CULTIVATING HAPPY SPACES BY DESIGN: COURTYARD HOUSING AS A HAPPY SPACE AMONG UAE RESIDENTS

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Abstract

The United Arab Emirates (UAE) government aims to make the country amongst the top five happiest countries in the world by 2021. It established a Ministry of State for Happiness in February 2016 and launched a National campaign to promote Happiness and Positivity. The initiative mentioned above acts as the motivating factor for this research. The modern evolution of the UAE homes has shifted the central courtyard design into a two-story structure, generally placed in the middle of a large plot of land. As a result, disengaging the family bond and reducing levels of interaction, happiness and unity of the family. Understanding 'why' and 'how' the movement of the occupants within the traditional courtyard homes impacts the level of happiness of its inhabitants is a key element of this paper. This study will address the following research questions: how has the evolution of the vernacular architectural home in the UAE (i.e. the courtyard homes) into modern homes impacted the level of happiness and unity of the occupants in the 20th century? Is it possible to improve the design process in order to consider not just the happiness of the occupants but also the neighbors and the surrounding community? The study establishes the importance of recognizing values of traditional and vernacular architecture in designing modern homes that cultivate happiness and well-being. The National campaign to promote Happiness and Positivity seeks to encourage various sectors and individuals to launch, recommend and adopt initiatives in this regard and to publish scientific and cultural content on the matter. This paper contributed to this campaign and results of the study can therefore provide recommendations to the Ministry of State for Happiness as well as the National Housing Authority which was established to provide low cost housing to all eligible UAE nationals.

Keywords: UAE, space, happiness, design, architecture

1. INTRODUCTION

Researchers have asked whether architecture and interior architecture impact people's happiness (Petermans and Nuyts, 2016). The importance of the urban environment has been discussed in previous literature, with the urban environment having been cited as having an important contribution to individual happiness, and, by generalization, their mental health (Lee, 2017). Reciprocal causality has also been cited as being present with regard to the relationship between happiness and physical stimuli present in the urban environment (Lee, 2017). This paper, drawing upon this body of literature, will focus specifically on the relationship between housing in the UAE, and in particular, courtyard housing, and individual happiness. In order to discuss this topic, happiness must first be defined. Various definitions of happiness are discussed in this paper which have been used by researchers in the

field. Next, studies which have examined the association between architecture, interior architecture, and happiness are reviewed, followed by a brief overview of the history of the UAE and some relevant architectural history. The importance of nature is then discussed, in particular with regard to its relevance to courtyard homes in the UAE, followed by a discussion of the implications of the reviewed literature and finally by the author's conclusions.

2. DEFINING HAPPINESS

Before happiness can be discussed, a definition must be provided. While much previous research has been conducted on the topic of happiness, there is still no real agreement as to what exactly well-being and happiness is (Petermans and Nuyts, 2016). Instead, it is common for "well-being," specifically subjective well-being, and happiness to be used interchangeably in the literature (Petermans and Nuyts, 2016), while happiness has also been used interchangeably with concepts like welfare, life satisfaction, and positive effect (Lee, 2017). However, there are features of both well-being and happiness which have been generally agreed upon among researchers that study it. With respect to well-being, this has been defined as consisting of an affective component based on emotions and feelings, a cognitive component which relates to memories and expectations of life quality, and a contextual component which relates to context. Well-being has also been measured using the personal wellbeing index, which incorporates the following seven items: Standard of Living, Health, Achieving in Life, Relationships, Safety, Connection to Community, and Future Security (international wellbeing group, 2013).

With regard to happiness, this is generally conceived of as having an objective and subjective component, and which Petermans and Nuyts (2016) contend is largely determined by genetics (composing 50%), intentional activities (composing 40%), and life circumstances (composing 10%). Other researchers have offered differing definitions, with lee (2017, p. 11) defining it as "the extent to which an individual feels satisfied with his or her life" and defining the components of Freedom, Unexpected, Comfort, Nature, and Intimacy & Interaction while discussing personality, social, and situational factors. Lee also proposes a happiness index, and while it is based on urban design, such an index could be modified and adapted to the field of architecture and interior architecture. In addition, Habtour (2016) describes three "levels" of happiness, and discusses that neuroscientific, psychological, and economical approaches can all be taken when defining and measuring happiness. Others have used self-ratings of respondents' lives as measures of happiness (Helliwell, Layard and Sachs, 2019), while the Happiness Index, used by The Happiness Alliance, measures happiness across a total of 11 domains: Standard of Living – Economy, Psychological Well-Being, Satisfaction with Life, Work, Time Balance, Community, Social Support, Environment, Government, Health, and Lifelong Learning (Edwards, 2019).

3. INCREASING HAPPINESS THROUGH DESIGN

The material presented relevant to happiness provides implications with respect to how happiness can be increased through the intentional design of living spaces. Well-being has been found to be highly determined on the basis of geography and environmental factors (Brereton, Finbarr and Ferreira, 2008), while Habtour (2016) discusses how places such as an urban park or a beautiful room can lead to improved well-being. With regard to Petermans and Nuyts' (2016) statement that 40% of our happiness is based upon intentional activities, this suggests that the design of living spaces, when made relevant to the activities that individuals conduct, can be optimized in order to improve and enhance these activities, which would then serve to increase happiness. Additionally, by expanding from the statement by these researchers that 10% of our happiness relates to life circumstances, improved designs that would serve to improve individuals' perceptions of their life circumstances may then serve to further improve their happiness (Petermans and Nuyts, 2016). While their use of their "Happiness Circle" exploratory tool does in fact find that architecture and interior architecture impact the happiness of respondents, it should be noted that only 3.0% of respondents cited the home, and with 2.2% citing the interior as factors determining their happiness. Lee (2017) suggests that the improvement of urban areas may help to increase the day-to-day happiness of individuals, including aspects of city planning, social connections, and maintenance of public property.

4. HISTORY OF THE UAE AND ITS ARCHITECTURE AND CULTURE

The researcher's particular interest here relates to implications relevant to the UAE. The UAE is a federation of seven Arab Sheikdoms, each of which is independent and is ruled by a Sheikh (Romano, 2004). While the region itself has a long, recorded history dating back many thousands of years, the UAE itself gained independence only in 1971. The discovery of oil and gas in the early 20th century has had a great impact upon the region. While humble in its beginning, this has allowed the UAE to become one of the wealthiest nations in the world. These oil discoveries, made in the 1960s and 1970s, largely focused upon the Emirates of Sharjah, Dubai, and Abu Dhabi, with limited discoveries in the remaining four Emirates. Some of the wealth generated by these oil and gas discoveries have been shared with the less fortunate Emirates (Romano, 2004). With this newfound wealth has also come explosive growth and change. Urban growth in the UAE over the past several decades has been very rapid, which has significantly changed housing dynamics, with migration also heavily impacting urban areas (Wiedmann and Salama, 2019). This urban change has raised concerns ranging from the environmental to the sociocultural (Wiedmann and Salama, 2019).

The UAE has a long, distinctive architectural history as well. Courtyards, in particular, have historical importance

(Romano, 2004). Merchants were vital when early Gulf coastal cities were being formed, with their houses and their architectural character having significant importance in the architectural history of the region (Katodrytis and Mitchell, 2015).

5. THE TRADITIONAL COURTYARD HOUSES OF THE UAE

In order to be able to better understand the historical significance of the Courtyard house and it impact on the health and wellbeing of its residence we need to understand its origins and design typology. The courtyard house of the Middle East dates back to the Sumerian and Pharaonic civilizations (Bekleyen et al, 2011) and developed mainly to address the harsh climatic conditions of the region and to provide the privacy for the family. The tradition courtyard houses of the UAE before the discovery of oil where distinguished due to the nature of its design, constituting the main living spaces being built around a central courtyard either as single or double level structure (Soflaei et al, 2016). The walls surrounding the courtyard provided a pleasant shade all throughout the day creating a more moderate and habitable outdoor space for the family to conduct their activities outdoors. In most courtyard homes a centrally located tree, often Indian Almond or date palms, not only provide further shade to the courtyard (Dalmuji, S., 2006) but also a much needed connection to nature, very much desired in the harsh and arid landscape of the region.

After the discovery of oil Sheikh Zayed the ruler of UAE, established a National Housing Project, providing free housing for the Bedouins and people of the lower and middle class. Sheikh Zayed initially invited several international architects to propose designs for the first national 'Shabi' house, but eventually settled on a very simple and yet highly effective single-story design, based on the traditional courtyard homes (Leach, N., 2016). This design not only preserved the privacy of the family but also provided a natural outdoor space that accommodated the future expansions of the home based on the growth of the expanded family.

6. THE IMPORTANCE OF NATURE

With respect to its impact on happiness derived from public and private living spaces, the importance and relevance of nature cannot be understated. In research conducted into this area, Habtour (2016) found an association between happiness and six environmental elements, which she defines as the factors of Nature, Light, Surprise, Access, Identity, and Sociality, which were identified through the use of an informal online survey. While she relates these more to urban design than architecture and interior architecture, there are still many implications for these latter two areas, as with Lee (2017). In responses to Habtour's (2016) survey, it was common for individuals to cite picturesque public places, like public parks, as locations that they see as happy places. In one example, a respondent provided the following description, which was of Druid Hill Park in Baltimore, Maryland:

"Shimmering water provides a wise viewing distance of towers and townhouses, both projects and apartments. The smell is crisp. Sounds of traffic, basketball games, children and athletes waft in and out as one rounds the lake. The feeling is sublime, and a touch uncanny."

While this pertains to a large, public place, this can easily be applied to the area of architecture within the UAE. This description is very reminiscent of the traditional courtyard, and may suggest that UAE citizens may also describe the traditional courtyard as a happy place, with spending time there serving to increase their own happiness. Overall, responses commonly mentioned a connection to nature, along with views also commonly mentioned, alongside the feeling of peace or freedom. Even among descriptions of urban areas, mentions of natural phenomena were common, including local parks, gardens, trees, and animals. With many places described having both indoor and outdoor elements, this furthers the parallel between the findings of this study and the traditional courtyard and its environment. Furthermore, social connections, including those to the family, were frequently mentioned, along with activities such as eating, people-watching, relating, walking, and sports and games. In addition, the preference was for either solitude, or the company of a small number of people, and there commonly were opportunities for relaxation as well as social engagement, with strong memories or nostalgia connected with these locations. In addition, courtyards were specifically mentioned here as a "quiet respite from a busy city" (Habtour, 2016, p. 17).

As described, nature, and in particular, elements relating to nature, were found to have a particularly important focus within Habtour's (2016) study. Lush, green environments have also been found to be most commonly preferred and are associated with the most positive behavioral effects (Hartmann and Apaolaza-Ibanez, 2010). The benefits of natural elements include the reduction of street noise, which more easily allows for rest and exploration (Harbtour, 2016). Light, and in particular natural light, was also highlighted. She stressed the importance of sunlight along with the importance of darkness, suggesting that some nighttime lighting would optimize an outdoor space for public use between sunset and sunrise. Continuing to draw parallels with the traditional courtyard, with respect to Sociality, the ability of public and open spaces to facilitate social engagement and allow for the development and strengthening of relationships was also highlighted as being important. These should include spaces that allow for conversation and in which people also feel safe, with appropriate seating being provided. With respect to identity, another factor that was highlighted in this study was how individuals create and strengthen emotional connections to places and how this impacts their identity, and in particular, when memories are formed with other people they are strongly connected to within these places (Habtour, 2016).

7. IMPLICATIONS

These findings have particular implications with regard to the UAE, and in particular, are especially relevant in relation to the relationship between courtyard houses in traditional homes in the UAE in which the courtyard acted as a single space which family members would congregate in, and in which activities such as playing, eating, doing homework, preparing food, washing and drying clothes, gardening, or simply relaxing and enjoying life would occur frequently and involve all ages and genders. This was also confirmed in papers written by the researcher's National Housing course students, with them highlighting how much happier their parents and grandparents were when living in traditional courtyard homes as compared with modern detached homes which are generally situated in the middle of the plot with no privacy or shade. Lee (2017) highlights the importance of designing spaces that lead to a balanced work-life-play environment which is reminiscent of traditional courtyard homes. Designing within compact spaces would not only reduce the distance that individuals would have to travel to various locations but also increase the likelihood that family members interact and socialize together, which has been reduced due to the growing presence of modern homes in the UAE. While Lee (2017) focuses on urban design, the same ideas and principles can be applied to architecture and interior architecture. In addition, with regard to courtyards in the UAE specifically, Habtour (2016) found features of spaces that were found to have the potential to increase happiness focused on areas where people could do activities and talk with friends or family, relax, read, think, etc., and engage in some sports activities. This is highly relevant to the UAE courtyard. In order to help better illustrate the differences between courtyard homes and modern homes in the UAE, (Figure 1,2) includes two photographs of traditional courtyard homes, followed by a photograph of a modern home in the UAE.
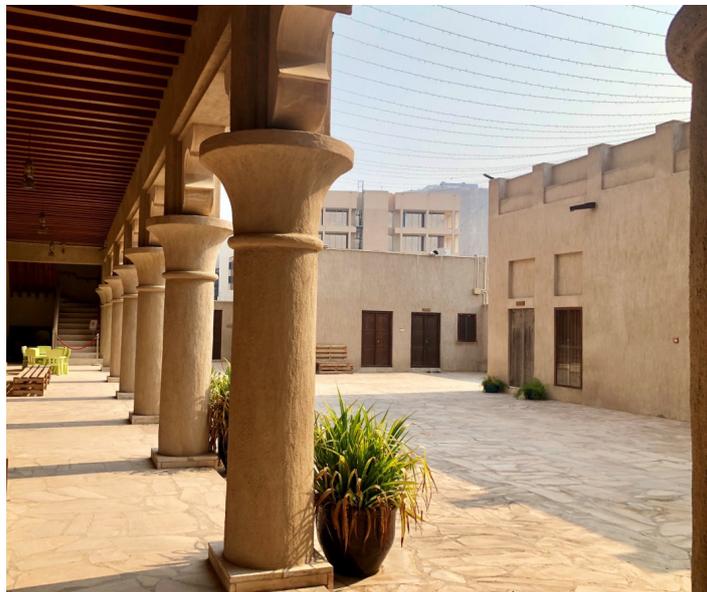
8. CONCLUSIONS

While the relationship between social behavior and happiness may be more complex than previously thought (Quoidbach et al, 2019), previous work has been done highlighting courtyard housing as a healthy choice and how it is conducive to happiness. However, research focusing on the social and cultural factors relevant to happiness associated with the home remain rare (Zhang, 2015). Research done in associated areas, and in particular, Habtour (2016) suggests the many ways in which courtyard housing is more conducive to happiness as compared with modern housing. Habtour (2016) in fact concludes with a list of strategies associated with each natural element, focusing on how urban planners can create designs that are more conducive to individual happiness. These urban design strategies could be adapted to architectural and interior architectural purposes. Additionally, the natural, outdoor environment of the traditional courtyard provides the elements of Light, Nature, and Surprise, which relate to Habtour's (2016) factor of Restorative, with the elements of Access, Identity, and Sociality relating to the Interactive factor. She also outlines a series of strategies for the purposes of producing ideal outdoor areas in the interest of maximizing happiness, such as "build a network of greenways" and "provide people places to linger and sit among nature," (Habtour, 2016, p. 59) which could easily be applied to architecture, along with her other recommendations in relation to lighting, and so forth.

All of the aforementioned literature is useful in the construction of a novel Architectural Design Happiness Index for the UAE. This draws upon Habtour (2016) and Lee (2017), with Lee largely viewing happiness as satisfaction, comprised of the elements of Freedom, Unexpected, Comfort, Nature, and Intimacy & Interaction while also incorporating personality, social, and situational factors. Specifically, this will incorporate Safety and Healthiness (focusing on high levels of mental and physical health), Clean and Green (green space, clean air, recreational activities and areas, biodiversity, places to sit), and Social Connectedness (happiness with friends and relationships, social support, and the ease of social interactions) (Habtour, 2016, Lee, 2017). The author aims to develop an empirical survey comprised of a Happiness Index which will be used in future research. In conclusion, this study presented definitions of well-being and happiness, discussed the relationship between design, architecture, interior architecture and happiness, the history of the UAE, the courtyard house and its architecture, the role of nature, as well as implications.

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