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### Socio-spatial (re)construction of open spaces of universities as gendered places in South-West Nigeria

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Abstract: This article draws upon a wider empirical study that situates gender visibility (GV) in public places within the context of socio-spatial qualities (SSQ) of open spaces of the six Federal Universities in Southwest Nigeria by relying on the theorization of genius loci and humanization of spaces. Since the literatures provide scanty empirical information on these geographies, the question is, to what extent do SSQ affect the politics of GV and how can a conceptual framework that is contingent on these qualities be developed? Accordingly, in a cross-sectional survey through stratified random sampling protocols, 3,016 users participated in the study with questionnaire instrument. Correlation results suggest that GV is dependent upon social factors including conviviality, visual and audio privacies, security from criminal victimization and fear of it, and social interaction while it is not reliant on safety and meditation spaces. Further results indicate that GV is

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impacted by spatiality including accessibility, connectedness and convenience. Proximity, walk-ability, and continuity have no effect on GV. Significant socio-spatial variables have their distributions to be different across the genders. Based on these findings, a socio-spatial conceptual framework of GV in campus open spaces was developed. In recommending the framework for best practices, it is argued that open spaces of universities are (re)constructed as gendered places.

*Keywords*: campuses, gender visibility, open spaces, socio-spatial factors. Universities.

#### 1.0 Introduction

of The openness spaces understandable within the context of publicness in terms of access and requires some forms of democracy and power struggles (Parkinson, 2013). However, this presents "the political blind spot of definitions of public space that follow this 'open and accessible' approach" borders on who is in/visible there through a socio-spatial lens (p. 686). The political concerns here have to do with the right to indicating experience, viewpoints, and awareness, including constructions socio-spatial claims through engagement with open spaces, in/equality, in/exclusion, and general feminist ideologies. In particular, the Open Spaces of University Campuses (OSUC) present milieus for the study of politics of gender visibility (GV) in public places since they have Socio-Spatial Qualities that can be engaged contextually in examining genus loci and describing places as humanized spaces. They are simultaneously both physical and social spaces. OSUC are land and water areas that

are not covered by buildings. They include paved plazas, recreation grounds, water bodies, and all areas pedestrian and vehicular circulations, among many others (Alan, 2005). Their spatial features comprise of accessibility, prospects for spatial choices, way-finding, and location qualities (Heitor, Nascimento, Tomé & Medeiros, 2013). Since they are engines of mobility and walkable fabrics, they are places of social mix and have fluidity of use (Jacob, 1961).

The politics of GV in OSUC is neither a constructed ideology nor a fiction but a reality begging for investigation at the interplay of gender discourses on the natural gender binaries. There are emerging 'wars', (in)equalities, gender identities. revolutions. roles. fluidities. barriers. structures. affirmations, complexities (Risman, 2017), and a whole range of gender visibility contests (Brighenti, 2007). spaces that contain these The contests are as important as the contests which accounts for the concern of the present study to develop conceptual framework that

is contingent on the geographies of the SSQ of OSUC.

In this gender domain in public spaces, extant literature has dwell on gender claims on public spaces and sociality (Lahad & May, 2017) asserting the "gendered nature of aloneness" and "relationship with the surrounding social environment" (p. 1). The interactions of gender discourses with public spaces at 'sexual' level manifest as gay and lesbian spaces with resultant effects on safety, comfort, in/exclusion challenges, and complicated spatial claim and politics (Casey, 2004). Alternatively, public spaces have (re)constructed "around particular notions of appropriate (Hubbard, sexual comportment" 2001, p. 51).

At the 'criminal' level, the discourse engages with sexual harassment, fear of insecurity and other criminal victimisations in public spaces with disproportionate effects on female gender (Madan & Nalla, 2016). Concerning teenage girls, visibility in public open space has been discovered to be regulated by religious customs and social controls that frown at female wandering that can stigmatise their behavioural search for sexual freedom (Wijntuin & Koster, 2019). It suggests pushing "against gendered cultural norms about women in public space" (p. 1). In this politics of gender visibility in open spaces, Paul (2011) discovers that unequal power equations are entrenched in the range of everyday life which is structured "within social and geographical spaces and

tacitly" manipulates "individuals' use of space" such that "the public spaces which habour the legitimate basis of social power are kept out of bounds for women". The spaces are progressively being more "masculinized" through physical intimidation, the very identity of women, and socially produced fear (p. 411). Such power has been explained to account for "the mechanisms through which visibility and publicity become resources or constraints for political actors" (Adut, 2012, p. 238).

Furthermore, gender engagement with public open spaces has spatial dimensions for religious and ethnic multicultural groups in places. Physical accessibility, walk-ability, openness, and street-lighting enhance the gender visibility and therefore sense of safety and peculiar lived experiences of women (Johnson & Miles, 2014). In a reverse order, spatial dynamics have been found to reproduce gender dynamics and collective visibility and invisibility (De Backer, 2018). Elsewhere. through political religious ideology women are made invisible and 'banished' out of public open places to domestic spaces to disallow men from casting "improper glances" at them (Rao, 2008, p. 155). Even in the public open places, the privacy of women is hinged on the physical form of spaces which enhance their comfortable use and participations in the urban life in cultural settings (Al-Bishawi, Ghadban & Jørgensen, 2017). Though this body of literature

insightful in enhancing is understanding of gendered notion in public realms, it leads to an important question as to what extent do SSQ affect the politics of GV in OSUC and how can a conceptual framework that is contingent on developed? qualities be these Absence of empirical evidences on geographies suggests significant knowledge gap. This is the crux of this paper. The aim is to advance this body of knowledge by developing a GV framework based on SSQ of OSUC since gender dimensions has come to enshrined as important aspect of environmental social sustainability (Kassinis, Panayiotou, Dimou, & Katsifaraki, 2016).

# 2.0 Review of Relevant Literature2.1 Socio-spatiality - A conceptual praxis

In this study, socio-spatiality is conceptualised as the physical attributes of OSUC that either support or inhibit their social roles and therefore influence the level and pattern of gender visibility of the users. It invariably affects the experiences of the genders through their genius loci mechanisms and how they relate with places as humanized experientially spaces (Norberg-Schulz, 1980). According to Thwaites and Simkins (2006, p. i), basically "experiential this is landscapes" that present novel examining approaches of connection between persons and the outdoor open spaces they

engaged with in their daily lives. It engrosses a total understanding of the association linking persons and tota1 environment. physical and social. Principally, it stresses the spatial experiences that advance place attachment in persons and boost their sense of neighbourhood such that sensory responses tasks have in characterising experiences and attachment to spaces (Cullen, 2012). Summarizing the elements of the

theory of experiential landscape, Abdel-Hadi, Tolba, and Soliman (2010, p. 7) submit that "experiential landscape focuses in particular on elements of people-space relations research, which relate to spatial properties that are increasingly associated with human emotional psychological and wellbeing." Ebbensgaard (2017)observes it to be the sphere of affective engagements with spaces that are designed which subsist in and of itself, nonetheless actualized through material and non-material sensory and performative encounters and how people experience spaces. In these ways, open spaces of university campuses are understood socio-spatial emblems and products of design (Millington, 2015). Because the present research relies on the experiences of the genders while utilizing the spaces, elements experiential the of landscape based on SSQ of OSUC is definitely suitable in guiding this GV research.

In this socio-spatial praxis, GV is conceptualised as the gendered patterns of use of the OSUC. In this study, the patterns of use are measured as the period, purpose, and mode of use. These variables are suggestive of the levels interactions of the genders with the and open spaces invariably determine perceptions the qualities. Similar measures have been used in previous studies (Gehl, 2007: Cubukcu & Isitan. 2011: Adedeji & Fadamiro, 2015) as quality indicators. GV is therefore a construct that could be measured through patterns of gendered use and socio-spatial factors influencing such uses

### 2.2 Open space design frameworks

A number of open space frameworks have been documented in the literature but the most relevant to university campuses are discussed here. They include framework for built environment (Sandalack & Uribe, 2010), the place diagram (Project for Public Spaces, 2000), framework for healthy campus open space design (Lau, Gou & Liu, 2014), conceptual framework of urban park management (Chan, Marafa, & Van Den Bosch, 2015), socio-ecological framework of fear in urban green spaces (Sreetheran & Van Den Bosch. 2014). environmental preference framework (Kaplan & Kaplan, 1982), and urban design framework (Carmona et al, 2010).

In view of the socio-spatial concern of this paper, the place diagram (Figure 1) that documents the characteristics and qualities of a great place in the public domain is adopted for SSQ and GV in OSUC. Developed by Project for Public Spaces (PPS, 2000). it comprehensive tool comprising of general considerations for guiding design of successful public places. It was developed as a groundwork based on the work of Whyte (1980) and Jacobs (1961) by using techniques like observation, surveys, and interviews to study and transform public spaces into vibrant outdoor and open spaces pedestrians enjoy and are therefore attached to. It was produced after evaluating thousands of public spaces worldwide to answer the question: "What makes a Great Place?" (Santos Nouri & Costa, 2017, p. 357)

The diagram, as shown in Figure 1, with five consecutive rings, refers to the significance of four principal urban qualities which are sociability, uses and activities, access and linkages, comfort and image (Project for Public Spaces, 2003) in its overall sense points to importance of the public domain and space between buildings as that which configures the domain of socialisation, common experiences, and collective memory (Gehl, 2011; Brandão, 2011; Santos Nouri, & Costa, 2017) on which GV may be implicated. The suitability of the framework in providing general

insight to guide the present study is also accountable for by the richness of the details of the four principal urban qualities in its third ring. Specifically, the division of access and linkages to continuity, proximity, connected, walkable, convenient, accessible open spaces, suggest it to be spatial and therefore very significant to this study.

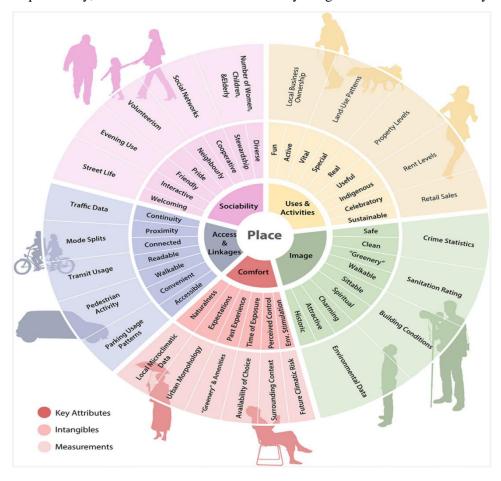


Figure 1: Restructured Place Diagram. Source: Santos Nouri & Costa, 2017, p. 378.

Even though the framework is not specific to OSUC, its significance lies in its user-based approach which is the focus of this study and offering insight into the socio-spatial

factors. It also provides a novel background to understanding the extent to which SSQ affect the politics of GV and how a conceptual framework that is contingent on these qualities can be developed.

### 3.0 Study context and methodology

The study was carried out in the open spaces of the academic and administrative zones of all the six Federal university campuses in South-west Nigeria. The region has similar educational. climatic. cultural. social. economic and political inclinations and ethnic setting (Aluede, 2006). The study was based on a cross-sectional survey of 3,016 users of the OSUC employing a structured questionnaire on issues bordering on SSO and GV. The variables were sourced from the literature detailed in the earlier sections and observations. The research populations comprise of all the open spaces and users, both students and staff. While all the spaces were censored, sample size of the users was determined according to Krejcie and Morgan (1970) table to be a total of 2,245 based on and from the population of students and staff in each university. SSQ were measured based on a 5-point Likerttype scale consisting of unsatisfactory, unsatisfactory, fairly satisfactory, satisfactory, and very satisfactory. The SSQ measured on this scale were divided into two groups, social and spatial qualities. The social qualities measured are conviviality, social interaction space, visual privacy, audio privacy, open space for being alone, safety, and security from crime/fear of criminal victimization. The spatial factors measured are accessibility, proximity, walk-ability, connectedness, continuity, and convenience.

GV was measured by gender on nominal scale (male, female), and their uses of the OSUC. The uses were measured on nominal variables including mode, purpose, period, and hindrances to use. Mode of GV was measured as walking, strolling, running. standing, and sitting. Purpose of GV was measured as utilitarian, personal academic, group academic. being alone. group religious, passive recreation, and active recreation. Period of GV was measured as dawn (6.00-8.00am), (8.00am-12.00noon). morning afternoon (12.00noon-4pm), evening (4.00-6.00pm), twilight (6.00-(8.00pm-8.00pm), and night 6.00am). Hindrances to GV was insecurity/fear measured as of insecurity. lack safety. unfavourable weather condition, lack of audio privacy, and lack of visual privacy. As recommended by Simon (2011) for survey research, 10% of the sample size was administered during the pilot survey in the same manner as the main data collection. The instrument satisfies criterion validity and had internal consistency (Cohen and Swerdlik, 2010). The data obtained were subjected to descriptive and nonparametric inferential statistical analyses because of their nominal and ordinal scales of measurement.

#### 4.0 Results and discussion

total of 3.016 copies of questionnaires were administered. This is well above the minimum calculated sample size of 2,245. Out of the 3,016, a total of 2,347 (77.82%) were retrieved. A total of 1,759 (74.95%) out of the figure returned were found suitable for analysis through data cleaning process (Bohannon, Fan, Geerts, Jia & Kementsietsidis, 2007). This figure (1,759) represents 78.35% of the calculated minimum sample size of 2,245 (100%). This is within the 'very good rate' of 70-85% in landscape assessment face-to-face questionnaire survey research (Babbie, 2007). Results reveal the status of the users of the campus spaces. users The disproportionately males, 1095 (62.3%) than females, 664 (37.7%). They are in the following age groups: below 18 years, 121(6.9%); 18-45 years, 1610 (91.5%); 46-65years, 18(1.0%); above 65years. 10 (0.6%).

## 4.1 Gender visibility and patterns of use of OSUC

Table 1 shows the result of the Chi square test to examine the dependence or otherwise of GV on SSQ.

Table 1: Pearson Chi square test of use and gender visibility

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Use of the open spaces	Df	Chi square	Asymp. Sig.			
			(2-sided)			
Common period of use	5	13.940	.016			
Common purpose of use	6	18.051	.006			
Mode of pedestrian use	5	29.001	.000			
Hindrance to use	4	3.523	.474			
	Common period of use Common purpose of use Mode of pedestrian use	Common period of use 5 Common purpose of use 6 Mode of pedestrian use 5	Common period of use 5 13.940 Common purpose of use 6 18.051 Mode of pedestrian use 5 29.001			

There is significant difference in the purpose of using the UCOS between males and females (df=6,  $\chi$ 2=18.051, p=0.006<0.05). This might simply suggest that open spaces on campuses are male-dominated. Also, there is significant difference in the mode of pedestrian use of the OSUC between males and females (df=5,  $\chi$ 2=29.001, p=0.000<0.05). Figure 2 reveals the pattern of the differences that while both genders use the open spaces for all other purposes equally, males use them for

active and passive recreation than females. Even among the males, the open spaces are put to active recreation than passive recreation.

Similarly, the mode of pedestrian use differs among the genders (Cramer's V=0.135) significantly (p=0.000<0.005). Both genders have equal preference for sitting as the first priority while standing and running are the least priorities for males and females respectively as shown in Figure 3. However,

strolling and walking are the second priorities for males and females

respectively.

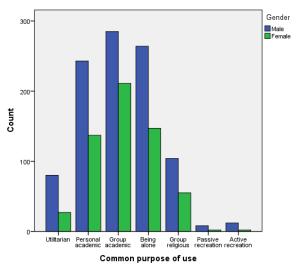


Figure 2: Differences between the genders in the use of the university campus open spaces in South-west Nigeria.

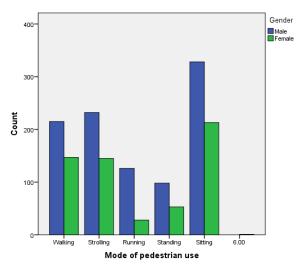


Figure 3: Differences between the genders in the pedestrian mode of use of the university campus open spaces in South-west Nigeria.

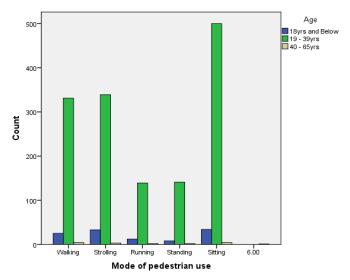


Figure 4: Differences between the age groups in the pedestrian mode of use of the university campus open spaces in South-west Nigeria.

While inclement weather was the highest concern of all the age groups, users in the age bracket of 19-39yrs and other higher age

groups have more safety concerns than lower age group (18yrs and below) who are more concerned with audio privacy (Figure 5).

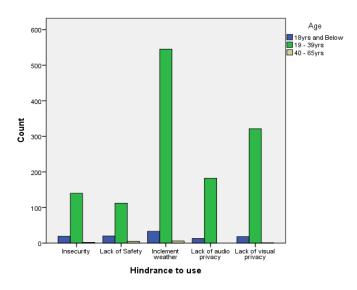


Figure 5: Differences between the age groups in the hindrances to the use of the university campus open spaces in South-west Nigeria.

It suggests that there may be some factors which hinder the females from using the open spaces than males, particularly insecurity, lack of safety, and inclement weather. The modes of pedestrian use of the

spaces are also significantly different between the genders (p<0.05). All these aspects thus have implications on GV. Plates 1 to 3 illustrate these in OSUC.



Plate 1 showing the gender visibility at Professor Sofoluwe Park, University of Lagos, Nigeria.

Source: Picture by author, 2016

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Plate 2 showing gendered use of open space at the Faculty of Arts, University of Ibadan, Nigeria. Source: Picture by author, 2016



Plate 3 showing the mixed gender use of Faculty of Agriculture Plaza, Obafemi Awolowo University, Ile -Ife, Nigeria.

Source: Picture by author, 2016

4.2 Socio-spatial factors influencing gender visibility in OSUC

It has been established in the previous section that GV is reliant upon patterns of gendered use of

OSUC in the study area. To examine the socio-spatial factors associated with these gendered patterns, detail frequency, contingency, and correlation analyses were carried out and the results are shown in Table 2.

Table 2: Socio-spatial factors influencing gender visibility in the open spaces of

university campuses in South-west Nigeria

Gender	Very unsatisfa ctory	Unsatisfa ctory	Fairly satisfac tory	Satisfac tory	Very Satisfac tory	Spear man correla tion $r_s$	Conting ency coeffici ent C	Signific ance P
a. Social factors Convivial ity						0.097*	0.101	0.002
	95	187	197	402	145			
Male	42	79	98	275	105			
Female Social interactio						0.076* *	0.083	0.024
n spaces	74	144	216	234	154			
Male	31	65	109	291	102			
Female Visual privacy						0.098*	0.103	0.002
	137	252	279	285	65			
Male	59	118	172	190	61			
Female Audio privacy						0.075*	0.083	0.024
_	137	229	251	315	84			
Male	53	123	155	201	65			
Female Open space for being alone						0.042	0.065	0.236
	136	208	212	346	117			
Male	77	113	119	200	95			
Female Safety						0.040	0.052	0.482
Male	82	117	235	398	190			

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Female Security	42	61	129	252	121	0.050	0.065	0.146
from/fear of crime	93	143	255	361	164			
Male	35	79	149	231	105			
Female b. Spatial factors Accessibi lity						0.051	0.056	0.272
Male	64	116	181	438	215			
	34	52	97	273	142			
Female Proximity	93	163	192	417	163	0.034	0.066	0.126
Male	34	95	125	243	106			
Female Walk- ability	31	73	123	2-13	100	0.028	0.053	0.324
Male	77	89	177	458	225			
	50	51	82	284	145			
Female Connecte dness						0.049*	0.054	0.315
Male	53	151	223	437	154			
Female	28	81	118	260	113			
Continuit y						0.026	0.040	0.631
Male	55	136	241	440	143			
	33	72	143	253	101			
Female Convenie nce						0.050	0.063	0.172
Male	50	121	195	485	160			
	28	62	111	276	124			
Female  *Correlations are significant at 0.05 (95%) confidence level ** Correlations are significant at 0.01								

<sup>\*</sup>Correlations are significant at 0.05 (95%) confidence level. \*\* Correlations are significant at 0.01 (99%) confidence level.

Table 2 shows that conviviality (p=0.002<0.005 at 99% confidence

level) is a social factor that significantly influences GV. Open

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spaces on campuses that are convivial by providing refreshment corners where users can access snacks and drinks are important and welcoming to males and females. Availability of social interaction spaces (p=0.024<0.05) attracts both males and females and significantly affects GV in OSUC. They provide the social environment for desirable social mix on campuses.

Visual privacy (p=0.002<0.005) is another social factor that affects GV. significantly Even though with equal significance value as conviviality, visual privacy has the highest contingency (C = 0.103) and correlation  $(r_s = .098, p =$ .002<0.005) values compared with all the socio-spatial factors. Despite the fact that openness is associated with the public domain, why is it genders, especially female gender, desire visual privacy in the public domain? This may not be unconnected with the politics of sight between males and females that are embedded in sexualities and similar notions and engagements and invariably affect GV Similarly, users desire privacy of their verbal communications ( $r_s$  = .075, p = .024 < 0.05) even in the open spaces. However, other social factors like availability of space for being alone for personal meditation  $(r_s = .042, p = .2364>0.05)$  and safety concerns ( $r_s = .040$ , p = .482>0.05) have no significant influence and therefore do not affect GV.

It is not unlikely that both male and female do not desire solitude in the OSUC possibly due to cultural belief in the study area that such public behaviour may be connected with neuropsychiatric disorders. Safety concerns also do not impact GV possibly because the public domains are self-defensible spaces due to natural surveillance according to the seminal defensible space theory of Newman (1996). Result also reveals that security from crime and fear of criminal victimization ( $r_s = .065$ , p = .146>0.05) do not affect GV in OSUC possibly for the same reason. This may not be unconnected with the self-surveillance of public open spaces with reasonable pedestrian traffic volume especially daylights and when places are properly illuminated at night.

Results shown in Table 2 suggest that spatial factors account less for GV compared with social. determinants. Accessibility, the ease of moving into an open space, moderately affects GV. While females are innately ease-seekers and therefore will not venture to access open spaces that are not prepared for ease of use, the males can go extra miles to reach their desired destinations despite odds and carry out their compulsory, necessary, and optional outdoor activities. Connectedness degree of connection of the open space with routes to other open spaces, and convenience - the ease

of use of an open space, are two other spatial factors that significantly affect GV. While the presence of both enhance the use of OSUC by females, and therefore visibility, their absence preclude female visibility. Males can endeavour to overcome barriers posed by lack of connectedness and convenience to their navigations.

Further results shown in Table 2 suggest that proximity - the nearness of an open space to the main activity area of a user, do not have effect on GV in such space. This agrees with earlier results that males and females choose their OSUC destination based on individual peculiar use factors including purpose, period, and mode of use. Hindrance to use are embedded as absence of the socio-spatial factors that enhance usability, hence GV. Walk-ability the ease of walking inside an open space, do not affect GV. This may appear to be surprising especially for the female gender in an open space like campus wilderness. It is not unlikely that primary factors like security and accessibility already preclude their use of such spaces how much more walk-ability when they do not even dare to access. Similar reason may hold

continuity - the degree of possibility of reaching desired destination within an open space whenever it is entered, which does not affect GV. Table 2 also shows that the sociospatial variables that significantly affect GV have their frequency distributions to be different across the genders.

# 4.3 Socio-spatial conceptual framework of GV in OSUC

To summarize the results of the analyses and drawing upon the Place Diagram (Project for Public Spaces, 2003), a socio-spatial conceptual framework of GV in open spaces of university campuses is developed as shown in Figure 6. In framework, purpose of using the open space and mode of pedestrian use are contingent upon gender. Personal academic, group academic and meditation along with group religious purpose require sitting facilities. Both male and female users equally carry out personal academic and group academic along with group religious purpose activities in the OSUC at the same rate and require sitting facilities. Also, both male and female users stroll in the open spaces.

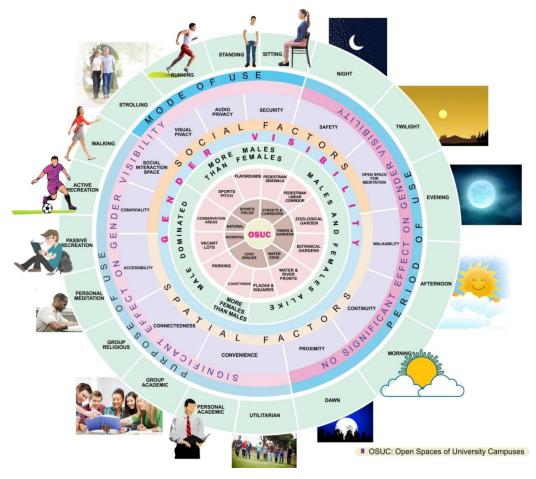


Figure 6: Socio-spatial conceptual framework of GV in open spaces of university campuses

Source: Author, 2018. Adapted after Place Diagram (Project for Public Spaces, 2003).

Furthermore, conviviality, social interaction spaces, and visual and privacies, have primary significant influence on GV in OSUC. Securities from crime and criminal victimization, fear of accessibility, connectedness, convenience have secondary significant influence on GV in OSUC. However, the framework shows that open space for personal meditation and 'being alone', safety, proximity, walk-ability, and continuity do not have significant effect on GV in open spaces.

### 5.0 Conclusion and Recommendations

The patterns of the results agree generally with those of previous

studies. Al-Homoud and Abu-obeid (2003) found that the use of campus is reliant open spaces characteristics of users generally although familiarity with space did correlate with gender peculiarities. Abu-Ghazzeh (1999) found that there is difference in perceptions based on class levels among fresh male students who lack personal experience of the spaces, higher classes and faculty members, including age categories.

Though gender peculiarities are discovered and both genders use the OSUC in different ways, majority of the users require adequate mix of uses. Both genders use the open spaces for all other purposes; however the fact that males use them for active and passive recreation than females is a precursor to designing OSUC as 'gender spaces.' Among the males, the open spaces are put more to active than passive recreation and since the females also use the OSUC for recreation, the results suggest the importance of the open spaces for the wellbeing of both genders. Since both genders have equal preference for sitting, this signifies the importance of provision of sitting facilities strategic nodes along pedestrian routes to enhance GV.

Further work on GV can be carried out to examine the impact of SSQ on gender interaction and how they shape behavioural patterns in OSUC. Such researches can also be designed as in-depth qualitative case

studies exploring interviews and focus group discussions to gain insight into the specific mechanisms that may account for the differentials the socio-spatial behaviours across the genders in peculiar and mixed cultural settings. important to emphasize that future designs of OSUC can benefit maximally from applying the newly developed socio-spatial conceptual framework of GV in campus open spaces which it has (re)constructed as gendered places and therefore recommended for best practices.

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