

More Than a Roof: Modelling the Housing Affordability Stress-Wellbeing Nexus among Malaysia's Middle-Income Group

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ABSTRACT

Housing affordability stress has become an increasingly important concern among middle-income households in Malaysia, particularly in rapidly urbanising areas where rising housing costs place pressure on household expenditure and wellbeing. This study examines the relationship between housing affordability stress and household wellbeing among the middle income (M40) group in Shah Alam, Malaysia. Housing affordability stress is conceptualised through multiple dimensions that extend beyond housing costs to include environmental factors, housing quality, economic factors, transportation, housing needs, safety and security, and housing affordability. A quantitative cross sectional research design was adopted, with data collected through a questionnaire survey involving 106 M40 respondents residing in Shah Alam. The data were analysed using descriptive statistics in SPSS and Partial Least Squares Structural Equation Modelling (PLS SEM) in SmartPLS to evaluate the measurement and structural models. The study establishes the relevant indicators of housing affordability stress and household wellbeing and examines the relationships between the identified dimensions and household wellbeing. The findings demonstrate that housing affordability stress should be understood as a multidimensional issue in which financial affordability interacts with housing, locational, transportation and environmental conditions in shaping household wellbeing. The study contributes to the housing affordability literature by providing empirical evidence from Shah Alam, an urban housing market identified as severely unaffordable and previously underrepresented in housing stress research. The findings provide useful insights for policymakers, housing authorities, developers and urban planners in formulating housing strategies that consider not only housing prices and household income but also the broader conditions affecting household wellbeing.

Keywords: Housing affordability stress; household wellbeing; middle income group; M40; PLS SEM

INTRODUCTION

The issue is particularly relevant to Malaysia's middle-income group. Although various affordable housing programmes have been introduced, middle-income households continue to encounter difficulties in accessing housing that corresponds with their purchasing capacity (Baqutaya et al., 2015). Previous emphasis on providing low-cost housing has contributed to a gap in the medium-cost housing sector, resulting in growing homeownership challenges among the M40 group. The situation is intensified in urban housing markets where house prices exceed household purchasing capacity. Using the Median Multiple approach, housing is generally considered affordable when the house price does not exceed three times the annual median household income (Zainon et al., 2017). Based on the income data reported in the present study, the estimated affordable house price for the M40 group was approximately RM286,704, or roughly RM300,000, compared with an average Malaysian house price of RM458,111 in the second quarter of 2023. These estimates should be interpreted in relation to the specific income and price data used in the study.

This disparity between household purchasing capacity and prevailing house prices has implications beyond the ability to purchase a dwelling. Housing represents one of the largest components of household expenditure (Babadağlı, 2024), and increasing housing costs may reduce the financial resources available for non-housing necessities such as food and healthcare (Babadağlı, 2024). Households may consequently face trade-offs involving affordability, housing quality, condition, and location (Baqutayan, 2016). More affordable housing may involve compromises in dwelling quality or accessibility, while housing located farther from employment and essential services may increase transportation expenditure and impose additional financial pressure (Baqutayan, 2016). Housing affordability stress therefore extends beyond the conventional relationship between house prices and income and encompasses broader conditions that may influence household wellbeing.

Previous studies demonstrate the multidimensional nature of this issue. Baqutayan found that housing stress among middle-income households is not confined to households exceeding a particular housing expenditure threshold, but may also involve location, transportation, housing quality, safety and security, and economic conditions (Baqutayan, 2016). Other Malaysian studies similarly identify housing price, household income, housing choice, housing loans, and housing policy as relevant factors affecting housing affordability among middle-income households (Baqutaya et al., 2015; Kadir et al., 2020). Collectively, the literature reviewed in this study supports dimensions associated with environmental conditions, housing quality, economic factors, transportation, housing needs, safety and security, and housing affordability. The specific contributions attributed in earlier drafts to Bujang et al. and Soh et al. should be supported by their original sources before those studies are cited individually.

Nevertheless, the relationship between housing affordability stress and household wellbeing remains comparatively underexplored in the Malaysian context. Existing studies have largely concentrated on identifying affordability factors or examining housing stress within particular socioeconomic groups and geographical settings. Research involving middle-income households, for example, has examined housing affordability in Selangor and other Malaysian urban areas (Kadir et al., 2020; Zainon et al., 2017), while limited empirical attention has been given specifically to Shah Alam. This geographical limitation is significant because the wider Klang Valley includes housing markets classified as severely or moderately unaffordable, including Kuala Lumpur and Selangor (Zainon et al., 2017). Moreover, limited attention to household wellbeing restricts understanding of whether housing affordability pressures extend beyond financial capacity to affect the broader living conditions and wellbeing of middle-income households. Location-specific empirical evidence is therefore required to establish how the multiple dimensions of housing affordability stress relate to household wellbeing among the M40 population in Shah Alam.

Against this background, this study examines the relationship between housing affordability stress among the middle-income group and household wellbeing in Shah Alam, Malaysia. Specifically, it seeks to identify the indicators of housing affordability stress and household wellbeing and to examine the relationships between housing affordability stress and household wellbeing. A quantitative cross-sectional survey and Partial Least Squares Structural Equation Modelling are employed to provide empirical evidence on these relationships. By examining housing affordability stress as a multidimensional phenomenon rather than solely through conventional price and income measures, the study contributes location-specific evidence that may assist policymakers, housing authorities, developers, and urban planners in developing housing strategies that address both housing affordability and household wellbeing.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Housing Affordability Stress and Household Wellbeing

However, financial measures alone may not adequately represent housing affordability stress. A household may remain within an acceptable housing expenditure threshold but compromise on housing quality, location, accessibility, or other living conditions to maintain affordability. Such compromises may subsequently affect household wellbeing even when housing expenditure does not create immediate financial hardship (Chan &

Adabre, 2019; Crowe & Rowley, 2024). Based on the literature and measurement development undertaken in this study, housing affordability stress is conceptualised through five dimensions: environmental factors, housing quality, economic factors, transportation, and housing needs. Household wellbeing is represented through neighbourhood liveability and community participation, financial conditions, self-assessed health, and emotional wellbeing.

Environmental Factors

The residential environment represents an important component of housing affordability stress because households experience housing not only through the dwelling itself but also through surrounding neighbourhood conditions. Environmental factors encompass social conditions, safety, security, community relations, public facilities, and access to neighbourhood services that may influence residents' satisfaction and exposure to stressors (Mohit et al., 2009). Households may accept higher housing expenditure to obtain improved neighbourhood conditions, suggesting an interaction between affordability and environmental quality.

Safety and security are also embedded within the quality of the residential environment. Residential conditions involving security systems, community facilities, exposure to hazards, health security, accessibility, street lighting, pedestrian facilities, and proximity to security services can shape residents' perceptions of their neighbourhood (Mohit et al., 2009). A conducive environment may therefore reduce housing-related stress and support neighbourhood liveability and household wellbeing. Accordingly, the following hypothesis is proposed:

H1: Environmental factors have a significant relationship with household wellbeing among the middle-income group.

Housing Quality

Housing quality is multidimensional and varies according to household expectations, socioeconomic circumstances, and geographical context. Relevant aspects include dwelling size and occupancy, access to infrastructure and services, neighbourhood attributes, community facilities, and location (Mohit et al., 2009). Within the present study, housing quality also captures conditions such as poor repair, high cooling costs, overcrowding, insufficient bedrooms, shared housing, and the suitability of housing for occupants with disabilities.

The relationship between housing quality and wellbeing is supported by evidence linking inadequate and persistent housing problems with psychological stress and adverse health outcomes (Pevalin et al., 2017). Poor housing conditions, including problems related to dwelling quality, tenure security, affordability, and neighbourhood characteristics, may operate together to influence health and wellbeing (Baker et al., 2016, 2019). Poor maintenance, insecure tenure, frequent relocation, and unsuitable living conditions may therefore negatively affect health and psychological wellbeing (Pevalin et al., 2017). Thus:

H2: Housing quality has a significant relationship with household wellbeing among the middle-income group.

Economic Factors

Economic factors represent the most direct financial dimension of housing affordability stress. Affordability requires households to balance housing expenditure against non-housing expenditure within the limitations of available income. The normative approach commonly assesses affordability using predetermined thresholds based on the relationship between household income and housing costs.

In practical terms, economic pressures may arise from rising house prices, high instalments, deposits and transaction costs, limited affordable housing supply, financing difficulties, long repayment periods, high rental

costs, and lower household purchasing capacity (Azmi & Bujang, 2021). The instrument developed for this study incorporates these conditions as indicators of economic pressure.

Such financial commitments can reduce disposable income and potentially create cash-flow problems and financial deprivation. The residual approach to affordability specifically considers whether households can maintain an adequate standard of living after meeting their housing costs (Micallef, 2022). Consequently, economic pressures associated with obtaining and maintaining suitable housing are expected to relate to household wellbeing. Therefore:

H3: Economic factors have a significant relationship with household wellbeing among the middle-income group.

Transportation

Housing affordability is also interconnected with accessibility and transportation. Lower-priced housing located farther from employment, healthcare, public transportation, and community services may appear financially affordable but generate additional travel costs. Households may therefore face a trade-off between paying higher housing costs to live closer to urban opportunities and accepting higher transportation expenditure when residing farther away (Chan & Adabre, 2019; Mattingly & Morrissey, 2014). Transportation expenditure itself can represent a substantial component of household budgets, particularly where households depend on private vehicles or have limited access to public transportation.

The study consequently considers distance from healthcare, access to employment and community services, and distance from public transportation as components of transportation-related housing stress. Thus:

H4: Transportation has a significant relationship with household wellbeing among the middle-income group.

Housing Needs

Housing affordability must ultimately be considered within the broader expenditure requirements of households. Housing needs involve the capacity to meet housing payments while retaining sufficient resources for food, transportation, utilities, healthcare, education, household equipment, and savings. This perspective recognises that housing affordability cannot be assessed solely according to the proportion of income allocated to housing, because households must also meet essential non-housing expenses (Micallef, 2022). Household budgets vary according to household size, composition, and life stage, while rising living costs can further constrain the resources available after housing expenditure.

In this study, housing needs are represented by high monthly housing payments exceeding 30% of income, high household expenditure patterns, and a high cost of living. When housing expenditure competes with other essential household requirements, financial pressure may affect household wellbeing through reduced consumption capacity and financial security. Therefore:

H5: Housing needs have a significant relationship with household wellbeing among the middle-income group.

Collectively, the five hypotheses form the conceptual model in which environmental factors, housing quality, economic factors, transportation, and housing needs are examined in relation to household wellbeing among the M40 group in Shah Alam. This multidimensional approach extends the assessment of affordability beyond conventional house price and income measures by incorporating the housing, neighbourhood, accessibility, and household expenditure conditions associated with housing affordability stress. The model developed in this study therefore treats housing affordability stress as a multidimensional construct requiring empirical assessment across these five dimensions.

METHODOLOGY

Research Design

This study adopted a quantitative research approach within a positivist paradigm to examine housing affordability stress and household wellbeing among the middle-income group in Shah Alam, Malaysia. A quantitative approach was considered appropriate because the study sought to measure predefined constructs, test hypothesised relationships, and analyse the resulting data statistically using structured measures. A cross-sectional survey design was employed, whereby quantitative data were collected from respondents at a single point in time. This design is suitable for examining patterns of attitudes, perceptions, behaviours, and characteristics within a defined population (Rindfleisch et al., 2008).

The study focused on residents of Shah Alam, Selangor, belonging to the middle-income group; the target population therefore comprised M40 households within the municipality, reported to have a population of 481,654. Probability sampling, specifically simple random sampling, was adopted because the study aims to generalise findings from the sample to this wider population: probability sampling gives every member of the target population a known, non-zero probability of inclusion, the formal precondition for unbiased estimation and generalisation (Rahman et al., 2022; Rowley, 2014), whereas in non-probability sampling inclusion probabilities are unknown and representativeness is compromised (Cornesse et al., 2019). Properly executed probability samples are representative of the target population and yield unbiased estimates (Jager et al., 2017). Simple random sampling expressed this equal-chance principle most directly, and suited the relatively homogeneous M40 segment of a single municipality, where stratification by confounders was unnecessary. Two qualifications were acknowledged: random selection guarantees representativeness only when the sampling frame itself is unbiased (Baltes & Ralph, 2022), and complete household lists are rarely held in practice, so the study's generalisability claims remain conditional on the adequacy of the frame, a limitation disclosed in the methodology.

The minimum sample of 106 respondents was derived using a 90% confidence level and an 8% margin of error, a trade-off appropriate to the study's explanatory purpose, since the research tests hypothesised relationships through variance-based structural equation modelling rather than estimating population prevalence with high precision (Ahmed, 2024). Benchmark guidance corroborates the adequacy of 106: conventional conventions classify 100 as small and 100 to 200 as medium, with samples below 100 not recommended for structural equation models except where the model is very simple (Memon et al., 2020), and power-based criteria require estimated power of at least 80 percent at $\alpha = .05$, a standard reflected in sample size simulations for SEM (Wolf et al., 2013). Variance-based SEM is also more tolerant of modest samples than covariance-based alternatives, for which a minimum of 150 is commonly recommended (Cheung et al., 2023), and the distributional properties of the measures were screened as warranted for smaller samples (Bagozzi, 2010). All 106 targeted responses were subsequently used in the statistical analysis, so the planned minimum was fully achieved.

Instrument and Data Collection

Primary data were collected using a self-administered questionnaire designed to capture respondents' perceptions of housing affordability stress and household wellbeing. The instrument consisted of two main sections. Section A collected respondents' demographic characteristics, including age, gender, race, occupation, household income, marital status, educational level, and household size. Section B measured the attributes associated with housing affordability stress and household wellbeing.

The measurement instrument comprised five housing affordability stress constructs, namely environmental factors, housing quality, economic factors, transportation, and housing needs, together with one household wellbeing construct. In total, 33 indicators were initially specified for housing affordability stress and three indicators for household wellbeing. The measurement items were adapted from previous studies, including

Baqutayan, Bujang et al., Rowley and Ong, and other related housing affordability studies. Respondents assessed the multi-item measures using a five-point Likert scale.

Before the main survey, a pilot study was undertaken to assess the suitability and clarity of the questionnaire. Pilot testing can help identify ambiguous wording, respondent misunderstandings, technical problems, and issues affecting survey administration (McColl et al., 2001; Redmiles et al., 2017). The pilot process was therefore intended to identify potential issues with item wording, survey length, respondent understanding, and the overall administration procedure. Feedback and issues identified during the pilot stage were incorporated into the questionnaire before the main data collection was conducted.

Data Analysis

Data analysis involved four principal procedures: data screening, descriptive statistical analysis, internal consistency reliability assessment, and Partial Least Squares Structural Equation Modelling. SPSS Version 26 was initially used to screen the dataset and generate descriptive statistics, including means and standard deviations. Data screening identified missing data, outliers, or other issues that could affect subsequent statistical analysis.

SmartPLS Version 4 was then employed to assess the measurement and structural models. The measurement model evaluation examined indicator reliability, internal consistency reliability, and convergent validity to establish whether the constructs and indicators demonstrated adequate measurement quality. In PLS-SEM research, standardized loadings above 0.70 are generally desirable, composite reliability values above 0.70 are commonly preferred, and AVE values above 0.50 are used as evidence of convergent validity (Ringle et al., 2018). Subsequently, PLS-SEM path analysis and bootstrapping were conducted to estimate the relationships between environmental factors, housing quality, economic factors, transportation, housing needs, and household wellbeing. The researchers tested the five hypotheses developed from the conceptual model using the estimated path coefficients and their statistical significance. The coefficient of determination, R^2 , was also assessed to determine the proportion of variance in household wellbeing explained collectively by the five housing affordability stress constructs.

RESULTS

Data Screening and Respondent Profile

The dataset was initially screened to identify missing values and other potential data quality issues before proceeding with the main statistical analyses. Screening is a necessary precaution because undetected missingness and invalid responses can bias parameter estimates and distort hypothesis tests (Newman, 2014). The study reported that the proportion of missing data was below 5%, which was considered sufficiently low to have minimal influence on the subsequent analysis; this judgement is consistent with best-practice guidance, which regards a proportion of missing data below 5% under ignorable missingness mechanisms (missing completely at random or missing at random) as modest, in which case standard handling of incomplete cases does not materially affect the results (Morrison et al., 2017). The final statistical analysis was conducted using 106 responses in SPSS Version 26 and SmartPLS Version 4. The demographic profile of this analytical sample was predominantly female: 72.8% of respondents were female and 27.2% were male. In terms of marital status, 60.5% were married, 32.5% were single and 7.0% were single parents. All descriptive, measurement and structural model results reported in the following sections are therefore based on this analytical sample of 106 respondents.

The composition of the sample carries several implications for interpreting the findings. First, the pronounced female majority is noteworthy in the study context, since housing affordability stress and household wellbeing are frequently experienced and reported through the perspective of the household member most closely involved in everyday housing and expenditure decisions. Second, the high proportion of married respondents, together with a small but distinct group of single parents, matters for the study's outcomes because these

household structures tend to face the kinds of competing expenditure demands captured by the housing needs construct, which was significantly related to household wellbeing in the structural model; households balancing housing commitments against food, transportation, healthcare and education are precisely those most exposed to affordability stress. Third, the sample size is defensible on both planning and statistical grounds: the analytical sample of 106 cases satisfies the minimum sample size determined a priori at a 90% confidence level and an 8% margin of error, and it aligns with established conventions for structural equation modelling, which classify samples of 100 to 200 as medium-sized (Memon et al., 2020), while power-based criteria require estimated power of at least 80% at $\alpha = .05$ (Wolf et al., 2013). The demographic profile therefore rests on a sample that meets the precision and power requirements established in the methodology.

Measurement Model Assessment

The measurement model was evaluated before assessing the hypothesised relationships between housing affordability stress dimensions and household wellbeing. Three principal criteria were considered: indicator reliability, internal consistency reliability, and convergent validity. The study adopted an outer-loading threshold of 0.70 as the preferred criterion, while recognising that loadings above 0.40 may be retained in exploratory research where theoretically justified. Composite reliability values above 0.70 were preferred, although values above 0.60 were considered acceptable for exploratory studies. Average Variance Extracted values of at least 0.50 were used to establish convergent validity (Fauzi, 2022; Ringle et al., 2018).

The indicator reliability assessment showed that the retained outer loadings ranged from 0.484 to 0.927. Although several indicators fell below the conventional 0.70 threshold, all retained indicators exceeded 0.40 and were therefore regarded as acceptable within the exploratory context of the study. Internal consistency reliability was also supported, with composite reliability values ranging between 0.694 and 0.960 across the constructs. These values exceeded the minimum exploratory threshold of 0.60, indicating an acceptable level of consistency among the measurement items (Fauzi, 2022).

Convergent validity was evaluated through AVE. The AVE values ranged from 0.553 to 0.742, exceeding the recommended minimum value of 0.50. This indicates that each construct explained more than half of the variance in its respective indicators and therefore demonstrated acceptable convergent validity (Ringle et al., 2018). Overall, the measurement model results supported the reliability and convergent validity of the constructs used for subsequent structural model evaluation.

Structural Model and Hypothesis Testing

The structural model examined the effects of environmental factors, housing quality, economic factors, transportation, and housing needs on household wellbeing among the M40 group in Shah Alam. Bootstrapping was employed to evaluate the statistical significance of the five hypothesised relationships, with the results of the structural model and hypothesis testing summarised in Table 1. Environmental factors demonstrated the strongest relationship with household wellbeing. The path coefficient was positive and substantial ($\beta = 0.636$, $t = 8.877$, $p < .05$), indicating that environmental conditions were significantly related to household wellbeing. Accordingly, H1 was supported.

Housing quality was also significantly associated with household wellbeing, although the direction of the relationship was negative. The results showed $\beta = -0.248$, $t = 2.466$, $p < .05$. Thus, H2 was supported. The negative coefficient indicates that the housing quality construct, as operationalised through adverse conditions such as poor repair, crowding, high cooling costs, and unsuitable housing conditions, was inversely related to wellbeing. Economic factors showed a negative but statistically insignificant relationship with household wellbeing ($\beta = -0.156$, $t = 1.128$, $p > .05$). Therefore, H3 was not supported. Although economic pressures were theoretically relevant to housing affordability stress, the findings did not provide sufficient statistical evidence that this construct independently explained household wellbeing within the study sample.

Table 1. Results of Structural Model and Hypothesis Testing

Hypothesis	Relationship	β	t value	Decision
H1	Environmental factors → Household wellbeing	0.636	8.877	Supported
H2	Housing quality → Household wellbeing	-0.248	2.466	Supported
H3	Economic factors → Household wellbeing	-0.156	1.128	Not supported
H4	Transportation → Household wellbeing	-0.016	0.157	Not supported
H5	Housing needs → Household wellbeing	0.282	1.794	Supported

Similarly, transportation demonstrated only a very weak negative relationship with household wellbeing ($\beta = -0.016$, $t = 0.157$, $p > .05$). The relationship was statistically insignificant; consequently, H4 was not supported. Housing needs showed a positive relationship with household wellbeing ($\beta = 0.282$, $t = 1.794$, $p < .05$). Based on the significance criterion applied in the original study, H5 was supported. The study therefore identified environmental factors, housing quality, and housing needs as statistically significant dimensions in the structural model, whereas economic factors and transportation were not significant.

Explanatory Power of the Model

The coefficient of determination for household wellbeing was $R^2 = 0.589$, indicating that environmental factors, housing quality, economic factors, transportation, and housing needs collectively explained 58.9% of the variance in household wellbeing among the M40 respondents in Shah Alam. In PLS-SEM, R^2 represents the variance explained in an endogenous construct and serves as an indicator of the model's explanatory power; a value of 0.589 may be interpreted as moderate explanatory power and approaches the substantial level commonly associated with values of 0.75 (Hair et al., 2021). Overall, the results provide empirical support for the multidimensional treatment of housing affordability stress, with three of the five proposed relationships supported in the structural model.

DISCUSSION

Environmental factors emerged as the strongest predictor of household wellbeing, with a positive and statistically significant relationship. This result reinforces the argument that the quality of the residential environment is closely associated with how households perceive their wellbeing. Research has linked neighbourhood cohesion, social support, safety, aesthetics, and other environmental characteristics to subjective wellbeing, mental health, and quality of life (Ma et al., 2018; Sadeghi et al., 2022; Williams et al., 2020). Stronger community ties may improve residents' sense of security, social participation, and access to support, whereas crime concerns and weak social cohesion may undermine residential wellbeing (Ma et al., 2018; Williams et al., 2020). The finding is also consistent with the broader safe-city concept, which emphasises collaboration among residents, government agencies, and private organisations in creating secure and supportive residential environments. However, the cross-sectional nature of the evidence means that these relationships should be interpreted as associations rather than definitive causal effects.

Housing quality was also significantly related to household wellbeing, although the path coefficient was negative. This negative direction is consistent with the way the construct was operationalised, as the items primarily reflected adverse housing conditions such as poor repair, high cooling costs, overcrowding, insufficient bedrooms, shared accommodation, and unsuitable housing. Therefore, higher scores on the construct reflect greater exposure to housing-quality problems, which corresponds with lower levels of household wellbeing. This interpretation is supported by evidence linking overcrowding, inadequate ventilation, safety hazards, housing insecurity, and poor physical conditions with psychological distress and adverse health outcomes (Li & Liu, 2018; Swope & Hernández, 2019). Housing-related financial and energy pressures may further intensify stress when households must spend additional income to cope with inadequate dwelling conditions (Hernández et al., 2016). Thus, the result indicates that improvements in housing affordability should be accompanied by minimum standards for dwelling quality, maintenance, safety, and liveability.

Housing needs were positively and significantly related to household wellbeing at the significance level adopted in the original study. The construct captures pressures associated with monthly housing payments exceeding 30% of income, high household expenditure, and rising living costs. This finding highlights the importance of considering the entire household budget rather than housing expenditure in isolation. Households must allocate income across food, transportation, utilities, healthcare, education, and other necessities, and excessive housing commitments may constrain their ability to meet these requirements. The result therefore supports the argument that affordability stress arises when housing costs compete directly with broader household needs and reduce financial flexibility. This multidimensional interpretation is consistent with Malaysian research that associates housing affordability with household wellbeing, economic security, and the ability to meet wider living requirements (Hassan et al., 2017; Ismail et al., 2020).

In contrast, economic factors were negatively but not significantly related to household wellbeing. This result does not imply that economic pressures are unimportant. Rather, the direct effect of the economic construct was not sufficiently strong within the structural model once the other housing-affordability-stress dimensions were considered simultaneously. Economic factors in the study included rising house prices, high instalments, financing difficulties, deposits, rental costs, and limited affordable-housing supply. These conditions may still influence wellbeing indirectly through housing choices, financial commitments, or the ability to satisfy household needs. Credit constraints and deposit requirements, for example, can restrict intended housing consumption and tenure choices, particularly among prospective homebuyers. Accordingly, the nonsignificant direct path should not be interpreted as evidence that economic pressures have no effect; it may instead indicate that their influence overlaps with or operates through other dimensions of affordability stress (Ismail et al., 2020).

Transportation similarly showed no significant direct relationship with household wellbeing. Although accessibility to employment, healthcare, public transportation, and community services remains an important aspect of residential choice, its independent contribution was weak in this sample. Nevertheless, housing affordability research has shown that housing costs cannot be assessed independently of transportation costs because lower-cost housing in peripheral or poorly connected locations may generate higher commuting and service-access expenses (Chan & Adabre, 2019; Mattingly & Morrissey, 2014). Households may therefore trade lower housing costs for longer commuting distances and higher transportation expenditure. The nonsignificant result in the present study may reflect the limited direct effect of transportation after environmental, housing-quality, economic, and housing-needs factors were included simultaneously, rather than the absence of transportation-related affordability pressures.

Overall, the results indicate that housing affordability stress among the M40 group in Shah Alam is best understood through the interaction of the residential environment, housing quality, and household expenditure needs. The findings extend affordability assessment beyond purely financial indicators and show that household wellbeing is also closely connected to the conditions in which households live and the extent to which housing commitments constrain their broader living requirements. This conclusion aligns with the view that affordable housing should provide adequate quality, reasonable access to employment and services, and costs that do not impose substantial hardship on occupants (Ismail et al., 2020).

CONCLUSION AND IMPLICATIONS

This study examined the relationship between housing affordability stress and household wellbeing among the middle income group in Shah Alam, Malaysia. By conceptualising housing affordability stress through five dimensions, namely environmental factors, housing quality, economic factors, transportation, and housing needs, the study extends the assessment of affordability beyond conventional house price and income measures. The structural model showed that environmental factors, housing quality, and housing needs were significantly related to household wellbeing, while economic factors and transportation did not demonstrate statistically significant direct effects. Collectively, the five constructs explained 58.9% of the variance in household wellbeing, indicating meaningful explanatory power within the study context. Environmental factors emerged as the strongest predictor, suggesting that the broader residential environment plays a central

role in shaping the living experience of M40 households. The significant effect of housing quality further indicates that adverse dwelling conditions can reduce wellbeing, particularly where households experience poor repair, overcrowding, high cooling costs, shared accommodation, or other unsuitable conditions, while housing needs highlighted the importance of household expenditure pressures and the ability to balance housing commitments with food, transportation, healthcare, education, utilities, and other essential needs. From a theoretical perspective, the study contributes to the housing affordability literature by demonstrating that housing affordability stress should be understood as a multidimensional phenomenon, assessed not only through financial indicators but also through neighbourhood conditions, housing quality, and broader household expenditure requirements. The study therefore expands the empirical understanding of the relationship between housing affordability stress and wellbeing in Shah Alam, a context that had received limited attention in earlier Malaysian studies (Ismail et al., 2020), and positions this contribution as an extension of knowledge on housing affordability stress indicators and household wellbeing measures.

The findings also carry important policy implications. Housing policy should not rely exclusively on house price thresholds or income eligibility when assessing affordability; policymakers and housing authorities should also consider the quality, safety, accessibility, and neighbourhood conditions associated with affordable housing provision. A dwelling may be financially accessible but still contribute to housing stress if it is poorly maintained, located in an unsafe environment, or requires households to sacrifice other essential expenditure. Consequently, affordable housing programmes should incorporate minimum standards for dwelling quality, community facilities, neighbourhood safety, and liveability alongside financial affordability criteria. For developers and urban planners, the findings highlight the importance of integrating affordability with housing quality and neighbourhood design: since environmental factors demonstrated the strongest relationship with household wellbeing, planning decisions concerning safety, community facilities, infrastructure, neighbourhood maintenance, and the residential environment should be treated as integral components of affordable housing development rather than secondary considerations, and a greater understanding of local household affordability can help align housing products with the purchasing capacity and living requirements of the target population.

Several limitations should nevertheless be acknowledged. The study was conducted only among M40 households in Shah Alam, which limits the generalisability of the findings to other geographical and socioeconomic contexts. The final analysis included 106 respondents, and future studies could employ larger samples across different cities and states to improve robustness and comparative value; future research may also incorporate qualitative interviews or mixed methods approaches to obtain deeper explanations of how households experience affordability stress and how different dimensions interact over time. Overall, the study demonstrates that improving housing affordability requires attention not only to financial accessibility but also to the quality, environment, and broader household conditions that collectively shape wellbeing.

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Ethical Approval

Ethical principles were observed throughout the study, with participation being voluntary and respondents' confidentiality and anonymity maintained.

Conflict of Interest

The authors declare that there are no conflicts of interest associated with this study.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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APPENDIX

Construct	Indicator	References
Environmental Factors	1. The quality of the house offered influences its price	(Baqutayan, 2015, 2016; Ismail et al., 2020)
	2. The basic facilities provided require high management charges	
	3. The housing package guarantees a good and conducive environment	
	4. I live somewhere I do not feel safe	
	5. I feel a sense of belonging to my community	
	6. Poor quality neighbourhood (frequent vandalism and deliberate damage to property)	
Housing Quality	1. I am living somewhere that is in poor repair	(Baqutayan, 2014, 2016)
	2. I am living somewhere that costs a lot to cool	
	3. My accommodation is crowded and does not have enough bedrooms	
	4. I live in shared accommodation	
	5. The house is not suitable for people with disabilities	
Economic Factors	1. I cannot afford the costs of moving	(Baqutayan, 2014, 2016; Ismail et al., 2020)
	2. I still live with my family because I cannot afford my own place	
	3. Monthly instalments for a suitable and desirable home are too high (low purchasing power)	

	4. House prices are rising 5. The supply of M40 housing is limited 6. The home financing loan process is difficult and stringent 7. Home loans require long repayment periods 8. Rents are high in "hot" areas (high demand driven by proximity to amenities, schools, transportation hubs and other desirable neighbourhood characteristics) 9. My household income is low 10. Loan payment amounts are high 11. Deposit payments and other fees are high 12. It is difficult to obtain a home loan 13. Lower-cost housing is not supplied in line with income levels	
Transportation	1. My home is far from doctors and healthcare facilities 2. I have reasonable access to work opportunities and community services 3. My home is distant from public transport	(Baqutayan, 2014; Baqutayan, 2016; Ismail et al., 2020; Mulliner et al., 2012, 2015)
Housing Needs	1. Monthly housing payments exceed 30% of income 2. Household expenditure is high 3. The cost of living is high	(Ismail et al., 2020)
Household Wellbeing	1. Neighbourhood liveability and community participation 2. Cash flow problems and financial deprivation 3. Self-assessed health (emotional, mental and general health)	(Baqutayan, 2015; Ismail et al., 2020)