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FACULTY OF ENGINEERING, CAIRO UNIVERSITY

EXPLORING THE RESIDENTIAL ENVIRONMENT OF LOW-INCOME NEIGHBOURHOODS IN NEW CAIRO

A. F. AHMAD[1], Y. MANSOUR[2], M. GABR[2] AND M. H. KHALIL[3]

ABSTRACT

Previous research measuring residential satisfaction assessed its three domains namely housing unit, neighborhood, and social environment. The assessment process used surveys with likert scale, measuring attributes selected by the researchers with no input from the residents. This research aimed to revisit these three domains by trying to extract their attributes from the residents' point of view. An ethnographic approach was chosen to conduct the study with the residents of a Governmental low-income neighborhood in New Cairo, Egypt. Marginal participant observations over a ten months span along with semi-structured interviews were used for data collection. An extended understanding of existing attributes in previous body of research was reached and emerging attributes were defined and categorized. Also, some of the emerging attributes addressed psychological qualities which conform to Maslow's hierarchy of needs. The social environment appeared to be of great importance to the residents' satisfaction. Residents expressed a dichotomy of sense of superiority and inferiority for living in a low-income neighborhood. Finally, the region, as a domain, was found to affect the residential environment on the neighborhood scale. The four domains and their attributes form the base by which future research can assess residential satisfaction in similar low-income neighborhoods.

KEYWORDS: Quality of life, housing unit, neighborhood, social environment, region.

1. INTRODUCTION

Studying and assessing residential projects is becoming more important to guide decision makers and inform actions to help build stronger and more resilient communities [1] .This is especially pertinent for underrepresented groups such as residents of low-income neighborhoods who need to be focused on, and whose perception on Quality of Life (QOL) needs to be thoroughly researched [2] .Campbell,

[1] Ph. D. Candidate, Department of Architecture, Faculty of Engineering, Ain Shams University, Cairo, Egypt, aliaa.f.ahmad@gmail.com
[2] Professor, Department of Architecture, Faculty of Engineering, Ain Shams University, Cairo, Egypt.
[3] Associate Professor, Environmental Design and Architectural Engineering Department, College of Engineering and Technology, Arab Academy for Science, Technology and Maritime Transport, Egypt.

Converse and Rodgers [3] one of the first studying QOL, assessed people's satisfaction with their residential environment as one of the indicators of QOL. The residential environment is the man made surroundings that provide the settings for the residents' daily life, work and recreation [4]. It is comprised of three domains, the housing unit, the neighbourhood and the social environment [3, 5, and 6].

Researchers studying low-income residential environment used the same three domains. However, they sometimes differed in the attributes they chose to assess for each domain [7-15]. These diverse attributes were collected and categorized into main attributes for acute classifications [16], as shown in Fig. 1. Following are some examples of these attributes.

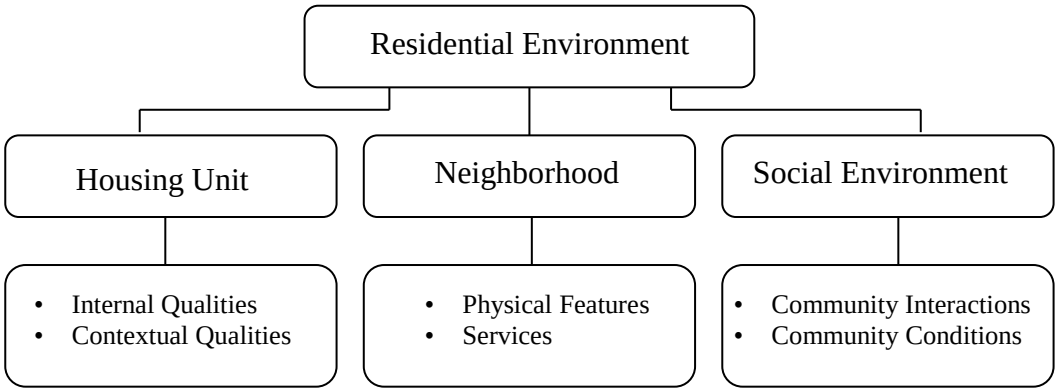

Fig. 1. Three domains of residential environment and their attributes classifications.

Housing unit: The attributes assessed in previous research were: Internal qualities like; rooms areas, number, size of unit, layout, finishing and building materials, doors and windows, ventilation, privacy, safety, noise and natural lighting. Contextual qualities however constituted the; location, appearance of dwelling, floor level, outdoor views, corridors and staircases [16].

Neighborhood: The attributes assessed in previous research were: Physical features like; education facilities, health services, shopping area, public transport, parking, market, children playground, workplaces, open green area, place of worship, recreational facilities, overall appearance of housing project, town centre, and sport facility. Services constituted; street lighting, garbage collection, water supply, police protection, firefighting, roads, pedestrian walkways, sewage, public phones [16].

Social environment: the attributes assessed before could be divided into: community interactions; social relation/isolation, community support, community stability and neighbors conflicts, and community conditions; community safety/crime rates and noise level [16].

It is however worth mentioning that Mohit [11], who conducted several studies measuring residential satisfaction through different surveys, concluded that case-specific studies with the guide of qualitative research will help in informing governments about the influence of the policies they use on targeted areas. As concluded from the studied literature, the attributes previously assessed were chosen by the researchers themselves with no input from the residents in a top-down approach [16]. Hence, this research aims to extract the attributes that constitute the three domains of the residential environment in a specific low income residential neighbourhood, in New Cairo – Egypt, based on the perception and points of view of the residents using a bottom-up approach. The end result is expected to be a full set of attributes representative of the residents which can be used in future assessments.

2. EMPIRICAL FRAMEWORK

Developing the measured indicators with the residents using participatory tools is considered essential. It helps residents voice their needs, which guide policy makers to understand the exact reasons for both satisfaction and dissatisfaction [17]. Accordingly, an ethnographic method was used to try to link field results to existing theories [18]. Ethnography is a social science research method referring to fieldwork conducted in an up-close and personal experience of a culture sharing group who live in the same place. A Site selected for investigation must be one that the researcher is a stranger to and also one that will help in understanding the research problem. Ethnography involves extended observations of a certain group to which the researcher will be a participant observer. The researcher gets involved in the lives of the participants, interacts with them on daily basis and interviews them [19].

Hence, the data gathering techniques used included a marginal participant observer; which is a unique model that allowed the first author to participate in the

daily lives of the people studied, perceiving their activities and inter relationships, and hence being intimate while still being able to maintain a professional distance [20, 21] and be seen by them as just another passerby in their setting [22]. Data collected will be in the form of field notes, artifacts, interviews and their transcription [19].

Then semi structured interviews were conducted from which the results were extracted after documentation, transcription and qualitative content analysis. Face to face interviews helped in overcoming the gender, age and education differences between the participants, where the wording of the questions were sometimes changed in order to allow them to relate to and further understand such questions [23].

3. RESEARCH DESIGN

In Egypt, the Egyptian government was committed to constructing housing units for low-income groups in its housing plans from 1982 till 2013. Out of the 2,546,756 housing units built between 1997 till 2013, 51.8% were dedicated to low-income housing, and the public sector contributed with 89.7% of these units [24]. Unlike the areas around Cairo that witnessed an unplanned urban sprawl [25], the city of New Cairo was planned by the government and established in the year 2000 to reduce the population density in Cairo through creating new points of attraction outside Cairo. It consists of five settlements namely; the first, third and fifth settlements, and the east and south extension. It currently houses about two and a half million residents [26]. New Cairo is expected to surpass other new cities built before it both in population and performance [36], which makes it necessary to study and understand the reasons behind this success. The lack of previous research on low income neighborhoods specifically directed the researchers' choice for the study area.

3.1 Study Area

Within the fifth settlement of New Cairo, the "Fourth Neighborhood" was chosen for the study, it houses the first and oldest low income government built housing project in the fifth settlement which meant that the residents will have the longest length of stay in the fifth settlement and hence the results could be reliable in achieving the aim of the study. This housing project represents the majority of the

physical boundaries of the neighborhood, but the neighborhood contains other housing types built by the private sector. Yet any reference to the fourth neighborhood by the studied group or residents from adjacent areas refers to the government built housing project as the fourth neighborhood. The social interaction between the residents, their perception and sense of belonging all together shaped and still reshape these boundaries [27]. In Fig. 2, the white dotted line refers to the state defined physical boundaries of the fourth neighborhood (1.45 km^2) [26]. However, the red line shows the boundaries of the fourth neighborhood as socially defined by residents from inside and outside of the studied area (0.5 km^2).

Fig. 2. The difference between the geographical and social boundaries of the 4th neighborhood.

The buildings within the fourth neighborhood have apartments with four different areas: 64 m^2 (two bedrooms + living + kitchen + bathroom + two balconies), 74 m^2 and 79 m^2 (two bedrooms + dinning + living + kitchen + bathroom + two balconies) and 94 m^2 (three bedrooms + dinning + two living + bathroom+ kitchen + three balconies). Each floor has two apartments, and every two buildings are connected. All buildings share the same height, a ground floor + four floors as shown

in Fig. 3. By the end of 2017, the neighborhood witnessed a renovation process that continued until the beginning of this study in 2018.

Fig. 3. The fourth neighborhood buildings.

3.2 The Time Line of the Study

The field study ran over a span of 10 months, from July 2018 to May 2019, visits to the site were made 2-3 times a week, each lasting 4-6 hours. As there were no contacts on the site, the first two months were the most difficult, the lack of meeting points in the neighborhood made it very difficult to mingle with the residents.

In the mornings the streets were deserted, lively activities on the street began on the 23rd September 2018, the beginning of the scholastic year when mothers walking their kids back and forth to school were evident. Two days later a group of girls hanging out together in the street were approached and the research was explained to them. They showed great interest in the subject of QOL, and then they introduced the researcher to their mothers who were very welcoming. One of the mothers turned into the gatekeeper in the neighborhood.

Over the next four months, the first author spent her days with the residents, experiencing their everyday life. Data collected during this phase included household demographics, the topics of concern that the residents raised, photos, sketches and a diary that document the three domains of the residential environment in the

neighborhood. By the end of January, all data collected was compiled with the data collected from previous research to design an interview protocol. The interviewing process began at the end of January and lasted until May 2019.

3.3 Sampling and Interviews

Creswell [19] believes ethnographers rely on their judgment to select their participants through establishing criteria for selection after spending some time with the group. Guided by Marans' [5] sample characteristics and the observation process which documented the range of households demography, the research covered the following diversities in the interviewees: Rent/Ownership, Number of family members, Length of stay, Apartment area, Floor level, Geographic distribution, Male/Female, Different age groups, Different professions.

Most interviews were conducted at the residents' own homes with few conducted at a neighbor's home as they were visiting. Interviewing time ranged between 30 minutes and 2 1/2 hours. The research's plan was to conduct 30 interviews but at the 19th interview the safety of the interviewer was jeopardized and the 20th interview was barely conducted then the remaining acquaintances refused to make any interviews. This was to an extent compensated by the fact that some interviews included a husband and wife, a mother and son, and a mother and daughter making the total number of participants 25 in 20 interviews.

The interview protocol contained questions that targeted the household demography, daily routines, usage of spaces, surrounding services, social relations, feelings, needs, favorites and preferences in their settings, good and bad experiences and description of a perfect day. Before the interview, interviewees were asked for permission to record the interview, only two refused and preferred the researcher write the answers even if it took a longer time. Most interviewees showed great interest in the research and offered elongated answers as well as a long period of interview time.

3.4 Directed Content Analysis

When existing theory or data about a phenomenon is incomplete or could need further explanation, a qualitative researcher might use directed content analysis to

validate existing theories and extend them [28]. Accordingly, the interviews were all transcribed and the three domains with their previously assessed attributes directed the analysis. The unit of analysis in this study was the “phrase”, the analysis was done through reading the transcript and highlighting all the texts that seemed to represent an attribute. The interviews were conducted in Arabic but only selected phrases were translated into English. The next step was to code these passages into existing and emerging attributes for each domain [17, 28].

Existing attributes refer to the attributes collectively assessed in prior research and were distributed according to the previously explained categorization. Some attributes underwent a theoretical extension to broaden their relevance [18]. Which is the main strength of directed content analysis as prior research can guide the findings and thus the research can be supported and extended [28]. Emerging attributes refer to attributes that are novel to the assessment of the residential environment, specifically in low-income neighborhoods. They were sometimes the exact words voiced by the interviewees themselves or concepts that the researcher has developed during the literature review process and the field observations [29].

4. RESULTS

In the following part, the attributes extracted in every domain; based on the qualitative content analysis of the interviews, will be presented in a table. However, due to space limitation, only some of the attributes will be elaborated on.

4.1 Housing Unit

From the existing attributes, the ones of the most reoccurrence were ones addressing spatial qualities followed by the physical qualities and accessibility. Regarding the spatial qualities, the most extracted attributes were privacy, natural light, safety, noise, heat level, living room, building materials, balcony usage, bedroom, building accessibility, staircase cleaning and staircase. However, some points about these attributes can be further explained. For example, bedroom, living rooms and balcony were mentioned for their usage and the role they play in the residents’ daily lives but not for their area. In all households visited, the living room is

the space where everything happens, preparation of vegetables, studying, watching TV, and entertaining guests. The full extracted attributes are shown in Table 1.

As an example of extended understanding of existing attributes, we will elaborate on the "Windows" attribute. Some residents discussed the location of the window in the wall and its effect on how they could furnish the rooms; "What is the point of view in having the windows in the corner of the wall?" (Int. 20).

Table 1. Housing unit domain with the existing attributes, emerging attributes are highlighted.

Domain	Main Attributes Category	Secondary Attributes Category	Attributes	
Housing Unit	Internal Qualities	Physical qualities	• Number of rooms • Living Room • Bedroom • Kitchen • Bathroom • Second bathroom	• Balcony usage • Windows • Doors width • Building materials • Finishing materials • Modifications
		Spatial qualities	• Privacy • Sound privacy • Noise • Quietness	• Natural light • Safety • Air circulation • Heat level
		Services	• Plumbing • Electricity • Water supply	• Sewage • Internet connection
	Contextual Qualities	Typology	• Number of flats • Location • Orientation • Floor Level • Flat area • Flat Layout	• Ownership vs. Rent • Permanent residence • Building Identification • Work usage
		Accessibility	• Building accessibility • Staircase cleaning • Staircase (usage-building material-light)	
	Psychological Qualities		• Sense of attachment • Flat represents "home"	• Sanctuary • Sense of superiority • Sense of inferiority

Some discussed the low windowsills and their fear for their children's safety, when living in high floors; "I modified the window sills and made them higher, they

were very low and any kid looking from them would fall" (Int. 17). Others discussed the same window sill issue but from the privacy point of view as they were living in the ground floor; "We cannot open the window especially in our bedroom, all the other buildings and apartments are like with us in the room" (Int. 9).

As for the emerging attributes, they were divided into three categories, two come under already existing categories namely; physical qualities and typology and then the novel category, which is the psychological qualities. The psychological qualities represent the feelings the residents have accumulated towards their housing units over the years, after the basic need of having a shelter has been satisfied [30]. The shelter has turned into a home which they feel attached to and represents their sanctuary as explained by many; “I spend my whole day at home and do not go out, I could stay up to a week without leaving the apartment and I enjoy this" (Int. 8), or "Here it is quiet and nice; I love my place like nothing else" (Int. 17)

Some residents showed feelings of superiority or inferiority when comparing their building to other buildings within their neighborhood. However, this was not present as much as it was in regards to the whole neighborhood as will be shown in the following part.

4.2 Neighborhood

The neighborhood attributes seemed to play a bigger role in the residents’ residential environment than the housing unit, represented by the number of attributes extracted and the importance the residents gave to these attributes, though there was not much extended understanding here. The number of attributes extracted for the physical features was greater than that of the services, as is the case with previous research. The most extracted attributes and ones that were most present in the respondents’ answers were in regards to the buildings appearance, distance between buildings, green areas, proximity to schools, grocery shopping and clothes and shoes shopping, job opportunities, street cleaning and garbage collection, and street cleanliness. The full extracted attributes are shown in Table 2.

The emerging attributes however fell under three categories, physical features that can be added to the existing attributes, and the novel categories, which are the contextual and psychological qualities. The later seemed to be of great importance to the residents.

Table 2. Neighborhood domain with the existing attributes, emerging attributes are highlighted.

Domain	Main Attributes Category	Attributes	
Neighborhood	Physical Features	• Buildings appearance • Nice view • Distance between buildings • Pedestrian crossing • Streets • Green areas • Street furniture • Transportation • Leisure • Youth Centre • Playground • Health facilities • Proximity to schools • Good education	• Proximity to work • Proximity to Grocery shopping • Proximity to Clothes & shoes shopping • Proximity to home appliances shopping • Shops (Butcher - Juice shop - Koshary shop - Nuts shop - Clothes shops – Nursery - Oriental bakery - Car maintenance - Shoe repair shop - Vegetable market - Fish shop - Tailor) • Topography • Way finding • Street attractions • Physical activity • Manhole covers • Walkability
	Services	• Good Governance • Job opportunities • Police protection • Sewage	• Traffic jams • Street cleaning & Garbage collection • Street and Green area cleanliness
	Psychological Qualities	• Sense of pride • Sense of attachment • Sense of Belonging	• Sense of superiority • Sense of inferiority
	Contextual Qualities	• Comfortable • Living Costs • Deterioration • Permanent residence	• Stray dogs • Street harassments • Air quality • Good weather

The residents felt proud to be living in the this specific neighborhood and superior to similar neighborhoods in the fifth settlement, as one can hear in their

constant comparison with the closest governmental low income neighborhood; “In the third neighborhood, the sewage pipes are blocked and the buildings are cracking. Unlike here, where the quietness and cleanliness are much better” (Int.16). But it was also accompanied by a feeling of inferiority against their adjacent luxurious private housing in the fifth settlement as expressed in their words; "Most of the fifth settlement is villas and we are the poor amongst those villas, the villas are of course nicer and more beautiful, all the kids wish to live in a villa" (Int. 12).

4.3 Social Environment

Few existing attributes of social environment were extracted yet they were extracted from most of the interview sample, which is more than the two other domains. The full extracted attributes are shown in Table 3. The social environment seemed to be of a great importance to how the residents felt about their residential environment. For example, they appreciate the social isolation provided; "Everyone here minds their own business, I could stay for a week inside without going out in the street, I got used to the quietness and loneliness" (Int.1).

Table 3. Social environment domain with the existing attributes, emerging attributes are highlighted.

Domain	Main Attributes Category	Attributes	
Social Environment	Community Interactions	• Neighbors relations • Neighbors support • Neighbors cooperation • Social isolation • Neighbors harassment	• Social Standard • Social coherence • Cultural exposure • Freedom • Life rhythm
	Community Conditions	• Crowdedness • Quietness	• Noise level • Safety

Most of the existing attributes appeared to have a great importance in the daily lives of the residents and their classifications conform to previous ones. As for the emerging attributes, they fall under the community interactions category, the most extracted is; social standard and social coherence, which seem to represent the main asset of the neighborhood. Some believe the social standard is not good; "People's social standard here is not really great, I befriend this and talk to that then they fool

me" (Int.13). Others believe it is good; "Here you are able to control your kids unlike in an informal area, you know how difficult boys are and also my brothers lived here so I came to live near them" (Int. 5).

What remains however to present is what we consider a novel domain when studying the residential environment of neighborhoods, namely; the region.

4.4 Region

The region appeared to play a role in shaping the residential satisfaction of the residents. The region domain was proposed by Campbell [3] but it was measured with residential satisfaction on a city scale. In later years, only Marans and Roberts [34] started assessing it with neighborhoods. The attributes they measured were health, climate, crowding, sporting facilities, travel to work, overcrowding and environmental pollution, but in this study the extracted attributes of the region domain are mainly psychological. The full extracted attributes are shown in Table 4.

Table 4. The emerging region domain and its attributes.

Domain	Main Attribute Category	Attributes
Region	Psychological Qualities	• Sense of Belonging • Sense of Pride • Sense of Attachment

Residents feel they belong to the region more than their neighborhood. For example; how they feel upon returning home from their travels. "The moment we reach the Golf area, Oh! Praise the Lord. The air is fresh; I become happy and tell my husband I am now in the place where I belong" (Int.2). Or in a discussion between a husband and wife thinking about moving out of the neighborhood, with the wife feeling reluctant, "I told my husband I can’t imagine leaving here, he told me you can’t imagine leaving the fifth settlement not here" (Int.20). They also prided themselves for living there. “It’s enough that I live in the fifth settlement, when I visit my acquaintances. It is as if they are dwarfs and I am very big” (Int.14).

5. DISCUSSION

The findings of this study can be categorized into five main aspects. The First aspect is the extended understanding of existing attributes. Residents look at the same attribute in different ways, which makes previous assessing tools not adequate solely to measure residential satisfaction but rather need more qualitative approaches.

Second aspect; is the emergence of psychological qualities as attributes: the sense of pride, attachment, belonging, superiority and inferiority, which again conform to the top of Maslow's [30] pyramid of needs, self-actualization and esteem needs. Previous research already dealt with a nonphysical domain, namely the social environment, so it should be acceptable to add the psychological qualities that the housing unit, neighborhood and region have and assess their effect on the residents.

Third aspect; though the research has avoided counting as counting codes is risky because some codes might be overlooked or considered insignificant [29]. Yet there is rather an apparent phenomenon here and that is the importance of the social environment. Its attributes were repeatedly mentioned and highlighted by the participants during the interviews. Social environment appeared in fewer studies assessing residential satisfaction [2, 8, 9, 12, and 13]. Sirgy [31] asserts the importance of community satisfaction and claims that people who feel good about their community are those who most likely also feel good about their overall QOL.

Fourth aspect; is the dichotomy between the sense of superiority and inferiority by the residents when comparing themselves to other neighborhoods. They show their superiority over their relatives and/or residents of similar standard neighborhoods. Yet they acknowledge their inferiority to adjacent higher income neighborhoods.

Fifth aspect; is the emergence of the fourth domain; The Region. Previously it was not assessed when studying neighborhoods, and was left to studies concerned with cities or countries as a whole. A usual top down approach would not have investigated the region domain in the first place. Though the attributes extracted were only psychological, extended research might help add more attributes to this domain.

Finally, the number of attributes that need measuring to assess residential satisfaction is large which makes the researcher's task in future very complex [32].

However, if a researcher is willing to achieve results that are representative of the low-income group, then these attributes need to be fully assessed. This will help decision makers make sound evidence based decisions, which are accurate and effective, unlike decisions that are backed by judgment of administrators or political pressures [33].

5. CONCLUSIONS

This research provided a novel approach when exploring the domains and attributes of the residential environment. The attributes were extracted from the residents' perspective, in a Cairene context. A bottom up ethnographic approach was used which was empirically enlightening and theoretically promising. The extracted attributes fell under two categories, existing attributes and emerging attributes. Existing attributes underwent an extended understanding, far beyond the limits of quantitative assessment, which highlights the need to use qualitative approaches as well to reach a holistic understanding of the residents' satisfaction/dissatisfaction. While emerging attributes brought novel insight to what compromises residential satisfaction. All domains shared a new categorization of psychological qualities which conforms to Maslow's [30] hierarchy of needs. The social environment had the lowest number of attributes but the residents showed its important role in shaping their residential satisfaction. The allocation of low-income neighborhoods in this region adjacent to high income and luxurious neighborhoods resulted in a dichotomy of feelings between a sense of superiority and a sense of inferiority; however this will be a sensitive issue to assess in future research. Finally, unlike previous research, the region was extracted as a domain that affects residential satisfaction on a neighborhood scale rather than only affecting it on a city scale. The four domains with their extracted attributes previously shown in tables 1, 2, 3 and 4 are representative of what constitutes the residential environment from the residents' points of views. Together they could form an assessment tool in future quantitative research assessing low-income neighborhoods [35] with the need to add a qualitative approach to better understand the reasons of the residents' answers and hence guide decision-making.

6. RECOMMENDATIONS

- The results are representative of low-income neighborhoods of Cairo, similar studies need to be conducted in other cities and countries to reach holistic results.
- The attributes extracted in this research could be used to assess government built projects in order to guide future decisions.

DECLARATION OF CONFLICT OF INTERESTS

The authors have declared no conflict of interests.

REFERENCES

1. Ciorici, P., and Dantzler, P., "Neighborhood Satisfaction: A Study of a Low-Income Urban Community", Urban Affairs Review, Vol. 55, No. 6, pp.1702-1730, 2018.
2. Gou, Z., Xie, X., Lu, Y., and Khoshbakht, M., "Quality of Life (QOL) Survey in Hong Kong: Understanding the Importance of Housing Environment and Needs of Residents from Different Housing Sectors", International Journal of Environmental Research and Public Health, Vol. 15, No. 2, p. 219, 2018.
3. Campbell, A., Converse, P. E., and Rodgers, W. L., "The Quality of American Life: Perceptions, Evaluations, and Satisfactions", Russell Sage Foundation, New York, 1976.
4. Streimikiene, D., "Natural and Built Environments and Quality of Life in EU Member States", Journal of International Studies, Vol. 7, No. 3, pp. 9-19, 2014.
5. Marans, R. W., "Perceived Quality of Residential Environment", in Craik K.H., Zube E.H. (eds), Perceiving Environmental Quality. Environmental Science Research, Vol. 9, Springer, Boston. Plenum Press, New York, 1976.
6. Adriaanse, C. C. M., "Measuring Residential Satisfaction: A Residential Environmental Satisfaction Scale (RESS)", Journal of Housing and the Built Environment, Vol. 22, No. 3, pp. 287–304, 2007.
7. Jiboye, A. D., "The Correlates of Public Housing Satisfaction in Lagos, Nigeria", Journal of Geography and Regional Planning, Vol. 3, No. 2, pp. 17-28, 2010.
8. Huang, Z., and Du, X., "Assessment and Determinants of Residential Satisfaction with Public Housing in Hangzhou, China", Habitat International, Vol. 47, pp. 218-230, 2015.
9. Addo, I. A., "Assessing Residential Satisfaction among Low Income Households in Multi-Habited Dwellings in Selected Low Income Communities in Accra", Urban Studies, Vol. 53, No. 4, pp. 631-650, 2015.
10. Ibem, E. O., and Aduwo, E. B., "Assessment of Residential Satisfaction in Public Housing in Ogun State" Nigeria. Habitat International, Vol. 40, pp. 163-175, 2013.

11. Mohit, M. A., Ibrahim, M., and Rashid, Y. R., "Assessment of Residential Satisfaction in Newly Designed Public Low-Cost Housing in Kuala Lumpur, Malaysia", Habitat International, Vol. 34, No. 1, pp. 18–27, 2010.
12. Mohit, M. A., and Azim, M., "Assessment of Residential Satisfaction with Public Housing in Hulhumale', Maldives", Procedia-Social and Behavioral Sciences, Vol. 50, pp. 756-770, 2012.
13. Mohit, M. A., and Nazyddah, N., "Social Housing Program of Selangor Zakat Board of Malaysia and Housing Satisfaction", Journal of Housing and the Built Environment, Vol. 26, No. 2, pp. 143-164, 2011.
14. Chen, L., Zhang, W., Yang, Y., and Yu, J., "Disparities in Residential Environment and Satisfaction among Urban Residents in Dalian, China", Habitat International, Vol. 40, pp. 100-108, 2013.
15. Goh, A. T., and Yahya, A., "Public Low-Cost Housing in Malysia: Case Studies on PPR Low-Cost Flats in Kuala Lumpur", Journal of Design and Built Environment, Vol. 8, No. 1, pp. 1-18, 2011.
16. Ahmad, A., Mansour, Y., Gabr, M., and Khalil, M. H., "Quality of Life and the Architecture of Low-income Neighborhoods", In Kamel, S., Sabry, H., Hassan, G. F., and Refat, M. (Eds.), Architecture and Urbanism: A Smart Outlook, Springer, Switzerland, 2020.
17. Berhe, R. T., Martinez, J., and Verplanke, J., "Adaptation and Dissonance in Quality of Life: A Case Study in Mekelle, Ethiopia", Social Indicators Research, Vol. 118, No. 2, pp. 535–554, 2013.
18. Snow, D. A., Morrill, C., and Anderson, L., "Elaborating Analytic Ethnography", Ethnography, Vol. 4, No. 2, pp. 181-200, 2003.
19. Creswell, J. W., "Qualitative Inquiry and Research Design: Choosing Among Five Approaches", 2nd Edition, Sage, Los Angeles and Washington DC, 2007.
20. Sangasubana, N., "How to Conduct Ethnographic Research", the Qualitative Report, Vol. 16, No. 2, pp. 567-573, 2011.
21. Lofland, J., "Analytic Ethnography", Journal of Contemporary Ethnography, Vol. 24, No. 1, pp. 30-67, 1995.
22. Zeisel, J., "Inquiry by Design: Environment, Behavior, Neuroscience in Architecture, Interiors, Landscape, and Planning", Norton, New York, 2006.
23. Barriball, K. L., and Alison W. "Collecting Data Using a Semi-Structured Interview: A Discussion Paper", Journal of Advanced Nursing, Vol. 19, No. 2, pp. 328–335, 1994.
24. Habitat III - Quito. Third United Nations Conference on Housing and Sustainable Development, Cairo: United Nations, 2016.
25. Robaa, S. M., and Hafez, Y. Y., "Monitoring Urbanization Growth in Cairo City", Journal of Engineering and Applied Science, Vol. 49, No. 4, pp. 667-679, 2002.
26. NUCA, The Official Website of New Urban Communities Authority, http://www.newcities.gov.eg/know_cities/New_Cairo/default.aspx (Accessed 31/10/2020).

27. Amérigo, M., and Aragonés, J. I., "A Theoretical and Methodological Approach to the Study of Residential Satisfaction", Journal of Environmental Psychology, Vol. 17, No. 1, pp. 47-57, 1997.
28. Hsieh, H., F., and Shannon, S. E., "Three Approaches to Qualitative Content Analysis", Qualitative Health Research, Vol. 15, No. 9, pp. 1277–1288, 2005.
29. Elliott, V., "Thinking about the Coding Process in Qualitative Data Analysis", the Qualitative Report, Vol. 23, No. 11, pp. 2850-2861, 2018.
30. Maslow, A. H., "A Theory of Human Motivation", Psychological Review, Vol. 50, No. 4, pp. 370–396, 1943.
31. Sirgy, M. J., "The Psychology of Quality of Life Hedonic Well-Being, Life Satisfaction, and Eudaimonia", Dordrecht: Springer Netherlands, 2012.
32. Veenhoven, R., "Why Social Policy Needs Subjective Indicators", in Hagerty, V. and Møller, V. (Eds.), Assessing Quality of Life and Living Conditions to Guide National Policy: The State of the Art., Vol. 58, pp. 33-45, 2002.
33. Friedman, M. I., "Improving the Quality of Life: A Holistic Scientific Strategy", Wesport (Connecticut): Praeger, 1997.
34. Marans, R. W., and Robert S., "An Overview of Quality of Urban Life. Investigating Quality of Urban Life: Theory, Methods, and Empirical Research", Social Indicators Research, Vol. 45, pp. 1–29, 2011.
35. Wilson, W. J., and Chaddha, A., "The Role of Theory in Ethnographic Research", Ethnography, Vol. 10, No. 4, pp. 549-564, 2009.
36. Tignor, R. L., "Mubarak's Egypt", In "Egypt a Short History", Princeton: Princeton University Press, pp. 282-310, 2010.

استكشاف البيئة السكنية لأحياء محدودي الدخل في القاهرة الجديدة

قامت الدراسات السابقة بقياس الرضاء السكنى عن طريق تقييم ثلاث نطاقات وهي: الوحدة السكنية، الحي والبيئة الاجتماعية. وقد استُخدمت دراسات استقصائية لقياس سمات محددة تم اختيارها من قبل الباحثين أنفسهم. قام البحث بإعادة دراسة النطاقات الثلاثة لاستنباط سماتهم عن طريق السكان. وقد تم استخدام الاثنوجرافي عن طريق وجود باحث مشارك للسكان في حياتهم وعمل مقابلات شبه منظمة في الحي الرابع لمحدودي الدخل في القاهرة الجديدة. وقد نتج عن الدراسة فهم أعمق للسمات التي تم تقييمها في الدراسات السابقة مع استنباط سمات جديدة بعضها يخاطب الجوانب النفسية للسكان. واثبتت البيئة الاجتماعية أن لها دور كبير في تشكيل الرضاء السكنى. وأخيرا اتضح على عكس الدراسات السابقة أن الاقليم نطاق رابع يحدد الرضاء السكنى للسكان على مستوى الحي بدلا من مستوى المدينة فقط. وعليه فإن النطاقات الأربعة وسماتهم التي تم استنباطها من السكان يمكن استخدامهم في التقييم مستقبلياً.