Sri Lankan Journal of Real Estate
Department of Estate Management and Valuation
University of Sri Jayewardenepura

Assessment of Residential Satisfaction: Evidence from Public and Private Housing Schemes

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Abstract.
The provision of satisfactory housing that meets prescribed standards of quality and user's needs, expectations and aspirations have always been the goal of every housing programme. Identification of residential satisfaction provides insights into inhabitants' needs, preferences, and quality of life. Housing is provided by the public and private sectors, and there is little knowledge whether the provision of housing accommodates the quality and satisfaction of the occupants. This study assesses the residential satisfaction in public and private housing schemes in City of Colombo, Sri Lanka. The study examines the residential satisfaction three angles viz., housing support services, dwelling unit's quality features and the neighborhood environment facilities. 100 households were selected using convenient sampling method. The five-point Likert scaled questionnaire was used to collect data from the residents, including occupants of both private and public housing complexes. The findings show that the dwelling unit feature and housing supportive services are significantly influenced for the residential satisfaction in private housing scheme. In public housing scheme, the residents are satisfied on neighborhood environment which makes the positive influence for the residential satisfaction. In Sri Lanka's public housing development projects, there is a necessity to improve housing supportive services by improving the quality of residential units to maximize residential satisfaction. Also, the private housing development need to be enhanced the neighborhood environment facilities which requires attention in the context of future planning.

Keywords: Residential Satisfaction, Public and Private Housing, Neighborhood Facilities, Housing Support Services, Dwelling Unit Feature Quality

Introduction

The developing world has been experienced in rapid urban growth with the urbanization effect. Consequently, provision of housing to the growing population became inevitable (Raja & Mohit, 2014). Nearly three billion people have requirement of adequate housing by 2030 (Habitat, 2014). The adequate houses are always fulfilling the residents' expectations, aspirations with government prescribed quality standards (Mohit & Azim, 2012). It is a vital need to assess the extent to which the current housing environment meets the needs, expectations, and aspirations of the residents (Mohit & Nazyddah, 2011; Ibem & Aduwo, 2013). Always, residential satisfaction in housing is not limited to the physical and structural adequacy, but it ~~is~~ encompassing all the infrastructure, dwelling unit quality, compatible neighborhood environment with the utility services (Mohit & Azim, 2012; Tao, et al., 2014). However, the provision of adequate housing in a satisfactory level is a major problem in the world especially in the developing countries (Byun & Ha, 2016; Etminani- Ghasrodashti, et al., 2017), this issue can be heightened in the future due to the continuous migration of population to the urban areas (Dwijendra, 2013). With this situation, there are some issues ~~constraints occurred~~ on the satisfactory housing provision in most of the housing projects; houses are provided with small plots ~~sizes~~, lack of quality, and ~~also~~ the services are also not in proper way to settle the people which negatively influenced for the residential satisfaction of the occupants (Dwijendra, 2013). Therefore, this situation is getting worse because the provision of housing is not fulfilling the needs of the people in terms of housing quality and the satisfaction.

City of Colombo is the commercial capital of Sri Lanka and the largest metropolis, with a population of 619,000 in 2021. This huge population concentration due to vast urban agglomeration must be accommodated through providing adequate housing within the city of Colombo. To address the adequate housing requirement, the housing development projects that are implemented and expanded in the city of Colombo have designed by

mutual contribution of public and private sector to uplift the living condition of the people (Zainudeen et al, 2006; Jayarathna & Wickramaarachchi, 2020). With the new urban agenda in Sri Lanka, it is examined the development of quality housing by moving up to the preferable level. Therefore, the quality of housing provision of Sri Lanka especially in Colombo is more concerned on satisfactory residential environment with elements of comfort, protection, and the friendly community (De Silva, 2015). However, the provision of quality housing with the required residential satisfaction is one of the most significant issues and a growing concern facing in Colombo due to rapid increment of housing demand (Gunawardana, 2013; Jayarathna & Wickramaarachchi, 2020). In the meantime, research to date shows that in terms of residents' satisfactory levels, there are considerable issues that both the public and the private sector that shows a ~~are~~ little backward in achieving some of the satisfactory housing goals in Sri Lanka (Jayarathna & Wickramaarachchi, 2020). Consequently, these previous studies did not focus on the residential satisfaction of public and private housing schemes while this study focuses on the three aspects which are the dwelling unit feature quality, dwelling unit supportive services, and neighborhood environment. In this respect, the main aim of the study is assess residents' satisfaction on public and private housing schemes in Colombo Municipal Council Area, taking into consideration three aspects such as housing supportive services, dwelling unit features and quality, as well as neighborhood environment which will fulfil the above-mentioned knowledge gap. Furthermore, this study is essential for guiding to enhance residential satisfaction of the future housing development projects in the country.

Literature Review

Residential Satisfaction

Inhabitant comfort has been considered as a measurement to calculate the accomplishment of the development of projects by enhancing the giant housing improvements. Examine on inhabitant comfort included different aspirations, inhabitants' today needs of dwelling surroundings, attitudes of housing arrangement and choice (Choudhury, 2005; Fang, 2006; Mohit &

Nazyddah, 2011) and their nature of life (Lee & Park, 2010). Residential satisfaction is a major component that used to measure the residential comfort in housing development projects. Also, it has been identified as a fundamental device to check and upgrade the achievement of residency planners and fundamental government rules associated to housing (Etminani- Ghasrodashti, et al., 2017). It is a perception that will be enhanced by both objective and subjective allotment of residency aspect which has physical, social and management allotments with the demographic features of the inhabitants. Residents evaluate their satisfaction on housing depends upon their attachment to their housing, compare their ideal standard with the standard that they need accordingly to needs, desires, ambitions and goals for housing. Several studies have indicated the degree to which residents are pleased with their housing units, community climate and housing growth management aspects (Arthur, et al., 2002; Ibem & Aduwo, 2013).

Residential satisfaction in housing is a combination of several variables, including standards and regulations of construction materials of the neighborhood and environmental conditions (Raja & Mohit, 2014). In Republic of Korea, Ha (2008) observed 51% of the inhabitants in the country were largely happy with their housing conditions with quality of environment. However, residential satisfaction among inhabitants of Hong Kong housing development investigated that there was a strong dissatisfaction level over the characteristics of residential units and quality of environment (Steinhardt, et al., 2018). Therefore, residents were pleased with the supply of various factors in various levels can be influenced for the residential satisfaction. Accordingly, the preceding research recommendations have discovered several factors that can be utilized as a ground for calculating residency satisfaction. Those were indicated as housing unit quality achievement, neighborhood quality, management services, supportive services and facilities within the building structure and their surrounding (Salleh, 2008; Mohit & Azim, 2012; Tao, et al., 2014).

Factors Influencing the Residential Satisfaction in Housing Schemes

Physical Characteristics of Housing Units

The researchers discovered that residential satisfaction is measured using well-being of the satisfaction with dwelling unit physical features (Blair & Lacy, 1993; Varady & Carozza, 2000). Ibem & Aduwo (2013) stated, the satisfaction depends on a whole system of assumptions and opinions that the residents cheer with their housing unit with the physical characteristics. According to Mohit & Azim (2012); Raja & Mohit (2014), housing characteristics were more crucial determinants in housing occupants' satisfaction. Clarke, et al. (2008) observed that contemporary households consisted with housing styles, property size, internal outdoor space, kitchens and bathrooms, community parking and external appearance that are used as physical characteristics which influenced for more residential satisfaction. The empirical studies show that housing unit features like number of bedrooms, size and location of kitchen as well as quality of housing units are strongly associated with residential satisfaction. Also, Salleh (2008) found that housing physical features like the number of bedrooms, size and placement of the kitchen are strongly associated with residential satisfaction. Parkes, et al. (2002); Baum, et al. (2005); Hipp (2010); Raja & Mohit (2014) believed that the physical attributes of the houses are an important factor affecting housing satisfaction. These physical housing attributes include such as the kitchen space, the laundry and hand washing areas, the size of the living room and dining room, the living room configuration, number of bedrooms and bathrooms, safety, privacy, and ventilation of houses. Oh, (2000) demonstrated in the study on housing satisfaction of middle-income households in Bandar Baru Bangi Malaysia, revealed that while the residents were highly satisfied with the space and price of the house owned, they were not satisfied with the dimensions of kitchen, plumbing and public facilities within the housing unit. But, residents of housing project in Abuja as reported by (Ukoha & Beamish, 1997) were dissatisfied with the building and physical features.

Housing Supportive Service Characteristics

Housing supportive services can be described as systems installed in a building to meet the needs of the residents who live in the building. They make the home more efficient, safer, and functionally more comfortable (Hall, 2015). The supportive services included the water supply, sewerage and plumbing, sanitary facilities as well as the electrical facilities. Research found out and investigated by Salleh (2008) stated that, this is often probably because of the actual fact the younger people have higher expectations and aspirations than the older people regarding housing supportive services. The supportive services and public facilities provided have had major effects on overall residential satisfaction (Mohit & Azim, 2012; Tao, et al., 2014). According to a study conducted in Brazil by Pina, et al. (2017), the main factors related to housing satisfaction include public supportive services, such as roads in housing areas, sewage treatment, and basic water and sanitary services. In private housing development, the completion of repairs and insuring terms are attached with the housing owners, it is expected that the repairs and maintenance of common facilities such as water supply, sewerage facilities which are combined with the housing supportive management services (Ajayi, et al. 2015) will influence the amount of satisfaction with the housing environment (Riratanapong & Limjarosensuk, 2020).

Characteristics of Neighborhood Environment

Neighborhood satisfaction can be defined as an assessment of which extent neighborhood environments are meeting the aspirations, needs and the expectations of residents through getting happy with their neighborhood environment. Morris, et al., (1976) stated that, the evaluation of neighborhood environment should be a residential one, accessibility to infrastructure facilities and quality school and medical facilities, consist with homogenous community. Therefore, the neighborhood satisfaction is greater predictor for the residential satisfaction (Lu, 1999). Furthermore, studies on neighborhood environment also useful to assess the success or failure of mass housing development projects (Djebarni & Al-Abed, 2000). A study ~~regarding~~ on housing satisfaction in Abuja, Nigeria by Ukoha & Beamish (1997) ~~have been~~ understood that residents in public housing were

satisfied with neighborhood facilities. Lu (1999) has discovered the dissatisfaction of the private housing occupants are towards the dearth of facilities for the disabled furthermore the recreational facilities as well as the elderly and childcare facilities. Ha (2008) found that residents in social housing development are satisfied with the provision of medical facilities, shops, banks and post offices, but are very dissatisfied with parking lots and gardens. Neighborhood environment satisfaction prediction indicators were specifically determined to include physical characteristics such as landscapes, street lighting, congestion and noise levels, proximity of neighborhood facilities, healthcare, community environments and open space quality (Lovejoy, et al., 2010; Raja & Mohit, 2014; Somiah, et al., 2017). Therefore, neighborhood facilities and attributes are ~~a~~ good source of satisfaction or dissatisfaction to the housing environment. The neighborhood could be a determinant factor of overall residential satisfaction with its associated physical and social characteristics.

Socio- Demographic Characteristics of Residents

Bruin & Cook (1997) suggest that residents' psycho- social characteristics are used to understand the satisfaction levels with the prediction of housing and neighborhood satisfaction. Results of study shows that personality traits are strong predictors of housing satisfaction which depicted the complicated relationship trend with the community. An empirical survey shows that demographic elements of inhabitant comfort shift to include age, schooling, family structure, and life cycle which was elaborated that the age is an influencing variable as individuals of different ages express different levels of residential satisfaction (Blair & Lacy, 1993). They found that older residents have a lower level of ambition, but the upper level of tolerance for any residence deficiencies. Income status has also been identified as positive effect on satisfaction of residents. In their evaluation of residential satisfaction, Ukoha & Beamish (1997) interpreted the socioeconomic profile of housing occupants. Homeownership and length of stay as a demographic character that could be a major contributor to housing satisfaction. It gives home owners a greater sense of control ever their housing units (Kaitilla, 1993; Max Lu, 2002; Teck-Hong, 2012). Therefore, there is a greater linkage between residential satisfaction and social

characteristics of the individuals (Rious & Werner, 2011; Raja & Mohit, 2014). With their dwelling, the estate of the household with children, single and two-person households can be expected to be more optimistic with effectiveness of social character for the satisfaction (Makinde, 2015).

Models and Supported Factors

Many researchers have developed residential satisfaction models supported factors that are relevant to the context and according to the purpose of the research as follows;

Table 1: Previous Research Work

Previous studies	Variables used to measure residential satisfaction	Analytical methods
International Context		
(Mohit & Azim,2012)	Housing unit physical features, Provision of Public facilities, Services provided within the housing area, social environment	Quantitative Approach using descriptive statistics
(Raja & Mohit, 2014)	Socio-demographic, Housing, Neighborhood and behavioral characteristics	Qualitative Approach (Data analysis through Literature survey)
(Biyun & Ha,2016)	Gender, Age, Rental type, Housing type, Year of construction, Dwelling unit satisfaction & Neighborhood environment satisfaction	Quantitative Approach Data analyze using regression analysis method
(Tan, 2016)	Safety and security, Financial benefits, Social status with lifestyle facilities	Quantitative Approach using regression and descriptive statistics
(Somiah, et al., 2017)	Building quality, Maintenance culture, Neighborhood, Management, Dwelling unites features. Building quality	Quantitative Approach using the RSI (Relative Significance Index) analysis method for the data gathered from the questionnaire surveys
Local Context		

(Karunasena & Ranathunga, 2009)	Design and constructions, Maintenance & Operations	Quantitative Approach using RII method (Relative Important Index)
(Ariyawansa & Chathurani, 2017)	Physical features, Public facilities, Social environment, Quality of services	Quantitative Approach using descriptive statistics

Source: Author constructed based on literature survey (2020)

Above previous research work was mostly done for targeting only the public housing provision by considering the user satisfactions. Furthermore, Choudhury (2005); Fang (2006) noted that residential satisfaction may be a measure of residents' perception of the adequacy of their residential environment in meeting their needs, expectations and aspirations. Mohit & Azim (2012) examined the residential satisfaction in public housing using variables like housing unit physical features, provision of public facilities, services provided within the housing area, social environment. The residential satisfaction is highly affected by the provision of the public services in the area such as water, electricity, children play areas, schools etc... rather than other factors. Ibem & Aduwo (2013) found that the preference of urban residents is to make better use of the infrastructure services and facilities, lives and property safety, communities' tranquility and privacy in their neighborhood which are highly affected to their residential satisfaction. The study about public rental housing satisfaction carried by Biyun & Ha (2016) found the residential satisfaction through safety, physical facilities, accessibility and equipment factors in the residential environment which are differ from the study limits. Accordingly, safety factor needs to be more concerned to increase the residential satisfaction of public rental housing. Somiah, et al. (2017) done an assessment of residential satisfaction and introduced a new attribute which is the owner's maintenance culture which has relatively high influential factor for the residential satisfaction. In Sri Lanka, two factors were considered in a study of residential satisfaction in private condominium housing in Colombo; design and construction and maintenance (Karunasena & Ranathunga, 2009). The customers are dissatisfied about quality, design, maintenance facilities in the apartments. A study conducted by Ariyawansa & Chathurani (2017) examine the householder's satisfaction regarding low-

income high-rise apartments in Colombo found that residents were suffering from maintenance, waste disposal, noises occurred in surrounding environment. Physical features, public facilities, social environment, quality of services were considered as the factors affecting the residential satisfaction of the study. The assessment of the previous literature specifies that they use different variables to measure residential satisfaction, with special attention to public housing rather than private housing. Therefore, these previous studies did not focus the residents' satisfaction with public and private housing from the three aspects used in this study. The study considered factors like dwelling unit feature and quality, dwelling unit support services, neighborhood environment to be assessed to measure the residential satisfaction within Colombo Municipal Council area to fill the research gap.

METHODS

Quantitative method was adopted to achieve the research objective of evaluating the residential satisfaction through the perceptions of the residents in public and private housing schemes.

Case Study Area

The selected private housing scheme for the study is case “A” housing scheme located in Boralasgamuwa. It is located proximity (10 Km) to Colombo city. The Housing lots are constructed in 6 to 7 perch blocks surrounded with fully developed facilities within the walking distance. It is a luxury and highly developed housing scheme, the amenities include an open garden, a secure entry, electricity, water and other comfortable design of housing facilities (fully tiled three bedrooms, car pouch, and roof terrace). Selected public housing scheme for the study is case “B” housing scheme in Orugodawatte. It is constructed within 4 to 5 perch land plots with the facilities of one or two bedrooms, common bathroom, and balcony with water and electricity. It is located 3 Km away from Colombo city which has closest facilities available in the scheme.

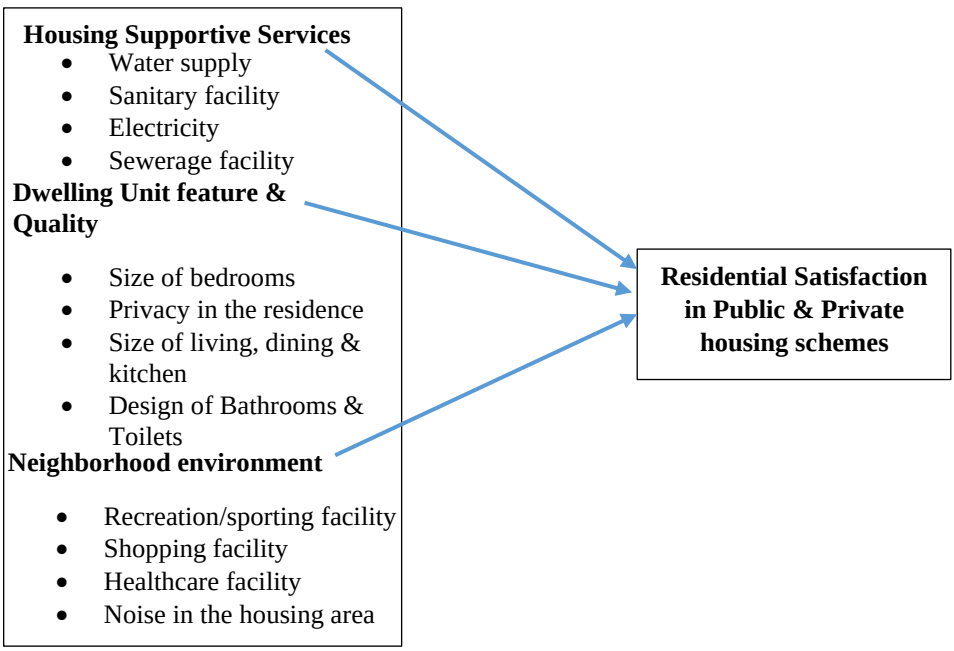
Population and Sample

The target population for this study is the residents in selected Public and Private housing schemes as above explained. The total sample size was 100 from both public and private housing schemes which 50 households from each scheme was taken into consideration based on convenient sampling method according to the availability of residents.

Types of Data & Data Collection Procedure

The target of quantitative research is to develop mathematical models to express quantitative relationships, with variables to match the hypotheses. Data was collected using a structured questionnaire that consists with the characteristics of dwelling unit feature and quality, housing supportive services and neighborhood environment features are the independent variables of the study which can enhance housing satisfaction level of the residents. The residential satisfaction is the dependent variable to be determined using independent variables of the study to assess the residential satisfaction in both public and private housing schemes.

Figure 1: Conceptual Framework for Assessing Residential Satisfaction



Source: Author constructed (2020)

Accordingly, the following hypotheses were developed in the study.
H1: There is a positive and significant relationship between dwellers' satisfaction and dwelling unit feature quality in public housing schemes.

H2: There is a positive and significant relationship between dwellers' satisfaction and housing support services in public housing schemes.

H3: There is a positive and significant relationship between dwellers' satisfaction and neighborhood environment in public housing schemes.

H4: There is a positive and significant relationship between dwellers' satisfaction and dwelling unit feature quality in private housing schemes.

H5: There is a positive and significant relationship between dwellers' satisfaction and housing support services in private housing schemes.

H6: There is a positive and significant relationship between dwellers' satisfaction and neighborhood environment in private housing schemes.

Data Analysis Procedure

In the study, the primary analysis was done using the descriptive statistics which generated the respondents' socio-economic characteristics and housing unit characteristics. Smart PLS was used for the advanced analysis of this study. It is an ideal tool to analyze the collected data in the study of assessing the residential satisfaction in public and private housing schemes using measurement model (outer model) and Structural model (inner model). This evaluation includes an assessment of the relationships between the Latent Variables (LV) and their associated objects. The structural model's evaluation is focused with the links between the LVs (Hair, et al., 2011; Hair, et al., 2017).

Results and Discussions

Socio- Economic Characteristics of Respondents

Table 2: Socio- Economic Characteristics of Respondents

Demographic Characteristics of Respondents		Public Housing Scheme (%)	Private Housing Scheme (%)
Employment Sector	Public Sector	18	35
	Private Sector	80	65
	Unemployed	2	-
Average Monthly Income	< LKR 50 000	100	-
	LKR 50 000- 100 000	-	25
	> LKR 100 000	-	75
Level of Education	Ordinary Level	100	-
	Advanced Level	-	20
	Degree Level	-	80
Length of Stay	< 1 year	-	100
	1-3 years	-	-
	>4 years	100	-
Funding Type	Debt Capital	-	95
	Equity Capital	-	5

Source: Survey data (2020)

Table 2 displayed the variables as percentages of the respondents' socio-economic characteristics in both housing schemes. Majority of the respondents are employed in public sector in both housing schemes. The public housing residents belong to low-income category and residents in private housing are in high income category have better financial background. Therefore, it can be a positive effect on residential satisfaction because high income people have wider range of alternative choices in housing. The most of public housing inhabitants have a low level of education and may have low expectations for residential satisfaction with the dwelling unit's quality, supportive services, and neighborhood environment. Majority of the households in the private housing scheme have advanced education background and their expectation towards the residential satisfaction can be at a higher level. Residents in the public

housing scheme live more than four years in the said housing scheme. Therefore, they have more experience about residential satisfaction. The duration of stay in private housing is less than one year because it was a newly built apartment and they gain more experience within this time duration in private housing scheme. A large percentage of them use debt capital as a type of financing. However, since the government provides public housing for free, there is no need to raise funds for the purchase of public housing as they have not adequate financial capacity.

Housing Unit Characteristics of Selected Housing Schemes

Table 3: Housing units' characteristics

Housing Unit Characteristics		Public Housing Scheme (%)	Private Housing Scheme (%)
Type of Residents	Owner	100	100
	Tenant	-	-
	Mortgage	-	-
Ownership Type	Local	100	95
	Foreign	-	5
Purchasing Price per Unit	LKR 26 000 000	-	65
	LKR 28 000 000	-	10
	LKR 31 000 000	-	25
Type of the Unit	One Bedroom	92	-
	Two Bedrooms	4	-
	Three Bedrooms	4	100

Source: Survey data (2020)

Every resident in both housing schemes are owners, therefore the residential satisfaction is depending on owners' perception. In the public housing scheme, all the owners are local whereas in the private housing scheme, ~~only~~ a few foreign owners are found. In public housing, they may not have many expectations about residential satisfaction because they did not purchase the house as houses are provided by the government free of charge. However, the private residents purchased houses unit at little high prices and they almost have higher level of expectations about the housing characteristics, supportive services and neighborhood environment which will significantly influence the residential satisfaction. The number of

bedrooms as the dwelling unit feature, most of public houses have one bedroom with poor quality characteristics which will negatively affect the satisfaction of residents. However, in the private housing scheme, all units are designed with three bedrooms, with the characteristics of high-quality dwelling unit may positively affect the residential satisfaction.

Assessment of Measurement Model

Each of the four reflective constructs in the measuring model consists of one or more items. The constructs entail Dwelling Unit Feature Quality (DUFQ), Dwelling Unit Supporting Services (DUSS), Neighborhood Environment (NE) and Overall Satisfaction for Public and Private Housing. The reliability and validity of these constructs were evaluated using a reflective measurement model. The validity test assesses the instrument's quality, whereas the reliability test demonstrates the consistency of measuring devices (Sekaran & Bougie, 2010). Hair, et al. (2011) suggested factor loading, Composite Reliability (CR), and Average Variance Extracted (AVE) as a few measures to determine convergent validity and reliability. The initial condition of convergent validity measurements is to discover a CR value of LVs which is larger than 0.7, and regarded as an acceptable threshold (Hair, et al., 2011). The CR values in this study performed as the ranged from 0.91 to 0.92 for public sector housing and ranged from 0.92 to 0.97 for private sector housing in which representing the required limit was exceeded. The Average Extracted Variances (AVE) advocated that the LVs values for all variables be more than 0.5, indicating that the measurement correlates positively with other measures of the same construct value. As per the table 04, the AVE values are in the range of 0.65 to 0.79 for public sector housing and it ranges from 0.79 to 0.83 for private sector housing which indicating the required limit was exceeded in the model. Convergent validity is assessed across factor loading as well. To be deemed extremely significant, factor loadings must be more than 0.5 (Hair, et al., 2011). The factor loadings of all items in measurement model grasped 0.74 to 0.94 for public sector housing and ranged from 0.73 to 0.99 for private sector housing (Refer Table 04).

Table 4: Assessment Results of the Measurement Model

Construct	Item	Loading		CR		AVE	
		(Public)	(Private)	(Public)	(Private)	(Public)	(Private)
Dwelling Unit Feature Quality (DUFQ)				0.919	0.965	0.654	0.797
	DUFQ1	0.748	0.870				
	DUFQ2	0.814	0.894				
	DUFQ3	0.824	0.926				
	DUFQ4	0.795	0.921				
	DUFQ5	0.833	0.863				
	DUFQ6	0.807	0.904				
	DUFQ7	0.857	0.870				
	DUFQ8	0.789	0.895				
Dwelling Unit Supporting Services (DUSS)				0.922	0.927	0.748	0.810
	DUSS1	0.860	0.946				
	DUSS2	00858	0.972				
	DUSS3	0.886	0.954				
	DUSS4	0.856	0.758				
Neighborhood Environment (NE)				0.919	0.976	0.792	0.834
	NE1	0.815	0.909				
	NE2	0.810	0.947				
	NE3	0.907	0.932				
	NE4	0.948	0.942				
	NE5	0.836	0.890				
	NE6	0.915	0.929				
	NE7	0.889	0.932				
	NE8	0.937	0.819				

Overall Satisfaction (OS)				0.921	0.972	0.788	0.827
	OSDUFQ	0.732	0.819				
	OSDUSS	0.884	0.995				
	OSNE	0.775	0.733				

Source: Survey data (2020)

Discriminant validity can be used to determine how different each Latent Variable is from other conceptions. The square root of the AVE for each construct should be greater than the correlation between each construct with the other constructs in the model. According to the discriminant validity results, Table 05 and 06 (Public housing and Private housing) present the square roots of the AVEs for the diagonal constructs, as well as the correlations between the constructs. Consequently, the model exhibits satisfactory discriminant validity for both perspectives.

Table 5: Discriminant Validity (Public Housing Schemes)

Constructs	DUFQ	DUSS	NE	OS
DUFQ	0.798			
DUSS	0.625	0.832		
NE	0.579	0.583	0.775	
OS	0.689	0.608	0.704	0.732

Source: Survey data 2020

Table 6: Discriminant Validity (Private Housing Schemes)

Constructs	DUFQ	DUSS	NE	OS
DUFQ	0.842			
DUSS	0.747	0.832		
NE	0.681	0.504	0.775	
OS	0.543	0.718	0.758	0.811

Source: Survey data 2020

Assessment of Structural Model

The structural model, which illustrates the relationship between components operationalized as Latent Variables, associates each individual hypothesis with a causal link. The path coefficients, as well as the accompanying P and T values, have been determined for each causal connection in the models. The path coefficients should be considerable, and R^2 relies greatly on the research field. The R^2 values of two contexts of this study are high and acceptable as per the behavioral research norms. They were 0.379 for public housing and 0.328 for private housing.

As per the table 06, the result indicated that Dwelling Unit Feature Quality and Dwelling Unit Supporting Services have a positive and significant effect on dwellers' overall satisfaction of private sector housing schemes. Therefore, the outcomes of the study supported H 4 and H5. Even though, the factors of Dwelling Unit Feature Quality and Dwelling Unit Supporting Services are non-significant on dwellers' overall satisfaction of public sector housing schemes, in which resulted P value is higher than 0.05 and T statistics are 0.112 and 0.012 which is less than the threshold value of 1.96. Therefore, the results of the study not supported to H1 and H2. Conversely, Neighborhood Environment has a positive and significant effect on dwellers' overall satisfaction of public sector housing schemes, while it is not a significant effect on private sector housing schemes. Therefore, the results supported to the H3 and excluded the H6.

Table 6: Results of Hypothesis Testing

	Path	Path Coefficient	P Values	T Statistics	Supported
H1	DUFQ → Satisfaction (Public)	0.040	0.129	0.112	No
H2	DUSS → Satisfaction (Public)	0.096	0.315	0.012	No
H3	NE → Satisfaction (Public)	0.272	0.031	2.143	Yes
H4	DUFQ → Satisfaction (Private)	0.622	0.005	7.788	Yes

H5	DUSS (Private) → Satisfaction	0.488	0.000	9.159	Yes
H6	NE → Satisfaction (Private)	0.015	0.289	0.090	No

Source: Survey data 2020

Conclusion and Recommendation

This study mainly focuses to evaluate the residential satisfaction through the perceptions of the residents in selected public and private housing schemes in city of Colombo. Results shows that the residents in public housing schemes are satisfied with neighborhood environment features (NE) and not with the other two aspects. The dwelling unit features such as sizes of cooking and bedroom spaces, design of baths and toilets as well as the living spaces, are the features that most of residents were dissatisfied. Residents' perception on satisfaction with the dwelling unit supportive services in the public housing scheme is not significant that includes water, sanitation, electricity and sewerage services. Neighborhood environment features such as recreation, shopping, health facilities with the noise level of surrounding environment have positively impacted for the residential satisfaction in the public housing scheme. The results tally with the findings as follows. The residents in social housing developments are satisfied with the availability of medical facilities, shops, banks, and post offices (Ha, 2008) recreational facilities and the surrounding noises (Lovejoy, et al., 2010; Raja & Mohit, 2014; Somiah, et al., 2017).

Literature shows that every participant of the private housing scheme has a positive impression of each dwelling unit's features and quality (DUFQ). Housing styles, size and quality of bedrooms, kitchens, and baths (Clarke, et al., 2008), privacy in the residence (Raja & Mohit, 2014) employed as physical qualities that influence for more residential satisfaction. Consequently, the supportive services (DUSS) assigned to private residents are very satisfied with the services that have a significant impact on the satisfaction of residents in private housing scheme in this study too. The supportive services and public facilities provided have had major effects on overall residential satisfaction (Mohit & Azim, 2012; Tao, et al., 2014).

However, the neighborhood facilities in the private scheme shows insignificant and are not in a satisfactory level.

As general, the residents in the public housing scheme are dissatisfied about the dwelling unit features and quality of facilities and dwelling unit support services. They are only satisfied about the neighborhood environment in this public housing scheme. It can be recommended that by considering all the findings, it is ~~a~~ necessity to improve the housing supportive services with enhancing the quality of dwelling unit features in public housing schemes development projects in Sri Lanka to maximize the residential satisfaction which needed to be concerned in the future planning context. Residents in private housing scheme were only dissatisfied about the neighborhood environment. Therefore providing more facilities like shopping, healthcare, and access to recreational activities will enhance residential satisfaction in this aspect. Finally, this study added values to the residential environment designing features in the country.

Acknowledgment

The authors acknowledge the Center for Real Estate Studies (CRES), Department of Estate Management and Valuation, University of Sri Jayewardenepura, Sri Lanka.

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