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Examining the Concept of Liveability in Urban Neighbourhoods in Iskandar Malaysia

Wan Azlina Wan Ismail [1], Nicola Dempsey [2]

[1] Department of Landscape Architecture, Faculty of Architecture and Ekistics, University Malaysia Kelantan, Malaysia
[2] Department of Landscape Architecture, Faculty of Social Science, University of Sheffield, United Kingdom

azlina@umk.edu.my, n.dempsey@sheffield.ac.uk
+6012 987 5494

Abstract
Liveability is an important concept in urban planning and geography. It is well-used in planning policy with different geographical contexts, however there are limitations in understanding this concept in the Malaysian context. This research examines the relationship of liveability between people and place in their daily lives, to explore comprehensively liveability in urban neighbourhoods through residents' perceptions and the perceived degree of liveability. Qualitative and quantitative data collected in 5 urban neighbourhoods in Iskandar Malaysia suggests that liveability must correspond to residents' requirements for good quality facilities and services, good neighbourhood conditions and positive community engagement.

Keywords: Liveability Dimensions; Policy Interpretation; Urban Neighbourhood; Iskandar Malaysia

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1.0 Introduction

The concept of liveability embodies the idea that the characteristics of places can provide a good quality of life. Liveability in urban settings has been discussed as early as the 1980s by researchers from around the world (Myers, 1987; Omuta, 1988; Veenhoven, 1996). In 1998, the Western Australian Government introduced their *Liveable Neighbourhoods Design Code,* providing design principles to enhance the health and wellbeing of residents in new suburban developments (Bull, 2015). The policy was created to guide the growth of more compact and sustainable suburban neighbourhoods to decrease car dependency, encourage walking, cycling, use of public transport, and foster a sense of community. This led to the concept of liveability being linked to the economic growth and performance of cities, socio-economic patterns of development, at the neighbourhood scale; and identified the optimum governance arrangements for local regeneration policies. In Malaysia, the concept of "liveable communities" was introduced in a policy document after the Federal Malaysian government developed the South-Johor Economic Region as a major corridor for economic development. The vision, known as Iskandar Malaysia (IM), has been facilitated through a Comprehensive Development Plan (CDP), the underpinning strategy to boost the physical and economic development of the Johor Bahru metropolitan area since 2006 (Rizzo & Glasson, 2012).

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From a policy perspective, liveability is used as a comprehensive term (Lloyd, Fullagar, & Reid, 2016), with structural explanations referring to economic and material forces (Béland, 2017). This paper explores how the institutional explanations use common meanings to examine how they are interpreted in practice in 5 urban neighbourhoods in Iskandar Malaysia. The paper shows how governments need to examine how liveability is supported in practice to demonstrate how they compare with policy commitments. To translate effectively policies into the lived experience of liveability in urban neighbourhoods, authorities and policymakers should prioritise the evaluation and maintenance of liveability policies as part of the decision-making and development that shape the urban social, economic and physical environments (Foster, Hooper, Knuiman, Bull, & Giles-Corti, 2015; Hyra, 2012; Ruth & Franklin, 2014).

1.1 Theoretical Background

Liveability is described by many researchers as an emerging theme in the field of urban geography and urban planning (Gieling & Haartsen, 2017; Gough, 2015; Lowe et al., 2015; Ruth & Franklin, 2014). It is also a well-established concept in the planning policy implemented by governments and international organisations (Mcarthur & Robin, 2019).

The relationship between people and place in daily life is crucial for the quality of individuals' lives and social cohesion at large (Gustafson, 2001). Previous studies have examined individuals' experiences in specific places and communities, including home (family, relations, and friends), workplace (colleagues), and place of worship (fellow worshippers), neighbourhood (neighbours), city, country, or continent. It has been shown that positive experiences of places and communities made a positive contribution to one's sense of identity and can also enrich life with values, goals, and significance (Carmona, 2019; Giuliani, 2003; Ujang, 2012; Ujang & Zakariya, 2015) whenever a 'good place' to live, raise a family, and make home was chosen. Moreover, the choices regarding a place to live were made according to employment/ economic factors.

Recent research has attempted to explore the relationships of liveability between places and communities more fully. This includes an interest in the investigation into liveability in rapidly urbanising settlements within the context of increased globalisation. The liveability of urban neighbourhoods encompasses the correlative relationship between social (communities) and spatial qualities of particular (physical) places while having to fulfil people's needs and adapt to their activities (Jalaladdini & Oktay, 2012). (Jenks & Dempsey, 2007) found that thriving neighbourhoods can be examined through their spatial attributes. These attributes refer to the complex socio-psychological-spatial manifestations of place, underpinned by a sense of place attachment and identity.

As various approaches are used to measure the liveability of urban life, (Veenhoven, 1996) acknowledged the liveability of the nation in matters corresponding to social equity and equality. The concept of 'liveability' of a nation is defined as the degree to which its provisions and requirements fit with the needs and capacities of its citizens. Engagement with the community and environment comprises bio-physiological needs such as food, safety, and contacts. Therefore, a nation is not liveable if, for instance, these needs are not fulfilled. (Veenhoven, 1996) adds that a good quality of life *"...requires at least some order and continuity in the nation, a minimum of productivity and some similarity between ideal and reality."* For this paper, liveability is a measure of the quality of life that a city can afford its inhabitants, making it essential to understand the different perspectives of different stakeholder groups utilising this concept: policymakers, academics, private providers, and residents.

1.2 Various Contexts of Liveability

Liveability is a principle used in operational policies, used for the design and implementation of structural plans at the regional, district, and local level, and it is mostly applied to neighbourhood areas in a metropolitan or urban settlement (Rowe Group, 2015). Despite the frequent use of 'liveability' in policy, academia and practice, it is an ambiguous term used differently by various groups within different social, physical, environmental, geographical, and economic contexts (Kashef, 2016). These contexts are relevant at various scales and levels such as individual, household, street and neighbourhood which are of relevance to this paper.

Government policy and planning initiatives arguably play a vital role in helping to build or shape neighbourhoods where residents can live safely, conveniently, and be physically active (Hooper, Giles-Corti, & Knuiman, 2014; Lowe et al., 2015). As well as the Western Australia Government's Liveable Neighbourhoods Design Code (LN) (1998), in the UK, the concept of liveability is used to guide economic growth in English cities, primarily about creating places where people would choose to live and work in the present and future (Neam, 2012). In this context, liveability was concerned with the quality of space and the built environment, and emphasised peoples' perceptions of comfort and safety of a place (Dempsey, Bramley, Power, & Brown, 2011; Neam, 2012).

Meanwhile, in Malaysia, the concept of "liveable communities" was introduced in the early 2000s in the Iskandar Malaysia Region's Comprehensive Development Plan (CDP). The policy and strategy of 'liveable communities' here proposed to improve the environment of both new and old neighbourhoods to boost the physical and economic development of the Johor Bahru metropolitan area (CDP, 2006). One of the strategies aimed to create liveable communities through quality housing, adequate facilities, quality services, and a healthy, safe, and lively environment. This research aimed to examine how well this was achieved.

1.3 Measuring Liveability in Iskandar Malaysia

A local scale-investigation was conducted into the relationship between CDP policies and their translation into practice as experienced by residents in their everyday lives. In the LN (1998), the policies claim that liveability can be attained in neighbourhoods where people choose to live and remain. However, there is no empirical evidence to support this claim and there is little understanding of the relationship in the Malaysian context between social (communities) and spatial qualities of places (physical) as explained by (Jalaladdini & Oktay, 2012). Substantially, liveable neighbourhoods should fulfil the residents' needs in terms of their daily activities (Girardi & Temporelli, 2017; Leach et al., 2016; Paul & Sen, 2018; Tilaki, Abdullah, Bahauddin, & Marzbali, 2014). In the UK context, (Jenks &

Dempsey, 2007) found that good neighbourhoods (rather than communities) are measured by their spatial attributes which have connections in terms of the socio-psychological-spatial concept of places to the social characteristics of the neighbourhoods. For this research, a range of indicators is adopted from international measures to compare liveability at different scales including individual, household, street, and neighbourhood (Conteh & Oktay, 2016; Dempsey et al., 2011; Iyanda & Mohit, 2016; Lowe et al., 2015; Turkoglu, 2015).

The concept of liveability for IM was verified through critical policy evaluation of the CDP and operationalised by exploring the actions and presumptions through various projects and programmes set out by the local authorities of IM. In gaining further understanding of liveability in the context of IM's urban neighbourhoods, this research explores three primary dimensions namely accessibility, equitability, safety, and wellbeing. Table 1 presents a summary regarding the concept of liveability encapsulated within three general dimensions to be tested in this research.

Table 1. The operationalized measures of liveability as specified by three primary dimensions

Dimension	Sub-dimension	Operationalize measure (indicator)
Accessibility	• to community resources and essential local services (shops, schools, health centres etcetera.); • recreational opportunities, open spaces; • public transports; • job opportunities;	A question to determine respondents' accessibility towards daily places and activities. • Distance to workplace/school daily activities...? • Frequency visiting usual places • Are you visiting the recreational area? • Where is it located? • How do you travel to work/school/shop, etc.? • Where do you work?
Equitability	• Sense of place/attachment to neighbourhood/social interaction/ satisfaction within the home and neighbourhood area/participation in collective group/civic activities. • Infrastructures; • Transportations; • Affordable housing; • Historical/heritage preservation etc.	Measures of equitability e.g. • Occupation • House ownership • Number of vehicles owned • Number of households • Type of house unit
Safety/security and well being	• Improve infrastructure/ transports quality; • Neighbourhood safety/security (from the risk of crime, antisocial behaviour, social issues, etc.; • Quality of local environment, public fitness and health.	Measures of safety/security and wellbeing e.g. • Feeling safe at home in the day time and after dark • The crime occurred in your neighbourhood • Contact with neighbours • Social values

Essentially, measuring liveability refers to examining the variations of people's psychological experience according to demographic characteristics and geographical scale (Scannell & Gifford, 2017). Therefore, (Farquhar, 2012) suggested that a case study would contribute a particular understanding or insight into this subject.

1.4 Data and Methods

1.4.1 Data

The methodological approach of this study consists of a combination of quantitative and qualitative research methods where residents' perspectives are compared to the definition of liveable policies set up in the CDP. Some of the questionnaires were adopted from previous relevant research similar in study approach and objectives (Bramley, Dempdey, Power, Brown, & Watkins, 2009; Dempsey et al., 2011; Leby & Hashim, 2010; Norouzian-Maleki, Bell, Hosseini, & Faizi, 2015; Saitluanga, 2014; Sedaghatnia, Lamit, Ghahramanpouri, & Mohamad, 2013).

Five urban neighbourhoods were identified according to the CDP and provided diversity in terms of neighbourhood characteristics and demographics. Using questionnaires to collect data, there were 306 valid responses using probability sampling between September to December 2016 from adult residents aged 18+ residing in 5 neighbourhoods. The total response rate varies for gender with an average of 35% male and 65% female. The participants of this study were approached in each neighbourhood and were conducted in places where residents were expected to perform their daily activities, such as local schools, places of work, shopping, or

leisure time. The indicators to measure accessibility were separated into two categories, namely lived experience and residents' perceptions, via survey questions utilising Likert scale and open-ended opinion questions.

1.4.2 Statistical Analysis

Exploratory Factor Analysis (EFA) was used to explore the underlying structure of liveability indicators and a more detailed review of the dimension of liveability. Initially, the correlation matrix of the association was evaluated using Principal Component Analysis (PCA) to identify and compute composite scores for the factors which underpin the liveability dimensions. EFA defined the sets of liveability indicators assigned to capture relevant variables (Tabachnick & Fidell, 2013) related to liveability. As the dimensions of liveability used in this study had been established by previous research and policy documents, it was necessary to compare these findings with respondents' interpretation of liveability in their daily activities in IM's neighbourhoods.

The indicators considered to constitute the underlying indicators of the main dimension of liveability in this study were identified in the initial eigenvalues or the factors' variances (Table 2). Using a correlation matrix with standardised variables, indicating that each variable had a variance of 1 (after (Pallant, 2013), there were six factors. This was checked using PCA for all scales using the *Oblimin* rotation method to create more reliable factorial solutions, considering that *Kaiser Normalisation* excluded any indicators used to measure liveability in the questionnaire survey which was not represented. The underlying components extracted from the overall data set were then clustered according to factor loadings produced in the pattern matrix table. All the 31 items from the questionnaire tested in EFA were categorised based on the value loadings, as shown in Table 2.

Table 2. Summary of the results of residents' perception of liveability dimension based on Exploratory Factor Analysis (EFA)

Indicators items	Factor Loadings					
	Local problems and maintenance	Perception of Neighbourhood	Crime	Facilities and local services	Safety	Community and social value
Poor street lighting	.838					
Poor road condition	.806					
Poor drainage system	.795					
Poor air quality	.746					
Litter and graffiti	.663					
Proximity to traffic	.624					
Lack of car park	.553					
Disturbance by youngster/children	.433					
Crime in the area	.414		.385			
Noise from neighbours	.413					
General surrounding appearance		.778				
Condition of homes and surrounding		.768				
Your neighbourhood as a place to live		.745				
Provision of recreational facilities		.723				
I feel safe living in this neighbourhood		.472				
Provision of shops		.465		.355		
Theft			.909			
Burglary			.908			
Violence			.879			
Vandalism			.821			
Drug/alcohol use			.774			
The local services and facilities are convenient in this neighbourhood				.875		
The public transport services are reliable in this neighbourhood				.866		
The local services and facilities are reachable in this neighbourhood				.864		
Alone at home after dark					.755	
Alone at home during the day					.712	
Walking alone in your area during the day					.700	
Walking alone in your area after dark					.669	
Sense of community spirit in your neighbourhood						.896
Helpfulness in your neighbourhood						.887
Friendliness in your neighbourhood						.872

(Source:) Author, 2019

Based on the data, the liveability indicators could be classified according to the respondents' interpretation of this concept, namely (i) local problems and maintenance (street lights, road condition, drainage system, air quality, etc.), (ii) perception of the neighbourhood (condition of homes and general surrounding), (iii) crimes (theft, burglary, violence, and vandalism), (iv) facilities and local services (convenience and access to local services and facilities, the reliability of public transport), (v) safety (safety in different situations such as being alone at home after the dark and during the day, walking alone in your area after the dark and during the day), and (vi) community and social value (sense of community, helpfulness, friendliness in the communities).

EFA identified that residents responded to the questionnaire survey and suggested a new category of indicators based on their interpretation. To understand the relationship between different perceptions of liveability, the effects of demographic variables on the neighbourhood level were identified using Multilevel ANOVA. This analysis was used to compare the demographic characteristics of IM residents and their effects on various six outcome dimensions from the EFA presented in Table 2. The correlations between socio-demographic variables and the six new factors were tested using several statistical tests such as one-way, two-way, and higher factorial designs (Pallant, 2013) and the neighbourhood level was used as a random factor to fulfil its purposes. It was found that socio-demographic variables could affect residents' perceptions of liveability. The results shown in Table 3 indicates that there might be a

significant relationship between the factors and one or more demographic characteristics, while some of them were not related to any demographic element.

Table 3. The relationship of liveability factors with demographics characteristics

Demographic characters	Liveability indicators constructed from EFA					
	Local problems and maintenance	Perception of Neighbourhood	Crime	Facilities and local services	Safety	Community and social value
Gender	x	p=0.003	x	x	x	x
Ethnicity	x	x	x	x	x	x
Age	p=0.019	p=0.027	x	x	x	x
Educational level	x	x	x	p=0.002	x	p= 0.041
Current job status	x	x	p=0.002	x	x	x
Job category	x	x	x	x	x	x
Monthly household income	x	x	x	p=0.002	x	x
Household's size	x	x	x	x	x	x
House unit	x	x	x		x	x

**Neighbourhood level – as random factor*
**Only the socio-demographics variables that were found to be strongly correlated (p-value < 0.05) shown in the table.*
(Source:) Author, 2019

1.5 Findings and Discussion

The findings suggest that measuring the liveability of urban neighbourhood environments in Iskandar Malaysia is imperative to understand the meaning and interpretation of this concept in a specific context. This research attempted to measure liveability based on the constructed dimensions, namely accessibility, equitability, and safety and wellbeing. As a result, it was found that the dimensions were interpreted in different ways after they were subjected to an Exploratory Factor Analysis (EFA) using the PCA method. It demonstrated how residents interpreted liveability into six new components (dimensions), which were (i) local problems and maintenance, (ii) perception of neighbourhood, (iii) crime, (iv) facilities and local services, (v) safety, (vi) community and social value. The local problems and maintenance dimension highlighted several local environmental issues, such as street lighting, road condition, drainage system, and air quality among others. The neighbourhood environment indicator referred to the condition of homes and general surroundings. Moreover, the facilities and local services indicator underlined the level of convenience, accessibility to local services and facilities among the residents, and the reliability of public transports. This was followed by community and social value which highlighted the perception of the sense of community, helpfulness, and friendliness in the community.

The policy and strategy of creating a liveable community in Iskandar Malaysia's urban neighbourhood were in contrast to the research expectations, where the strategies and action plans were described broadly using general terms. These general terms did not correspond to residents' interpretations of liveability as outlined above. Overall, the findings identify that there are corresponding interpretations of liveability made by previous works of literature so far.

This discussion aimed to identify the possible associations and implications from the study and to determine the nature of the relationship between the findings. Moreover, some statistical analyses, such as correlation and multilevel ANOVA, were conducted to identify the association between the factors which measured liveability in each neighbourhood.

The conceptual interpretation of liveability as identified through the domain dimensions of this research, namely accessibility, equitability, and safety and wellbeing, found that accessibility emphasised the aspect of access to green facilities and modes of travel within the neighbourhood, Moreover, the significant factors of the equitability of a liveable neighbourhood, namely equitable access to school and educational facilities, health care services, places of worship, and public transport. The dimension of safety encompassed the residents' perceptions of it in several specific circumstances. It was indicated through safe neighbourhoods that, in terms of lived experience, residents expressed dissatisfaction with the local government's performance in handling crime issues although they were convinced that the local authority had made significant efforts to address them. Finally, wellbeing is a dimension of liveability which is constantly related to community engagement and social interaction. This dimension emphasises social networks, social cohesion, and sustainable neighbourhood design. It was found that the factors which influenced social wellbeing were tenancy status, household size,

the interaction between communities, a good lifestyle, and certain physical environments.

1.6 Conclusion and Recommendations

Based on understandings gained from previous works of literature, this research shows that for liveability to be effectively measured in a particular context, it must be interpreted beyond the physical setting to include residents' social needs and interactions.

Further research should not assume that the developers, urban designers, planners, and architects will achieve the goal of liveability in the planning policy when creating, designing, or renewing the built environment of the urban neighbourhood. It should be noted that liveability is encompassed within the definition of sustainability and quality of life of a specific context and setting. Therefore, the 'liveable communities' as presented in the CDP and some other terms used in the Malaysian planning strategies to address this goal should be interpreted carefully according to the need and appropriateness of the socio-spatial context and setting.

To achieve liveability in the context of urban neighbourhoods, this does not only involve the quality of the built environment, but also the social dimension of liveability as this is significant for local communities (Zhang & Lawson, 2009). As these research findings show, the social dimension of liveability should be addressed in the policies and services developed and provided by public agencies to improve the quality of life for all citizens. It is suggested that policies relating to safety, education, women, families and communities, youth provision, local services, housing provision and regeneration programmes in Malaysia should be addressed to tackle this issue precisely.

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Paper Contribution to Related Field of Study

This study may be necessary for policy, practice, theory, and subsequent research in the urban neighbourhood and academic practices. The findings are broad and could be scrutinised at different levels of revising the urban policy for the future development of neighbourhood design in Iskandar Malaysia and elsewhere in the urbanising parts of the country.

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