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## **How safe are women-only parks perceived to be?**

\*ASIFA IQBAL (Corresponding Author)

Department of Urban Planning and Environment

School of Architecture and the Built Environment

KTH Royal Institute of Technology, Stockholm, Sweden

Drottning Kristinas Väg 30, 100 44, Stockholm, Sweden

[asifa.iqbal@abe.kth.se](mailto:asifa.iqbal@abe.kth.se)

### **Abstract**

Women-only parks (WOPs) are gender-exclusive spaces. In the Indian subcontinent, they have been a social norm for centuries, and they are widespread today. This article aims to investigate the nature of WOPs in Karachi, Pakistan, by (a) inspecting and assessing the environment of these parks based on crime prevention through environmental design (CPTED) principles, (b) evaluating users' and nonusers' perceptions of safety, and (c) assessing how the environment of WOPs, inspected based on CPTED principles, relates to women's perceptions. Field observations, a questionnaire survey, and interviews underpin the methodology. Results indicate that most users of WOPs feel safe there, but no significant differences exist between users' and nonusers' views of safety in public spaces in Karachi. Typical CPTED features (e.g. locks and gatekeepers) in WOPs seem to have a positive influence on park users' perception of safety. The article concludes with a discussion of the results and implications for future research.

### **Key words**

CPTED, perceived safety, users, nonusers, Karachi

## Introduction

Women-only parks (WOPs) are gender-exclusive spaces. In the Indian subcontinent, they have been a social norm for centuries, and they are widespread today. The designation of spaces for women in the form of WOPs is not a new trend in the Global South. They already exist in many countries, including Iran, Pakistan, Afghanistan, Saudi Arabia, and the United Arab Emirates, and now in Turkey (Edwards and Tsouros, 2006). Gender separation is also prevalent in other parts of society. For example, separate sections for males and females at weddings and funerals, separate schools and universities for boys and girls, separate male and female hairdressers, and separate compartments in public transport are still prevalent in Pakistan and many other countries. The creation of public spaces devoted to women is also a growing trend elsewhere, such as female-only beaches in Australia and Canada, women-only floors in Saudi shopping malls (Le Renard, 2011), and railway or subway carriages intended for women only in Japan, India, Pakistan, Iran, Egypt, Brazil, Mexico, Indonesia, the Philippines, Malaysia, Israel, and the United Arab Emirates. Moreover, women-only swimming pools exist in many countries.

Specifically, WOPs accommodate the need of women for outdoor space and provide safe places for female social interactions and activities in countries such as Iran, Afghanistan, and Pakistan (Arjmand, 2016). In some countries, this separation exists because of the patriarchal nature of the country; for instance, women in Iran and Saudi Arabia are obligated to wear the veil (hijab/purdah). However, this is not the case in Pakistan, where wearing the hijab is every woman's own choice. According to Arjmand et al (2017), the concept behind the design of WOPs is closely linked to the notion that an association exists between the veil (hijab/purdah) and Islamic architecture – that is, the creation of enclosed spaces defined by walls (exclusive/private) gives them a more exclusive feeling. Generally, WOPs have high boundary walls, locks, gates, and gatekeepers, creating a feeling of 'defensible space' (Newman, 1972). However, according to Hasan (2016) WOPs were not created out of a fear of crime but rather to provide privacy from the masculine environment (personal communication). They also provide open green lawn areas, flowerbeds, and playground equipment. Although WOPs are a common type of park in many countries around the world, limited research exists in the literature about WOPs (Arjmand, 2016), and, surprisingly, not

enough attention has been paid to the environment and the safety features they provide in Karachi, Pakistan.

I contribute to this area of research by investigating the nature of WOPs, which entails (a) inspecting and assessing the environment of these parks based on crime prevention through environmental design (CPTED) principles, (b) evaluating users' and nonusers' perceptions of safety, and (c) assessing how the environment of WOPs, inspected based on CPTED principles, relates to women's perceptions. Karachi, the former capital of Pakistan, constitutes an interesting case because of its rapid urbanization (Kotkin and Cox, 2013), mixed ethnic background (Qureshi, 2010), and rising crime levels (*The News*, 2016). Although safe public spaces and gender equality are increasingly becoming important concerns in countries around the world, Pakistan remains one of the least gender-sensitive countries for many reasons, including its patriarchal society (Ali and Bustamante-Gavino, 2008), dominant social and cultural norms (Zahra, 2005), and weak criminal justice system (Munshay, 2015). Thus, process of understanding the nature of WOPs from the perception of safety remains an important but not well-researched area. Furthermore, there currently exist no widely acknowledged inventories about the incidence of crime or users' perceived safety in WOPs in Karachi.

## **Theoretical Framework**

A review of the literature reveals three strands of relevance to this paper: the concept of WOPs and the international perspective of WOPs, women's perceptions of safety as a means by which to understand what they fear and why, and CPTED in relation to the physical environment of WOPs and women's safety.

### **WOPs: International perspective**

Social and cultural processes play an important role in promoting a gendered sense of place (Paul, 2011). Numerous studies have shown that in some societies, space may be experienced as more public or private depending on whether a great number of men or women are using it (Mazumdar and Mazumdar, 2001; Johnson and Miles, 2014; Arjmand, 2016). Drawing on examples from Iran and India, Mazumdar and Mazumdar (2001) pointed out that a space used by men is defined as more public and that a space used by women is considered an extension of the private sphere where women can safely circulate with and encounter other women. In

the context of Brooklyn, New York, Johnson and Miles (2014) stated that women in some societies, for instance, Muslim women, consciously avoid such places where they encounter men so as to uphold their reputation as respectable women. They also mentioned that public displays of their faith are viewed as symbols of purity and cultural continuity within societies. Therefore, WOPs may be considered an example of such profoundly promoted gender-exclusive public spaces that are ‘appropriate for women.’ These parks are specially designed to accommodate women’s need for outdoor space and to provide safe places for female social interactions and activities (Arjmand, 2016). Based on their examination of a WOP in Qom, Iran, Bazregari and Ostovareh (2016) supported the idea and pointed out that women in Iran find peace of mind and a sense of security in visiting these parks, which are removed from the masculine environment. However, the existence of these parks has led to a heated debate about segregation in public and the creation of spaces that are ‘only for women’ (van Geel, 2016).

### **Perception of safety and women**

According to Stanko, fear is associated with concern about being outside the home (probably in an urban area), alone, and potentially vulnerable to personal harm (1995:48). The impact of fear of crime is determined by the situation in which people find themselves. However, it is to some extent the product of social construction as well: Fear is also shaped by cultural scripts that instruct people on how to respond to threats to their safety (Furedi, 2007). Scholars have suggested that certain fears are particularly important for specific groups. For example, women are particularly fearful of being sexually assaulted and mugged (Madge, 1996). According to Hilinski et al (2011), younger women are targeted for sexual assault and rape to a greater degree than older women (Madriz, 1997). DeKeseredy et al (2009) found that vandalism is a powerful determinant of women’s fear of crime in rural areas, and they concluded that fear of crime in public places influences people in rural areas to stay inside. According to Gardner (1995), public space can be considered a place where men hold greater rights than women and where women are often excluded because of the potential for harassment and fear of male violence. Similarly, fear tactics by abusive men force their female victims to remain indoors (Valentine, 1992; Koskela and Pain, 2000). Accordingly, fear of crime in parks is considered the most important constraint controlling the use of parks, especially for women (Gordon and Riger, 1989; Madge, 1996; Bell, 1998; Wesely and Gaarder, 2004).

## **CPTED, parks, and women's safety**

The impact of physical environment has been a focus of CPTED for many decades. The emphasis of CPTED is the consideration of the physical and social environment as a means by which to prevent crime from happening (Cozens and Love, 2015). Coined and formulated by C. Ray Jeffery in 1971, CPTED was considered to be in a similar vein to the ideas concurrently presented by Oscar Newman. Newman (1972) argued in favor of physical security measures, such as high walls, fences, and locks, to help increase a sense of security. However, defensible measures in public space are often seen to increase fear (Taylor et al, 1996). Cozens (2014) criticized that defensible spaces ignore the social aspect of crime prevention. According to Moffat (1983), the six main principles of CPTED are territoriality, surveillance, access control, image/maintenance, activity support, and target hardening. There are strong overlaps and interactions present among these principles. For instance, natural surveillance, which is the central idea behind CPTED, also has a clear connection with land use and activities involved in surrounding areas. However, it is equally important for people of the area to have a sense of control or territoriality so as to avoid unwanted intrusion by 'the others.' Territoriality can be achieved through care and maintenance of places. It allows a space to be used for its intended purpose.

Aspects of the physical built environment are clearly relevant to fear to some extent; however, Lorenc et al (2013) found that fear often relates more directly to the environment's social meanings than to its physical form. The evolution of CPTED is characterized by three generations: The first generation of CPTED focused on the physical environment (Jeffery, 1971; Newman, 1972); the second generation pointed out the social aspects of the urban environment (Saville and Cleveland, 1998); and the third generation includes the perspective from green technologies (United Nations Interregional Crime and Justice Research Institute [UNICRI], 2012). In addition, the sensitivity of CPTED has increased to reflect the safety concerns of different users, such as those of women, the elderly, and individuals with disabilities (Ceccato and Hanson, 2013). The focus of previous research has been on the use of CPTED in housing, neighborhoods, commercial projects, shopping malls, and transport systems rather than in urban parks (McCormick and Holland, 2015; Iqbal and Ceccato, 2016). Using Stockholm as a case study, Iqbal and Ceccato (2016) discussed how CPTED principles could be used as an inventory tool to identify safety problems in parks. They found that well-maintained parks – that is, those with trimmed bushes, proper illumination, and adequate

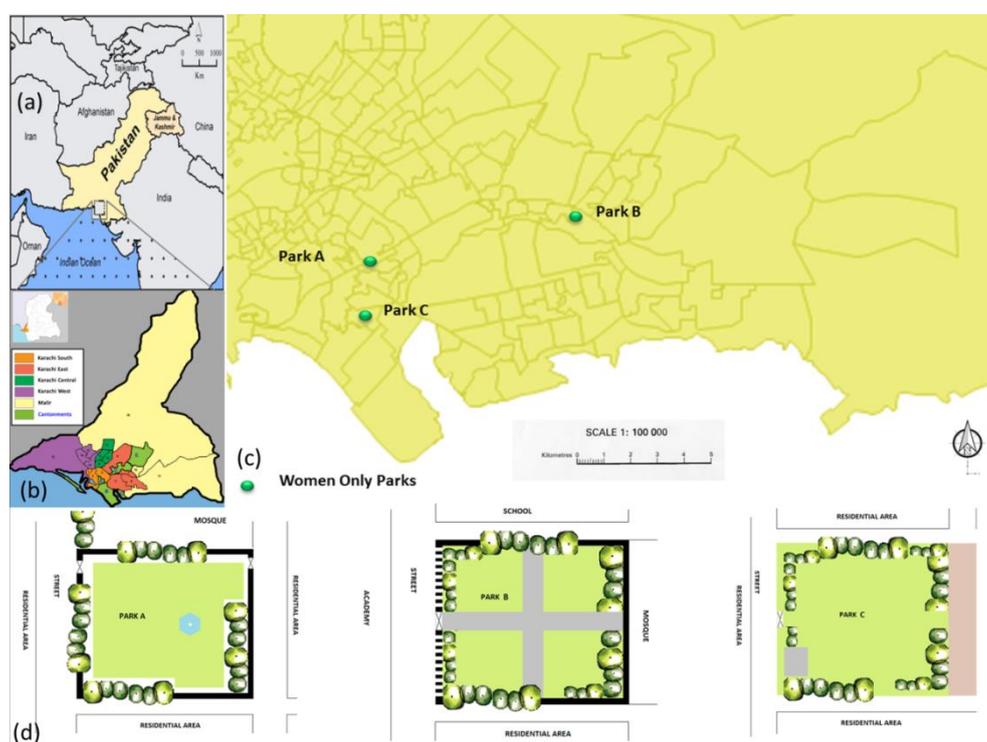
placement of park furniture – can help reduce crimes. Iqbal and Ceccato also found that collective activities between users and park managers can create social control and place attachment, which in turn may result in a better park.

Supporting the ideas of CPTED, Bell (1998) argued that sensitive design and planning could contribute to women's sense of safety. This in turn supports the concept of WOPs with the defensible space theory by Newman (1972). Salmani et al (2014) and Arjmand (2016) argued that WOPs in Iran were initiated to support women's sense of security and to reduce crime incidents and fear of crime. Gordon and Riger (1989) reported that 61% of women feel unsafe and declared urban parks as the most dangerous places in several of the largest U.S. cities. It is also evident that the temporal dimensions of fear vary between men and women. Many women reported that they fear crime in public spaces at night (Gordon and Riger, 1989; Madan and Nalla, 2016). Valentine (1989) identified the presence of unmaintained places and dark corners as a reason for creating fear of crime among women. Furthermore, signs of incivility such as litter, vandalism, and graffiti could also result in inappropriate or threatening behavior. In a study in India, Sur (2014) suggested that fear of crime in public spaces generates anxiety among women and results in behavioral changes. Moreover, fear of crime among women has varied effects, depending on women's experiences of age, socioeconomic status, disability, and motherhood (Pain and Koskela, 1997). Furedi also noted that the meaning and experience of fear are continually shaped by cultural and historical factors (2007).

## Research Setting

Karachi is one of the fastest-growing megacities in the world and one of the fastest urbanizing cities in South Asia (Kotkin and Cox, 2013). Karachi ranks seventh on the list of the top megacities in the world (Cox, 2015). Because of its important geostrategic location, Karachi serves as the business capital of Pakistan ([Qureshi, 2010] see figure 1a). Karachi is also attracting huge numbers of immigrants including Mohajir, Punjabi, Pathan, and Sindhi (Masud, 2002) from all over the country because of the deteriorating law and order situation in northern areas of Pakistan and the occurrence of natural disasters (e.g. earthquakes and floods) in other parts of the country. In addition, Karachi is a major recipient of Bangladeshi and Afghan migrants (Qureshi, 2010). The city of Karachi has the highest share of crime rates

in Pakistan (Malik, 2015). Ali et al. (2011) emphasized that the unequal distribution of gender roles in cultural, political, religious, and economic positions is linked to violence against women in Pakistan. Furthermore, honor crimes are rising in Pakistan owing to domestic disputes, alleged illicit relationships, and the lack of freedom of choice in marriage (*BBC News*, 2016). According to a news report, 55% of women traveling by public transport reported experiencing some kind of sexual harassment in the city (*The Express Tribune*, 2016). Moreover, a women-only taxi service recently launched in Karachi to help protect women from being sexually harassed (Larbi, 2017).



**Figure 1** (a) Geographic location of Karachi in Pakistan, (b) City of Karachi showing city districts, (c) Location of WOPs, (d) Enclosed Park, Semi-enclosed park and Open access park. Source: Figure 2a and 2b Wikipedia, Figure 2c, 2d, Author

The City District of Karachi consists of 18 towns (Figure 1b) and 178 union councils (Karachi Metropolitan Corporation [KMC]). The land control of parks is under the jurisdiction of the KMC; however, the maintenance of parks is the responsibility of the District Municipal Corporation (DMC). According to the Parks Department, Karachi has 1229 green spaces including all parks and playgrounds, of which 43% are developed (Anwar, 2013). More than half of the undeveloped parks are experiencing encroachment. Many parks have been converted into marriage halls or housing complexes as a consequence of rule violations (Hasan and Mohib, 2003). Parks and open spaces are divided into five major categories in

Pakistan, and WOPs are classified under the fifth category, locality parks (Appendix 1). Moreover, the first women-only park in Pakistan was inaugurated in 1927 as an exclusive place for women by a businessperson and philanthropist for his beloved wife (Soomro, 2015).

### **Case study parks**

When conducting fieldwork for this study in 2016, I noted that three types of WOPs exist in Karachi, based on the level of privacy that they provide: enclosed parks, semi-enclosed parks, and open-access parks (Figure 1c and 1d). One of each type of park was chosen as a case study to understand the perception of safety in relation to the level of privacy. All case study parks have open lawns. They also share a similar layout – a square or rectangular shape surrounded by side roads (Figure 1d). Park A is an enclosed park that is located in-between an upper middle-income area and a lower-income area. This park is adjacent to a mosque and clearly operated and controlled by mosque managers. A gatekeeper is responsible for opening and closing the park. The most prominent urban features of this park are high boundary walls and a gatekeeper. Park B is a semi-enclosed park that is located in a densely populated middle-income area. The most distinctive feature of this park is a semi-enclosed boundary wall. This park offers limited facilities for children. The main entrance of this park faces an educational academy that provides study help to both male and female high school students. Mothers with small children, as well as young girls from the academy, frequently use this park. Park C is an open access park that is located inside a gated community. Access control exists for the gated housing society but not specifically for the park; rather, Park C has symbolic gates and boundary walls marked by hedges and trees with some limited facilities for children (Figure 2).

### **Hypotheses of the study**

Taking into consideration the current literature, I propose the following hypotheses for the Karachi case study:

1. It is likely that when compared with gender-mixed parks, the design of WOPs in Karachi is more enclosed, which is an indication of more social control and barriers.

2. CPTED principles play a crucial role in increasing the perceived safety in WOPs. Women feel safer in parks where CPTED principles are applied and easily noticeable, for instance, access control through locks and gates and other safety measures.
3. It is likely that the perception of safety varies between users and nonusers of WOPs. Women users feel safer in WOPs than do nonusers.
4. The demographic profile of WOP users in Karachi is not equally distributed in terms of age, marital status, ethnic background, and socioeconomic status, which in turn determines differences in declared perceived safety between parks and users.

## Data and Methods

To collect information about parks, I conducted an observation study in several parks in Karachi in July–August 2016. Ten parks were identified as WOPs. Only three of these parks were in intact condition with sufficient numbers of users; thus, they were used as specific case study areas. Based on the method used by Iqbal and Ceccato (2016), I created a checklist to evaluate CPTED principles in WOPs. The checklist comprised a total set of 42 features across the six principles. The presence or absence of these park features was recorded (Table 2). The observations were carried out between 1700 and 1900 hours (official opening hours) on weekdays and on two weekends.

To analyze women's perception of safety, I carried out a safety survey in three WOPs in Karachi in July–August 2016. The respondents were divided into two groups: users and nonusers based on their answers to the following question: 'Have you ever been in a WOP?' Later, they were directed to separate survey sections to evaluate their motivations for using or not using WOPs. Park users were selected on-site, whereas nonusers were contacted outside the park boundary. (A typical user is a woman with an interest in WOPs in Karachi and has visited a WOP at least once. A nonuser is a woman who usually lives near or often passes by a WOP but does not use it). Various types of personal crimes in public spaces were used to relate to the fear of crime, for instance, being attacked, robbed, or mugged by a stranger in a public space, and sexual harassment included being harassed, threatened, or verbally abused in a public space. The English language version of the questionnaire was translated into Urdu

(widely spoken language in Karachi). Students at the Engineering University in Karachi helped conduct the safety survey. Brief field training was provided about the subject, area, and methods. Of the 150 surveys conducted, four surveys were removed owing to incomplete holdout questions, yielding 146 usable surveys (Table 1). Confidentiality, anonymity, and the voluntary nature of participation were explained to the respondents in advance. On average, the respondents spent 15 to 20 minutes completing the questionnaire, including background questions. The participants of this study differed in age, ethnicity, purpose for visiting the park, time duration at the park, and frequency of visits to the park (Appendix 2).

| Parks              | USERS | NONUSERS |
|--------------------|-------|----------|
| Enclosed park      | 25    | 25       |
| Semi-enclosed park | 28    | 25       |
| Open access park   | 15    | 28       |
| Total              | 68    | 78       |
| Grand Total        | 146   |          |

Data analysis was performed with SPSS software. Later, the collected data were analyzed with descriptive statistics. Frequencies, percentages, correlations, and cross-tabulations were used to analyze users' demographic characteristics in relation to the perception of safety and physical features in parks. Statistical significance between two categorical variables was assessed with the chi-square test. The relationships of perception of safety, gender, age groups, and ethnicity to classification (users vs. non-users) were addressed with a series of  $2 \times 2$  cross-tabulations (safe vs. unsafe, young vs. old, married vs. single, and Ethnic Group 1 [Mohajir] vs. Ethnic Group 2 [Pathan]). A total of six ethnic groups were involved, but only two were highlighted in the Results as they are the majority groups in Karachi. Significant interactions at the  $p < .05$  level were identified. Later, interviews were performed with planners and users. Face-to-face interviews were conducted with two users (one woman at the enclosed park [Park A] and one woman at the semi-enclosed park [Park B]) and with one nonuser (one woman outside of the open access park [Park C]).

## Results

The results of this study are divided into three subsections: the role of physical environment and safety in WOPs as assessed with the CPTED inventory tool, the perceived safety from users' and nonusers' perspectives, and the environment of WOPs as assessed with CPTED principles in relation to women's perceptions.

**Figure 2** WOPs in Karachi (Source: Field work 2016)



Lush green lawns without any play equipment

Full access control with gate and high walls

Local protection measure used for target hardening

### **Park A Enclosed park**



Open green lawns with kids play area equipment

Access control with a gate and semi-enclosed front wall

Target hardening with high boundary wall at two sides

### **Park B Semi-Enclosed park**



Open visibility for all parts of the park.

Soft entrance gate marked with hedges to separate the park from the residential area

No target hardening measures

### **Park C Open access park**

## **Inspection of CPTED in WOPs**

Table 2 summarizes the overall assessment of CPTED principles based on an inventory of selected WOPs. Features of territoriality and target hardening such as high boundary walls, gates, locks, and gatekeepers were found to be satisfactory in the enclosed and semi-enclosed parks, and a clear separation between public and private spaces was detected in the open-access park. Extra protective measures at the top of the boundary walls were also observed in the enclosed and semi-enclosed parks. An open square design and the presence of gatekeepers ensured adequate surveillance in both the enclosed and semi-enclosed parks. None of these parks offered any opportunity for hiding places and different routes for offenders to escape. The presence of low-rise residential houses near the open-access park allowed ‘eyes on the park,’ thus contributing to the overall safety of the park. No closed-circuit television (CCTV) cameras, however, were detected in any of the parks (Table 2).

The inspection also revealed other differences among the parks and areas for improvement. For example, the results showed that illumination should be improved in some parts of the semi-enclosed and enclosed parks. In addition, the results showed differences in the level of activity support provided in the parks. In the enclosed park, a small group of young women at the local level provided activity support. The goal of this group was to invite all users to a daily yoga session. By contrast, no activity support was found at the semi-enclosed park and the open-access park. However, increased levels of social cohesion and positive esteem associated with place attachment were detected among women in the enclosed and semi-enclosed parks. A lack of attention to perceived seasonal safety risks (Table 2) and a lack of park accessibility for mothers with small babies and for individuals with mobility issues and for those with special needs was detected at all the parks and was attributed to inherent problems in the park designs. Other areas of concern included vandalism along the boundary walls and litter and graffiti outside the boundary walls of the enclosed and semi-enclosed parks. All parks in well-maintained condition, however, seemed to ensure safety. The field observations also showed that two of 10 WOPs in Karachi were closed because of no or low maintenance, thereby underscoring the relationship between a lack of maintenance of parks and a decline in their use.

**Table 2** Park inspection checklist based on CPTED principles (Iqbal and Ceccato 2016)

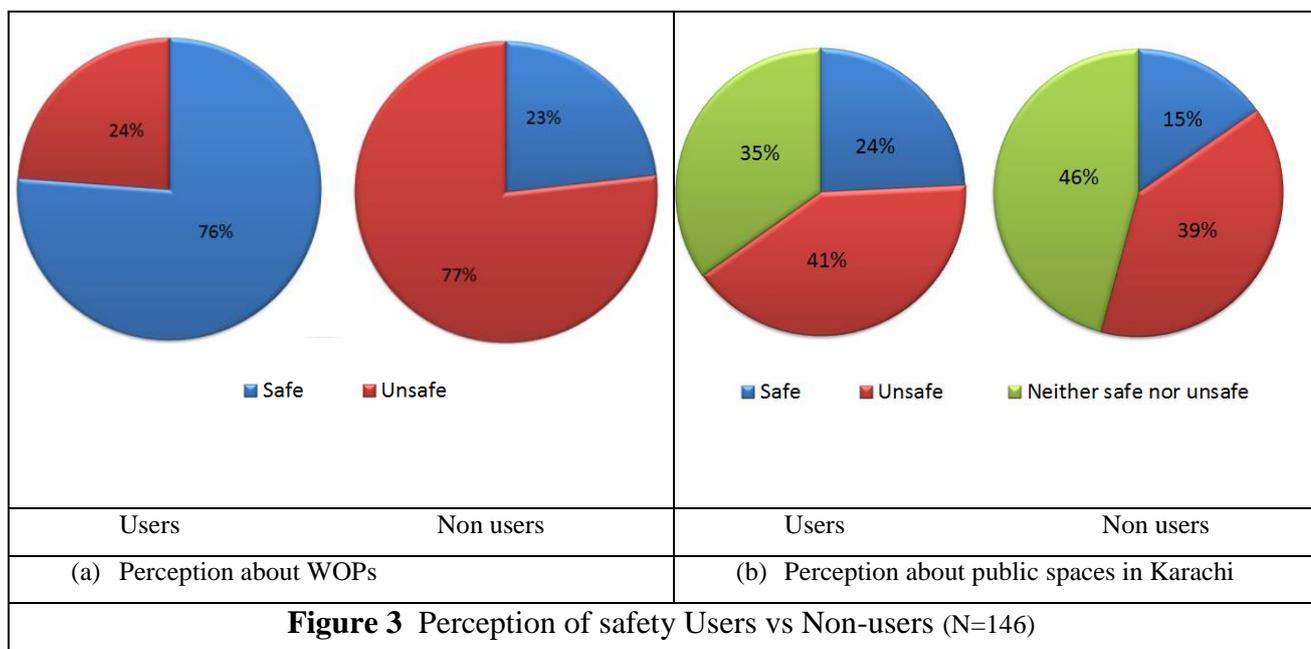
Note. CCTV = closed-circuit television. V =Visible, L= limited, N.V. = Not Visible

| CPTED CHECKLIST  | Enclosed park |   |     | Semi-Enclosed park |   |     | Open access park |   |     |
|--|---------------|---|-----|--------------------|---|-----|------------------|---|-----|
|  | V             | L | N.V | V                  | L | N.V | V                | L | N.V |
| <b>Surveillance</b>  |               |   |     |                    |   |     |                  |   |     |
| Land use mix /activities   | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| Natural surveillance of gathering areas                            | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Confusions   |               |   | ✓   |                    |   | ✓   | ✓                |   |     |
| Buildings / windows placement                                      |               | ✓ |     |                    | ✓ |     | ✓                |   |     |
| Park structure/ Benches  | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Pathways   | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Service areas  |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Public toilets   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Youth recreation facilities / Playgrounds                          |               |   | ✓   | ✓                  |   |     | ✓                |   |     |
| Car parking  |               | ✓ |     |                    |   | ✓   |                  |   | ✓   |
| Security Cameras   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Users, children, parents   | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| Lighting levels  | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Shadows  | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Lighting of safe routes  | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Car park/underpass/overpass/crossing lighting                      |               |   |     |                    |   |     |                  |   |     |
| Lighting of pedestrian routes                                      |               |   |     |                    |   |     |                  |   |     |
| <b>Territoriality</b>  |               |   |     |                    |   |     |                  |   |     |
| Site boundary definition fences, gates                             | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Transitional space defined   | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Gate keeper  | ✓             |   |     | ✓                  |   |     |                  |   | ✓   |
| Sign/cues  | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| Conflicting space use  |               |   | ✓   |                    |   | ✓   | ✓                |   |     |
| <b>Access control</b>  |               |   |     |                    |   |     |                  |   |     |
| Sightlines   | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Signage  | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| Choice of pathway routes   | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Problematic spots /Nodes /Crowding                                 | ✓             |   |     | ✓                  |   |     |                  |   | ✓   |
| Lawn/Flooring/sidewalks  | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| Social cohesion and connectivity                                   |               | ✓ |     |                    | ✓ |     |                  | ✓ |     |
| Technological integrations   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| <b>Target Hardening</b>  |               |   |     |                    |   |     |                  |   |     |
| Site boundary definition fences, gates                             | ✓             |   |     | ✓                  |   |     | ✓                |   |     |
| CCTV cameras   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Public utilities-telephones, A TMs, bus shelters/stops/train/metro |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Locks  | ✓             |   |     | ✓                  |   |     |                  |   | ✓   |
| Signage  | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| Alarms   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| <b>Activity support by Park Users</b>                              |               |   |     |                    |   |     |                  |   |     |
| Gender/age   | ✓             |   |     | ✓                  |   |     |                  |   | ✓   |
| Bicyclist  |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Pedestrians  |               |   | ✓   |                    |   | ✓   |                  | ✓ |     |
| pass buyers  |               |   | ✓   |                    |   | ✓   |                  | ✓ |     |
| Joggers  | ✓             |   |     | ✓                  |   |     |                  |   | ✓   |
| Mothers  | ✓             |   |     | ✓                  |   |     |                  | ✓ |     |
| School groups  |               |   | ✓   |                    | ✓ |     |                  |   | ✓   |
| Tourists   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Needs of special groups  |               | ✓ |     |                    | ✓ |     |                  | ✓ |     |
| <b>Image of Park</b>   |               |   |     |                    |   |     |                  |   |     |
| Maintenance  | ✓             |   |     |                    | ✓ |     | ✓                |   |     |
| Graffiti   |               |   | ✓   |                    |   | ✓   |                  |   | ✓   |
| Litter   |               |   | ✓   | ✓                  |   | ✓   |                  |   |     |
| Vandalism  |               |   | ✓   | ✓                  |   | ✓   |                  |   |     |

## Perceived safety in WOPs and public spaces in Karachi

The results from the cross-tabulation and the chi-square test showed that most users felt safe in WOPs ( $\chi^2 = 35.2$ ,  $df = 1$ ,  $p < .000$ ) and that the safety perception about public spaces in Karachi was not significant ( $\chi^2 = 2.78$ ,  $df = 2$ ,  $p < .249$ ). Moreover, no significant relationship was detected between feeling safe in WOPs and being a victim of a crime in the city in the past 24 months ( $\chi^2 = .76$ ,  $df = 2$ ,  $p < .681$ ). The findings also showed that 41% of users and 39% of nonusers of WOPs felt unsafe in public spaces, whereas 46% felt neither safe nor unsafe in public spaces in Karachi (Figure 3b). There are indications that young women (16–24 years of age) were more critical about their safety in public spaces in Karachi than were older women ( $\chi^2 = 7.3$ ,  $df = 1$ ,  $p < .007$ ). In addition, the findings showed that 31% of users felt very worried about crimes in the city and that 38% of users felt very worried about being sexually harassed in the city. One young unmarried woman interviewed for this study described her experiences as follows:

It feels much safer here [WOP] because of only women around. We feel comfortable because we can remove our veils. Most gender-mixed parks are not safe for women because they are gender mixed, and some sexually frustrated people go there to harass women.



Another important result of this study was that mothers with children who visited WOPs tended to feel safer ( $\chi^2 = 9.7, df = 1, p < .002$ ) than did young women ( $\chi^2 = 6.6, df = 1, p < .010$ ). Moreover, the perception of safety among users in the enclosed park and the semi-enclosed park is significant (Table 3). Women from Ethnic Group 2 ( $\chi^2 = 19.11, df = 1, p < .000$ ) tended to feel safer in WOPs than did women from Ethnic Group 1 ( $\chi^2 = .027, df = 1, p < .868$ ). In addition, a weak negative relationship was detected between women from Ethnic Group 2 and their visitation of other gender mixed parks in the city. Furthermore, 37% of women users from Ethnic Group 2 wished for the establishment of more WOPs in Karachi.

Moreover, most respondents visited WOPs only in summer. In addition, the results showed that more than half of women users (55%) of WOPs also visited gender-mixed parks, which implies that these users had an interest in visiting parks in general. (Conversely, nonusers did not consider visiting parks because of their busy work schedules or for many other personal reasons.) The respondents also cited the hot weather, the electricity crisis, and a lack of open space inside homes as other factors influencing their decision to visit WOPs. One young married woman from Ethnic Group 2 (interviewed at the enclosed park) described the situation as follows:

We visit this park every day for the sake of the kids. We live in small houses, and this catastrophic situation of an electricity shortage combined with hot weather makes our houses feel suffocating. It is difficult to stay at home for the whole day. Even though there are no playground equipment [at this park] for the kids, at least they can run and play, and we can keep an eye on them. In the meanwhile, we also relax and chitchat with our friends in an open environment.

**Table 3** Chi-square and Cross tabulation between safety in parks measure (Users)

| Variables                    | Combine | Enclosed park | Semi-Enclosed park | Open access park |
|------------------------------|---------|---------------|--------------------|------------------|
| Feeling safe in WOPs         | +***    | +***          | +***               | n.s              |
| Feeling safe in day light    | +***    | +***          | +***               | n.s              |
| Victim of Crime in 24 months | n.s     | +***          | n.s                | n.s              |

## **CPTED principles and perception of safety in WOPs**

The results showed that WOP with locks are highly correlated with low graffiti levels and a high image. The assessment of the survey also revealed that WOPs with high visibility had high numbers of children engaged in activities, which in turn increased natural surveillance during the opening hours of the parks. Most participants (82%) strongly believed that installing CCTV cameras in the city would help reduce crime. At the semi-enclosed park, 32% of participants noted feeling unsafe near the front boundary wall. In addition, users mentioned feeling safer in daylight ( $\chi^2 = 60.3$ ,  $df = 1$ ,  $p < .000$ ). There were no significant associations between other physical features of parks and perceived safety in selected case study parks. A comparison of the level of privacy in WOPs and users' perception of safety showed that most users felt safe in enclosed parks but not so in semi-enclosed parks. Several interviewed women pointed out that the presence of males on the street and the fear that males could see inside the semi-enclosed park from the boundary wall made for an unpleasant experience. One young woman from Ethnic Group 1 described her fear when visiting the semi-enclosed park as follows: 'I always feel fearful near this boundary wall. Many boys from the [nearby] academy stand adjacent to this wall in their free time and try to sneak in. We have to be careful all the time about veil[ing].'

Conversely, the lack of a boundary wall and physical control in Park C (open-access park) made most nonusers feel uncomfortable and decide not to use it. A young married nonuser posed the following question to us:

Do you consider this park to be a park? It seems to be only a few playground equipment installed in a vacant lot. I feel no privacy here. . . . I feel much better if I use the family park [gender-mixed park] one block away that has a nice playground for kids and a proper jogging track.

## **Discussion**

The assessment of WOPs in Karachi reveals that not all WOPs are enclosed in their design. There also exist semi-enclosed and open-access WOPs in Karachi, a finding that is not in line with the first hypothesis. The results show that enclosed parks and semi-enclosed parks with their physical design, outdoor furniture, maintained flowerbeds and hedges, and additional

protective measures are more appreciated by users than those WOPs that are open-access parks or other public open spaces. There are several reasons why the open-access WOP under examination here is not used to its full capacity (Table 1). First, the ownership of the park is called into question because of the lack of access control, target hardening, and territoriality. As mentioned by all the nonusers, men often trespass in the park, which creates a sense of uneasiness. Second, women living near an open-access park may prefer to avail themselves of other facilities (e.g. a gym) rather than the park located on the corner. Third, other parks in the area might be better equipped than this park.

By analyzing all parks in relation to CPTED principles, I find that the results corroborate second hypothesis. Women included in this study declared feeling safer in parks with typical CPTED features (e.g. access control through gates and a gatekeeper; target hardening measures involving locks, fences, and walls) than in parks lacking such features, for example, open-access parks. However, this feeling shared by women may not be associated with a fear of crime but rather a preference for a more private space that is removed from the masculine environment where women can relax (Mazumdar and Mazumdar, 2001; Bazregari and Ostovareh, 2016). It is also important to keep in mind the differences between women from higher, middle, and lower social classes as it is expected that women from a higher social class avoid being seen in public spaces or using them. Findings also suggest that the application of the concept of territoriality as a safety tool is challenged in open-access parks because male residents quite frequently trespass there, despite the presence of a sign clearly indicating the territorial ownership of the park. This draws attention to the challenges associated with applying CPTED principles in dealing with gray zone areas and illegitimate users. Another relevant issue is how creating a defensible space in enclosed and semi-enclosed parks may help enhance control of parks and provide a safe image on the one hand but compromises the esthetics of parks on the other hand, thus making them less attractive to women who live nearby (Table 1). These findings are consistent with those of Iqbal and Ceccato (2016), which showed that CPTED principles overlap when applied in practice and that this overlap does not necessarily affect safety in the same way. Moreover, the CPTED approach emphasizes crime prevention through the improvement of the physical environment of parks. However, these principles provide only the Global North perspective, that is, a one-size-fits-all perspective (Cozens, 2014). Given the differences in population and crime profiles of public spaces in cities – particularly those like Karachi, where the openness of public space remains a complicated issue – the transferability of CPTED principles in parks

from women's perspective of safety remains highly questionable (Cozens and Melenhorst, 2014).

In relation to the third hypothesis, the results show that users of WOPs feel safe there. However, there are some women who feel unsafe in WOPs as well. The results also show that some women who describe themselves as fearful in WOPs seem to be fearful everywhere in public spaces in Karachi. This finding explains why some women expressed worries about being a victim of crime in public spaces in Karachi and about being a victim of crime in WOPs (Appendix 3). Several women mentioned that being in a public space with men leads to problems, such as sexual harassment of varying degrees. This finding seems to be in line with that of Bazregari and Ostovareh (2016) showing that the focus of women's fear is virtually always men. Several recent news reports about sexual harassment in Karachi (Zakaria, 2012) could be one of the motivating factors behind the decision of some women to visit WOPs. Several women visiting the semi-enclosed park under examination in the present study repeatedly brought up the issue of feeling unsafe near the boundary wall. This finding is consistent with previous research (Bazregari and Ostovareh, 2016) showing that preventing people from seeing inside WOPs is a key factor in creating peace of mind for users of these parks.

The results lend support to the fourth hypothesis, which states that the individual characteristics of users affect their perception of safety in WOPs. For example, results indicate that women users from Ethnic Group 2 seemed to feel safe only in WOPs (Appendix 3). It is less likely that Pathan women (Ethnic Group 2) visit other (gender-mixed) parks because women of this group are known to display more restrictive behavior (Khalid, 2016) than do women of Ethnic Group 1. Moreover, women with children tend to use these parks more often than do single young women (Appendix 3) as they may feel that their children are safer in a defined space, away from traffic and other hazards.

The examination of parks in Karachi reveals a decline in use and a lack of maintenance, which may reflect a shift in attention from visiting parks to visiting shopping malls (Hasan, 2016, personal communication). These findings are in line with several newspaper reports stating that negligence by authorities has caused major parks to lose their charm and to close (*Dunya News*, 2016). Karachi, similar to many other megacities in the Global South, has undergone rapid changes – the effects of which are felt at many levels, including planning,

crime, and overall perceived safety. As mentioned earlier, WOPs and their relationship with safety have not been widely researched. Before this study, there existed, to the best of our knowledge, no empirical data related to crime prevention strategies used in urban municipal parks or in WOPs in Karachi. A separate policy document regarding guidelines for parks and open space, including park management and urban safety in parks, is not available, nor are any university-level courses on urban safety for planners.

In this article, WOPs have thus far been represented in two ways. On the one hand, WOPs may increase segregation through the creation of gender-exclusive spaces, which, from the Global North perspective, reinforces women's subordination. On the other hand, in the Global South, where developed open spaces are not easily available (Anwar, 2013) and sexual harassment is common (*The Express Tribune*, 2016), WOPs are considered attractive to women because they offer outdoor space where women can feel relaxed. Women in Karachi do not use these parks because of a dress code obligation, as is the case in many other countries, for instance, Iran and Saudi Arabia (Kishi, 2016). Rather, they do so by choice because visiting WOPs accommodates their specific needs, for example, by offering some privacy for young wives and mothers from other adults and family members. The special environment of WOPs allows interaction with other females in an outdoor setting and serves to support women's sense of comfort (Salmani et al, 2014; Arjmand, 2016). However, neither high walls nor an open design makes every woman feel completely safe in WOPs. Those women who feel fearful in WOPs tend to declare being fearful everywhere in public spaces in Karachi. Moreover, the physical environment of WOPs could be seen as unsuccessful in providing the basic infrastructure of a 'public space'; for example, some parks lack toilets, drinking fountains, and children's play areas. In some cases, it becomes difficult for women to see themselves in a park that has not been designed to match their everyday needs of a public park. Moreover, the restricted opening hours and mechanical design of a park (e.g. square plan with boundary walls and lack of facilities and leisure activities) make it dull and unattractive, thus making it difficult for women of different ages and occupations to use it together.

## Conclusions

The investigation of the nature of WOPs involved (a) inspecting and assessing the environment of these parks based on CPTED principles, (b) evaluating users' and nonusers' perceptions of safety, and (c) assessing how the environment of WOPs, inspected based on CPTED principles, relates to women's perceptions. This study reveals a number of findings: First, not all WOPs are enclosed in their design. Semi-enclosed and open-access parks are also other types of WOPs in Karachi. Moreover, women feel safer in enclosed parks than in semi-enclosed and open-access parks. Second, women feel safer in parks where CPTED principles are applied and easily noticeable, for instance, access control through locks and gates and gatekeepers. However, territoriality and target-hardening measures may create challenges for the esthetics of parks, making them unattractive to some women. Third, most users of WOPs declare feeling safer in parks than do nonusers. However, neither high walls nor an open-access design makes every woman feel completely safe in WOPs. One tenth of women users feel unsafe; however, those who feel fearful in WOPs tend to declare being fearful elsewhere. Fourth, women from Ethnic Group two (Pathan) and mothers with children consider WOPs to be the safest places in Karachi.

The implications of these results draw attention to the challenges of CPTED; for instance, CPTED does not provide guidance on how to adopt innovations and changes for dealing with parks within their context. For instance, CPTED should address how to accommodate women's need for open space in the Global South with its high-density and permeable settings, where women are bound by the strong culture, traditions, and perceptions (Zahra, 2005). Second, CPTED fails to clarify the overlap between the meanings and conceptualizations of CPTED principles when integrated and applied in practice (Cozens and Love, 2015; Iqbal and Ceccato, 2016). For instance, CPTED does not take into consideration how to implement crime prevention strategies without limiting the esthetic value of WOPs. Third, CPTED does not explain how to deal with gray zone areas or semi-public areas in public parks. Fourth, CPTED does not provide guidance on how to identify the risks linked to global warming (Parnaby, 2007) and sustainability (Cozens, 2014) specifically in the Global South.

The results of this study must be considered in light of several limitations. First, this study investigates the nature of WOPs and it engraves on both sides. Second, this study is the first to examine users' and nonusers' perceptions of WOPs in Karachi; thus, there are no other similar profiles with which to compare. Third, park safety should be assessed in relation to the environment in which it is embedded. Future research is needed to generate and analyze more quantitative data on crime rates in parks and in Karachi. Fourth, it has to be kept in mind that the responses gathered from neither the safety survey nor the CPTED inventory tool were representative of the whole population of Karachi. Moreover, the conclusions drawn here are based on a limited sample encompassing a small portion of the total numbers of parks and users and hence cannot be generalized about all parks. Future studies should use a sample that can be representative for both users and nonusers (at least 25–30 individuals). Moreover, the possibility of bias emerging from the safety survey and interviews should be kept in mind. Other individual topics for future research include CPTED, crime data collection, citizen involvement, and sexual harassment in gender-mixed parks.

Despite these limitations, this article contributes to the international literature by addressing the knowledge gap about WOPs in Pakistan, a topic that has so far attracted limited attention. This study is also innovative in its attempt to explore the new typology of WOPs in Karachi and to evaluate users' and nonusers' perceptions of safety. This article could also provide the basis for further studies on WOPs in other cities in Pakistan and in the Global South, where the openness of public space remains a complicated issue. It is also important to adopt a policy for parks and open spaces in general and then for WOPs in Pakistan. Furthermore, findings such as these call for major changes in CPTED theory so as to implement safety interventions that are sensitive to women's needs and to adopt an approach for creating safe parks for women. The environment of WOPs in Karachi provides a niche space for women to gather and relax. It is hard to predict the future of WOPs; however, current trends may lead to better public spaces for all.

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**Appendix 1** Standards of urban parks in Pakistan

Source: (PEPAC, 1986 in Khan and Shafqat, 2014)

| Type                        | Size<br>Hectares | Catchment area<br>Meters    | Characteristics  |
|-----------------------------|------------------|-----------------------------|--|
| 1 Metropolitan City<br>Park | 50-70            | Up to 3,200 -8000<br>meters | A specialized facility containing zoo and<br>botanical garden            |
| 2 City Park                 | 12-15            | 3,200 meters or above       | Wide range of amusement<br>facilities, fountains, lake, landscaping etc. |
| 3 Community Park            | 4-5              | 1,200 meters                | Selected amusement facilities, paved walks,<br>tree plantation           |
| 4 Neighborhood<br>Park      | 3.25-4           | about 400 meters            | Wide range of child play fixtures, walking<br>and jogging paths          |
| 5 Local Park                | 1.6-3.6          | about 400 meters            | Tot-lots with slides, swings, other spaces with<br>some greenery         |

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| <b>Appendix 2</b> Basic demographic characteristics of the respondents       |                       |       |           |  |
|--|-----------------------|-------|-----------|--|
| Variable   | Categories            | Users | Non Users |  |
|  |                       | %     | %         |  |
| Age  | 16-24*                | 24    | 48        |  |
|  | 25-34                 | 47    | 36        |  |
|  | 35-44                 | 19    | 9         |  |
|  | 45-54                 | 2     | 5         |  |
|  | 55+                   | 8     | 2         |  |
| Marital status   | Married               | 62    | 40        |  |
|  | Single                | 36    | 56        |  |
|  | Divorced              | 2     | 3         |  |
| Occupation   | House wife            | 50    | 29        |  |
|  | Working women         | 18    | 18        |  |
|  | Student               | 26    | 44        |  |
|  | Unemployed            | 3     | 9         |  |
| Religious background   | Muslim                | 91    | 98        |  |
|  | Christians            | 2     | 1         |  |
|  | Others                | 7     | 1         |  |
| Ethnic background  | Mohajir               | 47    | 58        |  |
|  | Pathan                | 37    | 3         |  |
|  | Punjabi               | 13    | 19        |  |
|  | Sindhi                | 2     | 11        |  |
|  | Others                | 1     | 9         |  |
| How long have you been living in this area                                   | 1-2 years             | 7     | 8         |  |
|  | 2-5 years             | 15    | 24        |  |
|  | 5-10 years            | 34    | 28        |  |
|  | 10 year above         | 37    | 39        |  |
| Which of the following best describes the type of accommodation you live in? | Own                   | 56    | 45        |  |
|  | Living with relatives | 22    | 33        |  |
|  | Rent                  | 16    | 17        |  |

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**Appendix 3** Correlation between safety in parks measure (USERS N=68)

\*\* Correlation is significant at the 0.0 level, \* Correlation is significant at 0.05 level

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|  | <b>Safe</b> | <b>Often Visit WOP</b> | <b>(Only) WOPs are Safe</b> | <b>FOC in Public spaces in city (very worried)</b> | <b>FOC in WOP (very worried)</b> | <b>Victim of Crime (24months)</b> | <b>Pathan (ethnicity)</b> |
|--|-------------|------------------------|-----------------------------|--|----------------------------------|-----------------------------------|---------------------------|
| <b>Safe</b>                              | 1           | .076                   | .425**                      | .082   | -.079                            | .112                              | .358**                    |
| <b>Often Visit WOP</b>                   | .076        | 1                      | -.305*                      | .145   | -.196                            | .106                              | .063                      |
| <b>(Only) WOPs are Safe</b>              | .425**      | -.305*                 | 1                           | .084   | -.133                            | .244*                             | .051                      |
| <b>FOC in Public spaces very worried</b> | .082        | .145                   | .084                        | 1  | .260*                            | .507**                            | .018                      |
| <b>FOC in WOP very worried</b>           | -.079       | -.196                  | -.133                       | .260*  | 1                                | .227                              | .228                      |
| <b>Victim of Crime (24months)</b>        | .112        | .106                   | .244*                       | .507**   | .227                             | 1                                 | -.158                     |
| <b>Pathan (ethnicity)</b>                | .358**      | .063                   | .051                        | .018   | .228                             | -.158                             | 1                         |

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