

Comparative Analysis of Urban Open Space Proclivity in Port-Harcourt, Enugu and Aba, South-South and South-Eastern States of Nigeria, West Africa

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ABSTRACT

Several scholarly articles have addressed the issue of urban inclinations and characteristics. Some of these articles argued that a better understanding of people's proclivities about public urban open spaces might inform urban planners and other stakeholders in the built environment to effectively provide and manage urban open spaces to meet users' needs. The purpose of this study is to investigate urban residents favoured public open space features and ascertained whether likes and differences can be established in three different Nigerian urban areas. A web-based questionnaire based on the Best-Worst Scaling (BWS) method was administered on an overall number of 750 urban residents of Port-Harcourt, Enugu and Aba, with the respondents asked to choose the most and least important public open space characteristic among thirteen variables. The findings formed not just an agreement towards some open space features across urban areas, but also the availability of some local variations in urban area residents' proclivities. Generally, this study can aid municipal establishments, town planning authorities and other stakeholders in the built environment like architects and surveyors, as they endeavour to successfully design and manage urban open spaces to meet the needs of the user population.

Keywords: Urban open space, public urban parks, proclivities, coolness, open spaces, features.

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INTRODUCTION

Urban open spaces are progressively accepted as fundamental components in the campaign of environmental continuity and worth of life in urban areas, sequel to a long antiquity of steady acceptance of the numerous functions such as aesthetic, cultural, ecological, functional, economic or social. Open spaces provide environmental benefits, such as the mitigation of heat island effects, the reduction of pollutants in the air, the campaign of biodiversity and noise reduction. They are also important in urban areas as a result of the social benefits, by providing ample recreational prospects, by supporting social interaction and integration and by contributing to the improvement of mental and physical health (Ador and Ardor, 2016).

Public urban open spaces such as urban parks are traditionally the most valuable components of open urban infrastructures (Chicora, 2014). They are fundamentally managed by government agencies and accomplished for public use, and so they are fundamental components in the campaign of worth of life in urban areas, namely owing to their contribution to the liveability of the dwelling environment, to the experience of nature (Bovine, 2017) and to the increasing demand for nature-based recreation amenities (Collins and Mergers, 2013). Public urban open spaces comprise different types of open spaces, namely in degrees of naturalness, types of vegetation, recreational infrastructures or social uses they can offer (Shan,

2014). Because public urban open spaces have different features and social uses within urban areas, it is furthermore important to assess people's proclivities about public urban open spaces. An improved understanding of the proclivities of a given urban area's residents for their public open spaces may inform policymakers and urban area planners to effectively provide and manage urban open spaces to meet the needs of the user population (Richardson, 2017; Chicora, 2014; Boney and Carpus, 2016).

Recently, there have been many studies directed at residents' inclination in relation to numerous dimensions of urban open spaces. These studies, which are very diverse in scope, objectives, and methodologies, may be systematized into three main groups. In the first group, we may include the research studies involving the assessment of the motivations for visiting urban open spaces, in particular, public gardens and parks. The results obtained in different urban areas have shown that the visitation of public gardens and parks is anchored in a very wide range of reasons or motivations. For example, in a study conducted in Amsterdam, 'to relax' was found to be the most important motivation, followed by 'to be in nature', and 'to escape from the urban area' (Jimmy and Sherry, 2014).

In Port-Harcourt, 'to enjoy fresh air and beautiful scenery' and 'to relax' were identified as the main motivations (Eves and Kuban, 2017). Jimmy and Sherry (2014) found that urban open space visits in Enugu were mainly motivated by the possibility of practicing physical exercise and contact with fresh air. The considerable variability in the results from the diverse studies suggests the need for more research to achieve a more comprehensive understanding of the motivation patterns (Kelsey, 2017). In the second group, studies that have investigated how residents evaluate the benefits associated with urban open spaces were embraced. While using different methodologies, this set of studies provides information on how the values associated with open spaces are evaluated in worldwide urban contexts. For example, studies conducted in Warri (Voila, 2015), Kaduna (Wanda, 2015), Lagos (Andrew and Hammer, 2017), Ibadan (Bovine, 2017), and in urban areas of Port Elizabeth (Lo and Jim, 2014), Frankfurt (Lander and Jimmy, 2012), New York (Cottager, Jorgensen and Andrew, 2017), and China (Lo and Jim, 2014) used questionnaire surveys to assess the benefits connected to urban open spaces. A comparative appraisal of these studies' results reveals some inconsistencies between the rated benefits, also suggesting the need for further research into values connected with open spaces located within an urban area.

A third cluster overall researches that have explored the desired characteristics and features of urban parks include the studies directed at the overall identification of the residents' proclivities for same variables of open spaces and those concerning the identification of the variables more meaningfully connected to users'

incidence. These studies have identified a wide range of people's proclivities on urban park variables, such as hygiene, coolness and discreetness, naturalness, or the presence of adequate amenities (Cettory, 2015; Fledzin et al., 2017; Bovine, 2017; Shan, 2014). For instance, in a recent publication, Lo and Jim (2014) summarized visitors' perception of park features in four main groups: naturalness, relating to all features associated with the biodiversity of the urban parks; neatness, including the features that make a park convenient and safe for visits; sociability, relating to the features that are important to meet other people; and spaciousness, which refers to structural features, specifically the park extent.

This study aims at examining urban residents' perception of urban public open space features to ascertain whether likes and differences can be established in three different Nigerian urban areas. Two research objectives guided the study; to ascertain how urban residents rate the different environments public open space features? and to determine public open spaces feature and their rating among the three urban areas. The Best-Worst Scaling (BWS) method was used to compare the samples from three Nigerian urban areas with different dimensions: Port-Harcourt, Enugu and Aba (Table 1; Figures 1-3).

MATERIALS AND METHODS

For the purposes of this study, a three-segment questionnaire was developed. The first segment of the survey was prefaced by an explanation of the purpose of the study and included questions about socio-demographics (age, gender, education and place of residence). The second section focused on respondents' perceptions and aspirations for their urban area's public open spaces. It included questions about overall satisfaction with the urban area's public open spaces, the frequency of visiting public parks and their desires regarding future investments in public open spaces. The third and central part of the survey measured the importance the respondents' connectedness to public open space features - hygiene and preservation, abundance in plant types, availability of water bodies, adequate sit-outs, discreetness, availability of play area, abundance in animal types, prospects for sport activities, decent amenities, availability of car parking space, adequate park size, availability of secluded areas, and high visitors patronage. The BWS method, described below, was used for this purpose. Thirteen public urban open space variables were selected based on an analysis of the literature in which the importance of park features has been assessed.

Study Technique

Best-worst scaling (BWS) is a survey-based technique that allows survey respondents to choose the 'best' and 'worst' variables across a number of repeated choice

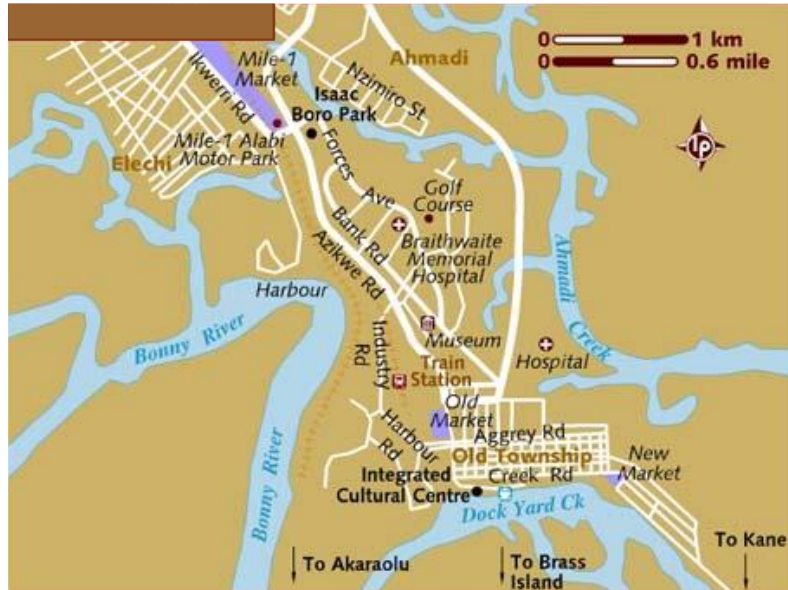


Figure 1: Map of Port-Harcourt.

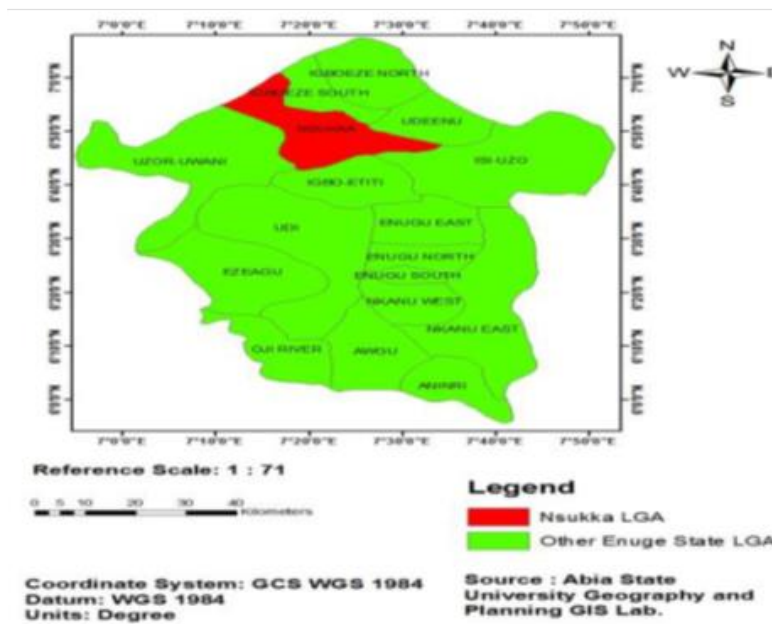


Figure 2: Map of Nsukka in Enugu State.

sets. Rather than asking respondents to rate items one at a time, respondents are shown a predefined number of candidate items and are asked to choose the two items within each set that they consider to be the 'best' and 'worst' (Tyronne et al., 2017). The frequency with which a variable is selected best (or worst) indicates the strength of the inclination for that variable (Wanda, 2015). Two main groups of advantages have been identified in adopting a BWS methodology: it involves a fairly simple task for respondents, and it is less cognitively demanding

to select only a best and worst option from a set than ranking all items simultaneously (Warren and Shalvey, 2017; Richardson, 2017); and it provides rich information to the researcher by allowing for adequate information to calculate even individual-level scales and by providing precise and comparable scales (Salamander et al., 2014). BWS was introduced by Finn et al. (2013), who used it to measure public concern about food safety, and it has since been used in numerous contexts, including

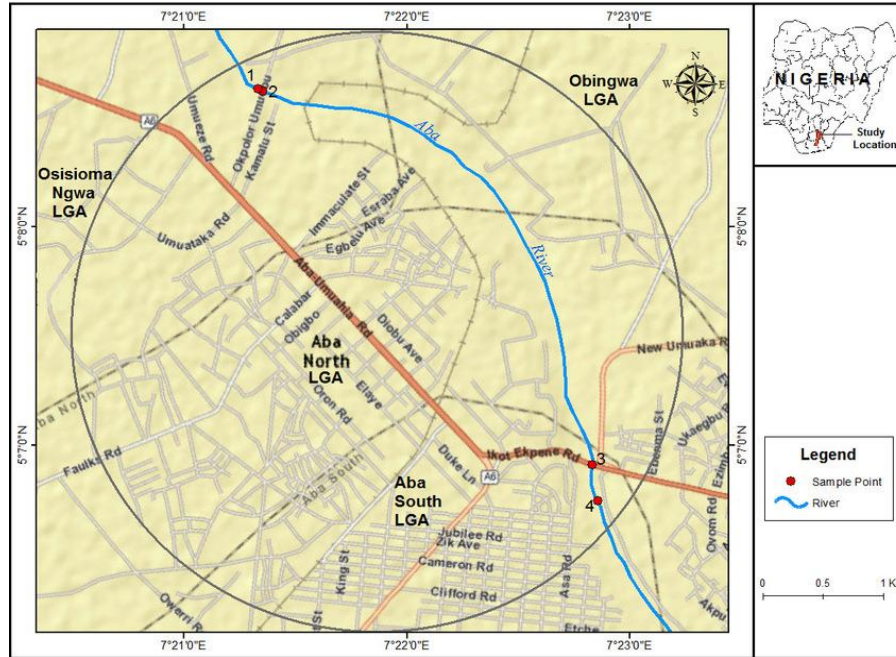


Figure 3: Map of Aba Urban.

Table 1: Resident Population in Port-Harcourt, Enugu and Aba, 2006.

Urban Areas/ States	Population	
	Urban area	Metropolitan Area
Port-Harcourt (Rivers State)	1,148,665	2,821,876
Nsukka (Enugu State)	688,862	1,759,524
Aba (Abia State)	897,560	1,969,073

Source: www.population.mongabay.com. Assessed, August 10, 2018.

consumer behaviour, health policies and environmental and planning studies (Lo and Jim, 2014; Kelsey, 2017; Bovine, 2017). In this study, the thirteen variables were combined into thirteen choice sets of three items each, and respondents were asked to select the best and worst variable in each set, i.e., the most and least important public open space characteristic. The question sets were balanced actually, or incidence, positional occurrence and orthogonality, and therefore satisfy optimal design features. This means that each variable appears the same number of times across all choice sets and that each pair of variables appears only once within each set (Daniel and Richard, 2015).

Study Administration and Sample

The survey was pre-examined with a subset of volunteers. Their suggestions pave the way for the revision of the instructions for completing the BWS sets to be easier to interpret and also to identify the time needed to complete the survey. Three independent online surveys, one for each urban area in the study,

were constructed on 750 survey population, with 250 respondents from each of the surveyed unit – Port-Harcourt, Enugu and Aba. The 750 sample size was derived by employing Taro Yamane sample size determinant technique. The survey links were distributed first through mail and then social media and websites. Data were collected between October 2017 and June 2018. Only respondents who completed all the survey sections in full were included in this study. The online survey programming options was used to eliminate missing or ambiguous data, by not allowing missing responses and, in the case of the best-worst choice sets, by not permitting an item to be chosen simultaneously as best and worst. The total weighted index for each category is 250, while the total percentage equivalent equals 100%.

RESULTS

The profile of the respondents in each urban area in the study is denoted by three socioeconomic variables

Table 2: Socio-Economic Features of Sampled Data.

Gender	Age	Port-Harcourt				Enugu				Aba			
		Actual	%	Weighted	%	Actual	%	Weighted	%	Actual	%	Weighted	%
Male	15–34	3	1.2	19	7.6	8	3.2	20	8	7	2.8	25	10
		24	9.6	16	6.4	15	6	13	5.2	11	4.4	11	4.4
	35–54	4	1.6	21	8.4	2	0.8	24	9.6	16	6.4	31	12.4
		54	21.6	16	6.4	30	12	12	4.8	36	14.4	10	4
	1	0.4	30	12	15	6	33	13.2	16	6.4	36	14.4	
	≥ 55	19	7.6	11	4.4	25	10	10	4	12	4.8	4	1.6
Female	15–34	1	0.4	16	6.4	11	4.4	16	6.4	3	1.2	20	8
		29	11.6	19	7.6	24	9.6	16	6.4	12	4.8	15	6
	35–54	4	1.6	20	8	12	4.8	26	10.4	17	6.8	28	11.2
		65	26	19	7.6	65	26	17	6.8	82	32.8	15	6
	4	1.6	51	20.4	13	5.2	54	21.6	21	8.4	50	20	
	≥55	42	16.8	12	4.8	30	12	9	3.6	17	6.8	5	2

(Table 2). In all three samples, female respondents from the 35–54 age group and holding higher degree were overrepresented compared with census data? Given the disadvantages associated with non-probabilistic online surveys in relation to sample representativeness, emphasis was placed on keeping a balanced distribution by applying a weighting factor to adjust the sample to age, gender and educational level population features. Table 2 indicates the weighted sample according to census data. All of the subsequent results reflect the applied weighting factors. The study data were analyzed in two main sections. The first part focused on global views of the urban area’s public open spaces, where categorical variables were expressed as frequencies and percentages. The second segment concentrated on the desired attributes of public open spaces. Analyses were commenced by computing Best-Worst Raw Scores for each respondent (individual B-W) for each open space characteristic.

The number of times each item is chosen as most significant (best) and least significant (worst) is added up across all choices and the worst are subtracted from the best, resulting in Best-Worst Raw Scores. Because Best-Worst Raw Scores are often perceived as difficult to understand, they are often re-scaled to allow for an easier and more intuitive interpretation (Dora et al., 2016; Larry et al., 2017). Therefore, the Best-Worst Raw Scores were re-scaled or transformed into Re-scaled Scores (0–100) so that the scale presents ratio-scaled probability properties with the sum of all items being 100. This assumes that an item is selected a particular percentage of times when presented with other items (Lander and Jimmy, 2012). To examine differences in variables’ ratings between the different urban areas, an analysis of Kruskal-Wallis examine for the mean of the re-scaled scores among the three urban areas was performed.

The best-worst scores relating to the thirteen open space features evaluated by respondents from Port-Harcourt, Enugu and Aba are listed in Table 3. The re-scaled

scores can be interpreted in the following manner: globally, the variable ‘hygiene and preservation’ was chosen as the most important, on average, and when compared with the other variables, 16% of the time; it is approximately twice as important as the variable ‘availability of play area’ (8%).

Taking into account the overall results, ‘hygiene and preservation’ is rated as the most important public open space characteristic (16.1%, range by urban area, 15.9–16.3%). The high priority given to this variable matches several studies conducted worldwide. For instance, in a comparative study conducted in four European urban areas (Voila, 2015), hygiene was rated as the most important park characteristic for park visitors (Madeira et al., 2015). Similar results were found in Vienna (Austria) Mohsen, Parson and Allman, (2014), in Port-Harcourt (Rivers) Nunez et al. (2016) and Cottager et al. (2017). Ador and Ardor (2016) in an appraisal paper on qualitative research on the influence of urban parks on park use and physical activity found that hygiene and preservation within parks were regularly identified as important factors.

Respondents from all three urban areas also attach great importance to the abundance of plant types (13.0%, range by urban area, 12.2–13.7%). The stated inclination for public open spaces with plant types shows abundance contrasts with the moderate emphasis given to animal types abundance (7.8%, range by urban area, 6.8–9.5%). These results seem to echo the complex relationships between people’s proclivities and perceived biodiversity values (Chicora, 2014), under an apparent ‘people–biodiversity paradox’ (Kelsey, 2017). Results of this study agreed with other similar study in which vegetation diversity was found to be moderately to very important (Jimmy and Sherry, 2014) but contrasts with other studies that have identified negative proclivities connected to habitats of high plant types abundance (Richardson, 2017; Warren and Shalvery, 2017; Collins and Mergers, 2013) However, a moderate emphasis is given to animal types abundance (7.8%, range by urban

Table 3: Raw Scores and Re-Scaled Scores of the Thirteen Variables.

Variable	Port-Harcourt		Enugu		Aba		Overall Score	Mean Connected to the Variables
	Raw Score	Connected to the Variables	Raw Score	Connected to the Variables	Raw Score	Connected to the Variables		
Hygiene and preservation	4.21	15.93	3.97	16.19	3.87	16.31	16.14	
Abundance in plant types	1.89	13.67	2.37	13.03	1.89	12.24	12.98	
Availability of water bodies	1.29	11.20	1.92	12.32	1.28	10.39	11.30	
Adequate sit-outs	1.42	11.41	1.08	9.84	1.32	11.01	10.75	
Coolness and discreetness	2.10	12.69	2.35	12.32	0.02	7.14	10.72	
Availability of play area	0.47	6.78	0.14	6.72	1.44	10.43	7.98	
Abundance in animal types	0.22	6.76	1.03	9.47	0.11	7.26	7.83	
Prospects for sport activities	1.45	5.34	0.34	6.13	1.25	10.18	7.22	
Decent amenities	0.23	7.09	0.93	5.27	0.52	6.00	6.12	
Availability of car parking space	1.53	3.20	1.45	4.93	1.98	3.46	3.86	
Adequate park size	2.60	2.50	2.97	1.09	2.72	2.15	1.91	
Availability of secluded areas	2.53	2.24	2.79	2.00	3.29	1.44	1.89	
High visitors patronage	3.71	1.20	4.11	0.70	2.68	2.00	1.30	

area, 6.8–9.5%), but even so, deserving a greater importance than in other studies (Boney and Carpus, 2016; Richardson, 2017).

The presence of water in the environment (lakes, rivers and coasts) has been identified as playing an important role for people’s well-being, and some evidence is emerging that blue space is associated with landscape proclivities (Lo and Jim, 2014; Quaint et al., 2013). Respondents from the three Nigerian urban areas also attach great importance to the availability of water bodies in public open spaces (11.3%, range by urban area, 12.4–12.3%), being the third most Desired variable in this study. Park amenities such as sit-outs play areas, sports amenities and other amenities such as coffee shops or restaurants are moderately appreciated by the respondents who took part in this study.

The opportunity of open spaces offering conditions of coolness and discreetness is also a characteristic that is moderately valued by the respondents (10.7%, range by urban area, 7.1–12.7%). This result seems to agree with the devaluation of spaces that are frequented by many people, precisely the variable that is less valued in this study but in apparent contradiction with the devaluation of the availability of quiet and private areas. This study seems to corroborate previous results that have noted some complexity in this domain, namely by the inclination for spaces that offer conditions of coolness

and discreetness but at the same time are moderately frequented by other people (Salamander et al., 2014). Other studies have suggested a preference for large parks, namely by its usually higher structural and functional diversity. However, the large size of the park was one of the variables that were less valued by the respondents from all three Nigerian urban areas (1.9%, range by urban area, 1.1–2.5%), and thus, the importance of park size was not confirmed by the present study.

In this study, researchers conjectured that the evaluation of public open space features could not be generically widespread and that specific contexts, namely, urban area size, could influence the way respondents rated the numerous public open space features. The denoted likes and differences in the rated features of public open spaces between the three urban areas were supported by using the Kruskal-Wallis nonparametric examine for variables measured in ordinal scale (Table 4).

One of the most interesting results of this study is that some open space features are equally ranked among the different urban areas. This is the case for the most desired public open space features that have already been discussed in the last section, in particular, the ‘hygiene and preservation’ and ‘abundance in plant types’ variables. However, despite these interesting matching results, the important variations in urban open

Table 4. Analysis of Kruskal-Wallis for the Examined Mean of the Re-Scaled Scores among The Three Urban Areas.

Variable	Port-Harcourt	Enugu	Aba
	Lateral Significances		
Hygiene and Preservation	0.000 **	0.000 **	0.226
Abundance in plant types	0.006 *	0.014 *	0.720
Availability of water bodies	0.008 *	0.008 *	0.799
Adequate sit-outs	0.200	0.811	0.415
Discreetness	0.035 *	0.000 **	0.000 **
Availability of play area	0.067	0.000 **	0.000 **
Abundance in animal types	0.004 **	0.015*	0.808
Prospects for sport activities	0.000 **	0.023*	0.000**
Decent amenities	0.751	0.075	0.051
Availability of car parking space	0.000 **	0.007 *	0.019 *
Adequate park size	0.137	0.463	0.481
Availability of secluded areas	0.205	0.000 **	0.000 **
High visitors patronage	0.206	0.000 **	0.000 **

Note: The * indicates significant variance, ** indicates very significant variance between the mean scores among urban areas at a significance level = 0.05.

space features evaluation among the three urban areas in this study must also be underscored. For example, 'hygiene (cleanliness) and preservation' is rated as the most important public open space characteristic in all three urban areas, but there are significant differences between the mean scores among Enugu and the other two urban areas in the study. In spite of the difficulty of establishing causal associations, these results may reinforce the hypothesis that urban area size is an important factor in explaining the valuation of some open space features. Respondents from more populated urban areas seem to appreciate more the offer of conditions of discreetness and also to devalue more open spaces that are frequented by many people (Tables 3 and 4). This high valuation in Port-Harcourt and Enugu of public open spaces offering conditions of discreetness is accompanied by a relative devaluation of public open spaces containing amenities for children or sports activities. The availability of play areas and 'prospects for sports activities' are considered important open space features in Aba but are only moderately rated in Enugu and Port-Harcourt. Therefore from the study results, the following findings were made: the urban area dimension also seems to influence the frequency of visiting urban parks, there is low patronage of recreational parks in the study areas, and this is prominent in Aba and Enugu areas, inclination for public open spaces with plant types shows abundance contrasts with the moderate emphasis given to animal types; and availability of play areas and prospects for sports activities are considered important open space features in Aba but are only moderately rated in Enugu and Port-Harcourt, local perception of urban open space features affects users patronage and interest in public recreational open space matters and the range of inclination results observed in this study shows that urban open spaces need to perform multiple roles to

optimize performance, and this is dependent on the local context.

DISCUSSION

The prevalent perceptions and requirements for urban public open spaces contentment with the desired need of public open spaces were assessed by two objectives: the first one was directed at public open space quantity, while the second question focused on public open space worth. For both cases, respondents chose answers from a five-point scale ranging from 'very satisfied' to 'very dissatisfied'. Three main results could be drawn from these two objectives. Firstly, respondents are moderately satisfied with public open spaces. Actually, approximately half of the respondents are satisfied or very satisfied with both the quantity (54%) and worth (51%) of the public open spaces. These results are corroborated by findings of the European Union (Lyndhurst et al., 2016), where EU residents living in urban areas rated their satisfaction with open areas on a scale from 0 ('not satisfied at all') to 10 ('fully satisfied'). Secondly, the overall results achieved by these two objectives are very similar, with the only evident difference being a slightly worse evaluation of the public open space worth. Third, the results show important differences between urban areas. The urban area dimension seems to influence the evaluation of both the quantity and worth of public open spaces since the evaluation tends to be more positive with the increase in the urban area's size. Respondents from Port-Harcourt are the most satisfied with both the quantity (70%) and worth (57%). Respondents from Enugu are also rather satisfied, even more moderately, with the quantity of public open spaces (57%) and with its worth (53%).

Respondents from Aba are the least satisfied with their urban area's public open spaces, and particularly with their quantity, with a clear division between respondents who reveal being rather satisfied (37%) and those who are rather dissatisfied (37%).

Thirdly, the urban area dimension also seems to influence the frequency of visiting urban parks. Respondents from Port-Harcourt frequent public parks more often, with 69% of respondents reporting going to a public park at least once a week. The majority of respondents from Enugu (56%) also report visiting urban parks at least once a week. Respondents from Aba show the lowest frequency of park visits, with only 47% of them reporting going to a park at least once a week.

Hygiene and preservation' are rated as the most important public open space characteristic. The high priority given to this variable is in line with a comparative study conducted in four European urban areas where hygiene was rated as the most important park characteristic for park visitors (Madeira et al., 2015). High importance is attached to plant variety. The stated inclination for public open spaces with plant types shows abundance contrasts with the moderate emphasis given to animal types. The findings from this study agreed with similar studies in which vegetation diversity was found to be moderately very important (Jimmy and Sherry, 2014) but contrasts with other studies that have identified negative proclivities connected to habitats of high plant types abundance (Richardson, 2017; Warren and Shalvery, 2017; Collins and Mergers, 2013).

The opportunity of open spaces offering conditions of coolness and discreetness is also a characteristic that is moderately valued by the respondents. This result seems to agree with the reduction of spaces that are frequented by many people, precisely the variable that is less valued in this study, but in apparent contradiction with the devaluation of the availability of quiet and private areas.

CONCLUSION

This study contributes to a new understanding about urban residents' proclivities for public open spaces. By examining relevant public open space features among three different urban areas by placing those features on a 'best-worst scale', the present study extends the understanding of urban residents' proclivities regarding public open spaces. The results offer two main insights for researchers and practitioners interested in open space planning and management.

Principally, the results from this study reveal that some open space features are valued in a similar way among the three studied urban areas. Based on these findings, it is suggested that urban policies aimed at increasing residents' satisfaction with public open spaces in all three urban areas should, for instance, consider the sequel: directed urban planning priorities more on open space

worth than quantity; investing on small public open spaces rather than on a big park; investing in hygiene and preservation within public open spaces; and improving plant types abundance.

Subsequently, the results also reveal some local variations in beliefs about urban open space features. The range of inclination results observed in this study indicates that urban open spaces need to perform multiple roles depending on the local context. Because proclivities about urban open spaces differ among urban areas, there is a need to avoid generic assumptions and to encourage local assessments. For instance, according to the findings from this study, urban open space policies focused on park amenities such as play areas or sports amenities are expected to be more easily accepted by residents of Aba than those of Enugu or Port-Harcourt. Therefore, local assessments of residents' proclivities about urban open spaces should be encouraged. A 'one size fits all' approach to open space planning may never meet the general public's desires (Andrew and Hammer, 2017; Tyrone et al., 2017).

The present study has some limitations that provide directions for future research. First, the study samples were attained through ease sampling techniques, and they are not representative samples of the populations being studied. Although this limitation is somewhat mitigated by a weighting adjustment for age, gender and educational level, replication is necessary for more representative samples to establish generalizability. Second, the selection of thirteen public open space variables could be extended, or possibly some different benefits could be used. Future research could adopt qualitative methods such as focus groups or interviews to gain more insight into urban residents' views concerning public open space features. Third, the results from this study suggest a consensus about some open space features simultaneously and also the availability of local variations about other urban open space features.

Despite the insights into possible factors that could explain this observed variation, additional studies are required to be conducted in other urban areas and countries to provide evidence of people's proclivities about urban open spaces. Moreover, it has to be noted that the observed variations in open space evaluation may be conditional on the given availability and qualities of urban parks, which differ between urban areas. Future research should, therefore, focus on how to operationalize specific measures derived from the park features listed above and the most efficient and accurate methodologies for collecting these data. Follow-up studies should then examine the associations between open space features evaluations and specific urban park features.

The results of this study can support public authorities and urban planners as they strive to effectively design and manage urban open spaces to meet users' needs. The development of a wider and tailored range of public open space that considers different residents' proclivities

would increase people's satisfaction and therefore may increase acceptance of the unique contribution that urban open spaces can make for environmental continuity and worth of life in urban areas.

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