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ORIGINAL ARTICLE

Influences of urban design on perceived social attributes and quality of life: a comparative study in two English neighbourhoods

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Abstract

Although a well-planned and well-designed neighbourhood might seem essential for the social life and satisfaction of the residents of a neighbourhood, there is a limited amount of research that examines the influence of features of urban design on perceived social attributes. This article, based on comparative on-site assessments and survey research carried out in Angell Town (London) and Greater Leys (Oxford), UK, deliberately selected according to their contrasting types of planning/design, aims to investigate whether the situational, morphological, spatial, and aesthetic features of urban environment impact on neighbourhood attachment, satisfaction, and quality of life. Overall, the evidence from this study shows that perceived social attributes and quality of life are strongly linked to urban design and physical environment characteristics, as well as perceived physical attributes of the neighbourhood. The respondents of Angell Town, a consciously designed development, were found to have a stronger sense of community, more profound sense of the neighbourhood as home, stronger agreement on the friendliness of their neighbourhood, stronger attachment to their neighbourhood, more satisfaction with their neighbourhood, and richer perception of quality of life in their neighbourhood, compared to respondents of Greater Leys, a typical development based on planning that ignores urban design principles.

Keywords Neighbourhood · Urban design quality · Perceived physical and social attributes · Attachment · Satisfaction · Quality of life · Angell Town · Greater Leys

Introduction

The design of housing areas has always been a subject of considerable interest for city planners and architects since the beginning of the twentieth century and is still a subject of major attention. Moreover, discussions on the usefulness of the concept of neighbourhood as a unit in urban design continue (Sampson 2019; Talen 2019; Romice et al. 2017; Lang 2017/2005; Lang and Moleski 2010; Jiven and Larkham 2003; Carmona et al. 2004).

Sampson (2019) argues that neighbourhood is a fundamental organising dimension of urban life and neighbourhood contexts are important determinants of the quantity and quality of human behaviour. As Talen (2019, p. 1) stated, "neighbourhoods should be genuinely relevant in our lives—not as casual descriptors of geographic location but as places that provide an essential context for daily life. Such neighbourhoods would be identifiable, serviced, diverse, and connected. Their primary purpose would not be social separation". A well-planned and well-designed neighbourhood might be an important factor in its users' community development, attachment, satisfaction, and quality of life. However, there is limited research that interrogates the influence of features of urban design quality on neighbourhood social life including satisfaction, attachment, and quality of life. Urban life revolves around the places where people carry out their daily lives, and for most people, the residential environment is the central environmental setting where this occurs. When the congruence between people and their surroundings is impaired, emotional disturbances, health problems, and social disorder may occur (Francescato 1998).

This paper is a revised and enlarged version of the author's paper "Effects of Good Urban Design on Social Sustainability: A Survey Study in UK Neighborhoods", The 50th Annual Conference of Environmental Design and Research Association (EDRA50), Brooklyn, New York, 22–26 May 2019 (Abstract published).

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Accordingly, creating a satisfactory housing environment is the most important social objective in urban development.

This study explores the link between urban design characteristics and perceived physical characteristics; and aims to investigate the role of urban design on perceived social attributes and quality of life. Following a literature survey on the theoretical bases, the first phase of the research involved the author's on-site assessments of the situational, morphological, spatial, and functional qualities in the two neighbourhoods. The second phase of the research concerned the residents' subjective assessment of the neighbourhood physical and social attributes. Variables of respondents' subjective evaluations included "general appearance (aesthetic) of the development", "quality of the development (urban and architectural design and materials)", "convenient access to district or town centre", and "convenient access to green environment (parks, etc.)".

Variables of their social attributes included neighbourhood attachment, satisfaction, and quality of life determined through a user survey. Having discussed those findings, the paper concludes with some propositions of the research for future housing developments.

Knowledge generated from this paper might serve the information needs of local authorities, housing developers and researchers dealing with various aspects of housing environments and shed more light on the role of housing environment in residents' satisfaction, attachment, and quality of life. It may give planners and designers important insights into how to improve the satisfaction, attachment, and quality of life in urban neighbourhoods by conscious and responsive planning and design as well.

Background to the research

Industrial and technological developments since 1960s, and the process of globalization for the last two decades, have dramatically influenced our cities and housing environments. Despite the existence of environmentally conscious efforts and developments in the last thirty decades, in the developed countries in particular, the absence of urban or neighborhood scale in most environmental literature has been masked by the recent passion with 'green' buildings, which appear green on most facades but are not environmentally friendly, with ideas of energy conservation, climate-responsive design, use of locally appropriate materials, and environmentally unfriendly buildings. etc. Most of the housing complexes in various parts of the world still seem to miss the mentioned qualities in terms of their physical and social qualities.

The major problems were identified by Appleyard and Jacobs (1982) as problematic living environments, gigantism and loss of control, large-scale privatization through strict zoning and the loss of public life, radial fragmentation through sprawl, demolition of valued places, lack of sense of place, inequality, and rootless professionalism.

As a reaction to these problems, they proposed the following goals that they consider crucial for better urban environments: "liveability, identity and control, access to opportunities, imagination and joy, authenticity and meaning, open community and public life, urban self-reliance, and an environment for all" (Appleyard and Jacobs 1987, pp. 115–116). Added to these qualities by Bentley et al. (1985) have been "legibility, variety or diversity through a mix of housing types which will also result in a variety of users and meanings, continuity and enclosure in public spaces, robustness, and adaptability". Furthermore, Tibbalds's urban design framework of ten principles (Tibbalds 1992, 1988) based on the commandments of The Prince of Wales (now King Charles III) emphasized the importance of place-making, learning from the past and respecting the local context, mix-use in towns and cities, design on a human scale, freedom to walk about, catering for all sections of the community and consulting them, legible environments, building to last and adapt, avoiding change on too great a scale at the same time, and intricacy, joy and visual delight in the built environment. The critical point here is that understanding of place-making must not be limited to the physical placement of urban objects at a location or the artistic principles (Marshall 2015, p. 12).

People's need to belong to a social community is as essential as their need for privacy (Alexander et al. 1977, p. 81). What should be noted here is that the concepts of community and neighbourhood should not be dealt with in the same way. Because, while a community consists of people interacting with each other, a neighbourhood is only a spatial context (Lang 2017/2005, p. 130). Therefore, a good physical environment design does not guarantee the formation of a community, but it can create opportunities for social interactions.

According to Oktay et al. (2012, p. 7), "satisfaction and place attachment are two main summary measures that have a significant impact on the overall quality of life of the residents". As Francescato (1998, p. 484) argues, it is important to understand whether a housing environment satisfies the needs, goals, and anticipations of its inhabitants well. Relevant literature reveals that residential satisfaction could be considered a dependent variable or a residential quality indicator (Campbell et al. 1976; Atkinson 1977; Michelson 1977; Connerly and Marans 1985). Residential satisfaction implies people's responses to the physical, social, and organisational aspects of the environment in which they live". On the other hand, several researchers have asked residents "whether they think of their neighbourhood as their home or just a place to live in" (i.e., Marans 2003) and "whether they feel attached to the local area" (Hunter 1974).

Hidalgo and Hernandez (2001, p. 274) defined place attachment as an effective positive bond with an emotional content between a person and a place and highlighted the desire to maintain closeness to the object of attachment as the main characteristic of place attachment. According to Stokol and Shumaker (1982), place attachment was evident in the functional bonding between people and places described as place dependence. Place attachment facilitates and increases social relations; therefore, it is beneficial for both the individual and the neighbourhood (Oktay et al. 2012, p. 228).

As highlighted by Manzo and Devine-Wright (2020), place has not lost its significance despite the negative effects of global and local changes. Instead, it has reclaimed its value, especially at the scale of neighbourhoods, which are the site of the accumulation of multidimensional lived experiences and memories. As such, amid intensified global and local changes, the place becomes more significant to capture how various mobilities (and immobilities) affect and reshape place-based meanings and attachments associated with diverse developments and urban transformation (Manzo and Devine-Wright 2020); Di Masso et al. 2019).

It is advocated by Marans (2003) that since each user may have different views and evaluations, the quality of a place is a subjective concern. Accordingly, measuring the quality of the place requires a systematic analysis of the relationships between the data which were gathered through on-site assessments and the perceptual responses of users to their environment.

Material and methodology

General approach and the sample

In this study comparative analysis and survey were conducted in two deliberately selected neighbourhoods in England. The first neighbourhood had to be a settlement developed according to certain urban design principles, and the second had to be developed without following an urban design strategy to be able to determine some findings which may support the hypothesis that good urban design has a role on perceived social attributes and quality of life. Variables other than urban design characteristics i.e., population, socioeconomic status, and cultural combination had to be as similar as possible to obtain robust results to be able make the comparison free from the effects of their other peculiarities. Duration of residence and magnitude of development were two factors considered to receive statistically favourable responses from residents.

Based on the gathered information about various schemes in and outside Oxford and the discussions with researchers/academics at various units of the Oxford Institute of Sustainable Development (OISD) at OBU, Angell Town (Brixton, London) was selected as the positive example, and Greater Leys (Oxford) as the negative example (developed in the early 1990s).

A mixed-methods technique was used in the research accommodating the following steps: literature and map survey, the on-site assessment of the physical environment through an urban design appraisal, the subjective evaluation of the selected neighbourhoods through a structured questionnaire administered, and comparisons between them.

The items of urban design appraisal included the situational, morphological, spatial, and functional qualities of the neighbourhoods, such as accessibility, character, legibility, variety, building and urban space relationship, robustness (or functional strength), quality open spaces, adaptation, elevational treatments, etc. The assessments were made by the author through various visits and their validities were ranked one by one. A three-item scale was preferred in the assessments of the urban/physical environment as often used in the quality of life research and other research areas due to the convenience of their use (Czerwiński and Atroszko 2021; Cheung and Lucas 2014).

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Survey questions were prepared in line with the aim of the research. Resident information sheets and official letters explaining the nature of the survey were prepared. The number of questionnaire packs was decided in line with the average response rate for such surveys in the UK, and proportion to the number of dwellings in each site. 85 households in Greater Leys and 70 households in Angell Town were surveyed to guarantee an acceptable number of responses in the end.

Participants in the study, sought from householders aged 18 and over, were asked to complete a questionnaire including 43 questions. The questionnaire packs were distributed by the author to randomly selected households using a `drop and collect` technique. They were provided stamped envelopes to return their completed questionnaires. Participants were informed with an introductory explanation about the survey and how to complete the questionnaire. One person (aged 18 or over) in each randomly selected household was asked to complete the questionnaire. Most questions were easy to answer simply by ticking a box. No special knowledge was needed. Time taken to complete a questionnaire was approximately 10 min. The response rate was 35% in Greater Leys (31 returns) and 33% in Angell Town (23

returns). These figures statistically ensure a reliable data analysis.[1] SPSS statistical program was used to analyse.

Survey Program

The survey program included questions that explore people's opinions, behaviours, and expectations regarding social life, the way they use their surrounding environment, and their attributes. Survey questions were prepared in line with the aim of the research, resident information sheets and official letters explaining the nature of the survey were prepared.

The survey, in addition to demographic variables, contained questions on respondents' profile, housing profile, neighbourhood and housing factors that influence where to live, perceived neighbourhood quality, community development, community participation, involvement and communication, neighbours' preference of online communities/relations to meeting neighbours, sense of neighbourhood as home, neighbourhood attachment, community participation, involvement and communication. In this research, only a portion of the questions was employed.

In the study, the physical qualities of the neighbourhoods as the variables of subjective assessments include the general appearance (aesthetic) of the development, quality of the development (urban and architectural design and materials), convenient access to the district/town centre, and convenient access to green environment (parks, etc.). The social qualities of the neighbourhoods as the variables of subjective assessments include sense of community, sense of the neighbourhood as home, perceived friendliness of the neighbourhood, attachment to the neighbourhood, neighbourhood satisfaction, and perceived quality of urban life.

[1] Studies have demonstrated that the acceptable response rate for surveys utilizing drop and collect envelopes may fluctuate, depending on a variety of factors, including the intended audience, survey length and complexity, and timing. For example, in the Community Life Survey conducted by the Department of Digital, Culture, Media and Sport, the combined household response rate was 26.20% (Kantar Public, 2021). In contrast, a study conducted by the Royal Mail on surveys distributed to households in the UK found that the average rate for surveys using drop and collect envelopes was 15%. Meanwhile, experienced researchers from the OISD Cities Unit at Oxford Brookes University have stated that the typical survey response rate in the UK related to the built environment in the UK is 5%.

Qualitative differences

The study areas

Case 1: Angell Town, London

Angell Town was initially designed by Lambeth Borough architects' department and developed in the late 1970s in Brixton, South London, as a typical housing estate for the new middle classes. However, Angell Town, with its poor layout and circulation system based on a concept that includes overpasses, bridges, the visually hidden ground-floor garages, and with the effects of the management problems of the local authority, had become a highly problematical and undesirable place soon after people settled (Butina Watson and Bentley 2007, p. 246). As stated by Butina Watson and Bentley (2007, p. 246), first, "residents began to notice that there were few chances to meet people in casual ways because no windows were opening onto the pedways"; second, "the blindness towards the public realm also made it difficult to control children, who wanted to play there with their peers".

Based on the projects tailored to the needs and desires of the people of the estate (1988), the so-called 'sink estate' was redeveloped in the mid-1990s as a significant housing regeneration project by the London Borough of Lambeth, Angell Town Community Project, and Ujima Housing Association with a participatory approach (Burrell-Foley-Fisher 2012). As Butina Watson and Bentley (2007, p. 246), the urban design consultants of the project, explain, "beginning with voluntary youth work, then taking over the tenants' association and eventually forming the Angell Town Community Project (ATCP), residents began to take ever greater initiatives; first on their own but eventually recognizing the practical need to work with consultants of various sorts". In this context, under the coordination of architect Burrell Foley Fischer, the estate was reintegrated with the surrounding areas of Brixton by reestablishing a street based urban layout, an active public realm was established at ground level, a hierarchy of public and private space was created; raised walkways and dark corners based on terraced houses with individual entrances were eliminated, unused garage spaces were transformed into shops and social facilities, and the deck access system was converted into a perimeter block system with buildings facing the streets. In addition to the smaller-scale family units replacing the 'big' blocks, the newly created parks and other landscape elements, comfortable pedestrian areas, and overhead bridges interpreting the older bridges characteristic of Brixton, and personalized front gardens have helped create a settlement identity as well (Figs. 1–5).

Fig. 1 Angell Town: The new urban layout. *Source* http://www.coe-design.co.uk/angell-town/hwseowq0e4n9vmphwjxjhej89v7gvk

In the end, this new urban design project has produced positive results in terms of aesthetic quality and safety, meeting the needs of users and the management as measured by the Oxford Brookes Urban Regeneration Consultancy administering a questionnaire to all the households on the estate a few years after the residency. The purpose of the questionnaire was to generate a design brief which would call for a great deal of detailed design interpretation but would be as prescriptive as possible about key issues of site layout, relationships between buildings and public space, access to dwellings, locations of uses and so forth. The return rates of these complex questionnaires were as high as 70% in one block (Butina Watson and Bentley 2007, pp. 248–249).

The project has won many awards, including the Community Initiative Award 1983, 1985, 1987, 1990, 1991, the Times/RIBA Community Enterprise Award 1989, the Civic Trust Award 1990, Cabe Gold Standard Sustainability Award 2007, Urban Design Award 2002, RIBA Award for Architecture 2002, BDA Award 2002: Best Public Housing, BDA Award 2002: Building of the Year (Burrell-Foley-Fisher 2012). The success of the project was expressed by the academic staff and researchers at the Cities and Urban Design Units at Oxford Brookes (Interviews by the author in January and August 2009) and was praised by Baroness Whitaker in the House of Lords in 2008 as follows: "A few weeks ago I saw in Angell Town in Brixton the rehabilitation of exactly one of those estates, accompanied by new buildings, which created attractive, safe and affordable homes within a strong community, steered by residents' wishes. Nearly, three-quarters of them said that they now felt safe, that they were satisfied with their new homes and that Angell Town was now a pleasant, friendly, and attractive place to live" (Burrell-Foley-Fisher 2012).

Case 2: Greater Leys

Greater Leys, located on the edge of Oxford as an expansion to Blackbird Leys, was developed by the local authority in the mid-1980s due to the scarcity of housing land within the urban area. As Rudlin and Falk (1999, p. 78) state, "this raised concerns about the number of people who were to be housed in an area remote from facilities, a concern about many residential developments from 1945. As a result, a great deal of effort was made by the council and the developers to ensure that shops, facilities, and services were provided". The overall settlement, which is perceived as a random collection of solid, 'boxy' houses developed to simply meet the need for accommodation, does not reflect a sound urban design approach at all.[2] It has three parks, a social centre, sports clubs, playgrounds, an entertainment centre, and a swimming pool. However, since these public facilities are situated in one corner of the huge settlement and the lack of diversity in the rest of the settlement, the public facilities are not sufficiently used by people and the streets in the residential areas are deserted during the weekdays as monitored at different time intervals by the author (Figs. 6–9).

On-site assessments

In the section that follows, the results of the author's on-site assessment of the physical environment in the two neighbourhoods in terms of their situational, morphological, spatial, and functional qualities are presented. Each item assessment under the titles of accessibility, character, legibility, variety, building and urban space relationship, robustness (or functional strength), quality open spaces, adaptation, and elevational treatments were ranked based on a scale of 'none', 'medium' and 'available',[3] see Tables 1 and 2.

[2] There appears to be an imbalance in the level of attention given to the two cases, as Greater Leys housing development was developed without an urban design approach, considered ordinary, and has not received much attention in urban design literature.

[3] As Czerwiński and Atroszko advocate, "ultra-short scales are becoming increasingly popular in educational and psychological research due to the convenience of application, often satisfactory psychometric properties and reduction of bias introduced by the excessive burden on participants with long questionnaires. They are often used, for example, in the quality of life research (Cheung and Lucas 2014; Czerwiński and Atroszko 2021).




Figs. 2–5 The diverse types of housing in Angell Town after the transformation of the 'big' block system to a series of street-orientated dwellings, the newly created public spaces and green areas, personalized front gardens, and overhead bridges reinterpreting the older overhead bridges characteristic of Brixton. *Source* Author's Archive

The findings of the on-site assessments have shown significant differences in terms of general urban design characteristics as the overall rank hits 86% in Angell Town while it was only 37% in Greater Leys (Table 1 and Table 2).

Survey findings

After on-site assessments which constitute the first part of the research, questionnaires focusing on the subjective evaluations of the residents regarding the physical and social characteristics of their neighbourhoods were conducted. In this study, only a portion of the questions was employed.

Perceived physical qualities of the neighbourhoods

The residents' opinions about the phsical qualities were achieved by their responses to the multiple-choice question *"Please indicate if any of the reasons listed below were important for your decision to choose your home"*. The reasons, which are the causes of the residents' satisfaction, contained thirteen probable reasons including those which are not directly related to urban design, namely "size of home", "private garden", "possibility to extend or change home", "parking space for cars", "convenient access to work or school", "convenient access to family and/or friends", and "costs/good value for money", but the urban design characteristics were still found important by nearly half of the respondents of both developments in average.

In Angell Town, the great majority of the respondents (87.1%) indicated that the general appearance (aesthetic) of the development was one of the reasons to choose their home, while less than one-fifth of the respondents in Greater Leys (17.6%) indicated that it was a reason (Table 3). Quality of the development regarding urban/architectural design and materials was an important reason for more than three-fourths of the respondents in Angell Town (77.4%) to choose their home, while only 11.8% of the respondents in Greater Leys indicated it as one of the reasons. (Table 4). Most of the respondents (84%) in Angell Town indicated the existence of convenient access to districts/town centres as one of the reasons to choose their home. In Greater Leys, only 5.9% of the respondents specified it as a reason (Table 5). Convenient access to green environment, i.e., parks, was indicated as one of the reasons to choose their home by nearly three-fourths (71%) of the Angell Town respondents, while 14.7% stated it as a reason to choose their home (Table 6).

Fig. 6 Greater Leys Layout. *Source* Google Earth, November 2021

Perceived social attributes of the neighbourhoods

The social attributes of the neighbourhoods as the variables of subjective assessments included sense of community, sense of neighbourhood as home, perceived friendliness of the neighbourhood, attachment to the neighbourhood, neighbourhood satisfaction, and perceived quality of urban life.

Opinions about the sense of community were measured by users' approval of the statement "There is a strong sense of community in this neighbourhood". This is a good indicator of neighbourhood social cohesion. In Angell Town, 26% of the respondents approved the answer reflecting the existence of a good sense of community, 71% neither approved nor disapproved, and only 3% disapproved, while 9% approved that there was a sense of community, 53% neither approved nor disapproved and 38% disapproved in Greater Leys (Table 7). To measure people's views on the sense of neighborhood as home, the following question was employed: "Do you think of this neighbourhood as 'your home' or 'just a place you happen to live'?". In Angell Town, the great majority of the respondents (94%) thought their neighbourhood as 'their home', while only one-third of the Greater Leys respondents (35%) thought so (Table 4); nearly three-thirds of this neighbourhood thought their neighbourhood as 'just a place to live' (Table 8). Respondents' perceived friendliness were measured through their affirmation of the statement "This is a friendly neighbourhood". In Angell Town, more than half of the participants (59%) agreed that it is a friendly neighbourhood and only 3% disagreed, while less than one-fourth of the Greater Leys participants (24%) agreed and 32% disagreed (Table 9). The attachment measure was the respondents' response to the statement "There is a strong attachment to this neighbourhood". Based on the scale of 1 being the most negative and 5 the most positive score, a significant difference was found between the respondents' answers in the two neighbourhoods. Results revealed that there was a high degree of attachment among the residents of Angell Town as most of them (97%) agreed while only 44% agreed in Greater Leys (Table 10). To determine the overall neighbourhood quality, only one question was asked to the participants. It was "All things considered, how satisfied or dissatisfied are you with this neighbourhood as aplace to live?". Based on the scale of 1 being the most negative and 5 the most positive score, results indicate that respondents in Angell Town were more satisfied as 93% of them reflected complete satisfaction or satisfaction. Conversely, only 47% from Greater Leys said they were completely satisfied or satisfied, 9% registered 'complete' dissatisfaction, and 3% dissatisfied with their neighbourhood (Table 11). The question "How would you evaluate the quality of life in your neighbourhood in general?" was used to measure the overall quality of life in the neighbourhood. In Angell Town, findings reveal that nearly half of the participants (43%) shared the view that the quality of life in their neighbourhood is very good, more than half of them (57%) believed it is good, and none of them was negative (Table 8). Findings in Greater Leys, on the other hand, suggest that more than half of respondents (53%) consider the quality of life in their neighbourhood fairly good, over a third (35%) neither good nor bad, and one in eight (12%) fairly bad (Table 12).

Figs. 7–9 Views of the typical houses in Greater Leys. *Source* Author's Archive

Discussion and conclusions

The present study, after the review of the relevant literature and on-site assessments, examines claims that the features of urban design quality affect perceived social qualities and quality of life in a neighbourhood.

An important component of the study was two consciously chosen neighbourhoods, Angell Town (London) and Greater Leys (Oxford), and the extent to which they met the urban design criteria and how they were evaluated by their residents. The primary data source was a user survey designed to serve the information needs of local authorities, housing developers and researchers dealing with various aspects of housing environments.

The features of urban design quality were chosen based on whether there was a consensus in the theory, put forward by the theorists leading the urban design discipline (Tibbalds 1992; Bentley et al. 1985; Appleyard and Jacobs 1982; Jacobs 1961) and policy guidance on their validity. The features, as relevant to the scale of the settlements covered in the study are situational, morphological, spatial, and functional qualities that reflect a responsive urban design strategy and include the following aspects: accessibility (or permeability), character, legibility, variety, building and urban space relationship, robustness (or functional strength), quality open spaces, adaptation, and elevational treatments.

The quality of a place is a subjective issue as each user may have different opinions and evaluations (Marans 2003). The output, therefore, requires an analysis of the relationships between data collected through on-site assessments and users' perceptual responses to their environment. In line with this, the study benefited from the analysis of the respondents' own views about the role of the physical characteristics of the neighbourhood in house selection. Variables of respondents' subjective evaluations included "general appearance (aesthetic) of the development", "quality of the development (urban and architectural design and materials)", "convenient access to district or town centre", and "convenient access to green environment (parks, etc.)". These features were presented in the questionnaire as alternative reasons to choose their home together with other reasons not related to urban design and/or physical environment and helped to reveal the causes for being satisfied with their neighbourhood.

Social attributes were specified as sense of community in the neighbourhood, perceiving the neighbourhood as a home, perceived friendliness, attachment, satisfaction, and quality of life in the neighbourhood.

The results of the on-site assessments differed significantly in terms of overall urban design characteristics, with the overall ranking reaching 86% in Angell Town versus just 37% in Greater Leys. Findings from respondents' own opinions revealed that the vast majority of those in Angell Town (87%) rank the general appearance (aesthetics) of the development as one of the major reasons for choosing their home, while less than one-fifth of the respondents in Greater Leys (%17.6) listed this as a reason. Significant differences between the two developments were very similar in responses to questions about quality of the development

Table 1 Urban design appraisal in Angell Town, Brixton (London)

1 ACCESSIBILITY (PERMEABILITY)	**Rank**
Strong connections at the district/neighbourhood scale	
Accessibility/Permeability integrated into the existing urban form and the natural and built environment / small street blocks	
Direct connections with the magnets of the area	
Efficient and well-connected circulation elements within a reasonable hierarchical system	
Barrier-free condition (level changes avoided; gentle slopes (1:20) preferred)	
Reduced impact of vehicles on the built environment (pedestrian movement separated from heavy traffic using trees, on-street parking, and bicycle lanes)	
Surface level car parking and front forecourt parking	
Sufficient street lighting for people with visual impairments	
Non-reflective flooring in contrasting colour and texture to walls, bike paths, etc.	
Encouraged cycling	
2 CHARACTER	
Distinctive landscape	
Distinctive image of the built form	
Character enriched by conserved historic and civic buildings and distinctive structures	
Relatively compact neighbourhood	
Skylines and roofscapes	
Identifiable building materials	
3 LEGIBILITY	
Focal points and natural reference points	
Continuous views	
Visual appropriateness (form reflecting its function)	
Edges and buffers	
Distinctive street furniture	
Lighting quality	
Arts and crafts	
Wayfinding design (signage, etc.)	
4 VARIETY	
Variety of built forms	
Diverse types of residences	

Table 1 (continued)

Local primary services/facilities, i.e., a convenience store, post office, bank, health centre and public transport stops within 500m distance	◉
Local secondary services/facilities, i.e., parks, religious buildings, and community and leisure facilities within 800m distance.	◉
Opportunities for biological diversity	●
5 BUILDING AND URBAN SPACE RELATIONSHIP	
Streets and open spaces defined by buildings	●
Public realm - private realm distinction	●
Consistency of building lines (avoiding gaps in the line of building)	●
No leftover spaces unused and uncared for	●
6 ROBUSTNESS (FUNCTIONAL STRENGTH)	
Active edges at ground floor level on commercial streets	●
Residential layout creating active street frontages	◉
Green roofs and renewable energy installations	◉
7 QUALITIES OF OPEN SPACES	
Hierarchy of public open spaces	◉
Attractive and usable open spaces (design using natural harmonics, public art, etc.)	◉
Public open spaces lined by active building fronts	◉
Attractive, mixed, and robust planting appropriate to the locality	●
Places suitable to the needs of everyone including disabled and elderly people	○
Well-designed lighting and sturdy street furniture	●
8 ADAPTABILITIES	
Flexible uses	●
Possibilities for gradual change	●
Personalisation	●
9 ELEVATIONAL TREATMENTS	
Clear and visible entrances to places and buildings	●
Windows and balconies blended with the context	●
Materials blended with the context	●
Uniform/consistent street frontages	●
Rhythm and uniformity	●
TOTAL RANKING ○ **none** ◉ **medium** ● **available**	43/56 (86%)

Table 2 The urban design appraisal in Greater Leys (Oxford)

1 ACCESSIBILITY (PERMEABILITY)	**Rank**
Strong connections at the district/neighbourhood scale	○
Accessibility/Permeability integrated into the existing urban form and the natural and built environment / small street blocks	○
Direct connections with the magnets of the area	○
Efficient and well-connected circulation elements within a reasonable hierarchical system	○
Barrier-free condition (level changes avoided; gentle slopes (1:20) preferred)	●
Reduced impact of vehicles on the built environment (pedestrian movement separated from heavy traffic using trees, on-street parking, and bicycle lanes)	●
Surface level car parking and front forecourt parking	●
Sufficient street lighting for people with visual impairments	●
Non-reflective flooring in contrasting colour and texture to walls, bike paths, etc.	●
Encouraged cycling	○
2 CHARACTER	
Distinctive landscape	○
Distinctive image of the built form	○
Character enriched by conserved historic and civic buildings and distinctive structures	N/A
Relatively compact neighbourhood	○
Skylines and roofscapes	○
Identifiable building materials	○
3 LEGIBILITY	
Focal points and natural reference points	◉
Continuous views	○
Visual appropriateness (form reflecting its function)	●
Edges and buffers	●
Distinctive street furniture	○
Lighting quality	●
Arts and crafts	○
Wayfinding design (signage, etc.)	●
4 VARIETY	
Variety of built forms	◉
Diverse types of residences	○

Table 2 (continued)

Local primary services/facilities, i.e., a convenience store, post office, bank, health centre and public transport stops within 500m distance	●
Local secondary services/facilities, i.e., parks, religious buildings, and community and leisure facilities within 800m distance.	○
Opportunities for biological diversity	●
5 BUILDING AND URBAN SPACE RELATIONSHIP	
Streets and open spaces defined by buildings	●
Public realm - private realm distinction	○
Consistency of building lines (avoiding gaps in the line of building)	○
No leftover spaces unused and uncared for	◉
6 ROBUSTNESS	
Active edges at ground floor level on commercial streets	●
Residential layout creating active street frontages	○
Green roofs and renewable energy installations	○
7 QUALITIES OF OPEN SPACES	
Hierarchy of public open spaces	●
Attractive and usable open spaces (design using natural harmonics, public art, etc.)	○
Public open spaces surrounded by active building fronts	○
Attractive, mixed, and robust planting appropriate to the locality	●
Places suitable to the needs of everyone including disabled and elderly people	○
Well-designed lighting and sturdy street furniture	○
8 ADAPTABILITIES	
Flexible uses	○
Possibilities for gradual change	○
Personalisation	○
9 ELEVATIONAL TREATMENTS	
Clear and visible entrances to places and buildings	◉
Windows and balconies blended with the context	◉
Materials blended with the context	◉
Uniform/consistent street frontages	○
Rhythm and uniformity	◉
TOTAL RANKING ○ **none** ● **medium** ◉ **available**	18.5/50 **37%**

Table 3 General appearance (aesthetic) of the development

Statement about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
General appearance (aesthetic) of the development'	Yes	87.1	17.6	50.8
	No	12.9	82.4	49.2
Total		100.0	100.0	100.0

Table 4 Quality of the development (urban/architectural design and materials)

Statement about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Quality of the development (urban/architectural design and materials)	Yes	77.4	11.8	43.1
	No	22.6	88.2	56.9
Total		100	100.0	100

Table 5 Convenient access to district/town centre

Statement about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Convenient access to district/town centre	Yes	83.9	5.9	43.1
	No	16.1	94.1	56.9
Total		100.0	100.0	100

Table 6 Convenient access to green environment (parks, etc.)

Statement about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Convenient access to green environment	Yes	71.0	14.7	41.5
	No	29.0	85.3	58.5
Total		100.0	100.0	100

Table 7 Opinions about the sense of community in the neighbourhood

Question about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Strong 'sense of community'	Strongly agree	16.1	–	7.7
	Agree	9.7	8.8	9.2
	Neither agree nor disagree	71.0	52.9	61.5
	Disagree	3.2	32.4	18.5
	Strongly disagree	–	5.9	3.1
Total		100.0	100.0	100.0

Table 8 Sense of neighbourhood as home or just a place to live

Question about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
'Sense of neighbourhood as home' or 'just a place to live'	Home	93.5	35.3	63.1
	Just a place to live	6.5	64.7	36.9
Total		100.0	100.0	100

(urban and architectural design and materials), convenient access to the district/town centre, and convenient access to green environment (parks, etc.). Overall, on-site assessments were consistent with residents' responses to survey questions about the perceived quality of the neighbourhood in terms of physical attributes.

Angell Town respondents were found to have a significantly stronger sense of community and more profound sense of the neighbourhood as home, significantly stronger

Table 9 Opinions about the friendliness of the neighbourhood

Question about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Opinion about the friendliness of the neighbourhood	Strongly agree	9.7	–	4.6
	Agree	48.4	23.5	35.4
	Neither agree nor disagree	38.7	44.1	41.5
	Disagree	3.2	26.5	15.4
	Strongly disagree	–	5.9	3.1
Total		100.0	100.0	100%

Table 10 Attachment to the neighbourhood

Statement about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Feeling of attachment to the neighbourhood	Strongly agree	64.5	2.9	32.3
	Agree	32.3	41.2	36.9
	Neither agree nor disagree	3.2	26.5	15.4
	Disagree	–	23.5	12.3
	Strongly disagree	–	5.9	3.1
Total		100.0	100.0	100

Table 11 Satisfaction with the neighbourhood as a place to live

Question about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Satisfaction with the neighbourhood as a place to live	Very dissatisfied	3.3	8.8	6.3
	Dissatisfied	–	14.7	7.8
	Neither satisfied n. Dissatisfied	3.3	29.4	17.2
	Satisfied	56.7	44.1	50.0
	Very satisfied	36.7	2.9	18.8
Total		100.0	100.0	100

Table 12 Overall quality of life in the neighbourhood

Question about	Response	Angell Town (%)	Greater Leys (%)	Total (%)
Overall Quality of Life	Very good	43.3	–	20.3
	Fairly good	56.7	52.9	54.7
	Neither good nor bad	–	35.3	18.8
Total		100.0	100.0	100

agreement on the friendliness of their neighbourhood, stronger attachment to their neighbourhood, more satisfaction with their neighbourhood, and richer perception of quality of life in their neighbourhood, compared to the respondents of Greater Leys, a typical development based on planning that does not include urban design principles.

Sense of community, perceiving the neighbourhood as a home (Marans 2003), perceived friendship, attachment (Manzo and Devine-Wright 2020; Hidalgo and Hernandez 2001; Hunter 1974), satisfaction (Oktay et al. 2012; Marans and Stimson 2011; Francescato 1998), Campbell et al. 1976; Atkinson 1977; Michelson 1977; Connerly and Marans 1985) and quality of life (Oktay et al. 2012). significantly more positive in consciously designed neighbourhoods. In addition to these findings, the study revealed that when the urban design process includes all stakeholders, professional

experts and potential users, the social attributes of the residents to the space are positively affected.

Overall, the evidence from this study shows that perceived social attributes and quality of life are strongly linked to urban design and physical environment characteristics, as well as perceived physical attributes of the neighbourhood, in agreement with previous studies (Burton and Mitchell 2006; Carmona et al. 2004). Perceived neighbourhood characteristics such as sense of community, sense of neighbourhood as home (Marans 2003), perceived friendliness, attachment (Manzo and Devine-Wright 2020; Hidalgo and Hernandez 2001; Hunter 1974), satisfaction (Oktay et al. 2012; Francescato 1998; Campbell et al. 1976; Atkinson 1977; Michelson 1977; Connerly and Marans 1985), and quality of life (Oktay et al. 2012; Francescato 1998) are found to be significantly more positive in consciously designed neighbourhoods. In addition to these findings, the study revealed that when the urban design process includes all stakeholders, professional experts and potential users, the social attributes of the residents are positively affected.

In future legislative frameworks for residential development and growth, it is crucial not to neglect the scale of 'urban design' regarding the creation, regeneration, improvement, and management of built environments that are sensitive to local socio-spatial context.

Based on research and analysis to date, the information found is here. However, this study has some limitations, and further research is needed to generalize the findings, as local socio-cultural characteristics may affect assessments in different settings.

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Data availability The participants of the survey research did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

Declarations

Ethical approval A strict process was followed to get the approval of the University Research Ethics Committee (UREC) at Oxford Brookes University (OBU) on the application of the survey.

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