EXAMINING MALAYSIA'S LOW-INCOME HOUSING ENVIRONMENT: A QUANTITATIVE STUDY OF THE LOW-INCOME HOUSING ENVIRONMENT'S IMPACT ON RESIDENTS' ATTITUDES AND QUALITY OF LIFE

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Abstract

In Malaysia, the burgeoning population has increased the demand for affordable housing, leading to the establishment of Low-Income Housing Programs (PPR) to assist the B40 income group. Despite the noble intentions, PPR communities face challenges, especially with residents' behaviours such as improper waste disposal, which exacerbate cleanliness and safety issues. These behaviours negatively affect living conditions and contribute to an increase in crime rates within these areas. Numerous studies have investigated how the PPR environment impacts residents' quality of life, highlighting the prevalence of detrimental living conditions. Although extensive research has been conducted on the structural and operational aspects of PPR housing, more studies are needed to explore the direct impact of residents' attitudes on their quality of life. This study aims to bridge this gap by examining the intermediary role of residents' attitudes towards their environment and its subsequent effect on their quality of life. Utilizing data from a survey conducted in five states with PPR residents and employing the Partial Least Squares (PLS) method, the study found significant correlations between the PPR environment, residents' attitudes, and their quality of life, underscoring the crucial role of attitude in shaping the living experiences of PPR inhabitants.

Keywords: PPR Environment, B40, Attitude and Quality of Life

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INTRODUCTION

The quality of life (QoL) for residents, particularly those with low income, is critical (Riazi & Emami, 2018). This demographic often cannot afford alternative housing options, making it essential to provide high-quality public housing (Ghezelseflou & Emami, 2023). Achieving a high standard of QoL is challenging, especially in developing countries like Malaysia. To tackle this, the Malaysian government initiated a public housing scheme under the Eighth Malaysia Plan to address squatter issues and provide affordable housing for lower-income groups. The National Housing Department, part of the Ministry of Local Government Development, manages these People's Housing Program (PPR) projects nationwide. PPR is divided into PPR-rented and PPR-owned, with guidelines set by the National Housing Standard for Flat Low-Cost Housing. PPR homes, typically multi-story buildings ranging from five to eighteen storeys, are located in major cities, while terrace houses are more common in suburban areas. Each unit, mandated to cover 700 square feet, includes three bedrooms, a living room, a kitchen, and two bathrooms. Standard amenities in every PPR include public spaces, prayer rooms, food stands, kindergartens, accessible facilities, playgrounds, and garbage disposal areas, ensuring that every citizen has access to suitable, well-designed housing with basic amenities. However, challenges remain in providing decent housing environments at reasonable costs. Issues such as substandard construction, lack of maintenance, and inadequate infrastructure result in poor living conditions, including leaky roofs, insufficient ventilation, improper sanitation, and overcrowding. Additionally, public housing management faces problems like vandalism, rubbish disposal, and rent arrears. Despite adherence to the National Housing Policy, no study has assessed the behaviour and QoL of B40 PPR residents (Leung et al.,2019; Firdaus et al., 2016; Ismail et. al., 2015). Research has primarily focused on residential satisfaction with housing design and the effectiveness of Performance Measurement systems in PPR. More evidence is needed on how experiential value impacts residents' QoL. In Kuala Lumpur, 69 crime cases were recorded in PPR in 2019, with 1001 arrests for drug-related offenses, highlighting security issues (Dzulkifly, 2019). The Department of Statistics Malaysia reported that, among 52,344 crime index cases in 2020, break-ins and theft, with 14,040 cases, were the second highest crime category. This underscores the low security and deteriorating QoL for residents. The media often highlights the poor attitudes and criminal involvement of B40 PPR residents, raising national concerns. The future of these residents, surrounded by a detrimental environment and uncertain academic prospects, is at risk. Addressing these issues is crucial for the nation's future.

This study will focus on how the PPR environment impacts the quality of life of B40 PPR residents, including factors like income, education level, military control, and health. It will also explore how the PPR environment

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influences residents' quality of life by mediating their attitude, a previously unmeasured aspect. Investigating whether environmental factors such as unit features, public facilities, neighbourhood environment, and support services affect the QoL of PPR residents is essential. Yet, very few housing programs track QoL as an outcome that can be used to tailor service provision. At the same time, gaps remain in understanding what matters most to emerging low-income groups regarding their QoL. The general understanding of the QoL explains that an individual or social group should work to fulfil physiological needs.

LITERATURE REVIEW

RESEARCH METHODOLOGY

This study utilized a cross-sectional and quantitative research design, employing a survey questionnaire distributed among PPR residents in Malaysia. The research focused on urban areas, specifically major cities such as Johor Bahru, Kuala Lumpur, Kuantan, Penang, and Kota Kinabalu, which were chosen for their concentration of PPR flats. 704 participants were selected via purposive sampling, facilitated through coordination with PPR block leaders in July 2022. Before distributing the survey, the researchers sought and received approval from the Ministry of Local Government Development to conduct the study within the PPR framework. Following this approval, the researchers obtained an official authorization letter and arranged meetings with PPR block leaders to organize the survey distribution.

A. Measurement of the Constructs

Table 1 demonstrates that a survey questionnaire was developed based on the indicators linked to each proposed research model's constructs.

Table 1: Measurement of the Constructs and Sources

Constructs	Items	Source(s)
Quality of Life (QoL)	13	Streimikiene (2015)
PPR Environment	5	Arabi et al. (2020), Cozens & Sun (2019) and Olanrewaju & LeeA (2022).
Attitude	8	Zanna & Rempel (2008)

Table 1 shows the measurements of the constructs and their sources. The respondents were asked to indicate their perception levels on a 6-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (6). A pre-test was carried out by two experts in research methodology, and, after further corrections, the final survey draft was piloted to 30 respondents. A preliminary analysis of the data was performed and a reliability assessment of the constructs was carried out

by calculating the values of Cronbach's alpha for each construct separately. The results of Cronbach's alpha were 0.852 for QoL, 0.848 for PPR environment, and 0.901 for Attitude. Hence, the internal consistencies of all constructs were considered acceptable since each reliability test exceeded the threshold (>0.70) suggested by Hair, et. al., (2019).

Modelling Approach
The conceptual framework could be explored based on the theoretical perspectives and arguments related to the corresponding relationships above.

The Conceptual Framework
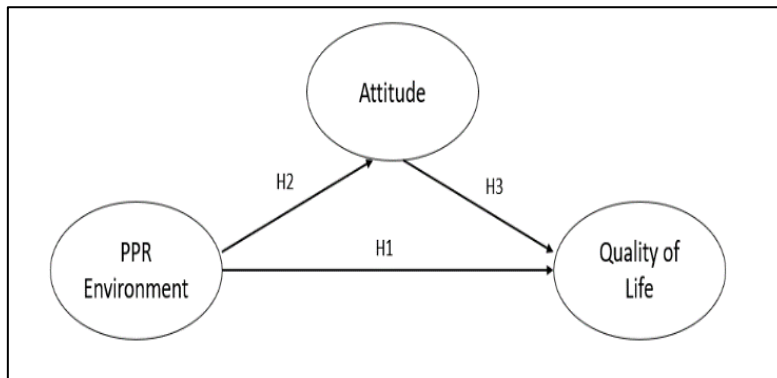Figure 1 below is the graphical view of the conceptual framework in this study.

Figure 1: The Conceptual Framework

In this study, PPR Environment (PPRE) of the residents is considered as an independent or exogenous latent construct of the study. Correspondingly, Quality of Life of the PPR residents is considered as the dependent or endogenous latent construct, which is useful in measuring the perception of the residents. Meanwhile, Attitude of the PPR residents is considered as a mediating factor in the relationship between the PPRE and Attitude of the residents with the interrelationships between the three constructs, the following hypotheses are to be tested;

H1: PPRE has a significant influence on Quality of Life of the PPR residents.
H2: PPRE has a significant influence on Attitude of the PPR residents
H3: Attitude of the PPR residents has a significant influence on their Quality of Life
H4: Attitude of the PPR residents mediates significantly in the relationship between PPRE and the residents' Quality of Life

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Data Analysis
Partial Least Squares Structural Equation Modeling (PLS-SEM) (Rigdon et al., 2014) was adopted to analyse the conceptual framework. The model has two parts, i.e., measurement and structural models, and has direct and indirect relationships, which have been hypothesized earlier. PLS-SEM was the most appropriate method for certain data conditions, such as small sample sizes and non-normal data (Hair et al., 2016). The key criteria for the goodness of fit are the size, sign, and significance of path coefficients, the R2 values, and the effect size f2 (Ali et al., 2018). The procedure developed by Nitzl et al. (2016) was used to test the mediation effects of Human Resources and Technology in the framework.

ANALYSIS AND DISCUSSION
Results of PLS-SEM Analysis
Assessment of the Measurement Model
The research model (Figure 2) was analyzed using SmartPLS 4.0, a PLS structural equation modeling software. The measurement model in PLS is assessed in terms of item loadings and reliability coefficients (composite reliability), as well as convergent and discriminant validity. Individual item loadings greater than 0.7 are considered adequate (Fornell & Larcker, 1981). The average variance extracted (AVE) measures the convergent validity via the variance captured by the indicators relative to measure error, and it should be greater than 0.50 to justify using a construct (Barclay et al., 1995). Table 2 shows the result of the reflective measurement model that presents the values of indicators loadings, composite reliability, Cronbach's alpha, and AVE.

Table 2: Reliability and Discriminant Validity of the Constructs

Construct and Items	Loadings	CA	CR	AVE	Discriminant Validity
PPRE		0.846	0.896	0.683	Yes
Attitude		0.797	0.880	0.710	Yes
QoL		0.904	0.922	0.567	Yes

As shown in Table 2, the CA values of all constructs were between 0.801 and 0.906, which are all above 0.7, as Hair et al. (2016) recommended. While CR values were between 0.866 and 0.922, which are higher than 0.7 and indicate adequate internal consistency (Gefen et al., 2000). Thus, the constructs are considered reliable. The values of AVE for all the constructs ranged from 0.567 to 0.710, and therefore, all the constructs achieved convergent validity.

Discriminant validity assessment must be accepted to evaluate relationships between latent constructs. Traditionally, two discriminant validity measures are commonly used in SEM-PLS: cross-loadings and the Fornell-Larcker criterion (1981). Cross-loadings are attained by relating each construct

score to the other items (Chin, 1998). If each indicator's loading is higher for its allocated construct than for any of the other constructs, and each of the constructs put in highest with its assigned items, it can be concluded that the dissimilar constructs' indicators are not substitutable. In the case of SEM-PLS, each indicator loading on associated constructs should be greater than all of its cross-loadings, as illustrated in Table 3.

Table 3: Heterotrait-Monotrait Ratio (HTMT) for Discriminant Validity

	PPRE	**Attitude**	**QoL**
Attitude	0.616		
QoL	0.830	0.784	

Evaluation of the Structural Model

To assess the structural model, R2, beta, and t-values via a bootstrapping procedure with a resample of 5000 and the effect sizes (f2) suggested by Hair et al. (2016) were performed. The results in Figure 3 and Table 6 indicated that the three relationships turned out to be highly significant. The two predictors (PPRE and Attitude) had significant relationships with Quality of Life.
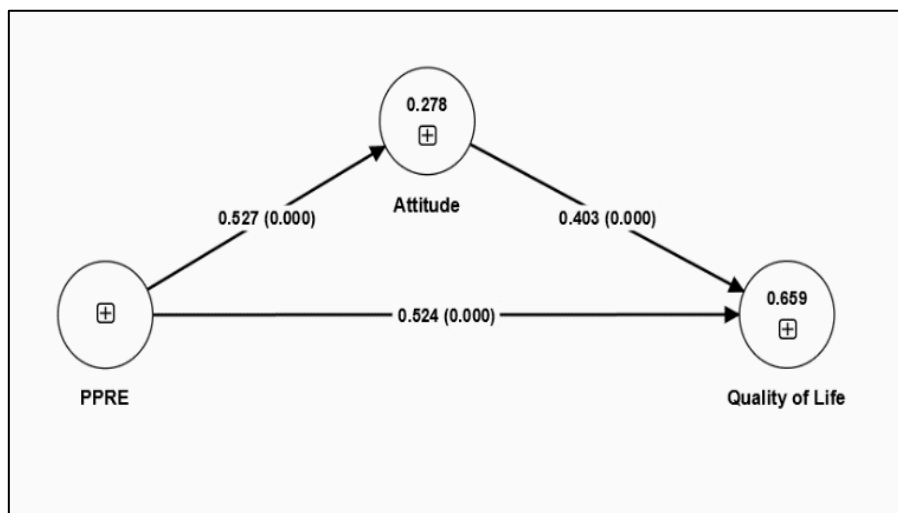

Figure 3: The Estimated Structural Model

For the relationship between PPRE and QoL (H1) β = 0.524 (p< 0.01), PPRE and Attitude (H2) β = 0.527 (p< 0.01), and Attitude and QoL (H3) β = 0.403 (p< 0.01) had highly significant positive relationships. Thus, for H1, H2, and H3 were supported.

Table 4: The Structural Model Path Coefficients

Relationships	Path Coefficients	t-values	p-value	Hypothesis supported by Data?
H1: PPRE -> QoL	0.524	17.074	0.000***	Yes
H2: PPRE -> Attitude	0.527	13.936	0.000***	Yes
H3 Attitude -> QoL	0.403	12.802	0.000***	Yes

Note: *** Significant at 0.01 level

The R^2 value for QoL is 0.659, above the 0.26 value that Cohen (1988) suggested, indicating a substantial model. Hair et al. (2016) have suggested an extra step by examining the change in the R^2 value through the value of f2. The step involves the omission of a specific exogenous or independent construct from the model and seeing the change in R^2. It can be used to evaluate whether the omitted construct has a substantive impact on the endogenous construct. Tables 5-6 show the R^2 and adjusted R^2 results, respectively.

Table 5: R2 and Adjusted R2

	R^2	R^2 Adjusted
Attitude	0.278	0.277
QoL	0.659	0.658

Table 6 shows the results of f2. Following the Cohen (1988) guideline, the effect sizes of 0.02, 0.15, and 0.35 represent small, medium, and large effects. The results showed that while Attitude has a small effect on QoL, PPRE has a large effect on both Attitude and Quality of Life of the PPR residents.

Table 6: Effect Size (f2)

	Attitude	PPRE	QoL
Attitude			0.343
PPRE	0.385		0.580
QoL			

In this study, Attitude's role in enhancing the residents' Quality of Life was the main focus. Therefore, its role as a mediator was examined accordingly. Table 7 illustrates the significance of the mediating factor (via its indirect effect) in the relationship between PPRE and Quality of Life. The results showed that Attitude was a significant mediating factor ($\beta = 0.212$) was significant at 0.01 level, and therefore, H4 was supported. This confirmed the significant role of Attitude in enhancing the Quality of Life of the PPR residents, as shown by the indirect relationship between PPRE and QoL in Table 7.

Table 7: Mediating Effect

Indirect Relationship	Indirect Effect	t-Statistic	p-values	Hypothesis Supported by Data?
H4: PPRE -> Attitude -> QoL	0.212	9.016	0.000***	Yes

Note: *** Significant at 0.01 level

CONCLUSIONS
This paper presented the link between the influences of the PPR Environment on the Quality of Life of the PPR residents in Malaysia. The proposed model included another factor, i.e., the Attitude of the residents, that was expected to influence their Quality of Life. The empirical evidence from the study seems to be congruent with the argument made by Muianga et al. (2021). The residents indicated they were most happy with QoL5 (I hang out with my neighbours in this PPR quite often) and QoL10 (I am satisfied with legitimate support for my health activity in this PPR). The study also indicated that the attitudes of the residents concerning their PPR environment were dominated by ATT1(I am afraid to act silly around PPR residents), ATT2(I have a positive attitude about my PPR residence), and ATT3 (I care about living in privacy in my PPR residence)

ACKNOWLEDGEMENT

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