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TOWARDS A CONTEXT SPECIFIC AND MULTIDIMENSIONAL QUALITY OF URBAN LIFE MODEL.

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Abstract

With the majority of people living in cities it has become increasingly important to examine the relationship between the qualities and characteristics of an urban setting and the perceived satisfaction of its users. Discourses on Quality of Urban life (QOUL) show that the preponderance of existing empirical studies and measurement frameworks have been developed based on Western case studies or standards. Rapid urbanisation of cities in Africa and Asia, however, has dramatically impacted the use of space, and in many cases has resulted in intense urban transformations that impacted communities. This prompts questions about the quality of life (QOL) of residents and the liveability of their environments. Thus, this research argues that although there are many aspects of urban life that are pan-cultural, there are also culture specific features that make urban life unique in each city or setting. Consequently, QOUL studies should balance universal values and context-specificities. Following identification and critique of QOUL models, the paper calls for a new model to examine context specificities. The model aims to highlight the important role that context and culture play in urban life while underscoring the relevant core dimensions of QOUL studies.

Keywords: *Quality of Urban Life, Culture, Conceptual Model, Context Specific Framework.*

QUALITY OF URBAN LIFE: A BRIEF HISTORY

QOL research has developed as an academic discipline in its own right after the launch of the scientific journal 'Social Indicators Research' in 1974 (ILIC et al., 2010; MCCREA et al., 2011). This was part of the Social Indicators Movement, which developed over the 1960s and 1970s due to the belief that economic indicators alone were not enough to fully demonstrate the QOL of cities and nations. QOL is now a fast-growing discipline, embraced by governments as a means of measuring the well-being within and between communities, cities, regions and nation states (ILIC, et al., 2010). Up until the 1970s, the majority of reports were non-spatial despite an interest in area-based social indicators (PACIONE, 2003). However, Cicerchia, 1996 noted that an urban trend began emerging in an attempt to give context to QOL. This urban element provides a significant physical and social dimension that grounds QOL studies, making them more applicable to policy-makers and planners. Interest in the relationship between people and their everyday urban environments and the degree of satisfaction involved is known as a quality of urban life (QOUL) study.

Despite QOL and QOUL being the centre of numerous studies, there is still not a universally acceptable definition for either of the concepts (WLO-DARCZYL, 2015; MARANS, 2012; ILIC et al., 2010;

DAS 2008; KAMP et al., 2003). The lack of definition has resulted in disagreement on how QOUL should be measured and which indicators should be addressed (ESMAEILPOORARABI et al., 2016; RAPHAEL et al., 1996). The argument within this paper is therefore premised on the notion that a site-specific model is required for measuring QOUL as a universal model remains inconsistent and unreliable when applied across various contexts and cultures.

QUALITY OF URBAN LIFE MODELS

The relationship between a person's quality of life and their urban environment is complex; therefore it is difficult to measure. At present, there is not a single model or a set of measures that are universally accepted by researchers and policy makers when analysing QOL (McCREA et al., 2011). The literature presents a diverse range of suggested models, illustrating that there are numerous ways to conceptualise the topic (KAMP et al., 2003). These range from highly theoretical models to comprehensive meta-theory models.

A model approach should be used for QOUL studies as they can effectively accommodate a wide range of factors that influence a person's perception and understanding of QOUL. Therefore, using a model allows the comparison of a number of aspects of life at one time. This is important as the satisfaction felt by an individual in a setting will differ depending on their views about it (MARANS, 2003). These views

provide a subjective evaluation of the objective world, influenced by the personal and social characteristics of that individual (PACIONE, 2003). As such, a model framework must be utilised when evaluating QOUL, so as to standardise the approach to the study.

There are three main types of models; the conceptual model that specifies dimensions of QOL; the conceptual framework that describes, explains or predicts the directional relationship between elements of QOL, and the theoretical framework which includes a structure of QOL elements and their relationship within a theory that explains the connection (ILIC et al., 2010). This next section will analytically review a sample of influential models including; Marans and Rodgers 1975 model, the Shafer et al., 2000 model, and the Pacione 2003 model. These have been presented chronologically.

Marans and Rodgers, 1975

This model (Figure 1) is one of the most comprehensive models of satisfaction with QOUL (McCREA et al., 2005). The basic purpose of the model is to suggest the manner in which objective attributes of the environment are linked to the subjective experiences of the people who are in that environment (MARANS and RODGERS, 1975). It is a meta-theory model that incorporates a broad theoretical framework, and as such is useful at conceptualising a variety of findings on satisfaction with urban living (McCREA et al., 2005).

The model relies on two assumptions; one is that multiple measures are required to capture the overall quality of an environmental setting at any scale, be that region, city, neighbourhood, or dwelling (MARANS, 2012). Another is that quality as a phenomenon is subjective and reflects the life experiences of the occupants in the setting. This therefore means

that the objective condition of the setting does not convey the true quality of that space, rather it reflects the meaning of the condition to the occupant (MARANS, 2012; McCREA et al., 2011). This model therefore amalgamates the two traditions of measurement in QOUL studies; objective and subjective; to create a comprehensive picture of overall QOUL.

The model implicitly addresses the concept of living domains exemplified by 'Environmental attributes'. This represents the objective indicators, which could include factors such as housing costs, and crime rates (McCREA et al., 2005). While this points to the concept of living domains, it does not explicitly define the physical, social and economic strands of QOUL. Across the top of the model are the personal characteristics and levels of comparison. These feed into all aspects of the model, except from the objective column. This reiterates the importance of place and person when evaluating an urban setting. As shown in Figure 1 the arrows link together numerous paths, illustrating that the various scales are not independent, rather that overall QOL is experienced and affected by all scales, and objective as well as subjective indicators. This means that the level of satisfaction in various life domains contribute to the overall QOL experience felt by the resident (MARANS, 2012). Comprehensively, it illustrates the important relationship between objective and subjective strands in contributing to the overall QOUL. One should note that in this model is that the various scales influence one another; this is a spill over effect where by factors affecting life in one life domain will affect life in another.

The Shafer et al., 2000

The Shafer, et al., 2000 model (Figure 2) is a conceptual model based on the 'human ecosystem perspective'. It was developed to recognise the basic relation-

Figure 1. . Adapted from Marans and Rodgers 1975 Model. (Source: Marans, 2003).

Figure 2. Shafer, et al conceptual model of factors that contribute to community quality of life from a human ecological perspective. (Source: Shafer et al., 2000).

ship between the component parts of a place and how they form QOL. It illustrates that quality of life is formed by the continual interaction between a community, their environment and their economic qualities. The strength of this model is that the interaction between life domains is explicitly defined, giving a clear picture of how the concepts relate to one another (KAMP et al., 2003). The primary focus of the model is on domain specificity. Other aspects of QOUL such as its relationship with time, personal experience and objective or subjective indicators are not addressed. By the model discussing community QOL, scale is implicitly included. However, the relationship between different scales is not explicitly defined.

It is widely accepted that three different environments coexist; the physical environment, the social environment, and the economic environment (CAMAGNI et al., 1998). These environments are conceptually complementary and work together to produce a liveable environment. They are often referred to as the three major pillars of quality (KAMP et al., 2003). One issue is that the terms used vary between disciplines and theories; therefore models may use synonyms for the terms. This is seen here where 'Community' is used as opposed to 'Social Environment'. This conceptual model is valuable for evaluating QOUL as it clarifies three of the core QOL dimensions and how they relate to one another. The model shows that to create an optimal setting, there should be a balance between these factors. As such, when designing a QOL study, one should consider an equal number of indicators addressing each domain to give a balanced picture of the QOL of that setting.

Pacione, 2003

The third model reviewed is the PACIONE 2003 five-dimensional structure for QOL research (Figure 3). Pacione tackled urban environmental quality, and human wellbeing from a social-geographical perspective, concluding with a five-dimensional model for quality of life research (SANDRU, 2012). The model integrates numerous dimensions of QOL research including; domain specificity, geographic scale, social group dimensions, time, objective QOL, and subjective QOL (McCREA et al., 2011). In each timeframe, Pacione presents that QOUL is an amalgamation of these concepts.

While this is an extensive and successful model for evaluating QOUL, there are two aspects that are implicitly addressed which need explicit clarification. One is the the specific domains of QOUL as presented by SHAFER, et al., 2000 are not unambiguously defined in this model. Pacione mentions 'sub-domain, domain and 'whole life', but the model doesn't illustrate that these relate to the physical, social and economic realms of the urban environment.

A second dimension of QOUL. which is

Figure 3. Pacione's five-dimensional structure for quality of life research. (Source: Pacione, 2003).

implicitly addressed by the model. is the notion of context and culture. Pacione brings to the foreground the sense that QOL research centres on the quality of life experienced by different social groups in the city. This is due to urban populations being disaggregated by class, age, gender, ethnicity and lifestyle (PACIONE, 2003). This notion of sub-cultures is vitally important. Nonetheless, taking the idea on a larger geographic scale implies that different cities would be affected by different issues. Therefore, disaggregation by sub-cultures does not seem to be sufficient, and thus disaggregation by specific cultures and milieus is important. Consequently, this accentuates the need for a context specific QOUL model. Generally, Pacione successfully examines the key theoretical and methodological issues that QOL research is confronted with, presenting an extensive wide-reaching model to draw from.

A COMPARATIVE CRITIQUE OF THE THREE MODELS

The synthesis of the preceding three models and other supporting discussions within the literature leads to the identification of seven interconnected dimensions of QOUL:

- QOUL spans numerous life domains (Physical, social, economic and welfare)
- QOUL spans numerous living domains, often referred to as scales
- QOUL varies depending on the context and culture under investigation
- QOUL requires appropriate indicators
- QOUL requires both an objective and a subjective assessment of a setting
- Subjective QOUL assessment is directly influenced by an individual's personal experience and their levels of comparison
- QOUL varies over time

These have not been listed in a hierarchal order.

Table 1. Comparison of three models. (Source: Authors).

(Table 1) compares the three influential models. It examines the context in which they were designed and tested, their expected outcomes and how QOUL dimensions are addressed. The core dimensions are examined on the basis of them being addressed explicitly, implicitly, or not addressed at all. (Table 1) clarifies that many of the existing influential models have been designed and tested within the context of the West, and that the majority of current models aim to be used to positively inform policy and planning.

In terms of the core dimensions of QOUL, the table presents that living domains are generally always considered in the models. Two of the examples could provide a clearer representation, but largely this is an accepted dimension by scholars. The concept of scale is also well represented in their description, particularly in the Marans and Rodgers (1975) model that illustrates the relationship between scales and their spill over affects. Objective and subjective strands of QOUL are also well discussed by models, being explicitly addressed in Marans and Rodgers and Pacione models.

Additionally, the table highlights that there are two concepts that are touched upon but not explicitly elaborated within the models. These are time, and personal experience. These notions are imperative in QOUL studies, therefore should gain more weight in future models and frameworks. A gap in knowledge identified by this table is that context and culture appear to be lacking an explicit focus. Coupled with the fact that the models having been developed in the context of Europe and North America, this triggers the need for a context specific QOUL model.

THE CORE DIMENSIONS OF QUALITY OF URBAN LIFE

Life Domains

Although there is discrepancy in the definition of QOL, there does appear to be considerable overlap among researchers on relevant domains for assessing QOL (FELCE and PERRY, 1995). A predominant issue with this is that often synonyms are used interchangeably. Therefore, current QOL studies may be reviewing or discussing the same domains under different headings or using different terms.

In 1995, Felce and Perry designed a model that categorised quality of life into five domains; physical wellbeing, material wellbeing, social wellbeing, development and activity, and emotional wellbeing. Under each of the five domains, a number of indicators are included to better describe and articulate them. Domains were derived from fifteen key literature sources that provide substantial overlap in their categorisation (FELCE and PERRY, 1995).

A second model that categorises domains is the (SHALOCK et al., 2002) model that was developed by a panel of experts. It illustrates what it believes are the eight-core quality of life domains; emotional well-being, interpersonal relations, material well-being, personal development, physical well-being, self-determination, social inclusion and rights (SHALOCK et al., 2002). In Shalock et al's model, the domains are in relation to different scalar systems; people, programs, community and nations. This is a strong model for a QOUL study that believes the primary purpose for applying a QOL study is to enhance an individual's well-being (SHALOCK et al., 2002).

Notably, the two models are using similar

table 2. Domains of QOL and QOUL studies. (Source: Authors).

Figure 4. Conceptual QOUL domain model. (Source: Authors).

domains, under different headings or titles. Both models give a wide-ranging list of personal indicators. However, it is important to note that the physical built environment isn't included in either model. This is due to them being QOL as opposed to a QOUL models. While it is essential to understand QOL domains to aid in forming QOUL domains, it is the inclusion of the physical element that provides context for the study. As such, this study has reviewed a range of QOL and QOUL studies to extract the domains used by each (Table 2).

There seems to be a consensus in the literature that the physical, economic and social domains form the materials of society (KAMP et al., 2003). Thus, the various domains used by the eight existing studies have been classified into categories. Additionally, due to health being regarded as one of the prominent indicators within the social indicators movement (KAMP et al., 2003) health, as an important component, has been included as part of a 'welfare environment' as a fourth domain. Table 2 demonstrates that these 4 core domains are used throughout QOL and QOUL studies. This is further illustrated in Figure 4.

Living Domains/Scales

Just as QOUL can be categorised into separate domains, the built environment can be characterised at different levels of geographic scale. These are often referred to as life domains. The scales range from an individual right through to national or international scales (PACIONE, 2003). This is because people live their life throughout a series of places, which each have particular environmental characteristics (MARANS and STIMSON, 2011). Some of the most commonly used scales include housing, neighbourhood, community and the city or region (McCREA et al., 2011).

The Esmailpoorarabi et al., (2016) model is a strong example of a model that considers the different geographical scales. The model maintains that each scale measures environmental, economic, social and personal dimensions. Nonetheless, within these dimensions the various scales deal with distinctive elements that define quality at that particular scale. For example, the 'cluster' level deals with more tangible elements for people (ESMAELPOORARABI et al., 2016). It is possible for the satisfaction felt at one scale to influence the satisfaction at another. These links are referred to as spill-over effects (JEFFRES and DOBOS, 1995). It can be argued that although QOUL can be categorised into scales, it is postulated that it is not fully isolated from the surrounding scales.

Context and Culture

Evidently, the body of knowledge developed in the field demonstrates that the majority of existing empirical QOUL models and measurement frameworks have been developed based on case studies developed and tested in the context of Europe and North American (LOW et al., 2018; PAN et al., 2016; SHEK, 2010; MÜLLER & SCHLEMMER, 1983). In this respect, it is argued that although there are many aspects of urban life that are pan-cultural, there are also culture specific features that make urban life unique in each city. While QOUL can be understood in universal terms, it should also be understood and evaluated within the framework of each culture (TOV and DIENER, 2007). This is due to a number of reasons; first is that the concept of QOL and QOUL can be interpreted differently across cultures, and there is minimal evidence to support the concept effectively to translate or be implemented across cultures (PAN et al., 2016). This is due to quality per definition being context dependant, and that people's perceptions of quality vary depending on social and cultural setting as well as in time (KAMP et al., 2003). Second, due to substantial differences in the way of life across various contexts, some indicators that are used to evaluate QOUL may impose values that are not shared by all people. In essence, what is important in one culture may not be important in another. Thus, assessing QOUL in one culture or context by the standards of another context should be avoided (TOV and DIENER, 2007).

Differences found between countries are too large to be plausible (KAHNEMAN and RIIS, 2005). For example, while happiness and satisfaction are important factors for QOL in the Western culture, Chinese philosophies such as Confucianism, Buddhism and Taoism promote the importance of humility, endurance and forbearance (SHEK, 2010). Cultural values are also thought to be changing over time; while traditional values such as African humanism do continue to play a significant part in many

Figure 5. Frequently used social indicators. (Source: Rapley, 2003).

domains of life, Mfller (2018) states that values in post-independent sub-Saharan Africa are shifting towards secular and emancipation ones, especially among the educated youth and in urban areas.

Due to the important role that culture plays in an individual's QOUL, it is believed that proposed frameworks should be sensitive and specific to the context and culture under investigation. Therefore, although an overarching QOUL model is useful, it is argued that a culture-specific framework should be constructed to highlight the significant role culture plays in perceiving the urban environment.

Identification of Appropriate Indicators

There many indicators found in the body of literature on the typology of QUOL indicators (CICERCHIA, 1996). This is because selecting indicators is not and cannot be an exact science. Some of the most commonly used objective and subjective indicators found throughout QOL literature have been identified by Rapley (2003) and are outlined in (Figure 5). These provide a general starting point for a QOL study as an inclusive list which can be contextualised.

The indicators selected are an important part of tailoring the framework to the context under investigation. They should reflect the important aspects of life within a setting and be balanced i.e. each domain should have a similar number of indicators as asymmetry can lead to a hidden allocation of weights

(HERSPERGER et al., 2017). An issue found when evaluating indicators is that it is unclear if larger values indicate a better or worse state of affairs. Cicerchia (1996) provides the example of welfare payments; if welfare payments increase does this imply a bad environment due to a high number of people requiring assistance, or does it indicate a good environment because there is a large amount of assistance available? In essence, the selected indicators should reflect attributes of an environment and person's life that can be measured, observed and assessed.

Objective and Subjective QOUL

Following on from indicator selection, the next question is how to collect the information on these indicators. It is axiomatic that to gain a comprehensive understanding of an urban environment, the study should employ both an objective and subjective evaluation (MARANS, 2012; MCCREA et al., 2011; ILIC et al., 2010; LOFTI & SOLAIMANI, 2009; KAMP et al., 2003; PACIONE, 2003). This allows for an understanding of the physical attributes of the setting, as well as the users perception of that setting; i.e. 'the city on the ground and the city in the mind' (PACIONE, 2003).

Previously, studies focused on either the objective or the subjective indicators independently, resulting in there being two main paradigms for QOUL research (MCCREA et al., 2011), however recently there has been consensus on the necessity of adopting both an objective and subjective approach in order to construct a meaningful QOUL study. This is because what is good for people cannot be determined without taking their views into account. Objective indicators include factors such as life expectancy, income, available educational facilities (MfLLER and SCHLEMMER, 1983) while subjective indicators include individuals experience of their lives including factors such as job satisfaction, and personal happiness (MALKINA-PYKH and PYKH, 2008). The objective factors are obtained from secondary sources of information such as census data. The subjective elements are assessed by empirical research in the form of systematic observation and attitude surveys to establish residents' views, perceptions, and preferences (YIN, 2017).

Personal Reflection in an urban environment

Following on from subjective QOUL is the notion that each individual occupying a setting may have different views about it. These individual views transform the objective situation into an individual interpretation (PACIONE, 2003). Per se, QOL is uniquely identified for each individual (RAPHAEL et al., 1996). These perceptions are influenced by occupants' characteristics, their needs and their past experiences (MARANS, 2012; MARANS, 2003). Personal reflection is this a

Figure 6. Context specific QUOL Model. (Source: Authors).

vital dimension of QUOL that should be incorporated in new frameworks.

Time

The final component of QUOL identified by the authors is time. This is because a city is not a stagnant construct, rather it is continually evolving and developing in time. By monitoring indicators over time, a QUOL study can provide evidence on the aspects of QUOL that the residents feel are improving or declining (MARANS and STIMSON, 2011). This information can be used by policy makers and planners to evaluate how effective their efforts are (MARANS, 2012). The importance of observing the changes that take place, and how people respond to them over time cannot be over emphasised (MARANS and RODGERS, 1975).

BUILDING A CONTEXT SPECIFIC MULTIDIMENSIONAL MODEL

(Figure 6) presents a pictographic representation of the seven core dimensions of QUOL. While the model aims to be wide-ranging, it has been cautious not to be overly prescriptive. It provides a series of criteria that can be used to guide a QUOL study and should be used with flexibility upon a deeper understanding and appreciation of an urban environment, its culture and its context. The model aims to amalgamate the seven core dimensions of QUOL as outlined by the authors in terms of domains, scale, context and culture, specific indicators, objective & subjective indicators, personal experience and time.

Primarily, the model maintains that QUOL is formed by the four primary domains; physical, social, economic and welfare. The overall QUOL experience or 'whole life' is then depicted as the sum of each of these individual domains. The domains are then

extruded down across the geographical scales of life, often referred to as living domains. This is because people live their lives in a series of environmental settings which each have different characteristics. It is important to note that although the various scales have independent features, the satisfaction felt within each domain does seem to be interlinked (McCREA et al., 2011). This is illustrated by the white arrow on the living domain label.

The cylindrical image of QUOL is then placed directly in the context and culture under investigation. This is surrounded by a number of aspects of context and culture such as social group, cultural values, ethnic heritage and lifestyle. Following outwards from this, the objective and subjective assessments of QUOL have been placed at opposite sides of the diagram to clearly portray them as separate strands of research. The objective strand is fed by secondary data reporting (such as census data and crime statistics) where the subjective data is fed by primary data reporting (such as survey methods). The primary data reflects the perceptions of residents of the urban environment, echoing their personal experiences within these urban environments. The full model is then placed on a timeline, elucidating that studies and investigations should be repeated in time.

The model can be operationalized into a framework for a study by completing six tasks illustrated in (Figure 7). Operationalising the model would be sensitive to the exact place under investigation. Example indicator categories have been included in a non-hierarchical list in the model, however they should be selected under a deeper understanding of the context under investigation.

1. Select a scale to investigate.
2. Determine the life domains that will be addressed

Figure 7. Context specific quality of urban life framework. (Source: Authors).

3. Identify the context and culture specific indicators
4. Select suitable objective and subjective tools
5. Merge the data found in the two strands of research
6. Repeat over time

CONCLUSION

This paper has provided a review of selected QOUL studies and examined three influential models. From this examination, the paper has identified seven core dimensions of QOUL namely; life domains, scale, context & culture, indicators, objective & subjective methods, personal experience and time. By comparing the dimensions considered by existing models, the study reveals two main issues with existing studies; first is that there is a lack of focus on context and culture in the majority of existing empirical frameworks. The second is that most existing models are developed and tested in Western and Developed case studies. This has led to the identification of a context specific QOUL model to address such a gap, which the proposed model and its underlying framework have attempted to address in figures 6 and 7.

The model presented in figure 6 builds on the work of numerous existing frameworks including a number not included in this paper, to present an inclusive QOUL model. It is then operationalised into a framework in order to illustrate the way in which it can be put into practice. The values that the model and the framework capture illuminate the important role played by context and culture in urban life and highlight the seven core dimensions of QOUL to provide a comprehensive framework for future studies. The model and the framework combined are intended for use by policy makers and planners who are operating in different contexts, as well as for scholars investigating QOUL. While this is still a proposition and the paper does not claim the full validity of the model since it is not tested yet, it highlights key qualities and indicators. However, it remains to be a challenge to implement studies following this model and how it can further refined to include specific indicators for individual contexts.

This paper is part of a larger research project that aims to investigate the QOUL in East-African cities with a focus on Lilongwe, Malawi and Lusaka, Zambia. The next step is to apply the model to the specific context of these cities and to further address aspects relevant to the contextual particularities of these cities. This may involve deriving a set of indicators and developing a structured tool-kit for investigating QOUL in East-African cities. This is required because urban settings in these cities are significantly different from those in the Global North with regards to their physical, social, economic, and welfare environments. Unsurprisingly, the efforts put forward by existing frameworks are often ineffective, further supporting the case for context specific models. Testing

the model and the framework presented in this paper constitutes an empirically based and culturally sensitive investigation to validate or contest its applicability and reliability.

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