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Towards Safe Cities & Resilient Communities

13 & 14 SEPTEMBER 2018

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FEAR OF CRIME IN URBAN PARKS BASED ON DIFFERENT LEVELS OF CONCEALMENT, INCIVILITIES AND HUMAN PRESENCE

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Abstract **-** This study examined the effects of concealment, incivilities and presence or absence of people recreating (social cues) on evoking fear of crime in urban parks of Kuala Lumpur. 669 respondents from five parks rated their fear of crime to 12 manipulated photographic representations of a park trail. These results suggest that social and environmental cues may jointly affect fear experiences. From this study the photo with high concealment, with disorder and without people rated the most feared (M=5.86; SD = 1.345) and the photo with low concealment, without disorder and with the presence of people considered the least feared (M=1.85; SD= 1.327). As the level of concealment increases the mean value of fear of crime does increase. This is true either with or without the presence of people or with and without the presence of disorder. It also shows that photos under the condition without people but with the presence of disorder scored the highest mean value compared to other conditions. This shows that the presence of disorder with the absence of people evokes more fear than those photos without the presence of people and disorder. Contrarily, as the level of concealment increases, photos under the condition with people but without the presence of disorder scored the lowest level of fear.

Keywords **-** Urban green spaces, Prospect and Refuge Theory, Urban Forest, Manipulated photographs, Kuala Lumpur

1 INTRODUCTION

In an urbanized society today, the development of urban green spaces has become an integral entity in any urban city planning. Many are willing to pay significantly more to live near green spaces (Martin, Warren and Kinzig, 2004) because of the enormous benefits gained by the people in terms of health and well-being (Hartig, et al., 2003; Chiesura, 2004), facilitate social cohesion (Peters, Elands and Buijs, 2010; Ka´zmierczak, 2013) and social contacts (Kuo et al., 1998) and enable to do certain physical activities (Arnberger, 2006; Wilhelm-Stanis, Schneider and Pereira, 2010).

Although the benefits of green spaces are usually stressed, green spaces provide some form of disservices (Lyytimäki et al., 2008). These include for example encounters with physical danger (e.g., bad weather, poisonous animals) which may evoke strong fears or other negative emotions in wild environments (Ulrich, 1993; Bixler and Floyd, 1997; van den Berg and ter Heijne, 2005), crowding perceptions (Arnberger and Haider, 2005) and conflicts between activity groups between walkers and bicyclists (Moore, Scott and Graefe, 1998; Cessford, 2003; Arnberger, 2006). Though several studies have examined the negative emotions, particularly regarding social dangers (e.g. fear of crime) occurring in urban green spaces such as parks. Many previous studies on fear of crime have been conducted in university campuses (e.g. Shaffer and Anderson, 1985; Fisher and Nasar, 1992; Fisher and May, 2009; Andrew and Gatersleben, 2010) and residential neighbourhoods (e.g. Glaser, 1994; Burgess, 1996; Coles and Bussey, 2000). Furthermore, most of these previous studies included only students' perceptions towards safety, risk or threat. In the present article, 'fear of crime' is used

in a wider sense, referring to the emotion experienced (e.g., perceived safety, perceived risk, perceived threat) rather than the actual crime, risk, safety, or security.

There are several cues which could evoke fear of crime in urban green spaces (e.g. physical and social cues). Previous studies have often focused on the physical cues or environmental attributes such as vegetation (e.g. hedges, bushes, trees) which provides concealment for perpetrators (e.g. Fisher and Nasar, 1992; Jorgensen, Hitchmough and Calvert, 2002; see for a review Sreetheran and Konijnendijk, 2014), less open view or lower prospect (Nasar and Jones, 1997; Kuo, Bacaicoa and Sullivan, 1998; Jorgensen, Hitchmough and Calvert, 2002), non-appearance of escape routes (Fisher and Nasar, 1992; Madge, 1997; Andrews and Gatersleben; 2010) or even low lighting or dark areas (Nasar, Fisher, and Grannis, 1993; Loewen, Steel, and Suedfeld, 1993; Nasar and Jones, 1997). In this sense, Grof and McCord (2011) noted that perpetrators are attracted because parks have dense foliage and poor lighting that may reduce natural surveillance.

According to Fisher and Nasar's (1992) general typology, individuals always judge the safety of their surrounding environment based on the level of prospect and refuge. An environment which offers little prospect would foster a higher level of refuge for potential perpetrators and this would evoke a higher degree of fear amongst individuals and vice-versa. Fisher and Nasar (1992) argue that if the surrounding environment affords the individual a high degree of visibility and minimal concealment for potential perpetrators, then the individual could evaluate the surrounding environment or even avoid any potential attack. Both Hassinger (1985) and Warr (1990) also have shown that an individual's level of fear is directly correlated to the number of hiding places within an environment. In a park setting, fear of crime could be evoked when overgrown shrubs or hedges or lower tree branches blocked the view of users particularly along the trails. The over-grown or dense, unmaintained or poorly arranged vegetation in urban green spaces also creates non-appearance of escape routes for the individuals. According to Archea's (1985) access-exposure model, the appearance of escape routes is important in an individual's perception of safety about their surrounding environment.

Parks are also perceived as risky when sites are more densely vegetated, particularly when the vegetation is not maintained (Schroeder, 1989; Michael and Hull, 1994) and crime is often cited as a reason to avoid densely wooded areas (Talbot and Kaplan, 1984). Densely wooded areas have consistently been associated with fear. Work by Schroeder and Anderson (1984) showed that individuals felt most vulnerable in densely forested areas and safest in open, moved areas. In another study examining fear of crime in a university campus, the results showed dense undergrowth that reduced views into areas where criminals might hide were associated with fear of crime (Nasar and Fisher, 1993). Fear of crime is higher where vegetation blocks views (Fisher and Nasar, 1992; Kuo, Bacaicoa and Sullivan, 1998; Michael and Null, 1994).

However, this does not mean that parks always invite crime. A well maintained grassy area certainly does not block views; widely spaced, high-canopy trees have minimal effect on visibility; and flowers and low growing shrubs seem unlikely to provide cover for criminal activities (Kuo and Sullivan, 2001). In other words, whenever vegetation blocks views, fear of crime is higher (Fisher and Nasar, 1992; Kuo, Bacaicoa and Sullivan, 1998; Michael and Hull, 1994). From the above studies it can be derived that dense vegetation provides potential cover for criminal activities, possibly increasing the likelihood of crime and certainly increasing the fear of crime. Large shrubs, underbrush and dense woods all substantially diminish visibility and therefore are capable of supporting criminal activity (Kuo and Sullivan, 2001). This shows that not all type of vegetation blocks view. However, in contrast, there are also studies that have shown that vegetation can deter crime. Nasar (1982), for example, found that higher levels of vegetation were associated with less fear of crime. Another study using resident drawings found that properties appeared safer when trees and shrubs were included than when they were not (Brower, Dockett and Taylor, 1983).

In green areas such as parks, light is also important where darkness leads to avoidance, and consequently empty parks (e.g. Dunnett, Swanwick and Woolley, 2002). According to a study by Loewen et al. (2003) in Canada, light was among the environmental features which was mentioned most frequently among the respondents when they were asked as to what features of the environment

contributed to making them feeling safe in relation to crime. This is because park lighting of fields and walkways can increase the ability for natural surveillance for both park users and those immediately outside the park (Grof and McCord, 2011). Indeed a systematic review study by Welsh and Farrington (2009) found that nine out of 13 studies showed a positive impact on lighting in relation to safety, whereas the remaining four studies showed no effect.

Others include the presence of physical incivilities or disorder such as vandalism, graffiti littering (e.g. broken bottles, trash) or lack of maintenance in urban green spaces. Such signs are often regarded as having a negative impact on safety in public spaces such as parks (Burgess, Harrison and Limb, 1988), as illustrated by the quote "Where there's sand at the park, I don't like to go there because of the needles" (girl aged 8; Castonguay and Jutras, 2009, p. 106). Other signs of incivilities such as dirty toilets in Japanese greenways were also considered a fearful sight by the users towards crime (Yokohari, Amemiya and Amati, 2006). Grass maintenance has positive effects on resident's sense of safety; images showing well-maintained grass were given significantly higher rating than images showing grass in its existing condition (Kuo, Bacaicoa and Sullivan, 1998). Perceived disorder by an individual typically increases with observed disorder (Sampson and Raudenbush, 1999). Consequently, signs of disorder compromise the perceived livability of an area, and inspire fear of crime (Perkins, Meeks and Taylor, 1992; Perkins and Taylor, 1996; Skogan, 1990; Taylor, 1997, 1999). Constance care or maintenance in urban green spaces (e.g. urban park) may alter the environment and increase the perception of safety among the individuals through removal of signs of physical disorder.

The perceived safety in parks does not relate to the risk of being a victim of crime per se but to the presence of certain illegitimate groups of people such as loitering youths, rowdy behavior, public drunkenness, drug sales and prostitution (Groff and McCord, 2011). This presence of illegitimate people or social cues may evoke fear of crime among the people. For example, the threat (e.g. for sexual violence) of strangers loitering played a key role in deterring women from using parks in Leicester, UK (Madge, 1997). This was also noted in the small Norwegian neighbourhood forest of Buttekvernskogen, where women generally expressed fear of rape and assault by men and gang of youths loitering (Skår, 2010). Besides adult females, parents were also concerned about the personal safety of the children along the Chicago River corridor (urban greenway) which was considered as a hang-out for youth gangs engaged in criminal activity, a place for drinking and drug use and as habitat for the homeless (Gobster and Westphal, 2004).

The aim of this study was to examine the effects of environmental (concealment and disorder) and social cues (presence or absence of people recreating) on perceived fear of crime among urban parks users in the context of Kuala Lumpur, Malaysia, using manipulated photographs. Tough a similar study was conducted by Jorgensen, Ellis and Ruddell (2013) in Salt Lake City, USA, this study investigated fear of crime ratings of park scenes by women and men by only taking into account the level of concealment as environmental cues and presence or absence of people recreating as social cues with gender. However, in this study, apart from the level of concealment and presence or absence of people the authors have included disorder as an additional environmental cue.

As mentioned above, only few studies on fear of crime in urban green space have been conducted in this part of the world. Though fear of crime has gained much attention in the West, only limited number of studies investigated fear of crime in non-Western countries (Adu-Mireku, 2002; Dammert and Malone, 2006; Hwang, 2006; Johnson, 2006; Karakus, McGarrell and Basibuyuk, 2010). This is problematic, as cross-cultural understanding of fear of crime is important, and most of the research from Western countries is probably not easily transferable (Adu-Mireku, 2002; Dammert and Malone, 2006; Johnson, 2006). Consequently, the validity of existing fear of crime models (e.g., vulnerability hypotheses) and related findings is questionable, as current knowledge may be limited or even biased (Adu-Mireku, 2002). It is therefore seen as timely to study fear of crime or perceived fear of crime from an Asian perspective by looking into different demographic characteristics.

To the authors knowledge this is the first time a series of manipulated photographs have been used as stimuli to test the perceived fear of crime based on different levels of concealment (e.g. vegetation density), physical disorder (e.g. present of trash, vandalism) and present of people along a

trail in a park. Therefore, the authors hypothesised that the presence of high concealment, signs of disorder and the absence of other people along a trail in an urban park would evoke fear of crime. Moreover, the authors also hypothesised that the sign of disorder has greater impact than the absence of people in evoking fear of crime.

2 METHODOLOGY

2.1 Study Site

This study was conducted in five selected urban parks in the city of Kuala Lumpur, Malaysia. Kuala Lumpur is located about 3°08'N and 101°44'E and covers an area of 243 km2. Based on sources from Department of Statistics Malaysia (2010) the population for Kuala Lumpur in 2010 was 1.6 million people which consists of three main races; Malay, Chinese and Indians. As for the choice of urban parks selection in Kuala Lumpur it was based on the definition of urban parks given by the Planning Standards for open space and recreation. A brief description for each of these urban parks was presented in Table 1.

Table 1 Brief description of the study sites.

No.	Urban park	Photo of the urban park	Park Description
1	Taman Tasik Perdana		Year: 1892 Size: 92 hectares Character: The oldest public park in Kuala Lumpur. Created from former mining land. Highly maintained area. Surrounded by privately owned houses and government offices.
2	Taman Tasik Titiwangsa		Year: Size: Character: Created from former mining land. Highly used by active users. Surrounded by privately owned houses, government offices and embassies.
3	Taman Tasik Permaisuri		Year: Size: Character: Created from former mining land. Highly used by active users. Surrounded by several housing estates and also a public hospital.
4	Taman Tasik Metropolitan Batu		Year Size: Character: Created from former mining land. Surrounded by several housing estates. Not frequently used by park users because of the remote location.

5	Taman Tasik Metropolitan Kepong		Year: Size: 127 hectares Character: Created from former mining land. Highly used by active and passive users. A famous location for kite flying. Surrounded by several housing estates and populated mainly by the Chinese community.

2.2 Sample

A random sample consisting of urban park users was collected in the five parks in Kuala Lumpur. The sample consists of adults of both gender aged 18 and above which consists of the three main ethnic groups (e.g. Malay, Chinese and Indians). Children were excluded from the survey, as it is reasonable to assume that their perception is different and requires a different method of assessment. The respondents consisted of 669 urban park users (365 men, 304 female) aged between 18 and 73 years (M= 34.85, SD = 11.46). The first author recruited respondents composed of three main ethnic groups in Malaysia; Malays (n= 376), Chinese (n = 163) and Indians (n = 130). The respondents represented a broad range of occupations, including: 19.3% civil servant, 35.1% private sector employee, 11.5% self-employed, 0.7% pensioners, 16.6% students and 16.4% unemployed. The respondents were interviewed in five selected urban parks in Kuala Lumpur. Children were excluded from the survey, as it is reasonable to assume that their perception is different and needs different methods of assessment.

2.3 Survey Instrument

The questionnaire a set of 12 manipulated photographs of an urban park setting that systematically varied in terms of concealment (low/medium/high), present of physical disorder (present/absent) and the presence of people recreating (present/absent). Each of the created photos was printed in an A4 size and was arranged in a folder file to be shown to the respondents during the survey.

These questions were followed by open-ended questions to collect verbal descriptions of the photos. In addition, if the open-ended responses were used with the rating scales, these could provide valuable information that is not commonly incorporated into a quantitative method approach. The respondents were required to select one photo where they felt no fear at all/feared the least and one photo where they feared the most. Based on these two photos they were required to give reasons for their selections. For the photo which they feared the most, the respondents were also required to suggest how to improve the scene of the particular photograph in order to reduce the fear of crime. The last section of the questionnaire contained demographic information of the respondents, concerning gender, age, ethnicity, level of education and occupation were included.

2.4 Stimuli (Photo Manipulation)

A set of 12 manipulated photographs was created using Adobe® Photoshop® Elements 10. The final set of photographs was prepared using photographs of the various elements they contained (e.g. vegetation, people, trash etc.), which were then manipulated using the software and superimposed on a base photo. All the photographs were taken by the first author. Among the elements applied in developing the photographs were various types of vegetation (e.g. shrubs, trees), physical disorder (e.g. trash, broken glasses, unmaintained vegetation and vandalism) and people (e.g. people in the park). When the subsequent photographs of the original were superimposed, all these elements ensured that the elements used in the study all contained a subspace of approximately the same dimensions and that when vegetation, physical disorders and people were superimposed it was realistic in terms of perspective. A final set of 12 manipulated photographs was prepared in the following matrix 3 (concealment: high/medium/low) x 2 (presence of physical disorder: present/absent) x 2 (presence of people recreating: present/absent) (Figure 1). For the manipulation of different level of concealment, physical disorder and presence of people were described in detail in Table 2.

2.5 Survey Procedure

The survey was administered within five months from October 2012 to March 2013. In each of the selected parks, the first author selected a point or station to conduct the survey. The points or stations were strategic locations in each of the parks where most of the park visitors were concentrated. The first author was stationary at the selected points. Since a stratified random sampling was applied in this study, the first author selected randomly amongst the park user who passed. The first author was assisted by six enumerators to conduct the survey in all the five selected urban parks. These enumerators were group of final year students from the Forest Faculty, Universiti Putra Malaysia (UPM). The enumerators were given an overview of the study by the first author to have a better understanding of the study. As token of appreciation, each of the enumerators was paid a small fee per completed questionnaire by the first author.

The on-site survey was conducted as face-to-face interview. The survey was conducted in four languages, namely Malay, Mandarin, Tamil and English to cater for cultural diversity in Malaysia. Relying on the use of single language in some research settings can results in the exclusion of significant groups of respondents (Matthews & Ross, 2010). This was essential particularly in this study which involved the opinions of three ethnic groups in Malaysia. When park users agreed to take part in the survey, the first author/enumerator began by explaining in brief about the aim of the study, the procedure the interview, content of the questionnaire and the duration taken for the interview. The respondents were also assured about the confidentially of their responses. The respondents' involvement was voluntary and they were not offered any type of incentive or reward for participating in the study. The park users at each park were surveyed on-site on both weekdays and weekends in the morning (7:00 a.m. to 12:00 p.m.), afternoon (12:00 p.m. to 3.00 pm) and evening (3:00 p.m. to 7:00 p.m.) in order to achieve a fully representative sample of the park user.

Figure 1 The 12 final set of photographs (3 Concealment x 2 Physical disorder x 2 People present).

Table 2 Manipulation of different level of concealment, physical disorder and present of people.

Variables	Design	Description
Concealment	▪ Low concealment ▪ Medium concealment ▪ High concealment	▪ No understorey vegetation only trees ▪ Enclosure up to canopy drip-line with trees ▪ Enclosure above than the canopy drip-line with tree
Physical disorder	▪ With physical disorder ▪ Without physical disorder	▪ With trash, broken glasses, paint stain, vandalism, poor maintenance, graffiti. ▪ Without trash, broken glasses, paint stain, vandalism, poor maintenance, graffiti.
People	▪ With people recreating ▪ Without people recreating	▪ With people recreating and passer-by ▪ Without people recreating and passer-by.

3 RESULTS

The respondents rated Photo 11 (M=5.86; SD = 1.345) the most feared and Photo 2 (M=1.85; SD= 1.327) as the least feared (Figure 2). Photo 11 consists of elements such as high concealment (e.g. high, thick bushes with blocked views), presence of disorder and absence of people along the trail, while photo 2 contains low concealment, absence of disorder and presence of people along the trail. The reasons for selecting Photo 11 and 2 are summarized in Table 3.

For the attributes of concealment, the higher the concealment (e.g. low, medium and high), the higher the mean value of fear of crime. This is true either with or without the present of people or with and without the presence of disorder.

It also shows that as the level of concealment increases, photos under the condition without people but with the presence of disorder scored the highest mean value compared to other conditions (Figure 1). This mean value is high when compared to the mean values of photos without people and without disorder. This shows that the presence of disorder with the absence of people evokes more fear than those photos without the presence of people and disorder.

Contrarily, as the level of concealment increases, photos under the condition with people but without the presence of disorder scored the lowest level of fear. These mean values are lower compared to those mean values of photos with the presence of people and with the disorders. This shows photos with the presence of people without disorder creates less fear compared to those photos with people and with disorder.

4 DISCUSSION

Majority of the respondents reported dense, unmaintained vegetation as a major cue evoking fear of crime in urban green spaces. This was the most investigated attribute among the reviewed articles (see Sreetheran and van den Bosh, 2014). For example, the presence of too many trees and bushes was frequently mentioned as a specific point of concern (Talbot and Kaplan, 1984). As mentioned by a teenage girl: "It's like there's forest back there. Once you get past the playground, there's like a whole lot of trees and weeds and stuff. So once you get back there, once you get behind that part of the playground, anything can happen to you!" (Brownlow, 2006, p. 234). Shrubs were considered as a potential place to hide for perpetrators or obstructions of view (Lindgren and Nilsen, 2012). In another study, a woman talked about a place where the sexual assaults were thought to have occurred. However, she mentioned: "I haven't been there for ages so I don't know how they are now, but no I don't think we should have to have that part cut, it was nice beauty spot, you see. No, I wouldn't cut a beauty spot away" (Jorgensen et al., 2007, p. 283). In contrast, some studies conducted in residential areas found that of the presence of vegetation was associated with a reduced fear of crime. For instance, a study in a Chicago housing scheme courtyard found that the presence of trees had strong positive effects on residents' sense of safety compared to a barren courtyard (Kuo et al., 1998). Brower et a. (1983) found that respondents rated line drawings of a property including

			Mean	Description
None	Photo 2		1.85	Low concealment;without physical disorder; with people recreating.
	Photo 4		2.94	Low concealment; without physical disorder; without people recreating.
	Photo 6		4.02	Medium concealment; without physical disorder; with people recreating.
	Photo 10		4.54	High concealment; without physical disorder; with people recreating.
	Photo 8		4.61	Medium concealment; without physical disorder; without people recreating.
Perceived fear of crime	Photo 1		4.68	Low concealment; with physical disorder; with people recreating.
	Photo 3		4.92	Low concealment; with physical disorder; without people recreating.
	Photo 12		5.02	High concealment; without physical disorder; without people recreating.
	Photo 5		5.09	Medium concealment; with physical disorder; with people recreating.
	Photo 9		5.24	High concealment; with physical disorder; with people recreating.
	Photo 7		5.41	Medium concealment; without physical disorder; without people recreating.
Very high	Photo 11		5.68	High concealment; with physical disorder; without people recreating.

Note: 1= none; 2 = low; 3 = somewhat moderate; 4 = moderate; 5 = somewhat high; 6 = high; and 7 = very high

Figure 2 The mean rating of the 12 manipulated photos.

Photo 11 (Most feared)	Photo 2 (Least feared)
Absence of people a. Feeling so lonely…no passer by b. No people …if anything happens very hard to get help. c. Looks like a deserted place. **Incivilities** a. Vandalism ▪ Vandalism…shows signs of irresponsible people hanging around in this area. b. Trashes ▪ Garbage are not cleaned or maintained.Garbage is everywhere…this trail has been abandoned.Broken glasses…this must be the haven for drunkers.Trashes are everywhere…must be a place for **Concealment** a. Tall bushes ▪ cannot see further, limited view…bushes are above eye level ▪ perpetrators might be hiding behind the bushes. ▪ both sides of the trail are closed with tall bushes… no other exits. ▪ bushes are messy and not well maintained. ▪ tall bushes make the surrounding area darker. ▪ must be a perfect place for drug addicts. **Others** a. Narrow trails. b. Presence of poisonous animals like snakes in the bushes.	**Presence of people** a. Can see people recreating b. You don't feel lonely c. Easy to get help from other people **Incivilities** a. The trail is clean b. The place is well maintained c. Very neat… d. No trash lying around **Concealment** a. Open view b. More exits along the trails c. The trails looks wide d. So spacious…you will be aware of your surroundings. e. No hiding places for perpertrators f. No tall bushes **Others** a. Nice landscape b. Feeling so peaceful c. Proper landscape management d. Good planting arrangement Good plant selection…not many bushes

Table 3 Reasons for selection the most and least feared photos.

trees and shrubs to be safer than those without (Brower et al., 1983). However, in both of these studies, the vegetation was well maintained.

Open view and view distance were also found to have strong positive associations with perceived security. One woman in a Norwegian study stated: "…if it (woodland) had been more open, if people could see in, if you could see what was inside here, then perhaps I could have sent her (daughter) myself…Now, nobody can see inside here…" (Skår, 2010, p. 114). In another study (of a Swedish housing estate), the housing company manager said: "…there should be open, see-through surfaces. One should see who and what is moving a bit further away so that there are no large shrubs that make it impossible to view what is behind the shrubbery." (Lindgren and Nilsen, 2012, p. 202). Furthermore, a wide open area will not contain any ambiguous refuges – no 'hidey' places, as one respondent put it (Loewen et al., 1993).

Poor landscape design was also highlighted by the respondents. They regard poor landscape design in terms of improper species selection and lack of spatial arrangement. It is important to plant according to a design (even a simple one) to enhance attractiveness and improve perceived security (Anderson and Stokes, 1989). Similarly, Shaffer and Anderson (1985) reported that security generally was rated higher when the vegetation appeared to be well integrated into the landscape design. Spatial arrangement was also considered important in creating a sense of safety. Thus, more natural vegetation could be introduced into parks and green spaces without necessarily making the parks appear unsafe. However, tree placement (either formal or "natural" arrangements) had

inconsistent effects on sense of safety in the courtyard of a housing scheme in Chicago (Kuo et al., 1998).

The overall physical appearance and signs of negligence or physical incivilities (e.g., abandoned cars, graffiti, vandalism) were noted as among the significant causal agents in evoking fear of crime in urban green spaces. As illustrated by the quote "Where there's sand at the park, I don't like to go there because of the needles" (girl aged 8; Catonguay and Jutras, 2009, p. 106). Other signs of incivilities, such dirty toilets in Japanese greenways, were also considered a fear-inducing sight by users due to connotations with crime (Yokohari et al., 2006). Grass maintenance impacts residents' fear of crime; images showing well-maintained grass were given significantly higher ratings than images showing grass in its existing condition (Kuo et al., 1998). A woman in her late 40s made the following comment about maintenance in her neighbourhood park: "The grass isn't cut. You can't see because of all of the weeds. The weeds are out of control…That is so dangerous. Anything can happen. Kids can get stabbed, kidnapped, murdered" (Brownlow, 2006, p. 234).

The study also revealed that the presence of people can encourage safe use. In addition, William (1980) observed that well-used public spaces were populated with people engaging in what was termed "mutual acceptable use". However, this also depends on the variety of people present, as the presence of other people might either increase or decrease fear. Most of the respondents tend to feel safe when visiting a place where many people are engaged. For example, the majority of the Turkish women from Isparta found urban parks to be safe for themselves and their children, as most of them (93%) tended to visit the parks in groups (with their family, friends, and neighbours). This is in contrast to other (Western) countries where the use of urban parks in groups is not common (Özgüner, 2011).

5 CONCLUSIONS

Fear of crime has been regarded as a significant social problem in urban areas. This has urged most scholars to devote significant attention to the causes of such fear in general or specifically in urban green spaces. Although some common attributes may apply across different cultures base on the evolutionary basis, it is essential to conduct more studies elsewhere. In addition, it is also pertinent to investigate further on the interactions of the attributes which evoke fear of crime in urban green spaces. Although it is important to investigate how natural elements may evoke fear of crime in urban green spaces (e.g. landscape design, maintenance, vegetation character and density), it should be understood that this attribute does not contribute in causing fear by itself, rather it is a complex interaction with other attributes (e.g. personal factor, physical factor, social factor, behaviour etc.). In future, more studies need to be conducted to see how other attributes contributes in evoking fear of crime in urban green spaces.

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