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Unveiling the dynamics of residential satisfaction in Surat's low-cost housing communities

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Abstract: The concept of residential satisfaction is multifaceted and encompasses various aspects contributing to the overall well-being and contentment of individuals residing in low-cost housing. This study aims to investigate the factors influencing residential satisfaction among low-cost housing residents, including dwelling characteristics, support services, accessibility to facilities, and the social environment. The research emphasises the importance of housing features such as adequate living space, structural quality, and amenities, along with integrated support services tailored to the diverse needs of residents. These housing qualities are highlighted as significant findings in the research. Additionally, the study underscores the value of access to essential facilities like public transportation, retail outlets, and educational institutions, as well as the role of the social environment in fostering community engagement, social support, and safety. The findings contribute to a deeper understanding of the factors shaping residential happiness in low-cost housing communities, providing valuable insights for policymakers and housing providers in developing sustainable and inclusive housing solutions.

Keywords: residential satisfaction; housing characteristics; support services; accessibility; social environment; public low-cost housing; Indian housing schemes; PMAY; socio-cultural characteristics; community engagement.

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1 Introduction

The demand for affordable housing options for poor individuals and families is increasing in tandem with the global population (Taiwo et al., 2018). Low-cost housing, designed to address this pressing need, plays a pivotal role in providing shelter and stability for those with limited financial resources. However, the mere availability of affordable housing does not automatically ensure the happiness and contentment of its residents (Culhane and Metraux, 2008). An essential focus for research and intervention lies in understanding how housing attributes, support services, facility accessibility, and the social environment collectively influence the residential well-being of low-cost housing inhabitants (Kyle and Dunn, 2008; Ogunbayo et al., 2018). Residential satisfaction is a multifaceted concept encompassing a variety of elements that impact individuals' happiness and overall well-being within the context of affordable housing. Beyond fulfilling the basic need for shelter, the living conditions and quality of life profoundly shape individuals' contentment with both their homes and their neighbourhoods (Mohit, 2013). To construct thriving, sustainable communities that enhance the lives of their residents, it is imperative to acknowledge and address the diverse components contributing to residential satisfaction (El Din et al., 2013).

This study delves into the intricate effects of housing qualities, support services, facility accessibility, and the social environment on the residential happiness of low-cost housing residents. Each of these factors uniquely impacts the daily experiences and overall satisfaction of individuals and families residing in affordable housing. The physical attributes and quality of residential units provided in affordable housing are termed housing characteristics. Various important criteria, including adequate living space, structural integrity, amenities, privacy, and security, significantly influence residents' satisfaction with their homes. The design and maintenance of housing environments conducive to well-being require an understanding of how these factors affect tenants' feelings of security, pride, and comfort (Stone, 2006; Mohit et al., 2010). Likewise, support services are vital for meeting the diverse needs of individuals in affordable housing. By providing access to community centres, daycares, educational facilities, healthcare services, counselling, and social work, support services can enhance residents' quality of life and overall contentment. These services foster community

well-being by establishing a sense of belonging, offering opportunities for personal growth, and addressing potential issues (Sam et al., 2012; Abidin et al., 2019).

Another essential facet of residential satisfaction is access to amenities within and beyond the housing complex. Residents' ease of access to public transportation networks, retail and food establishments, recreational areas, and educational institutions improves mobility, social interaction, and overall convenience. Ensuring the availability of these amenities in low-cost housing communities provides residents with avenues for personal development, recreation, and community engagement (Temelová and Dvořáková, 2012). The social environment within low-cost housing communities significantly influences residents' happiness and well-being. The presence of cultural and recreational events, social support networks, safety, and community engagement all contribute to fostering a sense of cohesion and belonging. A supportive social atmosphere encourages neighbourly relationships, cultivates a shared responsibility for the community, and enhances residents' satisfaction with their immediate surroundings (Huang and Du, 2015).

Hence, understanding the impact of housing qualities, support services, facility accessibility, and the social environment on residential happiness is essential in designing and implementing effective low-cost housing solutions (Lee and Kim, 2020). Policymakers, urban planners, and housing providers can create environments that promote the well-being and happiness of low-income residents by considering these factors (Douglas et al., 2017). By investing in the enhancement of these components, affordable housing can evolve from mere shelter into a vibrant community, improving the lives of its inhabitants and fostering their long-term success and contentment (Tach, 2009). As such, this study aims to examine varying levels of satisfaction among residents with different aspects of housing, while considering their socio-cultural characteristics. Additionally, it seeks to investigate the influence of housing characteristics, support services, facility accessibility, and community environment on residential satisfaction.

2 Review of literature

The phrase 'residential satisfaction' was first used in reference to research on urban slum dwellers, which revealed that residents' sense of identity and social connections were important factors in determining their level of satisfaction (Fried and Gleicher, 1961). According to a theory of residential satisfaction that has been created and applied to the definition of a route model, multiple aspects of satisfaction are influenced by the compositional traits of households as well as the context of the home and neighbourhood where they reside (Galster and Hesser, 1981). There is little doubt that housing has a diverse range of characteristics in modern industrial countries. It is seen as a financial asset, a commodity, a component of the federal tax code, a design challenge, a building or group of buildings, a set of buildings, a communal asset, and so forth. But ultimately, someone sees all dwellings as a place to call home. It serves as the physical centre of the social-physical environment that provides a 'place' for home (Weidemann and Anderson, 1985). Furthermore, a household's level of satisfaction with its living arrangements is heavily based on its wants, goals, and perception of the current state of its housing policy (Barcus, 2004; Jiang et al., 2017). Residential satisfaction is gradual and is influenced by many different factors that could influence perceived quality, few of which are significantly greater than others. Fear of crime and adequate heating were slightly more significant factors than other dwelling indicators and other neighbourhood characteristics,

respectively (Lawton, 1980). Housing circumstances are a reliable indicator of senior residents' psychological health in metropolitan settings. The physical and psychological health of the home, as well as the residents' pleasure with the structure, their neighbourhood, and their own home, are all related (Fernández-Portero et al., 2017). The physical aspects of homes must be taken into consideration while measuring residential satisfaction. According to numerous studies (Ballantyne and Packer, 2013; Gifford et al., 2002), residents are happier when their living quarters are adequate, their floor plans are practical, and their interiors are well decorated. To increase resident happiness, responsible organisations must oversee the homes that private developers give. To ensure that adequate service delivery can be offered, the government must examine the mass housing construction strategy through the development control agency (Waziri et al., 2013). The government's ability to offer appropriate, affordable housing for all residents in accordance with their actual housing requirements and preferences depends on whether they can achieve that aim. Housing projects and policies may not be successful just because they supply homes (Mohit and Azim, 2012). The provision of essential social amenities and physical facilities in public housing projects has the potential to enhance the satisfaction levels and overall quality of life for low- and middle-income households (Ibem and Aduwo, 2013). Urban planners, designers, and architects all consider similar factors when evaluating residential satisfaction, including neighbourhood characteristics, social demographics, and housing and estate management. However, architects tend to prioritise specific aspects such as dwelling unit features, support services, housing conditions, structural elements, and environmental factors. On the other hand, urban planners place greater emphasis on environmental characteristics and neighbour relationships. Additionally, there are certain subcategories, such as police protection and security control, proximity to recreational amenities, and user characteristics, that are highlighted by urban planners, architects, and environmental psychologists (Sam et al., 2012). The social environment surrounding homes is another influential factor that can impact residents' happiness. Studies consistently show that high levels of satisfaction are associated with positive neighbour connections and a sense of community (Zhang and Zhang, 2017; Teck-Hong, 2012). These findings have been replicated time and time again. Factors such as social coherence, trust, and a supportive social network all play a role in residential satisfaction (Fonseca et al., 2019; Jennings and Bamkole, 2019). Also, the convenience of neighbouring services has a direct bearing on the level of contentment experienced by residents. It is necessary for inhabitants to have easy access to key services like grocery stores, banks, post offices, and recreation facilities for them to be able to meet their day-to-day needs and enjoy the amenities of modern life. The availability of amenities such as these was found to relate to a better degree of overall satisfaction with residential life (Ratcliffe et al., 2020). The characteristics of one's home, like the number of bedrooms, the size of the kitchen, and the general quality of the home, all have a significant role in deciding the degree to which a person is happy with their life. And the attributes of the surrounding region, such as traffic, schools, neighbours, and criminal activity, all have a significant impact on the degree to which a person enjoys being in their own home. However, the impact of various elements on residential satisfaction may vary based on the type of home, the length of time a person has lived in the house, the culture of the country in which one resides, and so on (Zeng et al., 2021). Future housing developments ought to consider the user views and emphasise the design components such as living areas, bedrooms, the overall appearance of the residences, and the construction materials (Maina et al., 2021). This is because the requirements and

concerns associated with a home environment have a propensity to shift from one particular era to the next (Osman et al., 2021). The factors that play a key part in determining the level of residential satisfaction are things like the design and planning of the area, the social milieu, the socioeconomic features of the people who live there, the services and amenities, and the physical environment (Pathak and Bajracharya, 2022). The elements such as the residential environment, local historical housing repair constraints, and a feeling of place may all play a substantial role in positively influencing a person's level of satisfaction with their current residence (Davoodi et al., 2023). In addition, the application of sustainable design strategies, such as passive design, the utilisation of recycled and local materials, and socio-technical innovations, are effective means of boosting the sustainability and affordability of housing (Moghayedi et al., 2023). The faster housing that is more affordably priced can be produced, the more likely it is that industry will embrace newly developed technologies. However, it comes at the expense of training industry personnel and compelling them to forego past design and building methodologies (Mahachi et al., 2023).

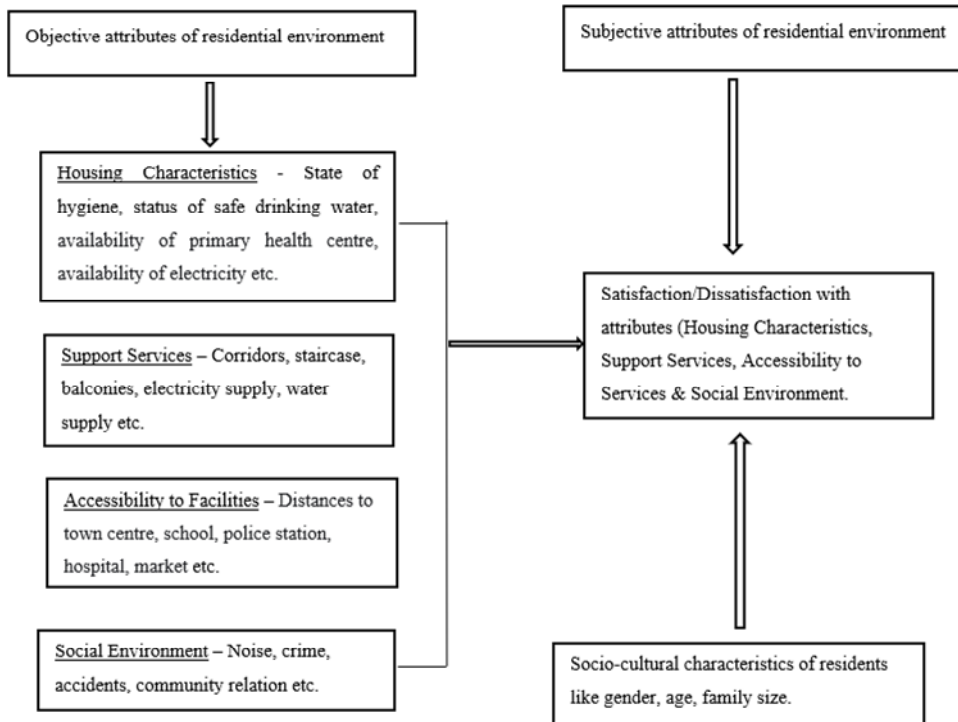
The review concentrated mostly on metropolitan settings in Western countries, but there have not been many research conducted in Indian settings. It is necessary to do research on a variety of factors in distinct cultural, social, and geographical contexts in order to provide an explanation for the ways in which varying circumstances influence residential satisfaction. There is a scarcity of empirical research that has particularly evaluated the consumer satisfaction and effect assessment of the low-cost housing projects in Surat City, Gujarat. These studies should take into account the influence of dwelling unit features, social support, environment, and accessibility to services. However, there is a paucity of these types of studies. In spite of the importance of low-cost housing and the fact that it has been put into practice in the city of Surat, there is a significant research void in this field. The lack of research that has been carried out in Surat City provides a one-of-a-kind chance to address this void by investigating the experiences and perspectives of those who are beneficiaries of low-cost housing. Through the examination of consumer satisfaction levels and impact assessment through the lens of dwelling unit features, social support systems, environment, and accessibility to services, it is possible to achieve a more comprehensive understanding of the strengths, weaknesses, and areas in which the low-cost housing scheme in Surat City could stand to improve. As a result, in order to close the knowledge gap, this study has been initiated. The findings of this study will contribute to the formulation of policies and interventions that are intended to improve the well-being and happiness of residents who live in residential situations.

3 Conceptual model

The proposed conceptual model in this paper suggests that residential satisfaction encompasses various aspects of housing, forming a comprehensive concept. It includes individuals' perceptions of satisfaction regarding housing characteristics, assistance programs, shared amenities, community dynamics, and the availability of amenities. According to Amérigo and Aragonés (1997), objective attributes of the residential environment, once evaluated by individuals, become subjective and contribute to their level of satisfaction. This subjective evaluation is influenced by socio-demographic and personal characteristics, as well as the individual's own ideal perception of a residential

environment compared to their current living situation. The model, depicted in Figure 1, illustrates that respondents' assessment of objective housing attributes, combined with their socio-economic characteristics, contribute to subjective attributes. These subjective attributes can be categorised into five components of housing satisfaction, which collectively serve as the foundation for residential satisfaction among the beneficiaries.

Figure 1 Relationship between objective and subjective attributes of residential environment



Source: Mohit et al. (2010)

4 Methodology

Different types, sizes, and designs of housing exist, but regardless of its form, it is important to evaluate its quality to meet the expectations and cultural norms of the residents. This study primarily focuses on examining the varying levels of satisfaction among residents regarding different aspects of housing, considering their socio-cultural characteristics and examining the influence of housing characteristics, support services, access to facilities, and community environment on residential satisfaction. Specifically, it assesses the residential satisfaction of individuals residing in newly designed public low-cost housing in Surat, Gujarat. The study encompasses 53 variables that are categorised into objective measurements, including housing characteristics, support services, social environmental, access to facilities, and community environment, as well as subjective measurements, such as residential satisfaction of the beneficiaries (Varady and Carrozza, 2000; Francescato et al., 1987; Oh, 2000).

4.1 Public low-cost housing in Surat, Gujarat and field of study

Surat, a city located in the state of Gujarat, India, faces challenges related to slums and housing. Slums in Surat are characterised by densely populated areas with inadequate infrastructure and basic amenities. Surat Municipal Corporation (SMC) has identified 100,038 slums in Surat City, with a population of 467,434. Some governmental housing schemes have been followed in Surat City to address the issue of slums. In recent years, SMC has made significant progress in addressing the issue of slums in Surat City. The number of slums has been reduced by 71.30%, and the population of slums has been reduced by 65.80%. SMC has constructed 94,888 housing units for slum dwellers under various housing schemes. These schemes aim to provide affordable housing and improve the overall infrastructure of slum areas. SMC has provided basic infrastructure such as water supply, drainage, roads, and streetlights in slums. SMC is committed to making Surat City slum-free by 2025. The city has already made significant progress in this regard, and it is expected to achieve its goal soon.

4.2 Formulation of hypothesis

The following hypotheses have been formulated based on the review of literature:

- H₀ Gender and residential satisfaction has no statistically difference.
- H₀₁ Income level and residential satisfaction has no substantial difference.
- H₀₂ Family size and residential satisfaction has no substantial difference.
- H₁ There is no substantial influence of housing characteristics on residential satisfaction.
- H₂ There is no substantial impact of support service on residential satisfaction.
- H₃ There is no substantial relationship of social environment on residential satisfaction.
- H₄ There is no substantial impact of accessibility to facilities on residential satisfaction.

4.3 Data collection and assessment

The target population for participant selection was individuals benefiting from government housing in India, and all eligible participants were given an equal opportunity to participate in the study. To collect data, the questionnaire was distributed online through Google Forms, resulting in a total of 501 responses using purposive sampling technique. The author employed t-test and analysis of variance (ANOVA) to determine the difference between the satisfaction level among residents and their socio-cultural characteristics. Furthermore, the author applied multivariate correlation and regression analysis using IBM SPSS tool to examine the relationship between housing characteristics, support services, access to facilities, community environment, and residential satisfaction of beneficiaries. This comprehensive analytical approach allows for a deeper understanding of the factors influencing residential satisfaction in the context of public low-cost housing in Surat, Gujarat.

5 Analysis and discussion

5.1 Socio-cultural characteristics

Table 1 presents the socio-cultural characteristics of the respondents in the study. The data reveals information about the gender distribution, income levels, and family sizes of the participants. Out of the total respondents, 298 were male, while 203 were female. Regarding income, 75 individuals reported having an income less than 10,000, 135 respondents fell into the income range of 10,000–20,000, 232 participants had an income between 21,000 and 30,000, and 59 respondents reported an income higher than 30,000. In terms of family size, most respondents, comprising 458 individuals, belonged to families with 2–5 members. A smaller proportion of the participants, specifically 28 individuals, had family sizes ranging from 6 to 9 members. Furthermore, there were 15 respondents who indicated having family sizes exceeding nine members. These socio-cultural characteristics provide valuable insights into the composition of the respondent population.

Table 1 Respondents socio-cultural characteristics

<i>Variables</i>	<i>Category</i>	<i>Frequency</i>
Gender	Male	298
	Female	203
Income	Less than 10,000	75
	10,000–20,000	135
	21,000–30,000	232
	More than 30,000	59
Family size	2–5	458
	6–9	28
	More than 9	15

5.2 Difference between the satisfaction level among residents and their socio-cultural characteristics

Table 2 presents the findings of a two-sample t-test conducted to examine the disparity in residential satisfaction based on gender. The test for equality of variances, also known as the Levene's test, assesses whether the variances of residential satisfaction scores are equal between male and female respondents. In this Table 2, F-value is 26.52, yielding a p-value of 0.00. Since the p-value is below 0.05, it indicates a violation of the assumption. The t statistics is -3.64 , accompanied by a p-value of 0.00. Given that the p-value is lower than the significance level of 0.05, it signifies a statistically significant difference in the mean scores of residential satisfactions between male and female respondents. Consequently, the initially formulated null hypothesis H_0 is rejected based on these results.

Table 2 Two sample t-test (gender)

<i>Residential satisfaction</i>	<i>Levene's test for equality of variances</i>		<i>t-test for equality of means</i>	
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>Sig. (two-tailed)</i>
Equal variance not assumed	26.52	0.00	-3.64	0.00

Table 3 presents the findings of the variance analysis (ANOVA) conducted to explore the variations in residential satisfaction based on income and family size. The table includes details regarding the test for equality of variances, mean squares, F-statistics, and corresponding p-values. The Levene statistic for income level is 1.22, yielding a p-value of 0.25. Similarly, the Levene statistic for family size is 3.67, accompanied by a p-value of 0.15. Since the p-values exceed the significance level of 0.05, there is no evidence to support the presence of unequal variances among income groups.

Regarding the variable 'income', the ANOVA results indicate a statistically significant disparity in the mean squares of residential satisfaction among various income groups. The computed F-statistic is 10.21, associated with a p-value of 0.00. Given that the p-value is less than the significance level of 0.05, it suggests a significant impact of income on residential satisfaction. Conversely, for 'family size', the ANOVA findings reveal no statistically significant difference across different family size groups. The calculated F-statistic is 0.31, accompanied by a p-value of 0.72. As the p-value is greater to 0.05, it indicates that family size does not exert a significant influence on residential satisfaction. Consequently, the null hypothesis H_{01} is rejected, while H_{02} is accepted.

Table 3 Analysis of variance

<i>Variables</i>	<i>Levene's test for equality of variances</i>		<i>ANOVA</i>		
	<i>Levene statistic</i>	<i>Sig.</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
Income	1.22	0.25	528.28	10.21	0.00
Family size	3.67	0.15	17.97	0.31	0.72

5.3 Association among residential satisfaction and residential environment variables

Table 4 presents the Pearson correlation coefficients among different variables, including residential satisfaction, housing characteristics, social support, social environment, and accessibility to facilities. The correlation coefficient between residential satisfaction and housing characteristics is 0.785**, indicating a strong positive relationship. Similarly, there are strong positive correlations between residential satisfaction and support service (0.784**), social environment (0.770**), and accessibility to facilities (0.737**). Furthermore, there are strong positive correlations among the other variables as well. Housing characteristics and support service have a correlation coefficient of 0.920**, indicating a very strong positive relationship. Housing characteristics also have strong positive correlations with social environment (0.852**) and accessibility to facilities (0.792**). Support service is strongly correlated with social environment (0.883**) and accessibility to facilities (0.826**). The social environment and accessibility to facilities also exhibit a strong positive correlation of 0.883**.

Table 4 Pearson correlation

	<i>Residential satisfaction</i>	<i>Housing characteristics</i>	<i>Support service</i>	<i>Social environment</i>	<i>Accessibility to facilities</i>
Residential satisfaction	1	0.785**	0.784**	0.770**	0.737**
Housing characteristics	0.785**	1	0.920**	0.852**	0.792**
Support service	0.784**	0.920**	1	0.883**	0.826**
Social environment	0.770**	0.852**	0.883**	1	0.883**
Accessibility to facilities	0.737**	0.792**	0.826**	0.883**	1

5.4 Impact of residential satisfaction with residential environment variables

Table 5 presents the findings of a multiple regression that explores the relationship between residential satisfaction and the variables related to the residential environment, which encompass housing characteristics, social support, social environment, and accessibility to facilities. The regression model reveals that the variables examined collectively account for 66.4% of the variation in residential satisfaction, as indicated by an R^2 value of 0.664. The model is statistically significant at the 0.05 level, as the corresponding p-value (0.011) is below 0.05. The combination of independent variables proves to be a substantial predictor of residential satisfaction in public low-cost housing, as evidenced by a statistically significant F-value of 245.52 ($p < 0.001$). All four variables considered in the analysis contribute significantly to the prediction of residential satisfaction.

In regression analysis, housing characteristics have a beta value of 0.337, social support has a beta value of 0.183, environment has a beta value of 0.182, and accessibility to facilities has a beta value of 0.158. All the variables have positive coefficients, suggesting that higher levels of housing characteristics, social support, social environment, and accessibility to facilities are associated with increased residential satisfaction. The t-values and associated p-values assess the statistical significance of each coefficient. All the independent variables (housing characteristics, social support, social environment, and accessibility to facilities) have t-values greater than 1.96, indicating that they are statistically important predictors. The p-values for all the variables are below 0.05, indicating that the relationships observed are positively statistically significant (Gravetter and Wallnau, 2019). Hence, the null hypotheses H_1 , H_2 , H_3 , and H_4 are rejected.

The findings from the present study provide valuable insights into the factors that influence residential satisfaction in the context of public low-cost housing. The results of the t-test revealed a significant difference in residential satisfaction based on gender. This suggests that male and female respondents have differing levels of satisfaction with their housing, indicating the importance of considering gender-specific needs and preferences when designing and managing low-cost housing projects. Furthermore, the results of the ANOVA analysis indicated that income significantly affects residential satisfaction, while family size does not have a significant effect. This highlights the impact of economic factors on individuals' housing satisfaction. The findings suggest that individuals with different income levels may experience varying degrees of satisfaction

with their housing conditions, emphasising the need for targeted interventions and support for low-income households.

Table 5 Multiple regression

	<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>	<i>t</i>	<i>Sig.</i>
	<i>B</i>	<i>SE</i>	<i>Beta</i>		
(Constant)	1.544	0.604		2.559	0.011
Housing characteristics	0.158	0.032	0.337	4.969	0.000
Support service	0.117	0.049	0.183	2.393	0.017
Social environment	0.086	0.033	0.182	2.626	0.009
Accessibility to facilities	0.104	0.037	0.158	2.789	0.005
R = 0.815	R ² = 0.664	Adjusted R ² = 0.662	Std. error of estimate = 4.298	Significance = 0.00	R = 0.815

The strong positive correlations observed in Table 4 between residential satisfaction and housing characteristics, social support, social environment, and accessibility to facilities underscore the importance of these factors in shaping residents’ overall satisfaction with their living conditions. These findings indicate that ensuring the provision of adequate housing characteristics, fostering social support networks, maintaining a favourable environment, and improving accessibility to facilities are key considerations for promoting residential satisfaction in low-cost housing initiatives. The regression analysis presented in Table 5 further supports the significance of these factors in predicting residential satisfaction. The predictor variables collectively accounted for a substantial portion of the variance in residential satisfaction. Specifically, housing characteristics, social support, social environment, and accessibility to facilities all made significant and positive contributions to predicting residential satisfaction.

Overall, these findings emphasise the multifaceted nature of residential satisfaction in the context of public low-cost housing. The results highlight the importance of addressing gender-specific needs, considering the influence of income levels, and prioritising factors such as housing characteristics, social support, social environment, and accessibility to facilities. By understanding and incorporating these factors into housing policies and interventions, stakeholders can work towards enhancing the overall residential satisfaction and well-being of low-income individuals and families in the public low-cost housing sector. Further research and interventions in this area are warranted to continue improving the quality of life for residents in low-cost housing communities.

6 Limitations and future research

While the study on the effects of housing characteristics, support services, facility accessibility, and the social environment on residential satisfaction of low-cost housing residents offers insightful information, it is important to recognise some limitations that may compromise the validity and generalisability of the results. The study’s primary flaw, which stems from its cross-sectional design that collects data at a single point in time, is its cross-sectional character. The capacity to establish causal links between the

researched variables and home satisfaction may be hampered by this methodology. Studies that follow changes over time would give more convincing proof of the connections between the variables and residents' satisfaction. Additionally, the study relied on self-reported data gathered through questionnaire-based surveys. Self-reporting may be impacted by participants' subjective interpretations, memory problems, or social desirability bias. As a result, the findings could not accurately reflect the living conditions as they are in reality or how they actually affect residents' contentment. Furthermore, different individuals from a range of socioeconomic, cultural, and demographic backgrounds frequently live in low-cost housing areas. The sample used for the study could not be entirely typical of all people living in low-income housing, which could cause sample bias. The findings' applicability to other low-cost housing areas may be constrained as a result. Additionally, the investigation was carried out in actual environments without complete control over unrelated variables. The relationship between the variables under research may be impacted by confounding factors that could be introduced by this lack of control. As a result, it is more difficult to prove causality. The subjective concept of residential pleasure is determined by each person's perceptions, preferences, and expectations. It is challenging to identify a universal set of variables that apply to all inhabitants of low-cost housing because different people have different factors influencing their degrees of happiness. Additionally, the study has not completely taken into consideration outside variables that can affect residential satisfaction over time, such as adjustments to regional policies, changes in economic situations, or community dynamics. The outcomes and interpretations of the study could be tainted by these outside variables. Additionally, rather than taking a long-term perspective, the study has prioritised short-term residential satisfaction. Residents of low-cost housing may become more or less satisfied over time as they adjust to their surroundings and living situations, and long-term consequences may be different from short-term results. A complex and multifaceted entity, residential satisfaction is influenced by many linked elements. Although the survey looked at a number of different aspects, it did not cover all the factors that can affect residents' overall contentment. Despite this, operationalising and quantifying housing qualities, support services, accessibility, and social context might be difficult. Researchers must consider these constructs' multidimensionality in order to analyse and operationalise them in a meaningful and trustworthy way. Finally, while there are many factors that can affect resident satisfaction, this study has been centred on particular variables of the constructs used in the study.

For correct data interpretation, useful policy implications, and recommendations to improve residential happiness in low-cost housing communities, it is imperative to acknowledge and solve these constraints. The future scope of the study can include specific areas in order to expand upon the body of existing research and fill in any gaps that may present. The design of a longitudinal study may be used in future investigations. Researchers could track changes in residential satisfaction and the contributing factors over time by conducting a longitudinal study over a lengthy period of time. A fuller understanding of the long-term effects of housing qualities, support services, facility accessibility, and the social environment on residents' contentment and well-being can be gained from longitudinal data. In addition, comparative analysis can be used in future research. Expand the study to include a comparison of low-cost housing communities in other cities or regions, each with a varied level of infrastructure and resources. Comparing various settings can highlight contextual variations and pinpoint elements

unique to a certain place that influence residential satisfaction. In-depth qualitative research can also be expanded upon by using qualitative research methods like focus groups and interviews to supplement quantitative data. A more detailed understanding of residents' experiences, perceptions, and the cultural context of residential happiness can be gained through qualitative insights. To determine the effect of targeted improvements in housing qualities, assistance services, facility accessibility, or social environment on residents' satisfaction, design and implement intervention studies. In order to employ evidence-based tactics, policymakers and housing providers might be guided by evaluating the efficacy of particular interventions. Additionally, it is possible to investigate how technology can improve residential contentment. Look into the possible advantages of incorporating digital platforms, mobile applications, or smart technology to help residents of affordable housing communicate more easily, receive support services, and engage in their communities. By examining how eco-friendly housing designs, renewable energy options, and green spaces affect inhabitants' wellbeing and general contentment, further research can be conducted to investigate the effect of sustainable development practises on residential satisfaction. Additionally, the scope of future research might be broadened to examine how residents' physical and mental health is affected by housing characteristics and supportive services. Examine how housing design, access to healthcare, and social support networks contribute to fostering general well-being. Future study can also examine the relationship between the social environment, community cohesion, and crime prevention practises in low-cost housing areas. Understanding how these elements interact can provide important insights into promoting vibrant, safe communities. It is important to establish the policy suggestions based on the study's findings to enhance the planning, execution, and assessment of low-cost housing programs. Work together with housing providers, legislators, and urban planners to incorporate research findings into inclusive and sustainable housing policies. It is possible to examine more thoroughly and effectively the long-term effects of enhancing housing qualities, support services, facility accessibility, and the social environment on residents' overall quality of life, economic mobility, and social integration.

The study can make a substantial contribution to the area of affordable housing and inspire evidence-based practises that improve the residential happiness and well-being of low-cost housing residents by examining these potential future foci. In the end, our research can help vulnerable communities around the world find housing options that are more equal and sustainable.

7 Implications

For the purpose of creating inclusive and effective affordable housing policies, it is essential to consider the policy implications of the study on the relationship between housing characteristics, support services, facility accessibility, and the social environment and residents' residential satisfaction in low-cost housing. These implications seek to enhance the living circumstances, general satisfaction, and well-being of low-income residents. I would advise the following policy ramifications as an expert:

- Improving housing quality: Policy measures should prioritise raising the standard of affordable housing by emphasising structural soundness, sufficient living space, and

necessary facilities. To guarantee that residents live in a place that is secure, cosy, and respectable, regular maintenance and improvements should be promoted.

- **Integrated support services:** It is crucial to provide integrated support services within communities of affordable housing. Setting up community centres that provide childcare services, educational opportunities, healthcare services, counselling, and mental health support is one way to do this. These services foster the wellbeing and personal development of residents.
- **Accessibility and connectivity:** In and around low-cost housing developments, policy measures should ensure simple accessibility to public transportation, retail establishments, recreational spaces, and educational institutions. Better connectivity encourages residents' social interaction, mobility, and economic prospects.
- **Community engagement:** Encourage local involvement in decision-making processes, plan community events, and promote social cohesiveness to increase community engagement. Participating in community events gives residents a sense of ownership, empowerment, and belonging.
- **Safety and crime prevention:** Make investments in safety measures and crime prevention techniques such security patrols, well-lit public spaces, and neighbourhood watch initiatives. Residents' overall contentment increases when their fear and anxiety are reduced in their living space.
- **Tailored interventions:** Create focused interventions based on the needs and preferences of the community. Recognise that there are many factors that affect residential satisfaction, and that policies should be adaptable and flexible to meet different needs.
- **Sustainability and green initiatives:** To improve the quality of life for inhabitants, incorporate sustainable and eco-friendly practises into the designs of affordable housing. Promoting environmental awareness and lowering living expenses can be accomplished by putting into place waste management initiatives, green spaces, and energy-efficient solutions.
- **Technology integration:** Use technology to make it easier to communicate, receive support services, and disseminate information. Create online communities or mobile apps to connect customers with service providers and promote social interaction.
- **Long-term monitoring and evaluation:** Create a framework for the ongoing assessment of the effects of policies. Continually evaluate how adopted policies are affecting resident satisfaction and make required revisions.
- **Partnerships and collaboration:** Encourage cooperation between public sector organisations, nonprofits, private developers, and community stakeholders. Public-private collaborations can pool resources and knowledge to develop comprehensive, long-lasting, and resident-focused housing solutions.
- **Affordability and rent control:** Put in place rent control rules and procedures to guarantee that low-income residents' housing costs are affordable and stable. To keep housing affordable and lower the risk of eviction, the problem of growing rent prices must be addressed.

- Policies for inclusive zoning and land use: Promote inclusive planning and land use regulations that support mixed-income neighbourhoods, avoiding the concentration of affordable housing in one location. Communities that are inclusive encourage social integration and chances for career advancement.

Policymakers and housing providers may create resilient and hospitable low-cost housing communities that put inhabitants' wellbeing and pleasure in their homes first by putting these policy implications into practise. These regulations help to create more just communities and environments where everyone can prosper and lead lives of greater quality.

8 Conclusions

The study on the effects of home characteristics, support services, facility accessibility, and the social environment on the residential satisfaction of residents of low-cost housing has unveiled the complexity of this pivotal issue. Through this research, our understanding of the intricacies and interdependencies that impact the well-being and contentment of low-income individuals living in affordable housing has been significantly enriched. This comprehensive exploration has shed light on a multitude of factors.

The findings of this study underscore the profound significance of home-related factors in determining individuals' overall satisfaction. Factors such as adequate living space, structural integrity, and accessibility to necessities underpin a sense of safety, comfort, and dignity. Furthermore, the availability of integrated support services, including community centres, childcare facilities, healthcare services, and counselling, proves vital in nurturing personal development, fostering community cohesion, and fulfilling various resident needs. The mobility, social engagement, and convenience of low-cost housing community residents are notably shaped by their access to facilities both within and beyond the community. Residents feel more connected and empowered when they enjoy convenient access to retail establishments, dining options, recreational spaces, and educational institutions. The study also highlights the pivotal role of the social context in shaping residential satisfaction. Engagement within the community, social networks, safety measures, and cultural and recreational activities collectively contribute to a welcoming and cohesive community environment that enhances members' sense of belonging and overall well-being.

However, it is important to acknowledge the study's limitations, including its cross-sectional design, potential self-report bias, and sample representativeness. These limitations may constrain the study's capacity to generalise findings and establish causality. Policymakers, urban planners, and housing providers can draw valuable insights from the study's policy implications as they develop and implement inclusive and effective affordable housing programs. By prioritising housing quality, integrated support services, accessibility, safety, sustainability, and community engagement, the groundwork can be laid for thriving and resilient low-cost housing communities that prioritise the aspirations and needs of their residents. Maintaining a forward-looking perspective, targeted interventions designed to cater to community needs can be executed. The viability of low-cost housing to address housing needs can be sustained through ongoing monitoring and evaluation of policy outcomes, facilitating the

identification of areas for enhancement. Through collaborative and inclusive approaches, stakeholders can ultimately collaborate to establish affordable housing conditions that empower and uplift low-income inhabitants. By acknowledging the multifaceted dimensions of residential satisfaction and addressing them holistically, more equitable, vibrant, and socially cohesive communities can be fostered, allowing all residents to experience an elevated quality of life and a genuine sense of belonging.

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