

Liveability, sense of place and behavioural intentions

Dubai urban area

An exploratory investigation of the Dubai urban area

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Abstract

Purpose – Cities from developing countries strive to compete on a global scale and hence try to attract and retain their residents in offering higher liveability. The purpose of this study is to examine the extent to which liveability influences resident's sense of place and determines residents' behavioural intentions.

Design/methodology/approach – A survey was carried out to test the hypotheses using a sample of 362 residents from the city of Dubai (United Arab Emirates). Structural equation modelling and the method suggested by Hayes and Preacher (2010) for mediation analysis were used.

Findings – Findings show that residents' preferences for different types of liveability attributes (included in seven dimensions) influence their sense of place that in return shapes their behavioural intentions towards their place of residence. Results also reveal the importance of non-economic attributes of the urban environment. Moreover, residents' sense of place mediates the relationship between liveability and residents' behavioural intentions.

Research limitations/implications – Future research could more deeply investigate the social functioning of a place and particularly the role of place identity, as it is recognized to affect residents' attitudes and behaviours. In addition, further developments may contribute to the ongoing debate on the relationship between liveability and growth.

Practical implications – From a public policy standpoint, this study suggests that local authorities need to identify a distinct set of economic and non-economic characteristics that will encourage residents to stay longer in the place they live. As such, enhancing liveability represents a critical strategic initiative for cities from developing countries to make them a great place to live.

Originality/value – Compared to developed countries' cities, few attempts have been made to investigate the attitudes of residents towards a place and the role of liveability in the context of emerging countries fast-growing urban areas. In addition, findings revealed the importance of place-based meanings, i.e. sense of place, which played a pivotal role in the development of place-protective behaviours.

Keywords Sense of place, Behavioural intentions, Liveability, Mediation analysis, Developing countries' cities, Residents' perspective

Paper type Research paper

Introduction

To attract top talent, foreign investments and tourist expenditures and generate new development opportunities, places[1] must enhance “their attractiveness and marketing to promote their uniqueness” (Moilanen and Rainisto, 2009, p. 10). At the same time, they must avoid, at any cost, imitating what has already been (successfully) implemented in other locations. This ability has become even more crucial in light of recent post-industrial shifts, and particularly for developing countries' cities that have implemented radical changes to diversify their sources of revenue. As cities are becoming less dependent on manufacturing,



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through the analysis of fast-growing urban areas such as Hong-Kong, [Jessop and Sum \(2000\)](#) have raised a contemporary concern that is related to finding new combinations of economic and extra-economic factors (for example, they are related to the social and environmental characteristics of an urban setting) in the construction of inter-urban competition. In this regard, liveability or quality of life (QOL)[2] has been progressively embedded into the public discourse of policymakers ([McCann, 2004](#)) to present a place in a positive light. This qualitative move emphasizes the role existing residents (apart from new/potential migrants) have to play in determining the success of a place marketing strategy ([Braun et al., 2013](#)).

Addressing happiness, good life or liveability issues means inquiring into what makes individuals satisfied or dissatisfied with where they live ([Mohan and Twigg, 2007](#)). Literature exhibits various frameworks examining the antecedents and/or consequences of liveability ([Phillips et al., 2010](#)). Most of these works have examined the causal links between liveability and place attitudes, such as place satisfaction and place attachment ([Zenker and Rütter, 2014](#)). Nevertheless, the formation of places, and the meanings attached to locations, is a (complex) process, which is derived from individual, cultural and social interactions ([Altman and Low, 1992](#)). To capture a broader range of place meanings, we propose to extend residents' attitudes to the concept of sense of place, which encompasses different but intermingled aspects. In their review of prior studies, [Jorgensen and Stedman \(2006\)](#) underlined that many concepts that seek to describe some aspects of human–environment relationships can be included in the umbrella term “sense of place”.

In this study, it is believed that the interactions between liveability and residents' attitudes, which encourage residents to consider living longer in a place, offer potential for further development. This is particularly true for cities belonging to the developing world, which strive to compete with their peers, and where 90 per cent of urban growth is expected to arise in the future ([World Bank, 2010](#)).

This paper aims to contribute to the existing literature on place marketing, and broadly speaking place development, by providing evidence of place marketing's effectiveness ([Parker et al., 2015](#)). The paper also adds to a recurring theme that is dedicated to identifying which liveability determinants are influential in terms of patterns of urban growth and development ([Rogerson, 1999](#)), by examining their influence on residents' attitudes and behaviours in the case of a fast-moving global city. [Figure 1](#) presents the theoretical framework of this study in which liveability, attitudinal and behavioural responses to spatial settings interrelate. The dependent variable is residents' behavioural intentions – i.e. intentions to stay longer in, and willingness to spread positive word of mouth (WOM) about,

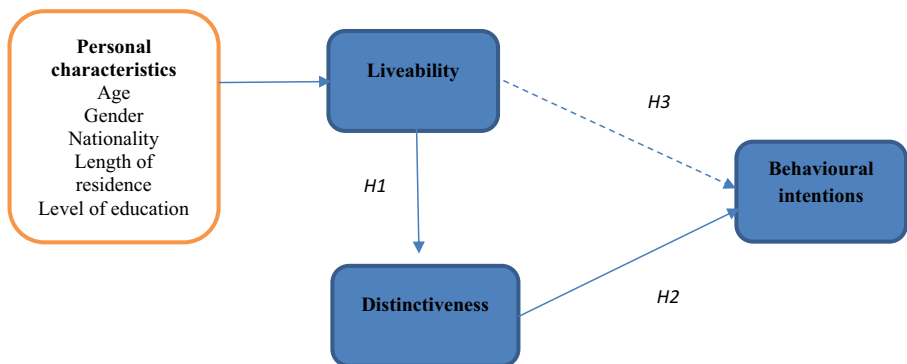


Figure 1.
The theoretical model
and hypothesized
relationships

the place in which they live. Liveability is the independent variable, which is identified as the antecedent to sense of place. The latter is assumed to mediate the relationship between liveability and residents' behavioural intentions. Age, gender, nationality, length of residency and level of education have been hypothesized as influencing liveability. The proposed model borrows from attitude theory (Eagly and Chaiken, 1993) and Theory of Reasoned Action (TRA; Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). The former can provide a basis for conceiving of sense of place as cognitive, affective and conative relationships with human environments (Jorgensen and Stedman, 2001). The latter may help to understand residents' behaviour towards their place of residence and how it connects with the attitudes of residents.

While most extant analyses have focused on urban areas within developed countries, the city of Dubai represents a stimulating field of investigation, aiming to provide additional empirical evidence on cities from developing countries[3]. This is of importance to scholars from multiple fields, such as urban studies, urban planning, place marketing, economic geography and international business, because it helps to more precisely clarify the interaction(s) between a rapidly emergent global city and its residents. The results of this study may also have significant implications for policymakers, urban planners and place marketers with respect to how they intend to develop their entity.

Literature review and hypotheses development

Literature has demonstrated that there are multiple ways to conceptualize liveability, that it shares conceptual similarities with well-being and QOL and that these concepts have thus been used interchangeably in a wide variety of disciplines (Dodge *et al.*, 2012). The issue of liveability has been explored in diverse place contexts around the world, and has driven public policy innovation and change. Among the most representative definitions is that of Pacione (1990), for whom liveability is behaviour-related and results from the interaction between personal and environmental characteristics. One of the most widely cited approaches broadly connects the characteristics that make a place somewhere people want to live now and in the future to the well-being of their community (Victorian Competition and Efficiency Commission, 2009). From an individual perspective, Shin and Johnson (1978, p. 478) posited that well-being is "a global assessment (judgement) of a person's quality of life according to his own chosen criteria". Other scholars assimilated liveability to life satisfaction (Linely *et al.*, 2009). This approach is based on normative ideals (i.e. satisfaction of preferences), and the ability to select goods and services that one desires. In other words, residents are satisfied with where they live because they choose places that meet their needs with regards to attributes that are important to them within their various restraints (McCrea *et al.*, 2014). To avoid a potential confusion between the concepts, we adopt the definition of urban liveability proposed by the Australian Major Cities Unit:

Liveable cities are socially inclusive, affordable, accessible, healthy, safe and resilient to the impacts of climate change. They have attractive built and natural environments. Liveable cities provide choice and opportunity for people to live their lives, and raise their families to their fullest potential. (Major Cities Unit, 2010, in Badland *et al.*, 2014, pp. 2-3).

This perspective aims to address the complex embedded resident–place interactions.

Beyond the conceptualization of well-being, scholars seem to agree on its multifaceted nature, which responds, to a large extent, to the current contextual and cultural elements within a locality (Matarrita-Cascante, 2010). In line with this reasoning, it is proposed that liveability is considered in light of the idea that physical, social and economic aspects of the city interact (van Kamp *et al.*, 2003). As the range of attributes that are theorized to influence

liveability is spread across many fields of study, it requires a multidisciplinary effort to identify liveability's influential dimensions. Prior research has stressed that all aspects of a place – that is, a location's (city's) specific characteristics, as well as its economic variables – matter if the aim is to better capture the meaning of liveability and how it can be operationalized (Marans, 2012).

One of the most widely accepted definitions of a place is a physical space that has been given meaning by human experience in it (Tuan, 1977). Similar to this view, Steele (1981) described sense of place as the particular experience of a person in a particular setting. Common to most characterizations of sense of place is that it is an umbrella concept (Shamai, 1991), and an attitude towards a spatial setting (Jorgensen and Stedman, 2001). As place meanings cannot be united under one dimension (Saar and Palang, 2009), the concept encompasses various separate but related domains such as the physical environment, human behaviours and social and/or psychological processes. According to Hay (1998), sense of place relates to the social and geographical context of place relationships as well as aesthetics and a feeling of dwelling. In addition, sense of place can be described as a combined set of meanings, knowledge, attachment, commitment and satisfaction that an individual or group attaches to a specific setting (Wang and Xu, 2015). Consequently, a creation of place derives from individual experiences and thus meanings may be focused on various domains such as the transport infrastructure, cultural amenities, natural scenery, social bonding, entertainment facilities, community or government services. Thus, residents' preferences in terms of liveability attributes should be reflected in the (positive/negative) meanings they give to a place. Hence, we propose the following hypothesis to be tested:

H1. Higher perceived liveability leads to a stronger sense of place.

As places acquire meaning through significant experiences leading individuals to give positive or negative meanings to them (Manzo, 2005), residents may in turn develop supportive behaviours towards the place they live in. In other words, given the importance residents assign to liveability attributes, high sense of place should increase residents' intentions to spread positive WOM and decrease their intentions to leave a place. Supporting arguments for this can be found in the work of Eagly and Chaiken (1993, p. 155) for whom:

People who hold positive attitudes should engage in behaviors that approach, support, or enhance the attitude object, and people who hold negative attitudes should engage in behaviors that avoid, oppose, or hinder the object.

These behavioural intentions comprise an attitudinal (Park and MacInnis, 2006) as well as a behavioural (Zeithaml *et al.*, 1996) component that aims to reflect both the length and depth of resident-city relationships. Moreover, prior literature has identified WOM communication from local people as a means to infer the quality of place (Freire, 2009). In addition, Zenker and Rütter (2014) found that more positive attitudes of residents towards the place in which they live increase their level of positive WOM about that place. Finally, existing research has provided no empirical evidence that a direct link between liveability and behavioural intentions exists. Instead, various attitudes towards the place have been shown to play a mediating role in the relationship between liveability and residents' behaviours (de Azevedo *et al.*, 2013). With respect to this argumentation, the following two hypotheses are proposed:

H2. Stronger sense of place leads to positive behavioural intentions.

H3. Sense of place mediates the relationship between liveability and behavioural intentions.

Individual characteristics such as gender, age, nationality (local/expat status), length of residence and level of education may influence liveability. In their review of existing studies on the potential influence of several personal characteristics on well-being, [Dolan et al. \(2008\)](#) reported whether positive, negative or no effect. [Stephoe et al. \(2015\)](#) found that well-being is closely linked to the age of respondents. [Zhou et al. \(2015\)](#) found that age and education were negatively correlated with subjective well-being. However, [Singh et al. \(2014\)](#) showed that higher level of education lead to greater well-being for women in a rural setting. Regarding gender variances, [Croson and Gneezy \(2009\)](#) identified robust differences in risk preferences, social preferences and competitive preferences between men and women. Moreover, choices and decision-making processes about where to live may differ between migrants and locals, as the needs and socioeconomic characteristics of each differ ([Li, 2012](#)). Literature has widely shown that time of living in a place is likely to influence people's bond with that place ([Bonaiuto et al., 1999](#)). [De Azevedo et al. \(2013\)](#) found that age, gender and length of residence are positively correlated with QOL. [Blanchflower and Oswald \(2004\)](#) reported a positive relationship between education and well-being. Following the preceding discussion, we suggest that:

H4a. Age negatively influences liveability.

H4b. The effect of gender on liveability differs between men and women.

H4c. There is a nationality effect on liveability.

H4d. Length of residence positively influences liveability.

H4e. There is a positive effect of level of education on liveability.

Empirical study

Sample and data collection

In this study, we used a respondent-driven sampling method ([Heckathorn, 1997](#)). Briefly speaking, it is considered as a new form of chain-referral sampling, which begins with a convenience sample and then expands from wave to wave ([Erickson, 1979](#) in [Heckathorn, 2011](#)). In other words, individuals were asked to recruit their peers into the study ([Heckathorn, 2002](#)). It aims to overcome the difficulties in accessing hard-to-reach populations such as those that compose the non-Emirati group. This research strategy shares many similarities with snowball sampling, which can be basically described as a technique for finding research subjects ([Atkinson and Flint, 2001](#)). Differences may lie in estimation issues and further discussion about this topic can be found in [Heckathorn's \(2011\)](#) paper.

We recruited six research assistants (that were part-time students) from various nationalities (Palestinian, Jordanian, Indian, Filipino, Egyptian and Emirati) to recruit friends and professional relations to be interviewed, which in turn did the same to multiply the number of contacts. Thus, the sample expanded progressively based on "referrals made among people who share or know others who possess some characteristics that are of research interest" ([Biernacki and Waldorf, 1981](#), p. 141).

Data were collected using questionnaires. Overall, this procedure aimed to limit the risk of non-response bias and to ensure the largest possible coverage. It is worth noting that neither the UAE National Bureau of Statistics nor the Dubai Statistics Centre (DSC) publish

any official information about demographic data broken down by nationality. Therefore, the study relied on existing national estimates (Emiratis account for approximately 10 per cent of the total population, and expats about 90 per cent) provided by *BQ Magazine* (Snoj, 2015). Residents (i.e. Emiratis and expatriates aged 18 or more who had been residing in Dubai for at least one year) were asked about their views on each of the factors that represented liveability, sense of place and behavioural intentions. The questionnaire was pretested twice with a view to ensure that both its structure and the items used were understandable, relevant and not hurtful. The interviews were conducted in shopping areas, Dubai International Airport, coffee shops and workplaces between April and October 2014.

The usable sample comprised 362 respondents (after the data-cleaning process), which roughly respected the 10/90 breakdown in the population, and was intended to give the widest possible coverage in terms of age, socio-economic categories and ethnic origin. To avoid overly reducing the sample size, missing values were replaced by the variable mean (see De Azevedo *et al.*, 2013).

As shown in Table I, the sample comprised 200 male (55.2 per cent) and 162 female (44.8 per cent) participants. Ages ranged from 18 to 74 years, with a mean of 29. In addition, the 25-44 age group concentrates 60.2 per cent of the sample population. The sample is relatively highly educated, as 66.9 per cent holds an undergraduate degree. The sample is consistent with the results of a Dubai labour force survey conducted in 2014 by the DSC in which over 57.5 per cent of employed people were found to possess a secondary or lower educational level (DSC, 2014). Concerning the sample's nationality coverage; in addition to Emiratis, 38 nationalities are represented. Their average length of residence is 12.7 years.

Measurement instruments

Multi-item scales based on prior research were used to measure the three constructs. The residents' subjective evaluations of liveability were assessed through seven dimensions (shopping amenities, natural environment, culture and leisure, accommodation amenities, economic conditions, public policy and social and community environment) comprising 38 items adapted from a multidisciplinary and holistic review of existing research (i.e. place marketing/branding, urban studies, tourism management) (see Appendix for the complete list of items and related sources). This approach aimed to cover the various facets of a city that combines the attributes of an international tourist destination and business centre, a multicultural hub, as well as that of a recreational setting and a place to live and work (Stylidis *et al.*, 2014). In addition, several items were added to reflect the specificity of the economic, physical and leisure urban environment of Dubai. We operationalized sense of

Question	Frequency	Percentage		
<i>Gender</i>				
Female	162	44.8		
Male	200	55.2		
<i>Level of education</i>				
Undergraduate	242	66.9		
Graduate	120	33.1		
	<i>Mean</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Age	28.93	0.45	18	74
Length of residence	12.65	0.46	1	48

Table I.
Sample statistics

place with five items derived from previous studies (Berg *et al.*, 2007; Echtner and Ritchie, 1993; Merrilees *et al.*, 2009) that referred to the attitude of residents – in both an absolute and comparative sense – towards the place in which they live. Following the literature review on sense of place and its conceptualization as a repository, this measurement instrument also aimed to capture a broader set of place meanings. Regarding behavioural intentions, three items were obtained from Merrilees *et al.* (2009) and one was adapted for this study. All items were assessed on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). In addition, respondents were requested to answer a series of questions on demographics such as gender, age, educational level, job position, nationality and total time spent residing in Dubai.

Results

Preliminary analyses conducted on the data set first revealed that none of the items follow a normal distribution. Nevertheless, as skewness and kurtosis scores fell within the acceptable range of ± 1.96 (Hair *et al.*, 1995), we did not transform the data (Tabachnick and Fidell, 1996). Second, the Kaiser–Meyer–Olkin measure of sampling adequacy yielded a value of 0.90, while Bartlett’s test of sphericity is significant (at the 0.000 level). Appendix I provides statistics about the item means and standard deviations.

Next, the factor structure of all observed variables was simplified: items with a low item-to-total correlation (0.40) were removed (Nunnally, 1978). Reliability results indicated that all Cronbach’s alpha values matched or exceeded Nunnally and Bernstein’s (1994) 0.7 benchmark, at 0.91 for liveability, 0.74 for sense of place and 0.7 for behavioural intentions. These results are consistent with those of prior studies (Merrilees *et al.*, 2009).

Structural equation modelling (SEM) was used with default maximum likelihood estimation to explore several models and examine the hypothesized paths, in line with previous studies (De Azevedo *et al.*, 2013). Figure 2 depicts the influence of liveability (composed of a reduced set of 21 attributes grouped in seven dimensions), as an observed independent variable, on sense of place and the influence of this latent construct on behavioural intentions. The final structural equation model (Figure 2) with standardized estimates (SE) for each construct indicates reasonable model fit ($\chi^2 = 607.62$, $df = 346$, $\chi^2/df = 1.76$; root mean squared error of approximation [RMSEA] = 0.046; confirmatory fit index [CFI] = 0.91; Tucker–Lewis index [TLI] = 0.90)[4].

The hypotheses tests using SEM show that the direct relation between liveability and sense of place (SE = 0.61, $p < 0.001$) is positive and significantly different from 0 ($H1$ is thus supported). Moreover, the direct relation between sense of place and behavioural intentions (SE = 0.68, $p < 0.001$) is positive and significantly different from 0 (meaning that $H2$ is supported). The overall model, including liveability and sense of place, explains 46 per cent of the variance in residents’ behavioural intentions ($p < 0.001$).

As the previous results from SEM did not provide a statistical test of indirect effects (MacKinnon *et al.*, 2002), mediation was investigated using regression-based factor scores[5] pertaining to the SPSS script for the indirect procedure (Hayes and Preacher, 2010). This application allowed quantification of specific indirect effects associated with the mediator, which is not feasible in AMOS (Bartikowski and Walsh, 2011).

The model including liveability attributes and sense of place explains 46.3 per cent (adjusted $R^2 = 0.463$; $p < 0.001$) of the variance in behavioural intentions. As the coefficient of indirect effect of liveability through sense of place on behavioural intentions is significant ($ab = 0.503$, $p < 0.001$), there is an effect of liveability on behavioural intentions to be mediated. After controlling for the mediator, the corresponding direct effect was found not to be significant ($c = 0.04$, $p = 0.238$). Regarding the specific indirect effect, the coefficients

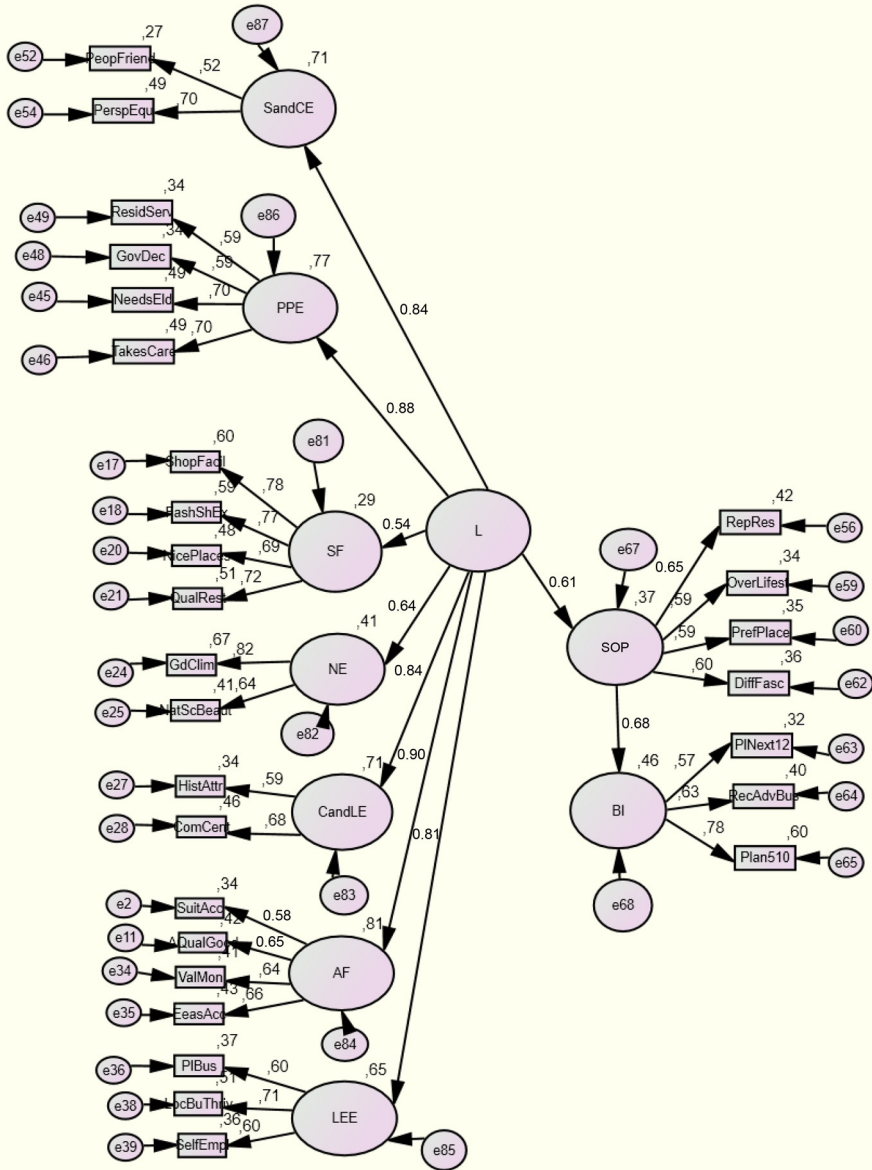


Figure 2.
Final structural
equation model

related to the mediated effect are significantly different from 0. Because its 95 per cent confidence interval does not contain 0 (lower bound = 0.307; upper bound = 0.788) – i.e. the null hypothesis of no mediation is rejected – sense of place can be said to mediate the relationship between liveability and behavioural intentions (thus, *H3* is supported). This represents a case of indirect-only mediation (Zhao *et al.*, 2010).

With regard to the influence of individual characteristics on liveability, *t*-tests were calculated for equality of means (see Table II).

Because the sig. value is above the 0.5 cut-off, there is no statistically significant difference in the mean liveability scores for male and female participants (thus, *H4b* is not supported). Moreover, level of education was found not to affect liveability, as *t*-tests were not statistically significant (meaning that *H4e* is rejected). This finding somewhat contradicts that of [Graham and Pettinato \(2001\)](#) who found that education increases well-being. There is also no statistically significant difference between Emiratis and expats in the perception of liveability, meaning that nationality does not affect liveability perceptions (hence, *H4c* is not supported). Table III presents the values of the Pearson correlation coefficient between individual characteristics (length of residence and age) and liveability.

Age is negatively correlated with liveability (*H4a*) although the relationship is not statistically significant. This finding is partially in line with that of [Palmore and Luikart \(1972\)](#) who found that age negatively affects life satisfaction. With regards to length of residence (*H4d*), it is not positively and significantly correlated with liveability (hence, both *H4a* and *b* are rejected). Thus, residents who have lived in Dubai for a longer period do not evaluate liveability differently compared to those with a shorter length of residence. This result is consistent with that of [Hernández et al. \(2007\)](#) who found no effect of length of residence on residents' attitudes (i.e. place attachment and place identity).

Conclusions

This study focused on the resident as the unit of analysis to investigate the extent to which residents' preferences for different types of liveability attributes or amenities influence their sense of place, which in turn shapes their behavioural intentions towards the city they live in. Regarding the liveability–sense of place–behavioural intentions causal sequence, the results of our study show strong positive and statistically significant relationships between all the variables.

The proposed model attempted to map the factors that may encourage residents' (positive) behavioural intentions. Regarding the determinant dimensions and related features, study findings illustrate that “life in the city is about far more than excellent engineering or high-quality architecture” ([Goldberg et al., 2012](#), p. 127). Indeed, iconic buildings were not considered to contribute to liveability by residents. This is interesting, as

Table II.
Influence of gender, nationality and level of education on liveability

Individual characteristics	<i>t</i>	<i>df</i>	Significance (2-tailed)
Gender	0.394	358.93	0.694
Nationality	−0.959	18.659	0.35
Level of education	−0.266	240.9	0.791

Table III.
Pearson correlation coefficients between individual characteristics (length of residence and age) and liveability

Individual characteristics	Pearson correlation	Significance (2-tailed)
Age	−0.08	0.1071
Length of residence	−0.07	0.1623

the city of Dubai ranks No. 3 in the world by number of 150m+ completed buildings, and possesses some of the world tallest buildings according to The Skyscraper Center (www.skyscrapercenter.com/city/dubai). More specifically, the results are in line with theoretical expectations; for instance, Lambiri *et al.* (2007) noted that individual location decisions are driven by wage and rent considerations. Nevertheless, cultural events and overall nightlife have not been considered as determining liveability attributes for Dubai residents, while literature has stressed that these amenities offer the potential to enliven city environments, which in turn make them attractive places to live (Richards and Palmer, 2010). However, because no dominant feature emerged (as liveability attributes' mean scores range between 3.66 and 4.37), results add to the discussion on "look alike" places in developing countries, which may result from the effect of globalization, reduced differences between national cultures and the search for an identity (Markusen and Schrock, 2006; Zukin, 2009).

The findings also illustrate the (mediating) role played by sense of place and the mechanism through which residents become real place ambassadors (Kavaratzis, 2012). First, the results highlight the cognitions–attitudes causal chain defined by Fishbein (1967) as the relationship between liveability and sense of place is positive and statistically significant. Thus, the results support the argument that "meaningful places convey something deeper than basic attitudes" (Spartz and Shaw, 2011, p. 346). As such, sense of place represents a distinctive whole including the individual, the environment and the experience within a setting (Stewart, 2008). Therefore, it may represent a better gauge to evaluate the living experience of residents in a particular setting. Second, different liveability dimensions intermingle to construct meanings, which in turn influence residents' behaviour towards the place they live in. In other words, how residents feel about their place of residence is a key factor in determining their behaviour towards it. The findings reinforce the proposition of TRA, whereby residents are more likely to adopt positive behaviours if they have developed a high sense of place. Thus, they add empirical evidence on the statement that residents' positive attitudes lead to higher willingness to develop place-protective behaviours or actions (Stedman, 2002).

Finally, while exploratory, this study responds to the lack of empirical works on the topic of liveability when it comes to developing countries' cities.

From a public policy standpoint, the results imply that local authorities need to identify a distinct set of economic and non-economic characteristics that respond to the preferences of their residents. This represents a critical strategic initiative towards ensuring positive behavioural intentions, which are indirect indications of whether residents will legitimate place-development decisions. They also illustrate the necessary compromises policymakers are confronted with in allocating and efficiently distributing resources in relation to what they really want their place to be. In a wider perspective, the diagnosis of the city of Bradford (UK) by Trueman *et al.* (2004) could serve as a starting point to develop a strong communication strategy and avoid conflicting messages between local government and various stakeholder groups.

The subject of this study and the discussion of its findings naturally reveal several limitations that in turn open up further research directions regarding liveability in cities that aim to compete on a global scale.

First, conceptualizing and measuring liveability has led to various approaches, which may confuse potential residents on which place provides a good life. A standardized and robust measurement instrument such as the Citizen Satisfaction Index has proved to be useful in comparing places and ultimately providing insights on "where is the best place to live?" (Zenker *et al.*, 2013, p. 156).

Second, because of the study's exploratory nature, the final structural model needs to be further validated. As liveability operates at multiple interconnected spatial and time frames

(Stein, 2002), and because cultural differences may influence residents' expectations in terms of well-being, future studies could address these issues, initially by conducting a qualitative investigation to identify potential missing attributes/dimensions.

Third, while the respondent-driven sampling method is gaining increasing popularity among scholars, several issues related to bias reduction and measure precision remain. In this regard, McCreesh *et al.* (2012) recommend caution when interpreting findings and extrapolating estimates from samples to the total population.

Fourth, the model in this study includes three variables, which show the pivotal role of sense of place and reveal the importance of non-economic attributes of the urban environment. From the resident's perspective, the social functioning of a place could be further investigated because of its potential role in a city's development projects. In this regard, place identity (Breakwell, 1986; Wang and Xu, 2015) would be worthy of consideration as it recognized to affect residents' attitudes and behaviours towards a place (Hagger *et al.*, 2007). Finally, in their meta-analysis of the well-being literature, Eger and Maridal (2015) found that happiness is impacted by increases in living standard. Nevertheless, economic growth does not necessarily mean happiness from the residents' perspective. Future research may contribute to the ongoing debate on the relationship between growth and well-being (Bilancini and D'Alessandro, 2011) and particularly in challenging the thesis of short-run unhappy growth (Graham, 2012), which would be interesting to consider in the case of rapidly growing cities from developing countries.

Notes

1. City and place are used interchangeably in this study.
2. Liveability, QOL, well-being, happiness and place/life satisfaction are used interchangeably in this study.
3. According to the World Economic Situation and Prospects (Department of Economic and Social Affairs of the United Nations Secretariat), the United Arab Emirates (UAE) are classified as a developing economy.
4. According to the literature, χ^2/df values ranging from as high as 5.0 (Wheaton *et al.*, 1977) to as low as 2.0 (Tabachnick and Fidell, 2007) are considered satisfactory; the RMSEA value should be below the recommended 0.08 cutoff (Browne and Cudeck, 1993); CFI values superior to 0.9 indicate that the model is properly specified (Hu and Bentler, 1999); and TLI values above 0.8 and below 0.95 are considered acceptable according to Bentler (1990).
5. The multicollinearity assumption is not violated, as VIF values (1.293) are below the cut-off of 10 (Pallant, 2007).

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Items	Mean	SD
<i>Liveability</i>		
Shopping facilities		
Dubai has good shopping facilities	4.31	0.75
Fashion shopping is excellent in Dubai	4.33	0.74
Dubai has many parks and BBQ and picnic facilities	4.06	0.89
There are nice places for coffee, snacks and dining experiences in Dubai	4.29	0.76
Good-quality restaurants and hotels are easy to find in Dubai	4.33	0.75
Sources: Byon and Zhang (2010) , Echtner and Ritchie (1993) , Gallarza et al. (2002)		
<i>Natural environment</i>		
Access to clean outdoor recreational areas is easy in Dubai		
Green areas are numerous in Dubai	3.91	0.80
Dubai offers a lot in terms of natural scenic beauty	3.74	0.89
Dubai offers a lot in terms of natural scenic beauty	3.77	0.94
Sources: Byon and Zhang (2010) , Echtner and Ritchie (1993) , Embacher and Buttle (1989) , Gallarza et al. (2002) ; Hankinson (2004)		
<i>Culture and leisure environment</i>		
Dubai offers interesting cultural events (festivals, concerts and/or live shows)		
Dubai offers interesting historical attractions (museums and/or art centres)	4.11	0.66
Dubai has adequate community centres	3.96	0.76
Dubai has adequate community centres	4.03	0.79
Dubai is an archetypal/skyscraper city	4.14	0.72
Life in Dubai is exciting	4.20	0.69
Dubai has good nightlife	4.29	0.73
Dubai is an award-winning city	4.22	0.79
Sources: Byon and Zhang (2010) , Evans (2003) , Gallarza et al. (2002)		
<i>Accommodation facilities</i>		
Dubai has suitable accommodations		
Dubai's accommodations are reasonably priced	4.07	0.68
The air quality is good in Dubai	3.66	0.99
Dubai offers good value for my money	3.91	0.83
Dubai offers good value for my money	3.80	0.92
It is easy to access home ownership in Dubai	3.74	0.95
Sources: Brownill (1990) , Byon and Zhang (2010) , Echtner and Ritchie (1993) , Forrest (2015)		
<i>Local economic environment</i>		
Dubai is a good place to do business		
Local businesses appear to be thriving in Dubai	4.06	0.76
Dubai offers many self-employment opportunities	3.96	0.75
Dubai offers many self-employment opportunities	3.96	0.74
Dubai offers many free zones (i.e. tax exemption, etc.)	4.10	0.76
Sources: Carrillo (2004) , Embacher and Buttle (1989) , Sim et al. (2003)		
<i>Public policy environment</i>		
Dubai offers good access to health care/medical services		
There are many educational facilities in Dubai	3.93	0.80
There are many educational facilities in Dubai	4.08	0.71
Public transportation is adequate in Dubai	3.98	0.76
Public transportation is adequate in Dubai	3.98	0.76
Dubai takes care of people who are in need	3.98	0.82

(continued)

Table A1.

Items	Mean	SD
Energy supplies are reliable in Dubai	4.14	0.75
I trust the local government to make sound decisions	4.16	0.75
I am pleased with the residential services in Dubai	4.06	0.77
Sources: Merrilees <i>et al.</i> (2009), Santos <i>et al.</i> (2007)		
<i>Social and community environment</i>		
Dubai is good for families	4.24	0.70
Cultural diversity is high in Dubai	4.37	0.70
It is easy to make friends in Dubai	4.00	0.76
The local people are friendly	3.88	0.85
The perspectives of all groups are considered equally in Dubai	3.86	0.85
Many people speak English in Dubai (lack of language barrier)	4.31	0.70
Dubai is a crowded city	3.83	0.86
Sources: Berger-Schmitt (2002), Echtner and Ritchie (1993), Putnam (1993)		
<i>Distinctiveness</i>		
I am proud to live in Dubai	4.13	0.72
The overall lifestyle is good in Dubai	4.14	0.72
I prefer to live in Dubai over any other place	4.09	0.80
Everything is different and fascinating in Dubai	4.19	0.71
Dubai has a good reputation among residents	4.19	0.73
<i>Behavioural intentions</i>		
I will be pleased to live in Dubai for the next year or two	4.18	0.74
I am likely to recommend Dubai to those who want advice on business	4.15	0.80
I plan to live in Dubai for another 5-10 years	4.11	0.76
I am likely to retire in Dubai	3.90	1.06

Table A1.

About the author

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