, p. 30). For those parks that choose to utilize armed, uniformed police or park rangers, there are advantages and disadvantages. Advantages include quicker response times in times of emergency and a stronger focus on criminal activities. Some disadvantages include; increased financial burdens, higher training costs, a loss of “visitor service ethic[s]”, and sometimes a problem with park police morale; because park police usually do not earn the same magnitude of salary as other police officers, but encounter many of the same problems as city or county police (Harnik, 2006 p. 30). This disparity in pay sometimes results in park police officers taking higher paying jobs in other police departments as soon as an opening occurs.

One advantage to having uniformed police or rangers is the uniform itself. In an empirical test, “subjects consistently ranked the police uniform as the one most likely to induce feelings of safety;” furthermore, “models were consistently rated as more competent, reliable, intelligent, and helpful when pictured in a police uniform than they were in casual street clothes” (Johnson, 2001, p. 28). It is speculated that having other

park personnel wearing uniforms can have a similar effect, thus “providing an additional sense of presence and authority” while doing their primary duties (Harnik, 2006 p. 30).

### **Closed Circuit Television**

Another form of crime prevention is Closed Circuit Television or CCTV. CCTV has been used for decades in banks, convenience stores, and retail stores. CCTV is viewed as a “technique of formal surveillance ... enhance[ing] or take[ing] the place of security personnel” (Welsh & Farrington, 2002, p. 1). Although research on CCTV has mixed findings, one study “concluded that CCTV had a significant desirable effect on crime, although the overall reduction in crime was a rather small four per cent” (Welsh & Farrington, 2002, p. 41).

CCTV has been found to be cost effective. “In Britain, CCTV was the single most heavily funded non-criminal justice crime prevention measure. Over the three year period of 1999 through 2001, the British government has made available \$170 million for CCTV schemes in town and city centers, car parks, crime hot-spots and residential areas” (Home Office Policing and Reducing Crime Unit, 2001, p. 8). Furthermore, Welsh and Farrington (2003) found the benefit to cost ratio to be 3.5 to 1, in that the criminal justice system saved 3.5 pounds in court costs and incarceration costs to every pound spent in running the CCTV programs.

Welsh and Farrington also warn about the negative side of CCTV. “The presence of CCTV may give people a false sense of security and cause them to stop taking precautions that they would have taken in the absence of this intervention, such as not wearing jewelry or walking in groups when out at night” (Welsh & Farrington, 2003, p. 111). Crime displacement is another argument associated with CCTV. The argument of

displacement is not whether cameras are preventing crimes; rather they may just be moving crimes to other locations where no cameras are watching.

Closed circuit television has been implemented in US urban parks. One example is Pioneer Park, in Salt Lake City, Utah. The main complaint was drug dealing in the park so police installed four video surveillance cameras in plain view so park visitors knew they were being watched and the drug related crime moved to another location (Morgan, 2009). The city of Atlanta plans to install over five hundred video cameras throughout the city including in the municipal parks as a crime prevention initiative in 2012 (Garner, 2011). As the technology evolves and the price becomes more reasonable, the occurrence of CCTV in recreational areas is likely to increase (Koskela, 2000).

## **Lighting**

Improving lighting is one of the most common suggestions in reducing crime and fear of crime (Atkins et al., 1991; Lab, 1997). However, research in London suggests that there is little empirical evidence that improved street lighting actually reduces crime and inconclusive results on if lighting had any effects on feelings of safety (Atkins et al., 1991). However, Blöbaum and Hunecke's research suggests that lighting is one of the most important factors in perception of safety in an environment (2005). Furthermore, they assert that "lighting is often regarded as the easiest physical feature that could be improved in a given situation" (Blöbaum & Hunecke, 2005, p. 480).

Atlas makes an excellent argument regarding lighting, arguing that "lighting provides choices" (2008, p. 383). Whether or not light prevents crime or fear of crime is irrelevant; light enables you to take in information from the environment and then make a choice. Light allows one to see that another person is walking the trail coming towards

you. However, you must make the decision if this person is “friend or foe” and take appropriate actions depending on your processing of the information (Atlas, 2008, p. 383). According to Atlas, if you want to use a space at night, then the minimum lighting should allow for a person to “be able to identify a person’s face from 40 – 70 feet away” (2008, p. 401) to be effective.

In 2005, Cozens, Saville, and Hillier published an article titled “Crime prevention through environmental design (CPTED): a review and modern bibliography”. In this article, they addressed findings in the literature on crime and fear of crime concerning research on lighting. Below are their conclusions.

In the UK, lighting studies in Hammersmith and Fulham (Painter, 1991a) and the North West of England (Painter, 1991b) reported reductions in crime and disorder. A Home Office funded study (Atkins et al., 1991) conducted in Wandsworth found no effect on crime, as did a review by Ramsay (1991) although it did suggest improved street lighting could reduce the fear of crime. Other studies in Cardiff (Herbert and Moore, 1991), Hull (Davidson and Goodey, 1991), Leeds (Burden and Murphy, 1991) and Strathclyde (Ditton et al., 1993) produced inconclusive findings using “before” and “after” comparisons but failed to provide a control area (Painter and Farrington, 1997). Bainbridge and Painter (1993) studied improved lighting in Birmingham’s inner city, which despite the collection and analysis of some additional social survey data, also proved inconclusive. Methodological inadequacies have raised serious doubts about the validity of many of these exploratory studies (Painter and Farrington, 1997). (Cozens et al., 2005, p. 234-235).

Atlas also asserts that darkness can be an effective safety strategy (2008). One example of this “dark out” is in school systems. “When the building is closed and locked at night, the school and grounds are dark ... [even] the basketball court is dark” to prevent people from playing basketball at night (Atlas, 2008, p. 407). The entire school and grounds are dark to discourage use and police and neighbors know if they see lights on at the school a “breach in security” has occurred (Atlas, 2008, p. 407).

Therefore, in this case the absence of light is a psychological deterrent to use of an area.

### **Crime Prevention Through Environmental Design**

Crime Prevention Through Environmental Design or CPTED (pronounced: sep-Ted) is an approach that has evolved over the last four decades. An operational definition of CPTED includes Defensible Space Theory (Newman, 1970), Eyes on the Street (Jacobs, 1961) and situational crime prevention (Clarke, 1995). While there are subtle differences in each theory and technique, for the purposes of this research, CPTED will be used as the umbrella concept encapsulating environmental design aspects of crime prevention.

According to the National Crime Prevention Council, CPTED is the design and use of the environment that directly affects human behavior, which in turn, influences both fear of crime and opportunities for crime and ultimately affects quality of life (1997). Brantingham & Faust stated that (CPTED) is focused on "identifying conditions of the physical and social environment that provide opportunities for or precipitate criminal acts and the alteration of those conditions so that no crimes occur" (p.289, 1976). This approach was dramatically different than traditional criminological theories of the time because its aim was in preventing occurrences of criminality, as opposed to "the reactive and largely failing strategies employed by police, courts, and correctional facilities in the American criminal justice system" (Wallis, p. 23, 1980). CPTED today, can best be defined as design principles that decrease or remove opportunities for crime and encourage legitimate and positive social interactions in commercial, residential, and other environments (Macdonald & Kitteringham, 2004). CPTED principles provide legitimate users a good and safe feeling while at the same time

signaling “discouraging cues” to potential criminals, therefore reducing crime proactively but discreetly (Blue, p. 46, 2000).

The four main components of CPTED are: Natural Observation (removing hiding spots and maintaining clear sight lines), Natural Access Control (using pathways, vegetation, gates or bollards to direct and control travel), Territoriality (identifying park property with signage, vegetation, or other positive markings), and Maintenance (clean, well maintained parks indicate that someone cares about the space and the elimination or reduction of physical incivilities). These four components overlap and work together in many situations. One of the ways that CPTED differs from situational crime prevention is CPTED’s adherence to the natural environment, whereas situational crime prevention may use CCTV or laser motion detection. A CPTED approach might use a bench to help encourage natural observation of a playground or add a hedge of thorny *Pyracantha* (firethorn) to discourage walking into an area that managers would like to protect, for example.

One area of CPTED that this paper will explore is the use of signage. Signage is included in the territoriality component of CPTED because it usually communicates that someone owns the area. “Signs can state the ground rules for what are allowed or forbidden behaviors” (Atlas, 2008, p.498). Atlas continues that, “stating the ground rules is critical for achieving compliance and reducing the facilitators of crime” (2008, p.487). When rules are ambiguous, criminals have a talent for creating excuses. Good signage eliminates excuses (Atlas, 2008). Signs can also help give directions and may even include maps. In this function, signage and maps also act as access control devices, another component of CPTED.

## Analyzing Crime Data

Harnik asserts that precise collection of crime data within parks and within neighborhoods surrounding parks is essential to formulating a crime prevention strategy (2006). However, according to Harnik's research "only about half the surveyed agencies currently collect this data and, of those that do, most have no strategy to use the information" (Harnik, 2006 p. 29). One way of analyzing this information is crime mapping and hot spot analysis. This can be done using geographic information systems (GIS) or even as low tech as using push pins in a paper map of a park on a bulletin board. Hot spots can be defined as "small places in which the occurrence of crime is so frequent that it is highly predictable [and that the crime areas are] spatially closer than would be expected by chance" (Paulson & Robinson, 2004, p. 313). Once hot spots are identified on a map, that area can be investigated and appropriate strategies implemented to reduce crime in that area. For example, a study in Minneapolis found that 15,901 calls to the police reporting burglary came from "11% of the street addresses" (Paulson & Robinson, 2004, p. 37). However, without information on what kinds of crimes are being committed and exactly where they are occurring in the park, managers' efforts to reduce crime may be ineffective. Previous research on hot spots includes homicides in Chicago; (Block & Christakos, 1995; Block & Block, 1998) drug crimes; (Green, 1995; Weisburd, 1995) and burglary (Robinson, 1998)

Research suggests that some women are afraid of municipal parks in urban areas (Shores, Scott, & Floyd, 2007). Gordon and Riger (1989) reported that urban parks were the second most feared environments, with streets and alleys seen as the most dangerous. Furthermore, another study asserted that 61% of women living in the 26 largest U.S. cities reported feeling unsafe in urban environments (Gordan & Riger,

1989). Therefore, “another valuable piece of information is the ratio of male to female users in each park since a low rate of female users is a very strong indication of a park which feels unsafe” (Harnik, 2006 p. 29). Therefore, knowing the ratio of women visiting each park can be a good indicator of how safe the general public considers a park.

### **Citizen Involvement**

Research has suggested that safe and healthy places have similar characteristics including citizen participation, (Atlas, 2008; Checkoway & Finn, 1992; Saville & Clear, 2000) community discussion and mutual working relationships (Atlas 2008; Barton, 1993; National Institute of Justice, 1996) and opportunities for residents to work together developing crime prevention strategies (Atlas, 2008; Gilligan 2001; & Wekerle & Whitzman, 1995). This has also been defined as second generation CPTED. A “second generation” of CPTED theory has developed in the last decade which has become more holistic relative to acknowledging connections between management and use of physical environments; that is, the link between physical and social factors. (Schneider & Kitchen, 2002, 2007). According to Atlas, “Saville and Cleveland created Second-Generation CPTED” in 1998 (2008, p. 80). This new version brought in four social factors to accompany the original four physical components of CPTED. Social Cohesion (the concept working together towards a common goal; “Friends of the Park” would be an example), Connectivity (participatory park planning with the community is an example), Community Culture (having a large presence of females in the parks shows that the area is safe and that women feel safe in this environment), and Threshold Capacity (keeping things in balance, maximizing diversity, keeping things socially stable such as through organizing a neighborhood park clean-up, which might

reduce the incidence of incivilities). In Second-Generation CPTED, one is focusing on developing a sense of community and involvement (Atlas, 2008).

With increasing urbanization, higher unemployment and declining park budgets, interest in increasing public use of parks for active living or public support reasons is accelerating; but highly publicized examples of crimes in parks, still act as a deterrent for some citizens. Given the apparent minimal implementation of crime prevention strategies in many parks, a study was undertaken to better understand the awareness and interest in crime prevention strategies among upper level park managers as it relates to park settings.

### **Research Questions**

- 1 Do urban park managers consider crime and fear of crime as a problem in the municipal parks they manage?
- 2 What kinds of crime prevention strategies are they utilizing?
- 3 Do managers implement CPTED in a manner consistent with what rational choice theory would predict?

### **Methods**

#### **Participants**

Upper level managers were recruited by identifying the 250 largest cities in the United States by census data and then going to the cities' official websites and obtaining the name and email address of the head decision maker of the parks and recreation department. If the information was not available on the website, a phone call was made to the park and recreation department requesting the name and email of the highest level department decision maker.

## Procedures

An e-mail letter with a URL to a web-based survey was sent to 250 directors of municipal recreation and park agencies of the largest cities in the United States. A web-based survey approach was selected for several reasons. First, according to Czaja & Blair “web surveys are the fastest and cheapest” way to gain important information about a specific population (2005, p. 19). Second, Schuman asserts that “surveys remain our best tool for learning about large populations” and the focus of this study is the beliefs and behaviors of urban park managers across the United States (2002) related to applications of crime prevention strategies to reduce crime and fear of crime in their park systems. This is not a large sample, for example previous research reported that there was “178 directors of municipal recreation and park agencies in Florida” alone (Spengler et al., 2002). However, according to Schuman, it is not the size of the sample but the representativeness of the sample (2002) that is important. In other words, it is more informative to have a sample that represents the population being studied than just having a large sample.

Another reason data was collected via a survey method is because this topic is a relatively new area of study in the field of parks and recreation. No previous research has established a national baseline of data on specific practices of park managers’ use of crime prevention strategies (McCormick et al., 2010).

According to Czaja & Blair, email surveys are not very reliable and have low response rates, however, web based surveys are more like mail surveys and therefore considered more reliable (2005). Some of the advantages of offering a web based survey are: a professional contact letter can be sent as an email or attached to an email at no cost; second, follow up email post cards or reminders can be sent at no cost; third,

responses are automatic and can be formatted to automatically be delivered in a spreadsheet, so time is saved in collecting and coding data, and response rates can be as high as mailed surveys if proper techniques are employed (Czaja & Blair, 2005).

The limitations of web based surveys are similar to mail surveys. The possibility of having the wrong address can lead to non-response. Nevertheless, most e-mail systems will inform of non-deliverable e-mails. For the potential respondent, it is easy to hit the delete button, but it is also easy to throw a survey into the trash can. However, "the biggest disadvantage of Internet surveys is that a large proportion of the U.S. adult population does not have Internet access" (Czaja & Blair, 2005, p. 42). This was not a problem because all of the park directors were emailed directly to their work email address. Work email addresses were obtained by visiting the park department's website or through phone calls to the department requesting the director's email address.

### **Survey Development**

The CPTED literature provides a starting point and recommendations from CPTED practitioners have identified characteristics of safe parks and have provided a foundation to build on. Specifically for this study, information from the Virginia Crime Prevention Association's book on CPTED Guidelines was accessed to assist with the formulation of survey questions (2005).

Questionnaire development was based upon a literature review which identified previous related studies. Multiple choice, dichotomous choice and Likert scale items were the primary response formats. A test of content validity was conducted by a panel of five university professors and three experts in crime prevention and law enforcement. The panel members were asked to examine the questionnaire in terms of item

relevance, representativeness, and clarity. A few word changes and refinements were made in response to their suggestions.

The questionnaire was pretested on all of the municipal park directors in the state of Florida. An e-mail survey was sent to all 178 directors of municipal recreation and park agencies in Florida. A total of 91 directors responded, achieving a return rate of 50%. A Cronbach's Alpha test of reliability was calculated using SPSS 15 and indicated a reliability coefficient based on the average covariance among items of 0.810. Because none of the items was below 0.70, all items were kept (Appendix A). Additional questions were added to the questionnaire after analysis of the pilot study to improve the validity of the study by seeking additional information on some topics. The final survey consisted of 68 questions; though some items were conditional based on earlier responses, so the length of the survey varied depending on how respondents answered certain questions. The survey was submitted, reviewed and approved by IRB. The survey was formatted and converted to a web format using the Qualtrics<sup>®</sup> survey program (Appendix B).

The survey was administered according to Dillman's Total Design Method (Dillman, 2007). An e-mail including a cover letter, and a URL link to a web-based questionnaire was sent to the directors of municipal recreation and park agencies of the largest 250 cities in the US. Reminder emails were sent out every 2 weeks over a 12 week period. SPSS 15.0 for Windows (SPSS, 2008) was used to conduct statistical analyses. Descriptive statistics were calculated for the directors' uses of crime prevention strategies. This method of data collection and interpretation is consistent

with literature on crime and parks (Chavez, Tynon, & Knap, 2004; Chavez & Tynon, 2000).

## **Results**

Responses were obtained from 129 park directors indicating a return rate of 52% (one city in Colorado was transitioning its park leadership staff and had no upper level administrators, thus, in effect, 249 was the reachable population) . Males were 73% of the respondents. Caucasians comprised 93%, African Americans comprised 4% and Hispanics represented the remaining 3% of the responding managers. A total of 95% of the respondents had a bachelor's degree and 55% had master's degrees. The mean age was 54 years (Table 2-1).

All responses were collected between December 2010 and February 2011. A total of 81 park directors identified their city and state, while 48 directors chose not to name their city or state. Of the 81 park directors who identified their locations, 32 states were represented (Figure 2-1). The geographically identified members of the sample (n=81) were representative of the population (Figure 2-2).

As indicated in Table 2-2, most of the park directors (66%), did not agree that the occurrence of crime was a problem in the parks they managed. A total of 4% neither agreed nor disagreed and 31% agreed that the occurrence of crime in their parks was a problem. When presented with the statement "fear of crime is a problem in the parks I manage" 62% disagreed, while 32% agreed and 6% neither agreed nor disagreed (Table 2-2). However, when presented with the statement, "reducing fear of crime in the park that I manage is a priority" 32% disagreed, while 55% agreed and 13% neither agreed nor disagreed (Table 2-2).

Table 2-3 reports results related to strategies against physical incivilities such as litter and graffiti. When asked about emptying their trash bins before they overflowed, 65% of the directors indicated doing this in all of their parks, 32% reported doing it in three quarters of their parks, 2% said this only happened in half of their parks and 1% said this happened in only one quarter of their parks (Table 2-3). When asked “how many of my parks can I honestly say have no problem with litter” only 6% could say they had no problems with litter in all of their parks; 32% said that they had no problems with litter in three quarters of their parks and 16% reported no problems in half of their parks. 24% reported they had no problems with litter in one quarter of their parks and 22% reported that they had problems with litter in all of their parks.

When asked “how many of my parks can I honestly say have no problem with graffiti” only 2% reported that all of their parks were problem free pertaining to graffiti. 34% of the sample reported three quarters of their parks had no problems with graffiti. 15% were able to report that half of their parks had no problems with graffiti and 35% reported a quarter of their parks had no problems with graffiti. 14% reported that they had problems with graffiti in all of their parks (Table 2-3).

When asked about the time frame to remove graffiti in the parks, 40% reported graffiti removal within 24 hours and 48% reported graffiti removal within 48 hours. 8% reported removal of graffiti within 5 days; 1 reported removal within 14 days and 3% reported graffiti removal within 31 days. When asked if their park system had a written graffiti removal policy, 72% responded yes; 22% responded no and 6% responded that they did not know (Table 2-3).

Table 2-4 reported results related to the types of personnel providing guardianship or security within parks. Armed uniformed park police with the authority to make arrests were reported to be stationed in all of the parks by 15% of the directors; 3% reported uniformed police in three quarters of the parks; 4% in half of the parks; and 8% in one quarter of the parks. Armed uniformed park police in parks with the authority to make arrests are absent in 70% of the parks in responding cities. Unarmed uniformed park rangers with the ability to contact the police in all parks was reported by 13% of the cities; three quarters of the parks by 4%; half of the parks by 13% of the cities; and in one quarter of the parks in 21% of the cities. A complete absence of uniformed rangers was reported in 56% of the responding cities. None of the directors reported having organized volunteers in all of their parks; 5% reported such volunteers in three quarters of their parks; in half of the parks by 8%; and in one quarter of the parks by 23%. A total of 64% of the responding cities reported an absence of park watch volunteers in their parks (Table 2-4).

The next set of questions was on electrical and electronic crime prevention strategies (Table 2-5). 1% of the responding cities used CCTV in three quarters of their parks; 9% used CCTV in half of their parks and 38% used CCTV in one quarter of their parks. CCTV was not used at all in 52% of the responding cities. Emergency call boxes were used in all of the jurisdiction's parks for 1% of the cities; in three quarters of the parks for 3% of the cities; half of the parks in 3% and one quarter of the parks for 15% of the responding cities. Emergency call boxes were not used at all in 78% of the responding cities. Lights in all of the parks was reported in 15% of the cities; 37% of the cities reported having lights in three quarters of their parks; 29% reported having lights

in half of their parks and 19% reported having lights in one quarter of their parks (Table 2.5).

Keeping the lights on to encourage night time use in all of their parks was reported in 9% of the cities surveyed. 12% of the cities kept lights on in three quarters of their parks; 29% in half of the parks and 42% of the cities kept them on in one quarter of their parks. A total of 8% of the cities reported not keeping the lights on in any of their parks to encourage night time use (Table 2-5).

Keeping the lights turned off at night time to discourage night time use in all of their parks was reported in 3% of the responding cities. 26% of cities kept the lights off in three quarters of their parks; 20% did so in half of the parks; and 15% in one quarter of the parks. A total of 36% of the cities reported that they did not turn off the lights in any of their parks to discourage use.

Table 2-6 reports responses about the use of signage and other territorial reinforcements. 82% of respondents reported having signage identifying all of their parks; 14% identifying three quarters of their parks and 4% reported signs identifying half of their parks (Table 2-6). Signage indicating who maintained the parks was present in all of the parks for 63% of the cities. Such signage was present in a quarter of the parks for 14% of the cities; half of the parks for 8%; and in one quarter of parks for 2% of the cities. Signage indicating who maintains the parks was absent in all of the parks for 13% of the responding cities.

Park rules were posted in all of the parks in 48% of the cities (Table 2-6). 25% of the cities had park rules posted in three quarters of their parks; 12% of the cities had rules posted in half of their parks and 15% had park rules posted in one quarter of their

parks. Maps that showed visitors where they were and where they could go were present in every park in 2% of the cities. Maps present in three quarters of the parks were reported by 2% of the cities; 11% had such maps in half of their parks; and 59% had them in one quarter of the parks. No maps were posted in any of the parks for 26% of the cities (Table 2-6). A qualifying question was asked, did they have trails that led into secluded areas? If the answer was no, the next question was skipped; if the answer was yes, the directors were asked if their parks had trails that led patrons into secluded areas, and, were there signs or maps that warned patrons that they were entering a secluded area. A total of 22% of the cities reported that they provided such warnings in all of their parks. 9% of the cities provided a warning in three quarters of their parks; 7% of the cities provided such warnings in half of their parks; and 10% provided warnings in a quarter of their parks. A total of 52% of the cities reported provided no warning at all that a patron would be entering a secluded area by walking a trail (Table 2-6).

Table 2-7 reports results related to what type of crime related data the park directors archived. Data on the type of crime committed was collected in 55% of the cities surveyed; in 3% of the cities, the director did not know if crime data was collected; and in 42% of the cases, crime data was not collected. The collected crime data were available to the public in 71% of cities; were not available to the public in 20% of the cities and the director did not know if the information was available to the public in 9% of the cities (Table 2-7). Data on the location of crimes within the parks were collected by 47% of the cities; were not collected by 46% of the cities and 7% did not know if the locations of crimes in their parks were collected. Data on crime locations was available to the public in 81% of the cities that archived such data; were not available in 12%

those cities; and 7% did not know if this information was available to the public. When asked how often their staff conducted face-to-face interviews with the public, 18% responded never; 8% responded once a year; 18% responded two-three times a year; 8% responded monthly; 13% responded weekly; and 17% responded daily (Table 2-7). When asked if they knew on a park-by-park basis the ratio of males to females in each park, 98% responded no and 2% responded yes (Table 2-7).

Table 2-8 indicates the level of community involvement in parks managed by the various cities. The use of citizen safety committees was reported by 10% of the cities; whereas 85% of the cities did not have a citizen safety committee and 5% did not know if they had a citizen safety committee. A “Friends of the Park” organization was present in 44% of the cities; 55% of the sample did not have a “Friends of the Park” organization and 1% responded that they did not know (Table 2-8).

### **Implementation of CPTED Strategies and Rational Choice Theory**

Under the precepts of rational choice theory, managers would be expected to act in ways that maximize benefits and minimize costs. Although the data available here are rather basic and descriptive, a test can be conducted. First, it would be expected under RCT that those managers who thought crime was a problem in their park systems would be more likely to implement CPTED strategies compared with those who did not think it was a problem (Table 2-10). The reciprocal way that same test could be phrased is whether those managers who did not think crime was a problem in their parks, are the managers who had already implemented CPTED strategies more than managers than who did think crime was a problem. Secondly, it would also be expected that those managers with CPTED training would be more likely to implement CPTED strategies compared with those who did not have training (Table 2-11). As can be seen in

reviewing the t-tests presented in these tables; generally, the results were not consistent with what RCT would predict.

### **Discussion**

Are the upper level managers' perceptions of crime in the 250 largest cities accurate? Collectively, they suggest that crime is not a problem in their parks. Only 2% strongly agree; 5% agree; and 23% somewhat agree that crime is a problem. This equals a 30% agreement that crime is a problem in their parks. Similarly, only 32% of upper level park managers responded that fear of crime was a problem in their parks. This was a lower percentage than would have been expected, considering the research on park constraints and fear of crime in parks (Salazar, 2011; McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; Carter et al., 2003; Chiesura, 2004; Ching-hua Ho et al., 2005; Chavez, Tynon, & Knap, 2004; Molnar et al., 2004; Scott & Jackson, 1996). However, when upper level managers were asked if reducing fear of crime in their parks was a priority, 55% agreed that it was a priority. Previous research in assessing the safety of neighborhoods suggests that residents will rate their neighborhood safe no matter how unsafe their neighborhood actually may be (Paulson & Robinson, 2004). Could this be the same distortion of reality occurring in upper level managers of large municipal park and recreation departments? These results seem to at least raise this as a possibility.

The next section concentrated on the physical incivilities of the parks, namely trash and graffiti. A total of 97% of the cities reported that they emptied all of the trash receptacles in all to three-fourths of their parks before the trash receptacles overflowed. This suggests that ample trash receptacles are present or maintenance crews are proficient in their duties or both. However, when asked what percentage of their parks

they could honestly say had no problems with litter, only 6% of the upper park managers could claim that 100% of their parks were free from problems with litter. Conversely, 22% of the upper management admitted that none of their parks were free from problems of litter in their parks. Results were similar with graffiti. Only 2% of the sample was able to say that 100% of their parks were graffiti free or had no problems with graffiti.

Although graffiti was reported as a problem in 98% of the cities surveyed, 88% of the cities reported a 48 hour (2 day) graffiti removal strategy. This is an important strategy because it “reduces the reward of the crime by minimizing the amount of time the graffiti was visible and eliminates the opportunity for a rival gang to leave their graffiti” in response to the initial graffiti (Atlas, 2008, p. 77). Furthermore, 72% of the cities stated that they had a written graffiti policy. Having a written policy helps the organization clarify their position on the problem, informs employees of when and how to address the problem, and helps establish a graffiti inspection procedure.

Of the upper level managers surveyed, 70% reported not using armed uniform police in any of their parks and 15% used armed uniformed police in all of their parks. The remaining 15% of the directors had the police covering different percentages of their parks, likely presuming that areas that were deemed less safe and needed police presence were covered and those areas that were perceived safe did not need a police presence.

One reason that 70% of the cities may have opted not to use armed uniformed police in the parks is the additional cost. Harnik reported that armed police in the parks usually cost 20% “higher than it would be for a staff of unarmed rangers” (2006, p. 30).

However, 56% of the managers surveyed did not use unarmed rangers in any of their parks either. Furthermore, 64% of the managers did not even utilize volunteer groups such as “park watch” volunteers. This suggests that the managers had reasons other than economic when deciding to use personnel as a crime prevention strategy for their parks. Further research should be conducted on the use of park police, unarmed park rangers, and “park watch” volunteers in urban parks. Research from the management perspective and the park visitor perspectives would be informative.

The use of electrical devices such as closed circuit television (CCTV) and emergency call boxes was relatively low, however, as technology improves and prices decrease, their use will likely increase as trends in the use of red light cameras and urban street monitoring are already showing. Only 1% of the cities sampled employed emergency call boxes in all of their parks and no cities reported installing CCTV cameras in all of their parks. The data seems to suggest that CCTV and emergency call boxes were only installed in crime hot spots; 38% of the cities reported installing CCTV and 15% reported installing emergency call boxes in a quarter of their parks. These were the highest percent's of usage and they were both found in the ‘one quarter of the parks’ response category.

The ‘use of lighting’ section was the most complex results to interpret. For example, one question asked in what percentage of your parks are lights turned on at night to encourage nighttime use and 8% of the cities responded that they did not keep their lights on in any of their parks to encourage night time use. However, when asked in what percentage of your parks are the lights turned off to discourage nighttime use, only 3% of the cities reported turning off the lights in all of their parks to discourage use.

This is only a discrepancy of 5%, but why is there a discrepancy at all? If the lights are not turned on in 8% of the cities, it is dark in those parks at night. If the lights are turned off, it is dark in those parks at night also. Perhaps the discrepancy is due to not having lights in all of the parks.

One upper level park manager emailed comments about their concerns about the survey. This manager explained that their park had a lot of urban natural areas and these areas were not lit and therefore he could not answer that 100% of his parks had lights because he had to account for the 50% of his park areas that were urban wildlife areas. A follow up email was sent to all 250 upper level managers asking them if they would like to elaborate on the lighting section or elaborate on any other section of the survey. No other responses were received.

Future research on lighting in parks should make it clear whether the researcher is interested in lighting in all parks, including wildlife areas, sports fields and athletic areas. This researcher was interested to find out if parks in large cities were open 24 hours a day. Instead of asking the question that way, the question was asked if lights were turned on at night to encourage night time use. The largest response was that 42% turned their lights on to encourage night time use in one quarter of their parks (Table 2-4).

The use of signage in parks is essential to establishing territoriality. The findings that only 82% of the sample had all of their parks identified with a sign was surprising. These are the 250 largest cities in the US and some of the parks did not even have a sign identifying them as a park or who managed the park. When asked about the presence of signs identifying who maintains the park, only 63% of the cities provided

such signs in all of their parks. Atlas (2008) stresses social cohesion and community connectedness, but how can a community help a park if they do not know who to contact or how to contact them?

Atlas (2008) stated that signage stating the rules was essential for preventing crime. However, only 48% of the sample posted rules in all of their parks. Rules are necessary for removing excuses, maintaining order and reducing crime (Atlas, 2008). Harnik asserts that excellent parks must develop a “mandate, mission, and core values,” however, how effective are developing these values if the park is not communicating the rules with the public (2006, p. 16)? Harnik reported that “most big-city park agencies have a legislative mandate and a mission statement, but about 20% of them have not formally defined their core services” (2006, p. 16). This research confirmed that 52% of city parks do not post rules for their patrons.

What was even more surprising was that only 2% of the cities provided a map in all of their parks. It might be understandable, if the park was very small, like a neighborhood pocket park, but, many urban parks are large, covering several or more acres. Providing a map of where visitors are in a park and where they can walk or bike to, provides users with a better understanding of how they can enjoy the park. Furthermore, if any areas of the park are secluded, this map can potentially inform patrons and help them make better decisions in using specific areas, especially after dark. A question on the survey specifically asked if any of the parks had trails that led visitors into secluded areas. Those who selected yes were given a follow up question asking if visitors were warned they were going to be entering a secluded area and 52% of the respondents reported that none of their parks with secluded areas warned their

visitors. Research conducted by Fisher and Nasar suggests that people are fearful of areas that provide hiding spots, areas where people are out of view of others and areas that restrict avenues of escape (1992). All three of these conditions could be true of a secluded trail. The point that the author was making is that with minimal cost, the parks could place a sign that says “trail passes through secluded area” or something to that effect, so visitors can make an informed decision on whether to use the trail or not.

This paper started with the premise that crime and fear of crime must be perceived as a problem first, then and only then, will managers take actions to correct this perception. Collecting data of the numbers and type of crimes that occur in a park system is one of the best ways to acknowledge the problem or a way of confirming that there is no problem. Among the responding cities, 55% confirmed collecting data on the crimes committed in their parks (Table 2-6). Furthermore, 71% of the parks that collected crime information, made the crime information available to the public. Similarly, 47% of the cities collected data on the locations of crime in their parks and 81% of these parks made the locations of crime available to the public (Table 2-6).

Collecting data on types and locations of crimes committed in parks is a step towards preventing those crimes. Crimes are rarely random and studies confirm that small segments of the population and certain areas (hot spots) are subjected to crimes disproportionately (Paulson & Robinson, 2004). By collecting this data and analyzing it, analysts can see the formation of patterns and hot spots. Once the hot spots have been identified, then appropriate actions to eliminate the problem can be implemented. For example, suppose a number of robberies have taken place at a certain spot on a trail. When managers investigate the area of the robberies, it becomes obvious that the

landscape is overgrown and the area provides lots of hiding places for potential robbers. In response, park administrators can direct the maintenance crew to modify the physical environment by raising the crown of trees to 7 feet and prune bushes down to 36 inches to remove at least some of the hiding places. Programming is also prescribed to be increased on this trail; for example, a walking club may be established and suggested to use this trail on a regular basis to get more eyes in the area. Local law enforcement could be invited to practice their mountain bike training on this trail. Contacting a local Boy Scout troop to conduct interpretive nature walks on the trail may be another option to increase programming and more visitor presence in this area. Installing lighting or CCTV's may also be an effective deterrent. Crime is difficult to understand and predict and there are no one size fits all answers. However, before one can even consider finding answers, they must first understand the problem. Collecting data is a vital step in understanding the problem.

Finally, no city can have a truly great park system without a strong network of park “friends” groups—private organizations that serve as both supporters and watchdogs of the department. Ideally, a city will have one or two organizations with a full city-wide orientation, assuring that the system as a whole is well run and successful, and also scores of groups that focus on an individual park and its surrounding neighborhood—concentrating on everything from cleanliness, safety, and quality to programming, signage, and special fundraising (Harnik, 2006, p. 20).

This research found that 44% of the cities had a city-wide “friends of the park” organization (Table 2-7). This was surprisingly low, especially with the economic downturn in the US at this time. No questions were asked about why or why not “friends of the parks” organizations were present, but this seems like an important question to follow-up with in future research. Developing cohesiveness between the citizens and their parks is a plus for the parks. But, the biggest surprise in all of this research was the

low occurrence of citizen safety committees. A total of 85% of the cities did not use citizen safety committees in their parks and another 5% did not know if they had one or not. Only 10% of the responding park managers knew that they had a citizen safety committee and that the committee members were made up of residents who lived in close proximity to the park in which they served as a committee member.

That upper level park management may have a different perception of safety in their parks than the users and that they may not see crime and fear of crime as a problem may be one of the strongest findings of this study. If the upper level park management met with a safety committee who were made up of residents who lived in close proximity to the park, they would likely gain important information about what is happening in their parks. The people who know what is going on are likely to be the people who live in the area. Furthermore, if the people who live in the area are empowered, by being invited to serve on a safety committee, then some will really care about what is going on in their park(s) and they will probably assist in creating solutions to these problems. Parks need to form partnerships with the citizens they serve. Citizen groups can be a valuable resource in a variety of circumstances.

As for the inability to square the results comparing those managers who thought crime was a problem or who had CPTED training with those who did not think crime was a problem with what RCT might predict; it is likely that the intervening variable of the costs of implementing CPTED strategies might have been a factor. Especially in recent years, it has likely been especially difficult for park managers to implement any new park modifications due to declining city budgets (even though the case has been

made that if fear of crime was reduced, it likely would increase visitation and probably political and economic support).

### **Summary**

This research takes steps towards answering some important questions that are missing in the literature. The first important question answered is whether the upper level managers of parks in some of the 250 largest cities believe that crime and fear of crime is a problem in their parks? The findings of this research indicate that only about a third of the upper level managers consider crime or fear of crime to be a concern. Two-thirds of the upper level managers do not consider crime or fear of crime to be a problem in their parks. Past research in constraints and fear of crime in parks indicates that citizens are concerned about crime and fear of crime. This discrepancy between the citizens who use parks and the upper level managers who run the parks is missing from the literature in previous studies.

Possible explanations include previous studies that suggest that people perceive their own neighborhood to be safe, regardless of the actual crime levels (Paulson & Robinson, 2004). Furthermore, Brantingham, Brantingham and Butcher found high associations between high levels of fear of crime and social incivilities (such as prostitution and panhandling) as opposed to serious crimes (1986). The citizens who use these parks may be afraid of these social incivilities, however, upper level management may see these social incivilities as more of a nuisance than a generator of fear of crime. Future research should consider investigating upper level park managements' perceptions of panhandling and prostitution in their parks. To be clear, this paper did not survey citizens in the responding cities for a direct comparison of the

congruence between park managers and citizens; but a disparity is suggested by comparing results across several studies of citizens and these results.

Table 2-1. Demographic information

Description	N	Possible Responses	Percent
Gender	85	Male	73
		Female	27
Race	78	Caucasian	93
		African American	4
		Hispanic	3
Highest level of education	86	Some college / no degree	3
		Associate Degree	2
		Bachelor Degree	40
		Master Degree	55
		Doctorate	0
Mean Age	73		54*

\*Mean Age is not a percentage but the mathematical mean of the ages.

Table 2-2. Directors' perceptions of crime and fear of crime as a problem

Description	N	Possible Responses	Percentage
Actual occurrence of crime is a problem	129	Strongly Disagree	15
		Disagree	35
		Somewhat Disagree	16
		Neither Agree nor Disagree	4
		Somewhat Agree	23
		Agree	5
		Strongly Agree	2
Fear of crime is a problem	129	Strongly Disagree	8
		Disagree	35
		Somewhat Disagree	19
		Neither Agree or Disagree	6
		Somewhat Agree	22
		Agree	8
		Strongly Agree	2
Reducing the fear of crime is priority	129	Strongly Disagree	6
		Disagree	17
		Somewhat Disagree	9
		Neither Agree or Disagree	13
		Somewhat Agree	27
		Agree	18
		Strongly Agree	10

Table 2-3. Physical incivilities strategies employed

Description	N	Possible Responses	Percent
What % of my parks empties all trash containers before they overflow	89	100% of my parks	65
		75% of my parks	32
		50% of my parks	2
		25% of my parks	1
		0% of my parks	0
What % of my parks can I say have no problems with litter	90	100% of my parks	6
		75% of my parks	32
		50% of my parks	16
		25% of my parks	24
		0% of my parks	22
What % of my parks can I say have no problems with graffiti	90	100% of my parks	2
		75% of my parks	34
		50% of my parks	15
		25% of my parks	35
		0% of my parks	14
Time frame to remove graffiti	90	24 hours (1 day)	40
		48 hours (2 days)	48
		3 to 5 days	8
		6 to 14 days	1
		15 to 31 days	3
Do you have a written graffiti policy	90	Yes	72
		No	22
		I do not know	6

Table 2-4. Personnel strategies employed

Description	N	Possible Responses	Percent
Parks have armed uniformed police with authority to make Arrests	96	All of my parks	15
		Three quarters of my parks	3
		Half of my parks	4
		One quarter of my parks	8
		None of my parks	70
Parks have unarmed uniformed police who can contact the police	94	All of my parks	13
		Three quarters of my parks	4
		Half of my parks	6
		One quarter of my parks	21
		None of my parks	56
Organized volunteers e.g., Park Watch	92	All of my parks	0
		Three quarters of my parks	5
		Half of my parks	8
		One quarter of my parks	23
		None of my parks	64

Table 2-5. Electrical/electronic strategies employed

Description	N	Possible Responses	Percent
Closed circuit television CCTV recording areas of the park	93	All of my parks	0
		Three quarters of my parks	1
		Half of my parks	9
		One quarter of my parks	38
		None of my parks	52
Emergency call boxes to contact the police	93	All of my parks	1
		Three quarters of my parks	3
		Half of my parks	3
		One quarter of my parks	15
		None of my parks	78
Lights in the parks	88	All of my parks	15
		Three quarters of my parks	37
		Half of my parks	29
		One quarter of my parks	19
		None of my parks	0
Lights kept on at night to encourage night time use	91	All of my parks	9
		Three quarters of my parks	12
		Half of my parks	29
		One quarter of my parks	42
		None of my parks	8
Lights turned off at night to discourage night time use	90	All of my parks	3
		Three quarters of my parks	26
		Half of my parks	20
		One quarter of my parks	15
		None of my parks	36

Table 2-6. Use of signs in parks

Description	N	Possible Responses	Percent
Signage to identify park	93	All of my parks	82
		Three quarters of my parks	14
		Half of my parks	4
		One quarter of my parks	0
		None of my parks	0
Signage to identify who maintains the park	92	All of my parks	63
		Three quarters of my parks	14
		Half of my parks	8
		One quarter of my parks	2
		None of my parks	13
Posted park rules	91	All of my parks	48
		Three quarters of my parks	25
		Half of my parks	12
		One quarter of my parks	15
		None of my parks	0
Maps to show where you are & where you can go	91	All of my parks	2
		Three quarters of my parks	2
		Half of my parks	11
		One quarter of my parks	59
		None of my parks	26
Parks that had trails that led to secluded areas, do you use signs or maps to inform users they are about to enter a secluded area	77	All of my parks	22
		Three quarters of my parks	9
		Half of my parks	7
		One quarter of my parks	10
		None of my parks	52

Table 2-7. Collection and use of crime data

Description	N	Possible Responses	Percent
Do you collect data of types of crimes that occur in your parks	90	Yes	55
		No	42
		I do not know	3
Is this data available to the public	49	Yes	71
		No	20
		I do not know	9
Do you collect data on the location of crimes that occur in your parks	89	Yes	47
		No	46
		I do not know	7
Is this location data available to the public	42	Yes	81
		No	12
		I do not know	7
How often does your staff do face to face Interviews with park users to ensure they are Having a good experience	89	Never	18
		Less than once a year	18
		Once a year	8
		2-3 times a year	18
		Every month	8
		Every week	13
Do you know on a park-by-park basis your ratio of male to female park users	88	Yes	2
		No	98

Table 2-8. Citizen involvement

Description	N	Possible Responses	Percent
Do you have a citizens safety committee	88	Yes	10
		No	85
		I do not know	5
Do you have a city-wide friends of the park organization	88	Yes	44
		No	55
		I do not know	1

Table 2-9. Independent sample t-test park managers

Question	CPTED	N	Mean	T	Sig
Actual crime in the parks you manage is a problem	Yes	60	3.07	-.364	.716
	No	69	3.17		
Fear of crime in the parks you manage is a problem	Yes	60	3.47	1.107	.079
	No	69	3.16		
Reducing fear of crime in the parks you manage is a priority	Yes	60	4.38	.328	.744
	No	68	4.28		

Table 2-10. T-test of perception of a crime problem and crime prevention strategies implemented

Question	Crime Problem	N	Mean	T	P-Value
Signage posting park rules	No	61	9.02	1.0770	0.2846
	Yes	25	8.33		
Using CCTV	No	62	1.90	0.9027	0.3692
	Yes	26	1.48		
Using emergency call boxes	No	62	1.85	1.4744	0.1440
	Yes	26	1.19		
Benches to discourage sleeping	No	60	3.52	0.3224	0.7480
	Yes	25	3.76		
Maintain low vegetation < 36 inches	No	59	7.15	0.4462	0.6566
	Yes	25	6.80		
Maintain canopy above 7 feet	No	59	8.05	1.2481	0.2155
	Yes	25	7.12		
Empty trash receptacles before overflow	No	59	10.22	0.2705	0.7875
	Yes	25	10.12		
Written graffiti policy	No	59	1.32	0.5647	0.5738
	Yes	25	1.40		

Means are based on a ranking of the proportion of a city's parks that implement each strategy.

Table 2-11. T-test of training and implementation of crime prevention strategies

Question	CPTED Training	N	Mean	T	P-Value
Signage posting park rules	No	52	8.31	1.3480	0.1811
	Yes	39	9.15		
Using CCTV	No	53	1.83	0.2927	0.7704
	Yes	40	1.75		
Using emergency call boxes	No	53	1.30	1.6425	0.1039
	Yes	40	1.90		
Benches to discourage sleeping	No	51	3.61	0.0888	0.9294
	Yes	39	3.67		
Maintain low vegetation < 36 inches	No	50	6.62	1.0934	0.2773
	Yes	39	7.38		
Maintain canopy above 7 feet	No	50	7.58	0.7872	0.4333
	Yes	39	8.10		
Empty trash receptacles before overflow	No	50	10.00	1.6944	0.0938
	Yes	39	10.54		
Written graffiti policy	No	51	1.43	1.7844	0.0779
	Yes	38	1.21		

Means are based on a ranking of the proportion of a city's parks that implement each strategy.



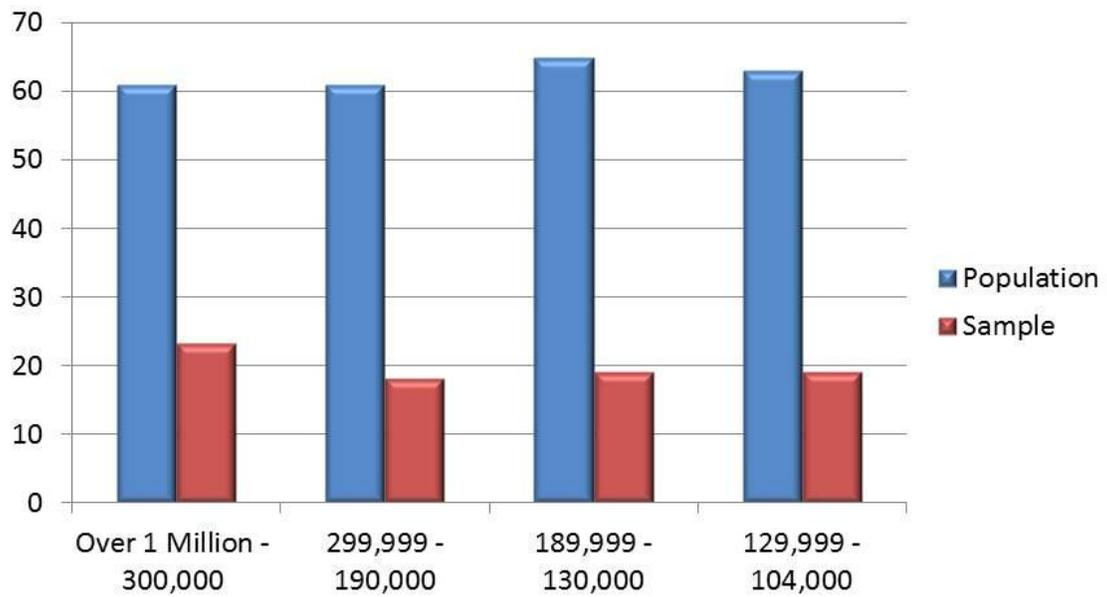


Figure 2-2. Distribution of the city population of known respondents (n=81; 48 unknown)

### CHAPTER 3

## CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN AND URBAN PARKS: MOVING TOWARDS A RATIONAL CHOICE THEORY

Crime and fear of crime is a global problem affecting every country, every city, and every neighborhood (Paulson & Robinson 2004). Moreover, the literature suggests that crime and fear of crime is even increasing in recreational settings (Chavez, Tynon, & Knap, 2004, Manning et al., 2001; Pendleton, 2000; Shore, 1994). Nevertheless, research on this topic is relatively scarce. Directors and managers of parks and recreational areas need good information if they are expected to make intelligent decisions concerning park safety.

This paper seeks to explore the application of rational choice theory to a study of urban park managers' perceptions of crime prevention strategies. Although no previous studies were found specifically investigating park directors' decision making choices in crime prevention strategies, rational choice theory has been applied to similar fields such as travel (Bamberg & Schmidt, 1998; Davidov, 2007) fisheries management (Acheson, 2004; Acheson & Gardner, 2005) and farming (Best, 2009). Therefore, it is reasonable to investigate if an application of rational choice theory will provide insights into park managers' decision making processes entailing safety issues.

In previous research, scholars have attempted to measure rational choice through using hypothetical scenarios and having participants rate the costs and benefits of choices selected by the researcher (Bouffard, Exum & Collins, 2010). "As a result, only the uniform set of consequences provided by the researchers are included in the statistical model of decision making, despite rational choice theory's recognition of individualized" thought processes (Bouffard, Exum & Collins, 2010, p. 400). Likewise, in the literature on human decision making, "a large body of research has examined the

impact of the manner in which information is presented, on the way it is perceived and processed” (Bouffard, 2002). For example, using a hypothetical scenario of surgery, participants who were given a 40% chance of survival, favored the surgery; however, when participants were presented with a 60% chance of death, they did not favor surgery (Bouffard, 2002). The odds of survival were exactly the same in both framings of the scenarios, however, the perceptions and decision making was influenced by the way the odds were communicated. In other words, the framing of the information can greatly influence the participants’ responses (Bouffard, 2002).

According to Paternoster & Pogarsky (2009), rational choice theory implies that criminals “make the decision to commit a crime based on considerations of the costs and benefits of both crime and non-crime, that this required collection of information about those costs and benefits, and a weighing of the cost/benefits before making a decision” (p. 104). In other words, the same intellectual procedure is used to make both criminal and non-criminal decisions (Paternoster & Pogarsky, 2009). However, as noted by McCarthy, (2002) this does not imply that all people have the same level of cognitive reasoning, nor do they all have access to the same levels of information or have the same mental dexterity in weighing costs and benefits. Therefore, within the discipline of criminology, “the rational choice perspective implicitly recognizes that decision making is both inherently natural and highly individualized” (Bouffard, Exum & Collins, 2010, p. 400).

### **Park Directors and Rational Choice Theory**

Rational Choice Theory is about the process of making decisions. The basic premise is that park directors will make the choices that offer the most benefit for the least cost. This assumes that the park directors are able to calculate the expected gains

or benefits and weigh them against the possible losses or costs when making decisions. Decisions are made on the premise that the potential gains or benefits outweigh the potential losses or costs.

In this study, the goal is to identify perceived risks and benefits of the Crime Prevention Through Environmental Design (CPTED) theory by upper level urban park managers. Because this topic has limited previous research and because to understand the park managers' thought processes, a method to elicit their specific cost/benefit perceptions is needed; open-ended questions will be administered (Bouffard, 2002). By utilizing open-ended questions, the researcher will allow individualized perceptions of costs and benefits to emerge.

### **Defining Crime Prevention Through Environmental Design**

CPTED is defined as “the proper design and effective use of the built environment [that] can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life” for the citizens using that environment (Crowe, 2000, p. 46).

Brantingham & Faust stated that (CPTED) is focused on "identifying conditions of the physical and social environment that provide opportunities for or precipitate criminal acts and the alteration of those conditions so that no crimes occur" (p.289, 1976). This approach was dramatically different than traditional criminological theories of the time because its aim was in preventing occurrences of criminality, as opposed to “the reactive and largely failing strategies employed by police, courts, and correctional facilities in the American criminal justice system” (Wallis & Ford, p. 23, 1980). CPTED today, can best be defined as design principles that decrease or remove opportunities for crime and encourage legitimate and positive social interactions in commercial, residential, and other environments (MacDonald & Kitteringham, 2004). CPTED

principles provide legitimate users good and safe feelings while at the same time providing “discouraging cues” to potential criminals, therefore reducing crime proactively but discreetly (Blue, p. 46, 2000).

CPTED is a largely scientifically unsubstantiated theory from the late 1960’s and early 1970’s. Some of the first writings on the subject were by Jane Jacobs (1961), Schlomo Angel (1968), C. Ray Jeffery (1971), and Oscar Newman (1972). A number of variations and refinements of the basic CPTED approach have been offered throughout the short history of CPTED; however, it has essentially remained the same, focusing on the environments in which crimes transpire and on techniques for reducing the susceptibility of these environments (Taylor & Harrell, 1996). A “second generation” of CPTED theory developed in the last decade which has become more holistic by acknowledging connections between management and use of the physical environment; that is, the link between physical and social factors (Atlas, 2008; Schneider & Kitchen, 2002, 2007). CPTED has evolved several strategies or areas of focus to implement a higher perception of safety and decrease the probability and opportunities for crime.

### **Natural Surveillance**

Natural surveillance provides many opportunities, based on the design of the site, building or landscape, for people to be observed by passerby’s, employees, or formal guardians (e.g., police or security personnel). The fundamental idea is that misbehavior or crime may be mitigated or prevented when people are easily seen. The potential criminal may choose not to commit a crime because the risk of being observed and caught is too great. Natural surveillance works much the same way for legitimate users of a space, who usually don’t mind being easily seen. In fact, legitimate users prefer knowing that they can be easily observed or monitored and knowing that they can be

seen creates a sense of safety for legitimate users (National Crime Prevention Council, 1997).

Schroeder and Anderson's (1984) study investigated perceived personal safety in urban parks using photographs to measure perceptions of safety. Schroeder and Anderson's research suggested that "a compromise between perceived safety and scenic quality might also be achieved by reducing shrubs and raising tree canopies to improve visibility ... while preserving a feeling of naturalness" (p. 192, 1984). These results were echoed in the work of Fisher and Nasar (1992), who asserted that we have developed a preference for landscapes that provide "prospect" (the ability to look over the environment) and "refuge" (the environment's ability to provide hiding places if needed) as survival mechanisms. On the other hand, "ironically, places that offer prospect and refuge are places that a potential offender would favor" (Fisher & Nasar, p. 37, 1992). In other words, environments that provide good hiding places and good observation areas are places that the good guys and bad guys would both like. Herzog & Kutzli's research suggested the same results as Fisher and Nasar; that people were most influenced by prospect, refuge, and escape, no matter if the environment was urban or natural (2002). In parks, shrubbery being maintained at a height of twenty-four to thirty-two inches high and tree canopies being at least seven feet high to remove hiding places and maintain open areas for observation are typical recommendations (Atlas, 2008).

### **Natural Access Control**

Natural access control guides people entering and leaving a space through the placement of entrances, exits, bollards, gates, fences, landscaping, signage and lighting. Access control can decrease opportunities for criminal activity by denying

criminals easy access to potential targets and creating a perception of risk for would-be offenders.

Natural access control can be as much of a psychological control as a physical control. Using thorny shrubs can be effective in discouraging someone from entering a private or restricted area (Colquhoun, 2004). Alternatively, using attractive pavement or asphalt surfacing on a trail will invite users to follow the intended trail. Water elements are excellent for access control because they draw people in their direction while at the same time they act as a passage barrier. Finally, natural access control will make someone look very conspicuous trying to go somewhere they should not be going. For example, someone walking across a grass lawn may not attract attention. However, if the same person walks through a well maintained flower bed or hedge row, they likely will appear conspicuous and attract attention.

### **Territorial Reinforcement**

Physical design can create a sphere of territorial influence that can be perceived by, and may deter, potential offenders. Thus, territorial signals as environmental cues may provide real, as well as psychological spheres of influence and control. Territorial reinforcement can be created using landscaping, pavement designs, decorative gateways, signs, and fences (Atlas, 2008).

In a park environment, maps and signage can be some of the most important territorial reinforcements. Signage not only conveys ownership, it can also establish rules and provides information to park users on whom to contact if a problem is encountered. Atlas suggests that proper usage of signage will “remove excuses” and introduce “shame and guilt” upon non-legitimate users of spaces (p. 487, 2008). More

importantly, maps and signs provide legitimate park users with important information about how to safely use and enjoy park environments.

## **Maintenance**

Maintenance is very similar to the “Broken Windows Theory” that Wilson and Kelling described in 1982. Wilson and Keeling suggested that deteriorated or unkempt property conveys the impression that nobody is concerned about the property or controls it (1982). This can become part of an environmental-behavioral chain that can lead to a variety of misbehaviors. Some researchers have suggested that this can include property offenses (such as vandalism and criminal damage) and as well as more serious personal crimes (Wilson & Kelling, 1982). Thus, efforts to remove graffiti, fix broken windows or doors and have functional trash cans will promote a different image than a park that has these issues.

Some elements such as signs can act as natural access controls (telling people which way to walk on a trail) and act as territorial reinforcements (conveying who owns and maintains the property). The same may be true for landscaping, water elements, fences, and many other elements typically used in park design. CPTED is a critical thinking tool for designing or retrofitting a park and not just a checklist. CPTED is a set of principles to be considered somewhat skeptically when working with natural environments and is not a quick fix for every location.

## **Research Questions**

1. What percentages of upper level park managers have received training in CPTED?
2. What are the interest levels in CPTED training?

3. What do upper level park managers perceive as costs and benefits of implementing CPTED strategies in urban parks?

## **Methods**

### **Participants**

Upper level managers were recruited by identifying the 250 largest cities in the United States by census data and then going to the cities' official websites and obtaining the name and email address of the head decision maker of the parks and recreation department. If the information was not available on the website, a phone call was made to the park and recreation department requesting the name and email of the highest level decision maker.

### **Survey Development**

Questionnaire development was based upon concepts and variables identified through a literature review which identified previous related studies. Multiple choice, dichotomous choice, Likert scale items and open ended questions were the primary response formats for the descriptive characteristics questions. A test of content validity was conducted by a panel of five university professors and three experts in crime prevention and law enforcement. The panel members were asked to examine the questionnaire in terms of item relevance, representativeness, and clarity. A few word changes and refinements were made in response to their suggestions.

The questionnaire was pretested on all of the municipal park directors in the state of Florida. For the pretest, an e-mail survey was sent to all 178 directors of municipal recreation and park agencies in Florida. A total of 91 directors responded, achieving a return rate of 50%. A Cronbach's Alpha test of reliability was calculated using SPSS 15 and indicated a reliability coefficient based on the average covariance among items of

0.810. Because none of the items was below 0.70, all items were kept. (Appendix A). Additional questions were added to the questionnaire after analysis of the pilot study to improve the validity of the study by seeking additional information on some topics. The survey was submitted, reviewed and approved by IRB. The final survey consisted of 68 questions; though some items were conditional based on earlier responses, so the length of the survey varied depending on how respondents answered certain questions. The survey was formatted and converted to a web format using the Qualtrics<sup>®</sup> survey program (Appendix B). Not all of the items are utilized in this paper.

### **Procedures**

The survey was administered according to Dillman's Total Design Method (Dillman, 2007). An e-mail including a cover letter, and a URL link to a web-based questionnaire was sent to the directors of municipal recreation and park agencies of the largest 250 cities in the US. Reminder emails were sent out every 2 weeks over a 12 week period. Open and closed ended questions were employed to collect demographic information such as: age, gender, highest level of education, race/ethnic background, job title, acreage of park land, population of city, and name of city. Closed-ended questions measuring the director's attitudes towards crime and fear of crime in their parks were also measured. SPSS 15.0 for Windows (SPSS, 2008) was used to conduct statistical analyses. Descriptive statistics were calculated for the directors' uses of crime prevention strategies. This method of data collection and interpretation is consistent with literature on crime and parks (Chavez, Tynon, & Knap, 2004; Chavez & Tynon, 2000).

## **Qualitative Procedures**

Park directors were presented with two open-ended questions. The first open ended question asked “What are all of benefits or advantages you can think of from using the Crime Prevention Through Environmental Design or CPTED model to reduce fear of crime in your parks? (Please list all that you can think of).” The second question asked “What are all of costs or disadvantages you can think of from using the Crime Prevention Through Environmental Design or CPTED model to reduce fear of crime in your parks? (Please list all that you can think of).”

## **Qualitative Analysis**

Content analyses along with descriptive statistics were the methods of data analysis. The technique employed here has been explained in Bernard (2000) for inductively deriving themes in qualitative data. The analysis of text begins with several thorough readings of the material and then the highlighting of key phrases. Bernard (2000) refers to this as the “ocular scan method, otherwise known as eyeballing” (p. 445). In this method, one gets a feel for the text by reviewing the data multiple times. This “may not seem like a very scientific way to do things”, but it is one of the best ways we know of to begin hunting for patterns in qualitative data (Bernard, 2000, p.445). Different themes were highlighted in different colors and a key was developed for the theme/color.

Inductive analysis began with the author and two assistants independently reading the data. The three coders then identified preliminary themes based on repeated concepts and similar ideas occurring in the data. At this point, the coders discussed the identified themes and refined the preliminary inductive categories until they concurred

that the refined themes were logical, comprehensive, and inundated in data (Fitch, 1994).

## **Results**

### **Respondent Characteristics**

Responses were obtained from 129 park directors indicating a return rate of 52% (one city in Colorado was transitioning its park leadership staff and had no upper level administrators, thus, in effect, 249 was the reachable population) . Males were 73% of the respondents. Caucasians comprised 93%, African Americans comprised 4% and Hispanics represented the remaining 3% of the responding managers. A total of 95% of the respondents had a bachelor's degree and 55% had master's degrees. The mean age was 54 years (Table 3-1).

### **Quantitative Results**

Descriptive statistics illustrate that 45% of responding park directors had received training in crime prevention strategies (Table 3-2). Law enforcement agencies provided the training for 79% of those directors who received training. Because directors received training from multiple agencies, the results are based on multiple percentile scales; therefore, if all of the percentages are summed, the total exceeds one hundred percent (Table 3-2).

Directors who were trained in CPTED were surveyed about their interest in additional training in CPTED; 45% responded they had an interest in additional CPTED training; 25% responded they may be interested in additional CPTED training; and 30% indicated that they were not interested in additional CPTED training (Table 3-2). Directors who were not currently trained in CPTED were surveyed about their interest in training in CPTED; 41% responded they had an interest in CPTED training; 42%

responded they may be interested in CPTED training; and 17% indicated that they were not interested in CPTED training (Table 3-2).

### **Qualitative Results**

The coders derived 13 content themes for the data and divided them into two groups. The first group is the benefits that the upper level managers conceived of using Crime Prevention Through Environmental Design (CPTED) strategies for reducing fear of crime and crime in their parks. The second group consisted of the costs the upper level managers thought of when considering CPTED strategies to reduce fear of crime and crime in their parks (Table 3-1).

### **Benefits**

**Public Relations & Marketing.** The upper level park managers indicated that employing CPTED strategies would be good public relations and marketing for their parks. One park director said “all methods to eliminate or reduce crime would be a benefit to our community. Residents would be greatly appreciative for this effort (CPTED).” Another director said “just being able to advertise the fact that we use the principals in our designs when speaking to the public is a big benefit”.

**Sense of Pride and Accomplishment.** The managers related that implementing CPTED strategies had a positive effect on their staff and their community. One park manager stated that the “confidence that comes from knowing you're trying to do your best to prevent crime [inspires] the public's confidence in knowing the same”. Another director stated that using CPTED principles “- gives park staff the sense that we can manage these issues - they are not intractable - action results in visible changes in the parkscape - users see change and action - can have real impact on safety and on the perception of safety.”

**Increased Park Usage.** Several upper level managers asserted that by initiating CPTED principles, park use would increase. One director proclaimed that “reduced loitering and criminal activity; beautification; increase in feeling of security in residents = increase in patrons in the parks.” Another director agreed that “increasing usage and decreasing crime are always beneficial to parks.” Still another director said “the most effective tools to reduce fear of crime in parks are those that bring more people into parks and this is a self-perpetuating cycle in that people who have a positive experience in a program are likely to return to the parks on their own. More people in parks = safer parks, lower degrees of vandalism.”

**Education of the Public and Staff.** Was the next theme that was identified. A manager stated that it “helps [the] public understand why certain areas are designed as they are.” Another manager echoed the education theme saying “it is helpful to share with staff and the community that design standards were implemented which should assist in reducing the opportunity for criminal activity within the park system. Staff have also learned how to plan new or renovation projects in our parks to reduce the potential for criminal activity.” Here the director speaks of education for both for the public and the staff.

**Improved Surveillance.** CPTED prescribes increased use of sight lines and the resulting reduction of hiding places. A park manager asserted that “working with our PD, CPTED has allowed us to look at redesign of existing parks to allow for easier monitoring of the parks by PD, Park Rangers, and the community as a whole. New designs will be based on CPTED.” Another park manager commented that being “able to see into the park from the street in order to prevent crimes is important”.

**Economic.** This theme was addressed in several ways. One way proposed the idea that safe parks result in the “increase in surrounding property values [and therefore assist in] economic development”. Another view of economic gain is reduction in staff (and thus, costs). CPTED “lowers necessity for onsite staff surveillance”. Lastly, CPTED can save money in the long run. One manager said that CPTED’s “inexpensive, long term ways to reduce crime by design makes sense” and another commented that it facilitates a “reduction of costs to tax payers”.

**Reducing Crime and the Fear of Crime.** One director stated that “the advantages and benefits of Crime Prevention via environmental design is that it does work. It helps your users feel safe with better lighting, placement and design of park elements, low or no tall thick brush, etc. Also elements like plant placement and color choices can help reduce graffiti.” Other managers kept it simple by stating “less crime” or “safer environment for users and staff” however, the theme of reducing crime and fear of crime emerged as consistent.

## **Costs**

**Monetary Expense.** The most common theme by upper level park managers was the money it would cost to implement CPTED strategies. Some of the most common responses were the “upfront costs to retrofit older facilities” and “cost of training, unless done electronically and scholarships are provided. Training budgets have been severally reduced”. Another response is the cost of maintaining CPTED strategies; “increased maintenance requirements” would potentially increase monetary costs in salaries, equipment, and materials.

**Loss of Ascetics.** One upper level manager stated that CPTED can “limit the creativity of Designers and Architects. Can lead to repetitive features. Play value and

appeal could be reduced.” Another manager stated that “some of the requirements of the design may take away from the aesthetics of a park” and another stated “my one primary complaint is that our parking facilities are much more noticeable from the road due to changes in buffering plants (which assists Police, but does not necessarily improve the viewshed).”

**Political Opposition.** This was only mentioned by one upper level manager who stated that some “disadvantages include: political or citizen influence of designs that contradict CPTED standards”. What does a park manager do when political overseers or financially influential people are against or do not understand CPTED principles? A final theme identified was *False Sense of Security* from applying CPTED strategies. This was only mentioned once. This point has been mentioned in the literature involving CCTV, however, it was not previously found in the CPTED literature (Welsh and Farrington, 2003).

## Discussion

Some of the findings of upper level park managers receiving training in CPTED were consistent with the results of the pretest. In this study, a total of 45% of the sample had received some training in CPTED and the pretest found that 43% of the park directors in Florida were CPTED trained. Since there is no CPTED standardized course for parks and recreational professionals, the level of CPTED training these upper level park managers received cannot be evaluated. One of the open ended questions asked how many hours of CPTED they received? The responses ranged from 1 hour to 40 hours. However, as with many open ended questions; additional information was derived from the responses. One director responded that they received “FRPA (Florida Recreation & Park Association) 4 hours, ASLA (American Society of Landscape

Architects 4 hours, and City Certified instructor 4 hours”. This conveys that this upper level manager is interested in CPTED. Another upper level manager reported attending “10 direct training, but more hours of discussion, conversations, etc. that were also valuable,” suggesting that the manager not only attended the training, but then discussed what they had learned with others.

The upper level managers who received training in CPTED were also asked if they were interested in additional training in CPTED and responded yes in 45% of the cases; 25% reported that they may be interested in additional CPTED training and 30% responded that they would not be interested in additional CPTED training. This data illustrates that 70% of the upper level managers would at least consider additional training in CPTED strategies to improve the safety of their parks. These results are interesting because when asked what were the costs or disadvantages of using CPTED strategies to reduce crime and fear of crime, the training costs were reported several times. One upper level manager reported “I cannot think of a disadvantage other than cost of training and our organization is committed to training and keeping up with best practices”. Another manager said that the disadvantages of implementing CPTED strategies are the “cost of training, unless done electronically and scholarships are provided [because] training budgets have been severally reduced”. Nonetheless, only 30% of the upper level managers reported that they were not interested in additional training in CPTED strategies. Even in tough economic times, when budgets have been cut and training dollars must be allocated carefully, 70% of upper level managers who have been trained in CPTED, being interested in additional CPTED training, is one of the highest percentage responses of this study.

The upper level managers who had not received training in CPTED were also asked if they were interested in CPTED training, and 41% of the sample responded yes; 42% of the sample reported that they may be interested in CPTED training and 17% responded that they would not be interested in CPTED training. This data indicates a higher percentage, and potentially a majority of untrained upper level managers being interested in CPTED training. These data seem to strongly support the premise that upper level urban park managers are interested in learning CPTED strategies to reduce crime and fear of crime in the parks they manage. After establishing this, the study attempted to understand the benefits and costs of implementing CPTED strategies in parks. To answer this question, the open-ended methodology suggested by Bouffard, Exum and Collins (2010) was utilized to allow individualized perceptions of costs and benefits to emerge. These individualized perceptions were then organized into themes.

The themes reported here illustrate the perceptions of benefits (Public Relations & Marketing, Sense of Pride and Accomplishment, Increased Park Usage, Education, Improved Surveillance, Economic Improvement and Reducing Crime and the Fear of Crime) and the perceived costs (Monetary Cost, Loss of Aesthetics, Political Opposition, and Creating a False Sense of Security) that upper level management of urban parks must consider when making a decision on whether to implement CPTED strategies in the parks they manage. Upper level park managers must weigh the costs versus the benefits of all the information available and select the appropriate choice depending on a cost / benefit analysis (Paternoster & Pogarsky 2009). This process is known as Rational Choice Theory. The purpose of this paper was not to weigh the choices, but to

identify the perceived costs and benefits of implementing CPTED strategies in some of the urban park systems of the 250 largest cities in the US.

### **Themes Associated with Benefits of CPTED**

In utilizing the methods suggested by Bouffard, Exum and Collins (2010), several themes emerged that were unexpected and were not present in the literature, however, the existing literature of CPTED strategies and park management is extremely limited. One of the unexpected themes was “Public Relations and Marketing”. One upper level manager stated that being able to “advertise the fact that we use [CPTED] principals in our designs when speaking to the public is a big benefit”. However, the manager did not elaborate on this statement. This theme may be similar to recent research on gated communities. The research suggests that gated communities are no safer than non-gated communities, but, “they do make the residents feel safer, and correspondingly increase the real estate value of the property and the surrounding area” (Atlas, 2008, p. 258). CPTED could be used as a marketing strategy to improve the feeling of safety of the park with a parallel effect of improving property values. Furthermore, CPTED strategies could be used as political marketing. A politician could talk about how they reduced crimes (or the likelihood of crimes) in a park(s) using CPTED principles.

A similar theme emerged involving a “Sense of Pride and Accomplishment”. Another upper level manager stated that using CPTED principles “gives [the] park staff [a] sense that we can manage these issues - they are not intractable - action results in visible changes in the parkscape - users see change and action - [we] can have real impact on safety an on the perception of safety.” This is building on the theory of collective efficacy, or people working together to solve problems (Paulson & Robinson, 2004 & Atlas, 2008). People need to believe that they can make a difference in their

neighborhoods. Atlas discusses this as “community culture,” a component of second generation CPTED, as people work together to achieve a common goal (Atlas, 2008, p. 83). This second generation CPTED strives to merge the environmental components of first generation CPTED together with the social components of social cohesion, connectivity, community culture, and threshold capacity (Atlas, 2008, p. 81). Basically, people have to care about their neighborhood, they have to want to make a difference, and they have to believe that they can make a difference. According to the data collected in the current study, the theme of sense of pride and accomplishment provides support that CPTED is helping to bring about a sense of community and a sense of accomplishment in some parks. Future research in this area is suggested.

“Increased Park Usage” was an expected theme. The more people use the park for its intended purposes, the safer people will feel in the park. One upper level manager commented that “the longer people stay in the area the less likely there will be criminal activity” and another stated that CPTED helped to “prevent physical crimes against patrons; prevent property crimes, increase user ship; increase the positive perception that parks, trails, and green spaces are safe spaces to occupy; increase political support that will then increase additional financial support for maintenance and capital projects”. Another commented that “in my experience, the most effective tools to reduce fear of crime in parks are those that bring more people to the parks”. This idea that more people in a location, make it safer, can be traced back to the writings of Jane Jacobs and her book *The Death and Life of Great American Cities* (1961).

The theme of “Education” was one that was not anticipated. One director reported that “CPTED training is a priority in our city and we have many staff throughout the city

who have been trained and certified including several on our own staff and the entire capitol (sic) projects design teams. Such departments as Police, Neighborhood Services, Capitol (sic) Projects managers, and our Parks and Recreation Departments are the main departments who participate in doing CPTED reviews of our parks to make safety recommendations”. This director’s statement provides support for the theme that CPTED is a vital training (education) for numerous departments. He advocates that crime prevention is not just the responsibility of the police department, but, the responsibility of many departments and that many departments working together as a team can make a difference. Another director stated that public education of CPTED principles can “help [the] public understand why certain areas are designed as they are”. This was the situation in a park known as “Azalea Park” in Gainesville, FL. The park had beautiful, mature azalea bushes that made areas for homeless people to sleep under and areas that provided privacy for prostitution to occur. Therefore, the azaleas were removed and the public was upset that the beautiful flowering plants were gone. However, once the CPTED principles were explained, the public was a little more understanding of the plant removals.

Lastly, one director stated that his/her “staff have also learned how to plan new or renovation projects in our parks to reduce the potential for criminal activity”. This should be one of the goals of all park directors. Park professionals can design the most interesting park designs imaginable, but if no one uses it because they are afraid of crime, then what good was the interesting design? Architecture learned a similar lesson with the building of Pruitt-Igoe in the city of St Louis during the 1950’s. Pruitt-Igoe was praised as the urban design of the future and won numerous awards; however, the

crime and decay became so rampant that Pruitt-Igoe was demolished less than 20 years after it was first opened (Schneider & Kitchen, 2007). Pruitt-Igoe is an example that innovative design without proper consideration to crime prevention can be a costly mistake.

“Improved Surveillance” was another expected theme. Natural surveillance is a key component of CPTED. One director stated that CPTED “helps in making the Police and Park Rangers job of monitoring the parks easier.” Another park director responded that CPTED “reduces the areas that someone could hide in”. Improved surveillance is a goal of CPTED.

“Economic” improvement was another theme derived from the data. One park director suggested “increase in surrounding property values [and therefore assist in] economic development” as a benefit of safe parks. This has been studied with gated communities and how property values have increased in gated and surrounding communities (Atlas, 2008) and in a variety of urban parks (Crompton 2004). Another view of economic gain is the reduction of staff. CPTED “lowers necessity for onsite staff surveillance”. One of the objectives of CPTED is to allow for natural surveillance, meaning that the people in the space look out for one another. If good CPTED principles are applied and the users have a sense of community, then natural observation should be able to help reduce the number of staff needed to safeguard a park. Lastly, CPTED can save money in the long run. One director said that CPTED’s “inexpensive, long term ways to reduce crime by design makes sense” and another commented that it enables a “reduction of cost to tax payers”. By going through the

design process with crime prevention as a desired goal before construction, the future expense of alterations can be reduced or eliminated.

Finally, the theme of “Reducing Crime and the Fear of Crime” will be discussed. This theme is the prime intention of CPTED. One director stated that “I've found that the fear of crime is much greater than the actual crime, [furthermore], we did a lot of work on our own with our Police Department and my landscape designers [and] we [have] developed some pretty creative programs to address crime problems”. Another director stated “the advantages and benefits of Crime Prevention via environmental design is that it does work. It helps your users feel safe with better lighting, placement and design of park elements, low or no tall thick brush, etc. Also elements like plant placement and color choices can help reduce graffiti.” The major goal of CPTED is to reduce crime and the fear of crime, but in a way that is aesthetic, unobtrusive, and cost effective.

### **Themes Associated with Costs of CPTED**

Next this paper examines the themes the directors' mentioned when asked to list all of the costs they could think of associated with implementing CPTED strategies in urban parks. The first theme that emerged is “Monetary Expense”. One director stated that “upfront costs to retrofit older facilities” would be high. Another director asserted that many park budgets have been cut and “training for staff [is a problem because] there is no money for this at this time”.

Surprisingly, a number of directors acknowledged the increased costs, but then justified the costs in the same sentence. One director said the “costs of changing current landscapes - worth it if it saves a life”. Another director stated that “the only disadvantage is the cost of the program. All parts of CPTED are well worth it”. Any

changes to the park's landscape will cost money. But, some directors believe that spending the money applying CPTED principles is a good investment.

The next theme derived from the cost of implementing CPTED was restriction to design or "Loss of Aesthetics". One director wondered if CPTED "add[s] expense to a development, and are you sacrificing an effective design at the expense of crime prevention if the two happen not to be completely compatible". Another director said that "one disadvantage that comes to mind is the reduction in landscaping in parks that follow CPTED design". Another director stated that CPTED "limits creativity of designers and architects. It can lead to repetitive features. Play value and appeal could be reduced". There may be an element of truth to this, since CPTED does recommend the removal of some landscaping and some landscaping be modified through maintenance practices such as trimming low shrubs to a of twenty-four to thirty-two inches high and tree canopies being at least seven feet high to reduce hiding places and open up sight lines (Atlas, 2008).

This line of thinking is reminiscent of the debate over playground safety reform. People opposed to playground safety reform stated that safety improvement would remove the creativity from playgrounds (Barton, 2006). Barton argues that tort reform actually inspired playground manufactures to design safer and more creative playground equipment for children (2006). Would CPTED strategies restrict park landscaping and park design to the extent that park visitors would lose interest in visiting parks? Or, would using CPTED principles inspire park designers to create new and creative parks in much the same way playgrounds have been improved? And, will the minor loss of some aesthetic natural beauty be offset by the enhanced perception

(and possible reality) of increased safety, resulting in more people visiting parks, or extending their stays, adding benefits more than offsetting that loss?

The next theme associated with the costs of implementing CPTED strategies is “Political Opposition”. This was only mentioned by one upper level manager; however, it seems relevant. This director stated that some “disadvantages include: political or citizen influence of designs that contradict CPTED standards”. It might sound ironic, but some of the most politically powerful people (usually women) can be found in urban garden clubs, a trend that started in the late 19<sup>th</sup> and early 20<sup>th</sup> century (Kaufman 2006; Merchant 1984). They may develop a garden plan for a park and they want it implemented and they want it done their way. This is where a strong partnership with police, urban planners, landscape architects and other city entities concerned with public safety is very important.

Lastly, the theme that CPTED may create a “False Sense of Security” only occurred once but it may be a concern for some. Similar concerns have been raised with closed circuit television or CCTV. “The presence of CCTV may give people a false sense of security and cause them to stop taking precautions that they would have taken in the absence of this intervention, such as not wearing jewelry or walking in groups when out at night” (Welsh and Farrington, 2003, p. 111). However, this could be a problem with any type of security measure. Another director makes a good point stating that “CPTED is only one tool in reducing fear of crime in parks. It is not effective or efficient for CPTED to exist in a vacuum of other tools”. This is a powerful statement. CPTED was never intended to replace other types of security and safety measures, but to be used as a preventive tool to enhance security and safety.

## Summary

Crime and fear of crime is a concern in urban parks. Upper level decision makers must make decisions concerning the safety and security of the parks they manage. Rational Choice Theory is about making decisions. The basic premise is that park directors will make the choice that offers the most benefit for the least cost. This assumes that park directors are able to calculate the expected gains or benefits and weigh them against the possible losses or cost when making decisions. Decisions are made on the premise that the potential gains or benefits outweigh the potential losses or cost.

There were three research questions examined in this paper. The first posed the question; what percentages of upper level managers have received training in CPTED strategies. The answer was 45% of the upper level managers have received training in CPTED strategies. This finding was consistent with an earlier pretest and there are no other known studies of this question to compare to. However, closer examination revealed that the hours of training ranged from one hour to forty hours. There are likely also questions about the quality of training. One upper level manager reported to have completed twelve hours of training from three different professional entities. Several upper level managers' report attending a one hour workshops, and others reported attending a forty hour CPTED certification program. Other managers, who reported having been trained, provided no details on that training. It is a safe assumption that they did not all receive the same level of training.

The next question measured the level of interest in CPTED training. The results suggest that 70% of those with previous training would be open to additional training and 83% of those who had not received training in CPTED would be open to receiving

training in CPTED strategies. This is another indication that the past levels of training received may not have been in depth or adequate.

The final purpose of this paper was to identify the potential benefits and the potential costs associated with implementing CPTED strategies in urban parks. This is relevant because no previous research was found using Rational Choice Theory as it relates to the decision making of upper level park managers. The themes of potential benefits were: public relations & marketing; sense of pride and accomplishment; increased park usage; education; improved surveillance; economic improvements, and reducing crime and the fear of crime. The themes of potential costs were: monetary cost; restriction to design or loss of aesthetics; political opposition; and creating a false sense of security.

One significance of identifying these themes is that they provide a foundation for future research addressing CPTED and Rational Choice Theory. With the foundation of perceived benefits and costs identified here, future research can address measuring the influence that each benefit and cost can have on making the final decision to implement or not implement CPTED strategies in urban parks.

Table 3-1. Demographic information

Description	N	Possible Responses	Percent
Gender	85	Male	73
		Female	27
Race	78	Caucasian	93
		African American	4
		Hispanic	3
Highest level of education	86	Some college / no degree	3
		Associate Degree	2
		Bachelor Degree	40
		Master Degree	55
		Doctorate	0
Mean Age	73		54*

\*Mean Age is not a percentage but the mathematical mean of the ages.

Table 3-2. Director's level of CPTED training

Description	N	Possible Responses	Percent
Have you received any specialized training in modifying the environment to prevent crime or CPTED training	126	Yes	45
		No	55
Who provided the training (Check all that apply)	57	NRPA	37
		College / University	14
		State NRPA Affiliate	25
		Law Enforcement	79
		Private Instructor	25
		Other	11
Directors who had already received CPTED were asked if they would be interested in additional training in CPTED	51	Definitely Not	6
		Probably Not	24
		Maybe	25
		Probably Yes	39
		Definitely Yes	6
Directors who had not received CPTED were asked if they would be interested in CPTED training		Definitely Not	5
		Probably Not	12
		Maybe	42
		Probably Yes	27
		Definitely Yes	14

Table 3-3. Director initiated themes related to CPTED strategies

Benefits	Costs
Public Relations & Marketing Sense of Pride and Accomplishment Increased Park Usage Education Improved Surveillance Economic Improvement Reducing Crime and the Fear of Crime	Monetary Cost Restriction to Design or Loss of Aesthetics Political Opposition False Sense of Security

## CHAPTER 4

### CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) EDUCATION OF PARK AND RECREATION STUDENTS: A RATIONAL CHOICE PERSPECTIVE OF UNIVERSITY PROFESSORS

We live in an age of specialists. This is good, for it allows subject matter to be probed and applied in depth. But specialization has its drawbacks as well, since many disciplines have become so specialized, implications frequently cannot be understood by people in related fields. As a result, experts are often isolated from the potential contributions of others. (Molnar & Rutledge, 1986, p. 1)

Many park and recreation professionals, landscape architects and park planners can trace their occupational family trees back to a common ancestor, Frederick Law Olmsted (Molnar & Rutledge, 1986). However, over time, there seems to be more distance from the roots of the profession and the focus of departments and colleges has become increasingly specialized. Bok asserts that “knowledge itself has splintered into a kaleidoscope of separate academic specialties with far too little effort to integrate the fragments, let alone show students how they might connect” the information from different academic perspectives (2006, p. 2). This fragmentation may have caused some academicians in the field of parks and recreation to become somewhat myopic in their research on parks and therefore miss the bigger picture.

This paper focuses on Crime Prevention Through Environmental Design (CPTED) strategies and Rational Choice Theory. Rational Choice Theory is based on the premises that people make decisions based on a cognitive cost verses benefit type analysis (Paternoster & Pogarsky, 2009; Bouffard, 2002; Bouffard, Exum, & Collins, 2010; Bamberg & Schmidt, 1998; Davidov, 2007; Acheson, 2004; Acheson & Gardner, 2005; and Best, 2009). Examples of Rational Choice Theory and student decision making are numerous in the literature (Breen & Goldthorpe, 1997; Breen & Yaish, 2006; Need & De Jong, 2000; & Davies et al., 2002). Student’s choices in education involve

risks. Careers that offer more benefits (such as higher pay and prestige) also have higher risks of failure. Students make rational choices in education attainment to assure that they obtain a “minimum acceptable level of educational attainment, which will guarantee entry to a class position at least as good as that of their parents; students set their threshold at a level that will minimize the risk of downward mobility” (Breen & Goldthorpe, 1997, p. 284).

In previous research, scholars have attempted to measure rational choice through using hypothetical scenarios and having participants rate the perceived costs and benefits of choices selected by the researcher (Bouffard, Exum & Collins, 2010). However, in these scenarios, Bouffard, Exum and Collins argue that the participant is just selecting a choice from a list and not truly communicating their rational thought process (2010). Therefore, this research is following the Bouffard, Exum and Collins model and providing college professors with open-ended questions to reveal the perceptions of the costs and benefits of teaching CPTED strategies to their students (2010).

### **CPTED, Parks & Recreation and Higher Education**

It is unquestioned that the fear of crime in parks is a major issue for park managers (Salazar, 2011; Chavez & Tynon, 2000; 2004; Pendleton 1996; 1998) and park users (McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; Carter et al., 2003; Chiesura, 2004; Ching-hua Ho et al., 2005). Over the last thirty years, Crime Prevention Through Environmental Design or CPTED (pronounced sep – Ted) is becoming one of the leading “place-based” crime prevention strategies used in many countries worldwide including the United States, New Zealand, Australia, the

United Kingdom, Europe, Canada, South America, and, South Africa (Schneider & Kitchen, 2007). Even though CPTED is very applicable to parks, little is known about its effectiveness in parks because research on its implementation or efficacy does not appear in the literature. Furthermore, it is unknown if park and recreation professionals even know about CPTED principles. Previous research (McCormick et al., 2010) suggested that in the state of Florida, less than 50% of park directors and less than 35% of their staff received any training in CPTED. Conversely, when these same directors were asked if they would be interested in attending training in CPTED, almost 90% said they would be interested in training for themselves and over 97% said they would be interested in CPTED training for their staff. In a national study of park directors (McCormick 2011), 55% reported not receiving any training in CPTED.

McCormick, et al. (2010) also report that park directors in Florida are not receiving training in CPTED from universities and colleges. Universities and colleges only accounted for 5% of the training directors reported receiving in CPTED principles. In contrast, law enforcement agencies accounted for over 46% of the training received by park and recreation professionals.

According to Lueddeke, “one of the main deterrents to realizing a more responsive and progressive higher education environment appears to be the tenacity by which the academic community holds on to fundamental values and shared beliefs about teaching and learning, in spite of the evidence that suggests that there might be better ways of doing things” (2003, p 214). Harpe and Thomas state that “there are often senior academics whose academic futures are assured and who have grown accustomed to influence and prestige – and who do not want change” (2009, p.78). However, Barnett

suggests that we need to prepare our students for an “unstable world, where one’s assumptions are challenged daily and where changing standards and the globalization of problems dislodge any felt security over one’s inner frameworks” (2000, p. 157). In other words, if park and recreation students are expected to make a difference in the future, they need to be taught to look at the big picture and not to be afraid to think outside of the discipline.

## **Curriculum**

In college education, a curriculum is the required academic classes, the academic course work, and the body of knowledge of a specific discipline offered at a university. Knowledge is defined as “information of which a person, organization, or other entity is aware” (Romiszowski, 2009, p. 202). According to Romiszowski (2009), knowledge is one of those things that you either have or you do not have. Knowledge can be derived in a “one shot sort of matter – the sudden eureka phenomenon” or it may be accumulated through repetition of learning materials (Romiszowski, 2009, p. 203).

According to Stark and Lattuca, (1997) a curriculum is an academic plan to guide teaching and learning at various levels including class, departmental, and college-wide. Curriculum design is an “important faculty role requiring expertise and effective decision making” (Stark, 1999, p. 413). The faculty must make curriculum decisions that address the current needs of the profession and the curriculum should also plan for the foreseeable future (Stark, 1999).

One way that curriculum decisions are made to meet the needs of a profession is through the process of specialized accreditation. Specialized accreditation uses specific standards to measure an academic program’s ability to teach their students the knowledge required for entry-level employment in a specified profession (Council for

Higher Education Accreditation, 2002). A curriculum may be partly or entirely determined by these external specialized accreditors (this will be discussed further in the accreditation section).

### **Accreditation**

Every profession needs college graduates that are up-to-date on the latest technologies and theories and are well educated in both hard and soft skills. This has been the goal since the “first curriculum conference on training park and recreation professionals” was held in the mid-1930s (Sessoms, 1990, p. 33). Today, entry-level standards are revealed in the Professional Competencies (Series Standards 8.00) of the Standards of Evaluative Criteria for Baccalaureate Programs in Recreation, Park Resources and Leisure Services (National Recreation and Park Association [NRPA], 2004). These standards include: conceptual foundations; leisure services profession; leisure services delivery systems; programming strategies; assessment, planning and evaluation; administration and management; legislative and legal aspects; and field experience (internship) (NRPA, 2000). However, these standards are broad, vague, and are very open to interpretation. Past research in park and recreation competencies suggested that college graduates were lacking the skills wanted and needed by employers (Hulverson, 1979; Henderson, 1982; Hurd, 2004 & Hurd, 2005). Hurd asserts that competencies are important to university curriculum development, however, it seems that the communication between the professionals and the academics could be improved (2005). For example, both the 1978 Urban Recreation Study and the 1979 Third Outdoor Recreation Plan made specific recommendations that crime in parks were a priority, however, crime prevention strategies are not mentioned in the competencies (Competency 8.27: Understanding the principles and practices of safety,

emergency, and risk management related to recreation, park resources, and leisure services. Content to consider: Components of risk management planning; emergency procedures; safety/law enforcement) comes closest to addressing crime prevention strategies, however, risk management, emergency, safety and law enforcement is a very broad category and able to encompass a lot of different interpretations.

Furthermore, this competency does not specifically highlight crime prevention approaches, which seemingly would be a significant issue for new potential park managers to be aware of.

How are accreditation standards attained? Should academics set the standards? Should it be the professionals and a professional organization? One view is that, “there currently appears to be a discrepancy among the views of educators and practitioners as to what is the critical education undergraduates need in order to become successful practitioners” (Sessoms, 1989, p. 23). Given the lack of attention directed at crime prevention by even more recent accreditation standards; that observation seems as warranted today.

### **Technology in the Classroom & Rational Choice Theory**

Professors’ are conscious decision-makers, cognitively evaluating the strengths and weaknesses of textbooks, power point presentations, and other teaching materials available to be used in their classes. Although this author was unable to find literature on implementing Crime Prevention Through Environmental Design (CPTED) theory into parks and recreation courses, literature was available on attitudes towards incorporating technology into the college class-room. In 2002, 80% of all four year public colleges had installed technological equipment in their class-rooms; however, only 20% of the professors were taking advantage of these technologies (Lynch, Altschuler, & McClure,

2002). Moser asserted that this problem was not limited to public intuitions, but was a problem across all US intuitions (2007). Yu et al. summed up the frustration succinctly by stating that the “pace of academe is best measured by the 25 years it took to get overhead projectors out of the bowling alley and into the classroom” (2009, p, 3).

Why does change in the college system move slowly? Applying a Rational Choice Model, one must consider both the benefits and costs of making decisions. One of the biggest costs in applying new technologies is the cost of time. Professors have to learn the new technologies for themselves and they must learn it to a point that they can in turn teach it to their students (Moser, 2007). The process is probably similar for developing new course content, such as new ideas about crime prevention. Moser provides an example of a professor’s perception of the cost of implementing technology into his/her classroom – “I actually stopped using Blackboard for a while because ... my teaching evaluations went down, and I need to get tenure before I start doing more off-the-beaten-track stuff” (2007, p. 67). Similar concerns of competing responsibilities of tenure track faculty were echoed by Tortatzky & Klein (1982).

According to Paternoster & Pogarsky (2009), rational choice theory implies that people make decisions based on “considerations of the costs and benefits” and this requires “collection of information about those costs and benefits, and a weighing of the costs/benefits before making a decision” (p. 104). However, McCarthy asserts that not all people have the same level of cognitive reasoning, nor do they all have access to the same levels of information or have the same mental dexterity in weighing costs and benefits (2002). To date, research in the realm of competencies of park and recreation

directors is scarce (Hurd, 2005). Furthermore, research on specific training delivered on crime prevention strategies for parks is nonexistent in the literature.

Universities are unique and complex organizations. In contrast to businesses, universities have less control over their operations in that there are more revenue and opportunity constraints and many different stakeholders. In addition, there is a greater need for participation by staff in decision-making, and often universities have complex governance structures, high workloads and no single center responsible for implementing organization-wide change initiatives (Eckel and Kezar 2003; Rowley, Lujan and Dolence 1997; Sharp 2002). Within this context, bringing about change of any kind can be problematic. Yet, transformational change represents the scope of change needed for [crime prevention strategies in parks] (Harpe & Thomas, 2009, p. 76-77).

Professors have many factors to consider when developing a course for their students. In this study, the goal is to identify perceived risks and benefits of the Crime Prevention Through Environmental Design (CPTED) approach by college and university professors. Because this topic has limited previous research and because to understand the professors' thought processes, a method to elicit their specific cognitive cost/benefit perceptions is needed, open-ended questions will be administered (Bouffard, Exum & Collins, 2010). Through utilizing open-ended questions, individualized perceptions of costs and benefits should emerge.

## **Methods**

### **Sample**

The sample frame was constructed as a purposive non-probability sample by sending emails to the listserv SPRENET (the Society of Park & Recreation Educators Network; a branch of the National Recreation and Park Association) hosted by the University of Georgia. Subscribers to this listserv consisted of self-selected parks and recreation faculty and some doctoral students from around the world, though most are from the US and Canada. Membership is free and a request to the listserv manager is

usually sufficient to be added to the listserv. The listserv manager said there are about 960 subscribers to SPRENET, with most of them (unknown number) being academics.

The e-mail asked professors and/or instructors who taught classes in facility management, park planning, or related classes and were willing to help in research related to the level of knowledge and the attitudes towards crime prevention strategies in parks to submit their names and e-mail addresses to the researcher. One hundred professors responded that they met these criteria.

An e-mail message with a URL to a web-based survey was sent to the 100 self-selected professors teaching classes in park design, facility management, park administration and similar course titles. A total of 72 professors responded; a return rate of 72%, however, 6 of the respondents were eliminated from the sample because they reported in the survey that they did not teach courses in park maintenance, park design, facility maintenance or similar courses. The recalculated response rate was 70% based on a revised effective sample of 94. Males were 69% of the respondents. Caucasians comprised 92% of the respondents, African Americans comprised 4%, Asians comprised 2% and other represented the remaining 2% (Table 4-1).

### **Survey Design**

Questionnaire development was based upon a literature review which identified previous related studies. Multiple choice, dichotomous choice, Likert scale items and open ended questions were the primary response formats. A test of content validity was conducted by a panel of five university professors and three experts in crime prevention and law enforcement. The panel members were asked to examine the questionnaire in terms of item relevance, representativeness, and clarity. A few word changes and refinements were made in response to their suggestions to improve the validity of the

study by seeking additional information on some topics. The survey was submitted, reviewed and approved by IRB. The final survey consisted of 49 questions; though some items were conditional based on earlier responses, so the length of the survey varied depending on how respondents answered certain questions. The survey was formatted and converted to a web format using the Qualtrics<sup>®</sup> survey program (Appendix C).

The survey was administered according to Dillman's Total Design Method (Dillman, 2007). An e-mail including a cover letter, and a URL link to a web-based questionnaire was sent to the 100 professors. Reminder emails were sent out every 2 weeks over a 12 week period. SPSS 15.0 for Windows (SPSS, 2008) was used to conduct statistical analyses. Descriptive statistics were calculated for the professors' knowledge and teaching of crime prevention strategies. This method of data collection and interpretation is consistent with literature on crime and parks (Chavez, Tynon, & Knap, 2004; Chavez & Tynon, 2000).

### **Quantitative Procedures**

Descriptive statistics were used to measure professors' attitudes toward crime prevention strategies. The professors were asked to respond on a strongly disagree to strongly agree (7 point scale) on the effectiveness of nine crime prevention strategies: removing litter within 24 hours (1 day); clear sight lines and vegetation pruned; removing graffiti within 24 hours (1 day); unarmed, uniformed park rangers; park watch volunteers; armed, uniformed park police with arrest authority; emergency call boxes; closed circuit television (CCTV); and signage conveying park rules. The mean score was used to order the choices in tables presenting results. The professors were also questioned about their perceptions of crime and fear of crime in urban parks on three

items using a strongly disagree to strongly agree (7 point scale). Closed-ended questions measuring the professor's attitudes towards crime and fear of crime in the parks were also included. Open and closed ended questions were employed to collect demographic information such as: age, gender, level of teaching institution, race/ethnic background, and name of institution.

### **Qualitative Procedures**

Professors were presented with four open-ended questions. The first open ended question asked "What are all of benefits or advantages you can think of from using the Crime Prevention Through Environmental Design or CPTED model to reduce fear of crime in parks? (Please list all that you can think of)." The second question asked "What are all of the costs or disadvantages you can think of from using the Crime Prevention Through Environmental Design or CPTED model to reduce fear of crime in parks? (Please list all that you can think of)." The third question was "Why do you choose to incorporate CPTED into your courses?" The fourth question was "Why do you choose not to incorporate CPTED in your courses?"

### **Qualitative Analysis**

Content analyses along with descriptive statistics were utilized to summarize the data. The technique cited in Bernard (2000) for inductively deriving themes in qualitative data was followed. The analysis of text begins with several thorough readings of the material and then highlighting key phrases. Bernard (2000) refers to this as the "ocular scan method, otherwise known as eyeballing" (p. 445). In this method, coder gets a feel for the text by reviewing the textual data multiple times. This "may not seem like a very scientific way to do things", but it is one of the best ways we know of to begin hunting for

patterns in qualitative data (Bernard, 2000, p.445). Different themes were highlighted in different colors and a key was developed for each theme.

Inductive analysis began with the author and two assistants independently reading the data. Then, preliminary themes based on repeated concepts and similar ideas evolved from the data. At this point, the three coders discussed the themes, each coder identified and refined the inductive categories and labels until there was agreement among the three coders that the derived themes were logical, inclusive, and saturated by the data (Fitch, 1994) and that the labels applied were the best descriptors.

## **Results**

### **Quantitative Results**

Descriptive statistics illustrate that 27% of responding professors were familiar with CPTED strategies (Table 4-2). Furthermore, 24% reported incorporating CPTED strategies into their classes. When questioned about their knowledge of the CPTED scientific literature, 57% responded that they had no knowledge of the literature and 33% reported that they had poor to fair knowledge of the CPTED literature (Table 4-2). When asked if another department on campus (such as Criminology, Urban Planning, or Landscape Architecture) taught a class in CPTED, 53% reported that they did not know, 42% reported no, and 5% reported yes (Table 4-2).

Next, professors were questioned about their perceptions of the effectiveness of crime prevention strategies on a seven point scale (Table 4-3). These crime prevention strategies were ranked in descending order from the highest mean score to the lowest in presenting the results. The highest was removing litter within 24 hours (1 day); followed by, clearing sight lines and vegetation pruned; removing graffiti within 24 hours (1 day); unarmed, uniformed park rangers; park watch volunteers; armed, uniformed

park police with arrest authority; emergency call boxes; closed circuit television (CCTV); and signage conveying park rules was ranked last (Table 4-3).

Next, the professors were questioned about their perceptions of crime and fear of crime in urban parks. A total of 68% responded that they (somewhat to strongly) agreed that the *actual occurrence* of crime was a major problem in urban parks (Table 4-4). Furthermore, 80% of the professors responded that they (somewhat to strongly) agreed that the *fear* of crime was a major problem in urban parks. However, only 33% responded that they (somewhat to strongly) agreed that *reducing the fear* of crime in all parks was a priority (Table 4-4).

Additionally, the means were compared to measure the professors' perceptions of crime and fear of crime across urban, rural, state, and national parks. The means were based on scoring the strongly agree as a 7 and the strongly disagree as a 1. The highest mean for crime was 4.83 with a standard deviation of 1.43, for urban parks. The highest mean for the fear of crime was also urban parks, with a mean of 5.26 and a standard deviation of 1.37 (Table 4-5).

Table 4-7 reports the source of where professor's learned about CPTED, stratified by level of university (for those professors who reported that). A bit surprisingly, the mode response was "from the survey conducted for this research!" The next most common response was "from working with professionals". Table 4-7 reports results comparing those who teach and those who don't teach CPTED strategies in class on how they learned about CPTED. For those who teach CPTED in class, the most frequent sources were working with professionals, self-study and at a conference. For those who don't teach CPTED, the most frequent responses were "the survey they were

responding to”, “a conference” or “colleagues” ( the n’s were rather low for the second and third source).

Table 4-8 reports results comparing those who teach CPTED vs. those who don’t by level of university. The results did not vary much but the highest proportion of professors who do teach CPTED were in research 1 level universities.

### **Qualitative Results**

The coders derived 15 content themes from the textual data and segmented them into four groups. The first group is the benefits that professors conceived of using Crime Prevention Through Environmental Design (CPTED) strategies for reducing fear of crime and crime in parks. The second group consisted of the costs the professors thought of when considering CPTED strategies to reduce fear of crime and crime in parks. The third group was the benefits of implementing CPTED strategies into their classrooms. The fourth group was the costs experienced by implementing CPTED strategies into their classroom (Table 4-6).

### **Benefits**

Of the 63 respondents, a total of 29 responded to the open-ended questions, however, only 17 were able to mention benefits. The remaining 12 explained that they had no knowledge of CPTED or wrote n/a. Of the 17 who mentioned benefits, the following themes were derived.

**Increased Park Usage.** Several professors expressed the opinion that by initiating CPTED principles, park use would increase. One professor proclaimed that “if we want the community to utilize our parks to their potential, people first need to experience a sense of safety.” Another professor agreed that CPTED “increases the number of users,

enhances their experience and provides a safe place to play for children.” Several other professors simply wrote “increase park usage” or “more visitation.”

**Reducing Crime and the Fear of Crime.** One professor stated that CPTED brings about an “awareness of how design can impact park operations and cause an actual reduction of crime.” Another professor proclaimed that “we can reduce, but not completely remove the fear of crime in our parks, however, CPTED has the potential to alleviate this fear.” Another professor said “I believe it helps reduce the occurrence of crime.”

**Improving the Quality of Life.** A professor indicated that “better health, community development, economic development, outdoor education opportunities and environmental awareness” could all be attributed to the implementation of CPTED strategies. Another professor echoed the quality of life theme saying it “resulted in more people gaining enrichment from [the] park experiences than would have otherwise” if CPTED was not used. Lastly, one professor specified that CPTED “increased benefits to the constituents of the organization and the community at large.”

**Improved Maintenance.** CPTED prescribes the removal of incivilities such as litter and graffiti and the proper maintaining of vegetation resulting in the improvement of sight lines and reduction of hiding places. A professor mentioned that “proper maintenance would reduce potential areas of concern and would correct areas that people fear to go into or through”. Another professor commented that CPTED “increases the perception of good maintenance and low crime.”

**Public Relations & Marketing.** Several professors indicated that employing CPTED strategies would be good public relations and marketing for urban parks. One

professor said “by using [the CPTED] model/theory substantiates and gives credibility to initiatives in place and helps provide information for marketing of the park.” Other professors simply stated that CPTED was good for “marketing and public relations.”

**Economic.** It was only mentioned once, but it is an important theme. The professor indicated that CPTED was a “cost effective way to increase visitation numbers and diversity of visitation while reducing the fear of crime and promoting place attachment.” Economics is always an important factor.

### **Costs**

Of the 63 respondents, a total of 27 responded to the open-ended question. However, only 18 mentioned costs. The remaining 9 respondents explained that they had no knowledge of CPTED or wrote n/a.

**Monetary Costs.** The most common theme mentioned by professors was the money it would cost to implement, market, and maintain CPTED strategies. Some of the most common responses were the “upfront costs to retrofit older facilities” and “increased costs of design and construction; additional expense in frequency of maintenance.” Another response is the costs of maintaining CPTED strategies; “increased maintenance requirements” would potentially increase monetary costs in salaries, equipment, and materials. Similarly, one professor stated “management needs to commit to CPTED, it is comprehensive not just an ad hoc approach, thus provide continued resources (i.e. budget)”. In other words, CPTED is not a onetime quick fix but a long term strategy requiring funding to keep it going.

**Difficulty of Finding Qualified Contractors.** One professor stated it was hard “finding contractors and designers who are familiar with the concept, very few professionals are familiar with the concept” of CPTED. This theme was only cited once.

**Time.** The next theme was time. One professor simply stated that implementing a CPTED program takes time. Time is needed for training, planning, and maintenance of CPTED strategies.

### **Reasons for Incorporating CPTED in the Classroom**

Thirteen professors provided reasons for incorporating CPTED principles into their classes. Four themes were derived. The first theme was that CPTED is a *Valuable Management Tool*. One professor stated “I believe it is a valuable management tool that students should be aware of” responded one professor.

**Complete Understanding of Park and Facility Design.** CPTED “allows the students to gain a complete understanding of park and facility design.” Another professor commented that “crime and behavior management are important issues for managers to consider in designing and planning of areas for facilities.”

**Positive Effective on Crime & Crime Prevention.** One professor stated that “CPTED can have a positive effect on crime and crime prevention”. Another professor asserted that CPTED was a “proactive way to deal with security.”

**Cost Effectiveness.** Lastly, cost effectiveness was derived as a theme. It was only mentioned on one occasion; however, it is still an important theme. The professor wrote “I feel this is [a] very cost effective way of designing.”

### **Reasons for Not Incorporating CPTED in the Classroom**

Fourteen respondents were able to suggest reasons for not introducing this content into the classroom. The primary theme mentioned by most professors for not incorporating CPTED into their classes was *Lack of Knowledge*. One professor said “as of this moment I was not aware of it; I am now and will follow up for next Spring.” Several professors simply stated that they “had no knowledge of the subject” or they

“were not aware of the standards.” One professor stated that “I do not feel that I have adequate knowledge to teach others” about CPTED strategies and another said “it is relatively new to me.”

A related but somewhat different secondary theme mentioned by some professors was that they may be “interested in finding out more about CPTED.” One professor said that they “need to look into the topic before making a decision.” Another professor said they “intend to teach CPTED in the future.”

Another theme that surfaced was “lack of time.” One professor said they had a “lack of time to prepare for the class and include it.” Another professor stated that “they mention it but do not heavily focus on it.”

### **Discussion**

In 1961 Jane Jacobs published the book “The Death and Life of the Great American Cities.” Ten years later, in 1971, Jeffery published the book “Crime Prevention Through Environmental Design.” The concept of manipulating the environment to reduce crime and the fear of crime has been around for over 40 years. However, the majority of professors in this study (59%) responded that they are not familiar with CPTED. When asked if they incorporated CPTED strategies into their classroom, 76% responded no. When asked why they did not incorporate CPTED principles into their classroom, the most frequent response was “I have no knowledge of the subject”. A more anticipated response might have been; there is little empirical evidence suggesting that CPTED is effective in reducing crime and fear of crime. One professor responded, I “never discussed it when I worked for the NPS [National Park Service]. Also, it’s not discussed in the park management text book I teach from.” This is a more understandable reason than “I have never heard of it.” However, the response “I never

heard of CPTED” supports the point that the academic discipline may have become so specialized that the academic park and recreation profession has lost touch with its roots, the park itself.

The results from the professors’ attitudes toward crime prevention strategies found on table 4-3 are quite interesting. The first, second, and third highest mean scores are all CPTED strategies. However, the fourth CPTED strategy (signage displaying the park rules) was ranked the lowest, ninth out of nine. Most components of CPTED rely on the natural environment and not security personnel, electronics, or target hardening devices such as locks or anti-theft packaging. CPTED relies on natural surveillance, the ability to see others and be seen in the environment. This is often accomplished by controlling the growth of vegetation to remove hiding spots. Natural access control, that is, influencing people’s movement through an environment, can be accomplished with pathways, landscaping materials and even water works nicely in a park. Signage can be a territorial reinforcement that indicates someone owns and cares about this space. Lastly, maintenance ties together aspects of territoriality and natural surveillance. Keeping vegetation well maintained reduces hiding places and demonstrates that the area is cared for. Removing trash and graffiti are both important components of maintenance and CPTED. These are just some of the highlights of CPTED and are not a complete list of available strategies.

The information in Table 4-4 is very interesting. A total of 68% of the professors agree that crime is at least somewhat of a major problem in urban parks. Furthermore, 80% stated that fear of crime was at least somewhat of a problem in urban parks. However, when asked if reducing the fear of crime was a priority of theirs, only 33% at

least somewhat agreed. Why the disparity between recognition of a problem and interest in addressing it? Over two-thirds of the professors agreed that crime was a problem; even more agreed that fear of crime was a problem, but only one-third stated that they would make it a priority to do something about it. Why do professors teach students, conduct, analyze, and then publish research? Is not at least one major reason to solve problems? Furthermore, as professors in parks and recreation, who has a better opportunity to imbed ideas that will lead to changes in parks? Professors train future park managers and directors. Professors control the content of journal literature through the refereeing of academic journals. Professors contribute much of the content and topics at many academic and professional conferences. Apathy towards finding a solution might be better understood if there was ignorance of the problem, but, most professors responding to this study reported being aware of the problem. Given the lack of mention of CPTED in parks and recreation journals, textbooks and conference topics, these findings were not entirely unexpected, along with the recognition that crime and fear of crime has been generally unreported in this discipline for over 30 years, however, it is hoped that the increased awareness of potential methods to address crime will lead to change.

The information in (Table 4-5) reconfirms the statements above. Crime and fear of crime is more prevalent in urban parks according to the professors taking part in this study. This is backed up by the current literature (Salazar, 2011; Sousa & Kelling, 2009; McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; Carter et al., 2003; Chiesura, 2004; Ching-hua Ho et al., 2005).

Now that it is established that the majority of the professors responding to this study do not teach CPTED strategies to their students, the next question is why? Applying the Rational Choice framework established by Bouffard, Exum & Collins (2010) might provide some guidance.

The first benefit theme was increasing park usage. The safer people perceive the park, the more they will use it. The more people use the park, the safer others will perceive the park (Harnik, 2006). This is especially true of female users. Harnik asserts that a “low rate of female users is a very strong indication of a park which feels unsafe” (2006, p. 29). Increasing park usage is a benefit and it was the most common one mentioned from the open ended question seeking professor’s perceptions of benefits.

The next benefit derived from responses to the question was the reduction of crime and fear of crime. One professor stated that “I believe it [(CPTED)] helps reduce the occurrence of crime.” Another professor stated that “we can reduce, but not completely remove the fear of crime in our parks, however, CPTED has the potential to alleviate this fear.” This is a pithy, yet true statement. One thing to remember is that crime and fear of crime are two different things. A park can have a very low occurrence of crime (a very low crime rate) and still have a lot of citizens who are fearful of crime in this park. In other words, crime rates are the statistics which represent reality, but fear of crime is the perception, or how safe potential or actual visitors feel. Although these are two professors making two independent statements, together they encapsulate the goals of CPTED, to reduce crime and the fear of crime in the built and natural environment.

The other themes identified as benefits were improved quality of life, improved maintenance, public relations & marketing, and economic improvements. The author acknowledges that all of these benefits are important individually, however, they do not need to be explained or elaborated on here, as they are self-explanatory.

Perceived costs of implementing CPTED, were also requested from the professors. The first theme identified was monetary costs. One professor stated “management needs to commit to CPTED, it is comprehensive not just an ad hoc approach, thus provide continued resources (i.e., budget).” This statement makes several good points. First, CPTED is not a onetime fix. It is an ongoing strategy that requires continued maintenance and continued resources. Second, it must be included in the budget for supplies and for man-hours. It is often argued that supporting CPTED maintenance is more cost effective in the long run, but, it is not without costs. Lastly, it requires planning, training, and implementation and all of these components transfer into man-hour and financial costs.

The next cost theme derived was problems finding qualified contractors and workers. The market drives the qualifications. If CPTED was in demand and only CPTED trained contractors were hired, then the market would respond. The next cost was time. Change does require time. It requires time for training, implementation, and the physical changes made to the park. But, it also takes time for the citizens to learn to accept that the park is safer.

Next, the costs of implementing CPTED in the academic curriculum should be addressed. The professors’ responses to the open-ended questions were along two themes. One was lack of knowledge of CPTED strategies and the second was lack of

time. Both of these overlap, so they are discussed together. Why are these themes raised by the professors? Tables 4-4 and 4-5 clearly show that the professors are aware that crime is a problem in urban parks. These professors' teach courses in park design, park maintenance, facility design, and other similar courses; therefore, park safety almost certainly is included in their class content somewhere. Urban parks such as Central Park in New York and Lincoln Park in Chicago, both receive millions of more visitors yearly than the most visited national parks (Harnik, 2010). However, crime and fear of crime in urban parks is basically ignored by most academics in the parks and recreation field who teach park management and design related courses. Even the 2011 America's Great Outdoors Recreation Plan, based on input from thousands of citizens, acknowledges that some Americans are afraid of parks because of crime (Salazar, 2011).

Referring back to the opening comments in this paper, the field, perhaps, has become too specialized and closed off from related academic disciplines. Park managers could probably learn much about managing parks from taking a class in landscape architecture, planning, or even criminology. Conversely, professors of parks and recreation could likely increase the benefits to their students from expanding their perspectives of park management. Park and recreation park management and design textbook writers are advised to expand the content in their books. Parks and recreation is a very multi-disciplinary academic subject, and professors are advised to take more of a multi-discipline approach to teaching park design related content.

This paper has addressed many issues regarding CPTED and has taken the initial steps in understanding the reasons for the lack of implementation of CPTED strategies

in park management and design curriculums. Furthermore, this paper has used the Rational Choice framework suggested by Bouffard, Exum and Collins (2010) utilizing open-ended questions and allowing individualized perceptions of costs and benefits to emerge. The researcher acknowledges that identifying the themes was crucial, but, only the first step in understanding the role that Rational Choice Theory plays in the decision making process of professors teaching in the field of parks and recreation.

Suggestions for future research would be taking the qualitative research component a step further by conducting semi-structured face to face interviews and explore these themes more in depth to gain further understanding. Additionally, seeking more information about what might be the best ways to familiarize busy academics with CPTED principles and strategies (i.e., what methods would they seek out and use (e.g., textbooks, videos, conference sessions, etc.) from those who are unaware of CPTED would be useful to know to assist in resolving at least some of the ignorance about this topic.

Table 4-1. Demographic information

Description	N	Possible Responses	Percent
Gender	55	Male	69
		Female	31
Race	50	Caucasian	92
		African American	4
		Asian	2
		Other	2
Last time you taught a class in park management, facility design, etc...	56	This year	71
		Within the last 5 years	21
		Over 5 years ago	7
What level of academic institution do you Teach	53	Research 1	26
		Research 2	23
		Teaching University	43
		Community College	0
		Other	8

Table 4-2. Professors' knowledge of CPTED

Description	N	Possible Responses	Percent
Are you familiar with Crime Prevention Through Environmental Design	63	Yes	27
		Maybe	9
		No	59
Incorporate CPTED strategies into your Classes	62	Yes	24
		No	76
Your knowledge of the scientific literature on CPTED	58	No Knowledge	57
		Poor	19
		Fair	14
		Good	2
		Very Good	5
		Excellent	2
Do other departments on your campus teach CPTED courses?	62	Yes	5
		Don't know	53
		No	42

Table 4-3. Professors' ranking of crime prevention strategies

Description	N	Mean	Standard Deviation
Removing litter within 24 hours (1 day)	59	5.50	1.40
Clear sight lines and vegetation pruned	59	5.42	0.95
Removing graffiti within 24 hours (1 day)	59	5.39	1.27
Unarmed, uniformed park rangers	59	5.15	1.19
Park Watch volunteers	59	5.15	1.19
Armed, uniformed park police with arrest authority	59	4.98	1.46
Emergency call boxes	59	4.73	1.39
Closed circuit television (CCTV)	59	4.41	1.64
Signage conveying park rules	59	3.73	1.54

Table 4-4. Perceptions of crime and fear of crime in urban parks

Description	N	Possible Responses	Percent
Believe crime in urban parks is a major Problem	63	Strongly Disagree	0
		Disagree	10
		Somewhat Disagree	14
		Neither Agree nor Disagree	8
		Somewhat Agree	24
		Agree	41
		Strongly Agree	3
Believe fear of crime in urban parks is a major problem	62	Strongly Disagree	0
		Disagree	6
		Somewhat Disagree	8
		Neither Agree nor Disagree	6
		Somewhat Agree	24
		Agree	43
		Strongly Agree	13
Reducing the fear of crime in all parks is a major priority of mine	63	Strongly Disagree	6
		Disagree	19
		Somewhat Disagree	10
		Neither Agree nor Disagree	32
		Somewhat Agree	14
		Agree	13
		Strongly Agree	6

Table 4-5. Comparison of perceived crime and fear of crime in parks

Description	N	Mean	Standard Deviation
Crime in urban parks is a major problem	63	4.83	1.43
Crime in rural parks is a major problem	63	3.86	1.35
Crime in state parks is a major problem	63	3.83	1.45
Crime in national parks is a major problem	63	3.84	1.52
Fear of crime in urban parks is a major problem	62	5.26	1.37
Fear of crime in rural parks is a major problem	63	3.84	1.49
Fear of crime in state parks is a major problem	62	3.89	1.56
Fear of crime in national parks is a major problem	62	3.79	1.60

Table 4-6. Professor initiated themes related to CPTED strategies

Benefits	Costs
Increased Park Usage Reducing Crime and the Fear of Crime Improved Quality of Life Improved Maintenance Public Relations & Marketing Economic Improvement	Monetary Cost Problems Finding Certified Workers Time
<b>In the Academic Setting</b>	<b>In the Academic Setting</b>
Valuable Management Tool Complete Understanding of Park and Facility Design Positive Effective on Crime & Crime Prevention Cost Effectiveness	Requires more knowledge Requires more time

Table 4-7. How professors learned about CPTED and teaching CPTED

How did I Learn about CPTED	N	Teach CPTED	Do Not Teach CPTED
Self-Study	4	75%	25%
This Survey	10	0%	100%
Working with Professionals	5	100%	0%
Textbook	2	100%	0%
College Class	3	66.6%	33.3%
Colleagues	2	0%	100%
Conference	4	50%	50%
Did not respond	32	3%	97%

Table 4-8. Professors teaching CPTED by institution type

Type of University	N	Teach CPTED	Do Not Teach CPTED
Research 1	14	36%	64%
Research 2	12	25%	75%
Teaching University	22	18%	82%
Other	4	25%	75%

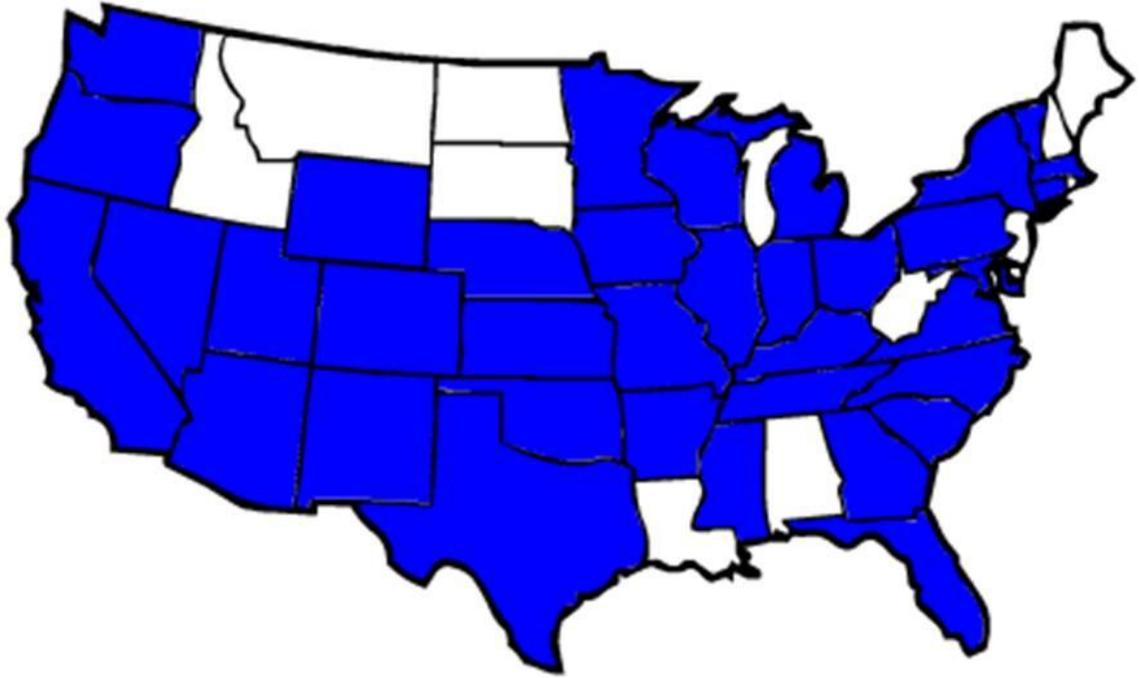


Figure 4-1. States colored in dark blue represent all the states professors were sent the survey (n=100)



## CHAPTER 5 CONCLUSIONS

At the end of the introduction chapter, five goals for this dissertation were listed. The first goal was to identify the types of crime prevention strategies being used in urban municipal parks. Previous to this dissertation, no empirical data was found related to crime prevention strategies utilized in urban municipal parks. This study identified the types of crime prevention techniques and the frequency of application of these crime prevention techniques employed in urban parks. These results will fill a gap in the literature and help direct future research in park safety enhancement. Hopefully, this will add to the body of knowledge and will be a baseline for future researchers interested in understanding how park systems are attempting to reduce crime and fear of crime in our parks. Each of strategies: addressing incivilities, uniform personnel law enforcement and non-law enforcement, closed circuit television, lighting, crime prevention through environmental design, collecting crime data, and citizen involvement could be individual areas of future research in urban park safety and crime prevention. Each of these strategies were explored for their level of use in urban parks. However, upper level park manager's perceptions of their effectiveness were not studied. This would be an additional avenue of research to address in the future.

Urban parks are a unique and a rich environment for future research. Research in the area of crime and crime prevention in urban parks has been relatively rare in the discipline of recreation and parks. Tryon and Chavez stated that a "research agenda focused on crime and violence on national forests is necessary, it is overdue, and it should be an essential part of the purpose of recreation research" (2006, p. 156). This

researcher echoes Tryon and Chavez's sentiment and suggests that the field extends crime prevention research to include all types of park and recreation areas.

The next important question that this dissertation answered is whether upper level managers of parks in larger and medium size U.S. cities believe that crime and fear of crime is a problem in their parks? The findings of this research suggest that only about a third of the upper level managers consider crime or fear of crime to be a concern. Past research in constraints and fear of crime parks indicated that citizens are concerned about crime and fear of crime (Scott & Jackson, 1996; Shores, Scott, & Floyd, 2007; McGinn et al., 2008; Loukaitous-Sideris & Eck, 2007; & Gomez et al., 2004; and Jorgensen & Anthopoulou, 2007). This discrepancy between the views of the citizens who use the parks and the upper level managers who manage the parks is missing from the literature in previous studies.

Why is this important? This study focused on the perceptions of the upper level managers of urban parks because these are the decision makers of the organization. Before an upper level park manager will take actions to address crime and fear of crime, he/she must perceive crime and fear of crime as a problem, then and only then, will he/she take actions to correct this problem.

Why do about two-thirds of the upper level managers report that they are not concerned with crime and fear of crime in their parks? Possible explanations include previous studies that suggest that people perceive their own neighborhood to be safe regardless of the actual crime levels (Paulson & Robinson, 2004). Furthermore, Brantingham, Brantingham and Butcher found high associations between high levels of fear of crime and social incivilities (such as prostitution and panhandling) as opposed to

serious crimes (1986). Citizens who use urban parks may be afraid of these social incivilities; however, upper level management may see these social incivilities as more of nuisance than a generator of fear of crime. Future research should investigate upper level managements' perception of social incivilities (such as, panhandling and prostitution) in their parks. Physical incivilities such as graffiti, litter, and vandalism have been addressed in the literature, but not from the perspective of the upper level park manager. It would be interesting to investigate how upper level park management interprets physical incivilities; as generators of fear of crime or as a nuisance or both? An extension of such a study might include a ranking or rating of the gravity of various crimes that are semi-common in parks from perspective of park managers.

Another explanation for lower percentages of park managers acknowledging crime as a problem is based on research on the effect of labeling an area as unsafe or a high crime area can have negative consequences such as lowering property values and causing people to avoid such areas (Miller, 1991; & Pyle, 1980). Therefore, upper level park managers may think they have the citizen's best interest in mind when they deny that a park has a crime problem. They may fear that by admitting to the problem, the problem will only deteriorate. This would also be an interesting proposition to investigate. Possibly, a series of questions could be asked of upper level park management if they would consider denying a crime problem to avoid the consequences associated with being labeled as a high crime area. Further research on this topic is suggested.

However, research on crime in national parks and national forests suggest that management often does not understand the extent of crime happening within their

parks. “A lack of public awareness of criminal activities and domestic terrorism on the forests reveals one communication gap. We also found that many managers we spoke to, who were not law enforcement officers or special agents, had little knowledge of the problems and were surprised at the extent of them” (Chavez & Tynon, 2000, p. 407). Although no previous research on urban park management’s knowledge of crime in their parks could be found, it is logical to assume that it may be similar to those of the national forest managers.

The next goal of this dissertation was to evaluate urban park directors’ access to information on CPTED strategies. Prior research suggested that less than half of the park directors surveyed in a statewide study of Florida municipal parks were knowledgeable of CPTED strategies (McCormick, et. al, 2010). This research supported those preliminary findings and found that 45% of the upper level managers had training in CPTED or similar crime prevention strategies. It is important to know what information is available to upper level managers and to what extent they are taking advantage of training opportunities as they make decisions about reducing crime and fear of crime in the parks they manage.

Although 45% of the upper level managers responded that they had training in CPTED or similar strategies, upon closer examination of the data, it was revealed that not all of the training was equal. The hours of training ranged from one to forty hours of training. There are also questions about the quality of training. One upper level manager reported to have completed four hours of training with the Florida Recreation and Park Association, four hours with the American Society of Landscape Architects, and four hours with their city’s certified CPTED instructor. Several upper level managers’ report

attending a one hour workshop, and others reported attending a forty hour CPTED certification program. Other managers, who reported having been trained, provided no details about the training. It is logical to speculate that they did not all receive the same level of training. Furthermore, because there is no standardized park crime prevention strategies curriculum, like there is for playground safety and aquatic facility management, the level of training the upper level managers receive appears to vary from short courses to more extensive training.

Future research should explore the number of hours of CPTED or crime prevention training that are needed to get a good level of understanding of those topics and compare that to the actual levels of training park administration and workers in the field are actually receiving. What level of crime prevention should an upper level manager have? What level should a maintenance worker have? Who should conduct the training? Should it be the National Recreation and Park Association? Should it be city government?

The next goal was to identify park directors' perceptions of the benefits and costs of implementing CPTED strategies in the parks they manage through an application of Rational Choice Theory. No previous research was found using Rational Choice Theory related to the decision making of upper level park managers. The survey utilized in this dissertation encouraged upper level managers to utilize open-ended questions to share individualized perceptions of costs and benefits to emerge. These costs and benefits were then analyzed and categorized into themes. The themes of potential benefits were: public relations & marketing; sense of pride and accomplishment; increased park usage; education; improved surveillance; economic improvements, and reducing crime

and the fear of crime. The themes of potential costs were: monetary costs; restrictions to design or loss of aesthetics; political opposition; and creating a false sense of security.

The significance of identifying these themes is that they can provide a foundation for future research addressing CPTED and using Rational Choice Theory. With the foundation of perceived benefits and costs identified here, future research can address measuring the influence that each benefit and cost can have on making the final decision to implement or not implement CPTED strategies in urban parks. One suggested direction of research would be to test these themes with face-to-face semi-structured interviews of upper level park managers. The author suggests that these themes may be useful in quantitative research designs measuring decisions to implement CPTED in municipal parks.

The next goal was to measure college professors' knowledge of CPTED strategies and their attitudes towards teaching these strategies to their students. Prior research suggests that less than 5% of the park directors surveyed in a statewide study of Florida municipal parks obtained training in CPTED from colleges or universities (McCormick, et. al, 2010). In the course of doing the present research, it was also learned that park administrators across the country report that only 14% learned about CPTED in college. It is important to know what information is available to park directors as they make decisions about reducing crime and fear of crime in the parks they manage. Another aspect explored in this dissertation was measuring college professors' perceptions of the benefits and costs of teaching CPTED strategies in the park management

curriculum and apply those findings within Rational Choice Theory to see if it assisted in understanding the results.

The majority of professors in this study (59%) responded that they were not familiar with CPTED. When asked if they incorporated CPTED strategies into their classroom, 76% responded no. When asked why they did not incorporate CPTED principles into their classroom, the most frequent response was “I have no knowledge of the subject.”

A total of 68% of the professors agreed that crime is at least somewhat of a major problem in urban parks. This seems to be more in line with what the public thinks and less in line with what the majority of urban park managers reported. Furthermore, 80% stated that fear of crime was at least somewhat of a problem in urban parks. However, when asked if reducing fear of crime was a priority of theirs, only 33% at least somewhat agreed. Why the disparity between recognition of a problem and interest in addressing it? Over two-thirds of the professors agreed that crime was a problem; even more agreed that fear of crime was a problem, but only one-third stated that they would make it a priority to do something about it.

Why do professors teach students, conduct, analyze, and then publish research? Is not at least one major reason to solve problems? Furthermore, as professors in parks and recreation, who has a better opportunity to imbed ideas that will lead to changes in parks? Professors train future park directors. Professors control the content of journal literature through the refereeing of academic journals. Professors contribute much of the content and topics at many academic and professional conferences. The apparent apathy towards working on the crime problem might be better understood if there was

ignorance of the problem, but, most professors responding to this study reported being aware of the problem. Given the lack of mention of CPTED in parks and recreation journals, textbooks and conference topics, these findings were not entirely unexpected, along with the recognition that crime and fear of crime has been generally unreported in this discipline for over 30 years; however, it is hoped that the increased awareness of potential methods to address crime in parks will lead to change.

### **Other Areas of Future Research**

Although this dissertation focused on CPTED strategies in parks, other crime prevention techniques were examined and future research ideas were derived. One area of future research is perception of crime in parks. This dissertation found a difference in the perception of crime and fear of crime between park directors (Figure 5-1) and professors teaching classes in park management and related classes (Figure 5-2). Future research should explore these differences in perceptions and try to establish a reason for the discrepancy.

Another area of future research is the use of guardians in urban parks. This dissertation found there to be only a small percent of parks using police, rangers or volunteers as guardians in the parks. Most parks did not use park police, park rangers or volunteers in any of their parks (Figure 5-3). The reductions in budgets and increase costs in park operations may account for less police and rangers; however, it would not explain the lack of using volunteers. Future research in this area is suggested.

Lastly, people need to have confidence in that they can make a change in their neighborhoods. Atlas discusses this as “community culture,” a component of second generation CPTED, as people work together to achieve a common goal (Atlas, 2008, p. 83). This second generation CPTED strives to merge the environmental components of

first generation CPTED together with the social components of social cohesion, connectivity, community culture, and threshold capacity (Atlas, 2008, p. 81). Essentially, people have to care about their community and they have to want to make a difference in their community. According to the data collected in the dissertation, the theme of sense of pride and accomplishment provides support that CPTED is helping to bring about a sense of community and a sense of accomplishment in some parks. Future research in this area is suggested.

### **Limitations**

One of the limitations was a poorly worded question on the survey utilized in chapter two. The intention of the question was to measure the number of cities who kept their parks open 24 hours a day. This would be accomplished by providing lights during the night time hours. The researcher posed the question, in what percentage of your parks do you leave the lights on at night to encourage use. The question was followed up with the opposite question, what percentage of your parks do you turn the lights off at night to discourage night time use. In analyzing the data, the researcher speculates that he may have confused the participants with these questions. In future research, the researcher suggests that the questions are reworded to ask in how many of your parks do you leave the lights on to encourage 24 hour usage of the park. The next question should be reworded to ask what percentage of your parks are kept completely dark to discourage night time use. In addition, in the future, there should be more specificity related to lighting as it applies to sport fields, non-sport open areas and urban wildlife areas.

A limitation of the survey of university professors was limiting the sample to professors who taught in park design, park maintenance, and facility operations type

courses. It is possible that professors who teach risk management courses, and possibly other courses, could teach CPTED or similar crime prevention strategies in their courses. The first question on the web-based survey asked if they taught a park maintenance related course. If the response was no, they were excluded from the survey. Furthermore, when assembling the professors' sample frame, volunteers who taught park design, park maintenance, and facility operations type courses were asked to reply. Professors who taught risk management or camp administration courses were not invited to participate. This was an oversight and this researcher suggests that future research in crime prevention strategies include a wider variety of academic respondents.

Upon further consideration, it may have also been ill advised to have attempted to categorize recreation professors in the first place. A professor may teach crime prevention strategies for parks in an introductory class, a current trends class, or even in a philosophy class. Crime prevention strategies could be taught in a number of parks, recreation, tourism, or sport management courses. In trying to be specific in narrowing the sample, some professors who taught CPTED related strategies may have been inadvertently excluded. For future research, it is suggested that a random sample of all recreation, tourism, and sport management professors be surveyed.

### **Final Thoughts**

This dissertation addressed many issues regarding CPTED and has taken the initial steps in understanding the reasons for the lack of implementation of CPTED strategies in park management and design curriculums and in urban parks. Furthermore, this dissertation used the Rational Choice framework suggested by Bouffard, Exum and Collins (2010), utilizing open-ended questions and allowing

individualized perceptions of costs and benefits to emerge. The researcher acknowledges that identifying the themes was crucial, but, only the first step in understanding the role that Rational Choice Theory plays in the decision making process of professors teaching in the field of parks and recreation and park managers managing urban parks. Suggestions for future research would be taking the qualitative research component a step further by conducting semi-structured face to face interviews and exploring these themes more in depth to gain further understanding.

The fact that the 2011 America's Great Outdoors Recreation Plan (Salazar, 2011), based on input from thousands of citizens, acknowledges that some Americans are afraid of parks because of crime and fear of crime is encouraging to the belief that this topic may now receive more attention. The field may be ready for a crime and fear of crime in parks and recreation areas research agenda, and some of the ideas presented above for future research could guide that agenda.

In conclusion, this dissertation has identified many of the strategies employed in urban parks to reduce crime and fear of crime. Furthermore, the research also quantified the implementation of these crime prevention strategies. Neither the strategies nor the level of implementation of these strategies were found in the literature. Next the research identified themes relating to the perceived benefits and costs of implementing CPTED strategies in urban parks. The Rational Choice framework suggested by Bouffard, Exum and Collins (2010) to illuminate individualized perceptions of costs and benefits of crime prevention strategies was applied. Then, the same process was repeated surveying professors who taught park management, park design, facility management or similar type courses. Themes of perceived costs and

benefits for both groups were identified and this information will be valuable to understanding why upper level park managers and professors choose to use or not to use CPTED in their professions.

A prime purpose of park and recreation areas is to facilitate the ability of citizens and tourists to enjoy life, connect with their families, friends and neighbors, pursue exercise, allow children to play and strengthen and explore their abilities, physical and mental, and to add to the quality of life overall; especially in urban areas where opportunities to pursue such endeavors outdoors are typically limited. Crime and fear of crime act as a constraint and impediment to achieving such ambitions. It is hoped that the information uncovered and reported in this dissertation will contribute to the training of future and current park managers to reduce opportunities for parks to be used as settings for crime and to increase the opportunities of the public to fully enjoy the heritage of natural and developed recreation areas that city leaders and park and recreation advocates have lobbied for across the centuries.

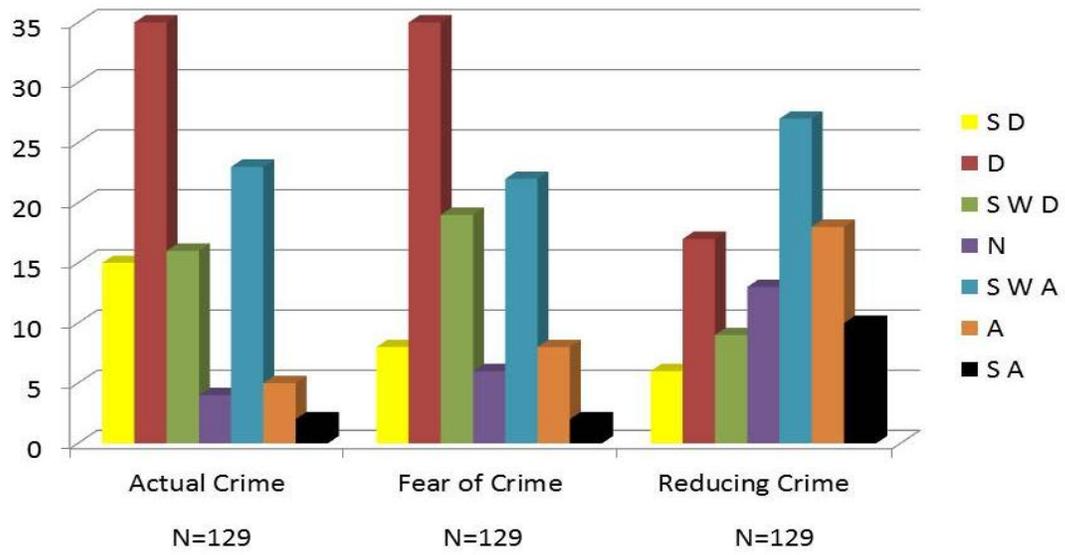


Figure 5-1. Park directors' perceptions of crime and fear of crime. Scale from strongly disagree (SD) to strongly agree (SA).

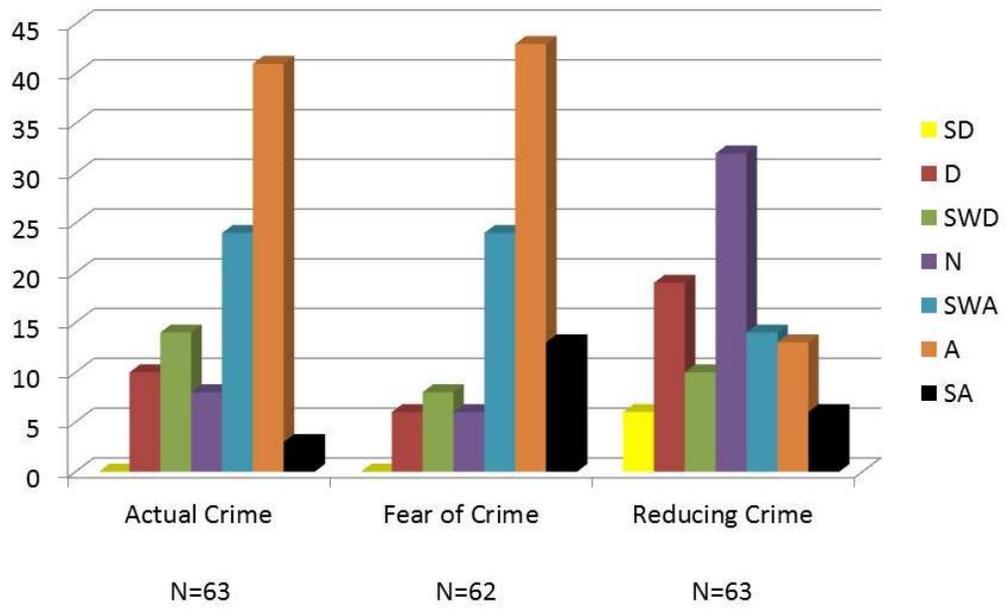


Figure 5-2. Professors' perceptions of crime and fear of crime. Scale from strongly disagree (SD) to strongly agree (SA).

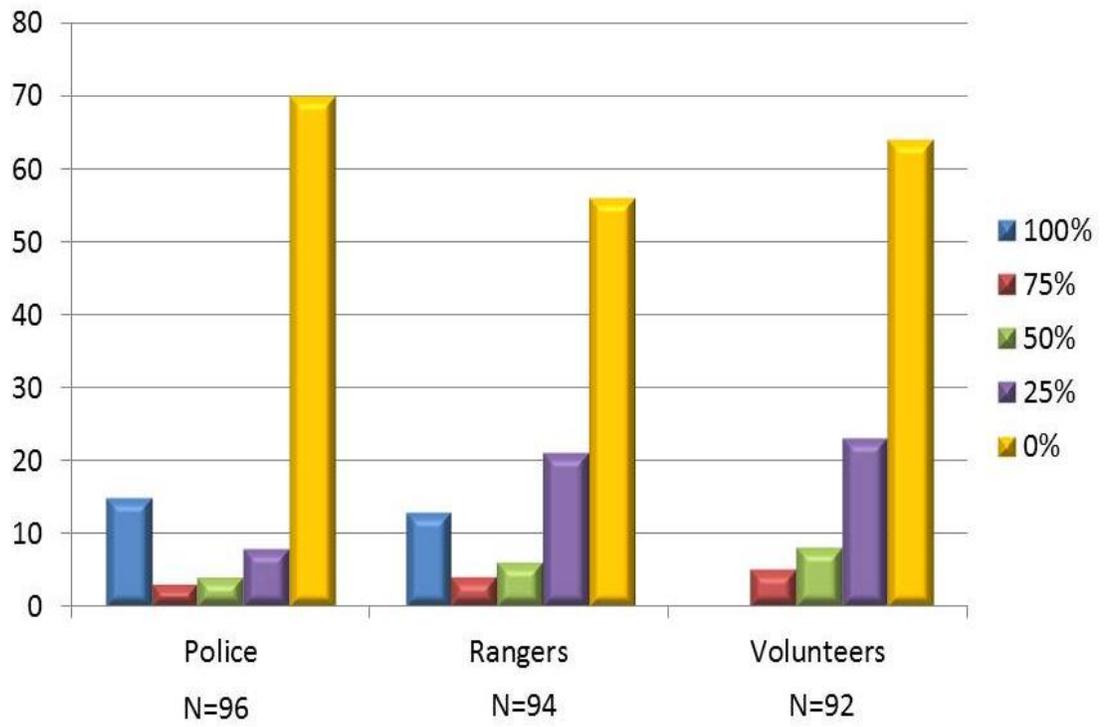


Figure 5-3. Use of guardians in the parks.

APPENDIX A  
PRETEST OF INSTRUMENT USING CRONBACH'S ALPHA

**Case Processing Summary**

		N	%
Cases	Valid	82	90.1
	Excluded(a)	9	9.9
	Total	91	100.0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.810	.825	20

**Item Statistics**

	Mean	Std. Deviation	N
SIGNS	10.2439	1.73960	82
OWNERSHI	9.5854	2.55290	82
RULES	8.5366	2.57814	82
MAPS	3.0732	3.03388	82
SECLUDED	2.4268	2.84162	82
ENTERANC	5.9512	3.55869	82
RESTROOM	7.4024	2.59563	82
STAFFRR	4.9756	3.24313	82
PGROUND	7.1829	2.48516	82
STAFFPG	4.5488	3.02725	82
BENCH	9.5488	2.17251	82
BENCHPG	8.2683	2.91886	82
BENCHDV	2.9390	2.84300	82
SHRUB24	6.5366	3.39642	82
TREE7FT	8.6585	2.64444	82
PATHWAY	6.9390	3.26730	82
PARKLOT	7.6098	3.34353	82
TRAIL10FT	5.9146	4.08007	82
TRASH	10.0732	1.83774	82
GRAFFITI	9.9512	2.10761	82

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SIGNS	130.1220	674.923	.399	.623	.802
OWNERSHI	130.7805	671.309	.273	.535	.807
RULES	131.8293	679.650	.206	.290	.810
MAPS	137.2927	674.432	.193	.307	.812
SECLUDED	137.9390	697.638	.055	.224	.818
ENTERANC	134.4146	641.382	.333	.248	.805
RESTROOM	132.9634	658.530	.366	.502	.802
STAFFRR	135.3902	662.908	.243	.747	.810
PGROUND	133.1829	648.299	.470	.601	.797
STAFFPG	135.8171	657.608	.304	.802	.806
BENCH	130.8171	647.978	.554	.693	.795
BENCHPG	132.0976	618.410	.600	.679	.789
BENCHDV	137.4268	673.655	.219	.180	.810
SHRUB24	133.8293	623.526	.465	.439	.796
TREE7FT	131.7073	627.543	.600	.633	.790
PATHWAY	133.4268	604.445	.615	.690	.786
PARKLOT	132.7561	611.915	.549	.656	.790
TRAIL10FT	134.4512	635.140	.302	.398	.809
TRASH	130.2927	653.074	.613	.594	.794
GRAFFITI	130.4146	654.320	.512	.606	.797

APPENDIX B  
PARK DIRECTOR SURVEY

The actual occurrence of crime in the parks that you manage is a major problem.

Strongly Disagree      Disagree      Somewhat Disagree      Neither Agree nor Disagree      Somewhat Agree      Agree      Strongly Agree

Fear of crime in parks that you manage is a major problem.

Strongly Disagree      Disagree      Somewhat Disagree      Neither Agree nor Disagree      Somewhat Agree      Agree      Strongly Agree

Reducing the fear of crime in parks that you manage is a major priority.

Strongly Disagree      Disagree      Somewhat Disagree      Neither Agree nor Disagree      Somewhat Agree      Agree      Strongly Agree

Have you received any specialized training in modifying the environment to prevent crime? (Any of the these listed: Crime Prevention Through Environmental Design (CPTED), Secure By Design, Defensible Space, Environmental Criminology, or other).

Yes                      No

Please tell us who provided the training (note, if training was given by more than one source, please check all that apply).

NRPA              College or              State NRPA              Law              Private Course or              Other  
Workshop or      University              Affiliate              Enforcement              Private              Other  
Conference      courses                                      Agency              Instructor/Consultant

If you selected other, please describe the training. Who conducted it?

How many hours of training did you receive?

Have any members of your agency received any specialized training in modifying the environment to prevent crime? (Any of the trainings listed here: Crime Prevention Through Environmental Design (CPTED), Secure By Design, Defensible Space, Environmental Criminology, or other).

Yes                      No

Please tell us who provided the training for your staff (note, if training was given by more than one source, please check all that apply).

NRPA Workshop or Conference	College or University courses	State NRPA Affiliate	Law Enforcement Agency	Private Course or Private Instructor/Consultant	Other
-----------------------------------	-------------------------------------	-------------------------	------------------------------	---	-------

If you selected other, please describe the training. Who conducted it?

How many hours of training did they receive?

(This question was asked only to those who marked yes on - Have you received any specialized training in modifying the environment to prevent crime?) Would you be interested in additional training in Crime Prevention Through Environmental Design (CPTED) for yourself?

Definitely not      Probably not      Maybe      Probably yes      Definitely yes

(This question was asked only to those who marked no on - Have you received any specialized training in modifying the environment to prevent crime?) Would you be interested in training in Crime Prevention Through Environmental Design (CPTED) for yourself?

Definitely not      Probably not      Maybe      Probably yes      Definitely yes

(This question was asked only to those who marked yes on - Have any members of your agency received any specialized training in modifying the environment to prevent crime?) Would you be interested in additional training in Crime Prevention Through Environmental Design (CPTED) for your staff?

Definitely not      Probably not      Maybe      Probably yes      Definitely yes

(This question was asked only to those who marked no on - Have any members of your agency received any specialized training in modifying the environment to prevent crime?) Would you be interested in a training program in Crime Prevention Through Environmental Design (CPTED) for your staff?

Definitely not      Probably not      Maybe      Probably yes      Definitely yes

What percentage of your parks have armed uniformed park police officers with authority to make arrests patrolling the park? (Park Police not City, County, or State Police)

0%      10%      20%      30%      40%      50%      60%      70%      80%      90%      100%

What percentage of your parks have unarmed uniformed park rangers who can contact the police if needed?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have organized volunteer observers (i.e. "Park Watch" volunteers)?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have closed circuit television cameras (CCTV) recording areas of the park?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have emergency call boxes?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have signage?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have signage that clearly conveys who maintains the park?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks has signage that clearly conveys the park rules?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have maps that provide users with a sense of where they are and where they can go?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Do you have trails in your park that will take park users into secluded areas?

Yes No

Of the parks that have trails with secluded areas, what percentage of parks have signage or maps that informs users if they are going to enter a secluded area?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have benches?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks have benches with seat dividers which discourage sleeping or skateboarding?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks do your maintenance crews maintain low ground-cover and shrubbery at a maximum of 24 to 36 inches in height to facilitate clear sight lines and reduce potential hiding spots?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks do your maintenance crews maintain high canopied trees branches clean trimmed to a height of at least seven feet to facilitate clear sight lines and reduce potential hiding spots?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks actually have lights?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks do you turn the lights on at night to encourage night time use?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks do you keep dark at night to discourage use?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What are your thoughts on providing lights for night time usage of parks?

What percentage of your parks empty trash receptacles before they overflow?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks can you honestly say have no problem with litter?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

What percentage of your parks can you honestly say have no problem with graffiti?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

On average, what is the time frame from graffiti being reported to removal in your parks?

24 hrs	48 hrs	3-5 days	6-14 days	15-31 days	1-2 months	3-4 months	5-6 months	7-12 months	More than 12 months
--------	--------	----------	-----------	------------	------------	------------	------------	-------------	---------------------

Does your park have a written graffiti policy?

Yes	No	I do not know
-----	----	---------------

Does your staff collect data on the types of crimes that occur in your parks?

Yes	No	I do not know
-----	----	---------------

Is this information about the type of crime available to the public?

Yes	No	I do not know
-----	----	---------------

Does your staff collect data on the locations of crimes in your parks?

Yes	No	I do not know
-----	----	---------------

Is this information about the location of the crimes available to the public?

Yes	No	I do not know
-----	----	---------------

What other ways do you receive feedback or suggestions from your park users?

Do your parks have citizen's safety committees?

Yes	No	I do not know
-----	----	---------------

Are these citizen safety committees made up of residents who live in the immediate vicinity of the parks they server as members?

Yes	No
-----	----

Do you have a city-wide "friends of the park" organization?

Yes	No	I do not know
-----	----	---------------

How often does a member of your staff do systematic face to face interviews with park users to ensure that the users are having a good experience?

Never      Less than  
Once a      Once a      2-3 Times      Every      Every      Daily  
Year      Year      a Year      Month      Week

Do you know on a park-by-park basis your ratio of male to female users?

Yes      No

What is the park-by-park ratio of male to female users?

What are all of benefits or advantages you can think of from using Crime Prevention Through Environmental Design (CPTED) to reduce fear of crime in your parks?  
(Please describe all that come to mind.)

What are all of cost or disadvantages you can think of from using Crime Prevention Through Environmental Design (CPTED) to reduce fear of crime in your parks?  
(Please describe all that come to mind.)

What do you think is the most effective method of reducing fear of crime in your parks?

What do you think is the most cost effective method of reducing fear of crime in your parks?

What is your age?

What is your race / ethnic background?

What is your gender?

Male      Female

What is your highest level of education?

High School      Some college      Associate      Bachelor      Master's      Doctorate  
or GED      but no degree      Degree      Degree      Degree

Counting this year as a full year, how many years have you worked in your current position?

What is the total estimated acreage of your park system?

What is the estimated population of the community your agency serves?

What is your job title?

Name of City and State (For statistical purposes only, no cities will be associated with your responses, all information is confidential.)

Is there anything that you would like to tell us that was not covered in the questions listed above?

APPENDIX C  
PROFESSOR SURVEY

Do you currently or have you in the past, taught undergraduate or graduate level courses in park maintenance, park design, facility maintenance or design, park management, facility management, or similar course?

Yes                      No

I believe that crime in urban parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that crime in rural parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that crime in state parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that crime in national parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that fear of crime in urban parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that the fear of crime in rural parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
----------------------	----------	----------------------	----------------------------------	-------------------	-------	-------------------

I believe that the fear of crime in state parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
-------------------	----------	-------------------	----------------------------	----------------	-------	----------------

I believe that the fear of crime in national parks is a major problem.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
-------------------	----------	-------------------	----------------------------	----------------	-------	----------------

Reducing the fear of crime in all parks is a major priority of mine.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
-------------------	----------	-------------------	----------------------------	----------------	-------	----------------

Are you familiar with Crime Prevention Through Environmental Design (CPTED)?

Yes	No	Maybe
-----	----	-------

How did you first learn about CPTED? (A class in recreation? A class in another department? A conference? Self-study?)

Do you incorporate CPTED strategies into your classes on park design, park maintenance, etc...?

Yes	No
-----	----

About how many hours of CPTED principles do you incorporate into your classes?

What is the name of the class or classes that you incorporate CPTED principles into?

Do you include field trips to parks to look at CPTED design principles?

Yes	No
-----	----

Why do you choose not to incorporate CPTED in your design / management courses?

Why do you choose to incorporate CPTED in your design / management courses?

Do you teach a course just on crime prevention?

Yes	No
-----	----

What is the title of this course just on crime prevention?

How would you rate the quality of the scientific literature on CPTED?

Very bad    Bad    Poor    Neither good or bad    Fair    Good    Very good

How would you rate your knowledge of the scientific literature on CPTED?

No knowledge    Poor    Fair    Good    Very good    Excellent    Extremely knowledgeable

How effective is CPTED?

Very Ineffective    Ineffective    Somewhat Ineffective    Neither Effective nor Ineffective    Somewhat Effective    Effective    Very Effective

Do other departments on your campus teach CPTED courses?

Yes    No    I do not know

These courses offered in other departments in CPTED are \_\_\_\_\_ in your degree recommended curriculum.

Required    An Elective    Not listed as an Elective

What was the title of the last class you taught on park management, park design, facility planning, etc...?

I believe that armed uniformed park law enforcement officers with authority to make arrest are a very effective way to reduce fear of crime in parks.

Strongly Disagree    Disagree    Somewhat Disagree    Neither Agree nor Disagree    Somewhat Agree    Agree    Strongly Agree

I believe that unarmed, uniformed park rangers who can contact the police if needed, patrolling the park are a very effective way to reduce fear of crime in parks.

Strongly Disagree    Disagree    Somewhat Disagree    Neither Agree nor Disagree    Somewhat Agree    Agree    Strongly Agree

I believe that having closed circuit television cameras (CCTV) recording areas of the park is a very effective way of reducing fear of crime in parks.

Strongly Disagree    Disagree    Somewhat Disagree    Neither Agree nor Disagree    Somewhat Agree    Agree    Strongly Agree

I believe that having organized volunteer observers (i.e. "Park Watch" volunteers) is a very effective way to reduce fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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I believe that having emergency call boxes is a very effective way of reducing fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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I believe that having signage that clearly conveys the park rules is a very effective way of reducing fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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I believe that having clear sight lines and vegetation pruned to reduce hiding places is a very effective way of reducing fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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I believe that removing graffiti within 24 hours (1 day) of discovering it is a very effective way of reducing fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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I believe that removing litter and trash within 24 hours (1 day) of discovering it is a very effective way of reducing fear of crime in parks.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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Is there anything that you would like to tell us that was not covered in the questions listed above?

What is your race / ethnic background?

What is your gender?

Counting this year as a full year, how many years have you taught college classes?

What is your age?

How is your department classified? (For example - Tourism, Recreation & Sport Mgt; Forestry; Kinesiology; Urban Planning; Natural Resource Management; etc...)

When was the last time you taught a class on park management, park design, facility planning, etc...?

This year

Within the last 5 years

Over 5 years ago

What level of academic institution do you teach at?

Research 1

Research 2

Teaching University

Community College

Other

How many courses do you normally teach in a nine-month academic year?

Name of College / University and State?

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## BIOGRAPHICAL SKETCH

Joel McCormick attended Appomattox County High School, in Appomattox, Virginia. In 1989, he joined the United States Navy and served in Operation Desert Storm aboard the USS Dwight D. Eisenhower CVN-69. After an honorable discharge in 1993, he enrolled at Christopher Newport University in Newport News, Virginia and pursued a double major in Psychology and Philosophy. During the summers of 1996, 1997, and 1998 he worked at the National Boy Scouts of America's High Adventure Sea Base in the Florida Keys. It was these experiences that influenced Joel to pursue a graduate degree in recreation and parks. In the fall of 1998, Joel attended George Williams College of Aurora University and completed a Master of Administration of Recreation in 1999. Joel started a job working with adjudicated teen males at a residential group home in Lynchburg, Virginia. He then progressed to the facility manager position with the Parks and Recreation Department in the City of Lynchburg, Virginia. While working full time, Joel attended Longwood University part time and completed a second Master of Science in Sociology, with an emphasis in Criminal Justice in December of 2006. Joel's work with youth-at-risk and with park management helped in shaping his interest in crime prevention. In July 2007, he entered the Natural Resource Recreation Ph.D. program in the College of Health and Human Performance at The University of Florida.