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Research Article

Exploring the Factors that Influence Students' Decision in Choosing their Accommodation: A Case in the University of Science and Technology of Southern Philippines - CDO

Archemedes G. Wabe 1*, Gerrich Aldin C. Babanto 2

1* Department of Architecture, College of Engineering and Architecture, University of Science and Technology of Southern Philippines; archemedes.wabe@ustp.edu.ph

2 Department of Economics, College of Economics, Business, and Accountancy, Mindanao State University-Iligan Institute of Technology; gerrich.babanto@g.msuiit.edu.ph

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ABSTRACT

This study investigated the socioeconomic profiles, accommodation satisfaction, available safety and security features, attribute importance,and determinants of housing choice among students at the University ofScience and Technology of Southern Philippines – Cagayan de Oro (USTP-CDO). Data were collected through online survey questionnaires administered to 461 students residing in boarding houses or dormitories. Descriptive statistics and binary logistic regression were employed to analyze influencing factors of accommodation choice. Results revealed that 55% of participants reported monthly household incomes ≤₱15,000–within the margins of the ₱13,873 poverty threshold established by the Philippine Statistics Authority in 2023. The study documented substantial safety deficiencies in off-campus accommodations: 62- 72% lacked critical fire safety infrastructure (smoke detectors, evacuation plans, fire suppression systems). Additionally, 71% of evaluated criteria received neutral satisfaction ratings, particularly indoor climate and learning conduciveness. Students endorsed utilities, safety, and hygiene as most important attributes. Binary logistic regression identified transportation costs, current accommodation satisfaction, and safety feature availability as significant predictors of accommodation choice. These findings underscore urgent needs for minimum standards and regulatory oversight to ensure safety, livability and learning conduciveness of student accommodations. The study provides empirical support for university investment in on-campus housing to reduce commuting burdens, ensure safety standards, and support low-income students.

Keywords: Student Accommodation; Safety Features; Satisfaction; Accommodation Preferences; Binary Logistic Regression

INTRODUCTION

Student accommodation is a crucial aspect of a student's experience while pursuing studies away from home. It is a venue for relaxation, repose, recreation, socialization, study, and task completion. Student accommodations may offer a variety of bedroom configurations to meet various preferences, including private rooms with en suite bathrooms, and shared rooms with communal bathroom facilities [1]. Furthermore, facilities and amenities such as living rooms, common kitchen, dining hall, study lounges, fitness gym, jogging paths, and outdoor seating places are offered to promote study-live-play lifestyle balance for students. These facilities facilitate student interaction and socialization, hence cultivating a sense of belonging [2].

There are benefits to living in on-campus student housing, particularly for students' academic success. De Araujo [3] found that after transitioning to on-campus housing, students' GPAs increased instantaneously. This can be linked to students' increased access to academic materials, positive peer influence, and social activities [3]. Balabanian [4] identified that traveling long distances to and from school has a negative impact on students' academic achievement. Furthermore, physical and mental exhaustion because of getting less sleep and preparing early in the morning, as well as having less time to study owing to spending more time traveling, were the key issues affecting pupils [4]. Convenient access to academic resources and facilities, as well as reduced time spent traveling to and from school, may explain why students from far-flung areas seek on-campus housing or rent nearby third-party accommodations. This underlines the accommodation's proximity to the school as one of the most important criteria for students [5].

The quality of student accommodations can significantly differ based on various factors, including the design and layout of the facility, construction quality, safety features, furnishings, available amenities, and both indoor and outdoor environments. The satisfaction of students can be significantly affected by these factors, which evidently impact their academic performance, social life, self-esteem, and both physical and mental health [6, 7, 8, 9, 10, 11]. The design, physical layout, and environmental parameters of communal spaces significantly impact the social behavior of resident students [2]. The unfavorable interior environmental conditions of student housing, including dampness, malfunctioning air-conditioning, mold, and pests, adversely impact students' health [7, 12].

Ensuring that student accommodation is both safe and conducive, while remaining affordable, is essential for supporting students from economically disadvantaged backgrounds. The literature indicates that affordability is a key factor that students consider when selecting an accommodation [13, 14, 15, 16]. Nevertheless, Filipino students residing in budget-friendly accommodations often face hazardous living conditions because of the haphazard conversion of residential buildings into student housing. These types of student housing often fail to obtain the required permits, neglected to implement essential security and fire safety measures, and violated building codes [5].

The implementation of the Universal Access to Quality Tertiary Education Act in the Philippines has democratized access to higher education for disadvantaged sectors, however, the institutionalization of a comprehensive gamut of student support services remains critically insufficient [17, 18]. While prominent State Universities and Colleges (SUCs) in the Philippines, such as the University of the Philippines system, have established on-campus accommodations, many other SUCs, including the University of Science and Technology of Southern Philippines (USTP), have yet to provide such facilities for their growing student population [19, 20]. Consequently, many students reside in nearby repurposed residential areas, such as Sitio Lawsbra, which were characterized by informal construction and a disregard for building codes [21]. The vulnerability of this situation was demonstrated by a December 2022 fire incident in the neighborhood, which displaced several students [22] and highlighted the university's inability to provide on-campus shelter. Despite these documented challenges, no prior studies have systematically evaluated student accommodation safety, satisfaction, and the factors that influence accommodation choice among USTP students, representing a critical gap in understanding students' living conditions and housing needs. Moreover, the insufficient capital investment in accessible and affordable student housing among

many Philippine SUCs indicates a critical gap in governmental understanding regarding the necessity of these facilities for holistic student support. By identifying the specific factors that influence student accommodation choices, this study addresses this information deficit. Understanding these drivers is essential for ensuring that limited institutional resources are strategically allocated toward implementing policies and housing features that most effectively enhance student welfare and academic success.

To understand these multifaceted challenges, ranging from institutional gaps to the immediate physical risks posed by unregulated housing, this study investigates students' current living conditions, satisfaction levels, and the attributes considered when selecting housing. Additionally, this study explores factors influencing the decision to seek specific accommodations through several hypothetical scenarios. An analysis of the socio-economic and demographic profiles of the students, particularly estimated family income, living arrangements, rental expenses, and fare costs serves as a critical lens for understanding the spatial and financial dimensions of residential vulnerability. Beyond these, assessing current conditions and satisfaction levels are essential for identifying gaps where university and local governments can implement interventions to improve the existing housing stock. Moreover, identifying the important attributes for student accommodations provides a vital reference for architects to ensure a conducive living environment. Ultimately, determining the factors that influence accommodation choice through binary logistic regression provides a robust empirical basis for policies to improve student welfare services and infrastructure planning and development.

METHODOLOGY

Study Design, Population, Setting

To determine the appropriate sample size, the study employed Slovin's formula based on the total enrollment of 15,405 students at the USTP CDO Campus during the first semester of the 2023-2024 academic year. With an acceptable margin of error of 0.05, the minimum required sample was calculated at 390 respondents. Eligibility to participate in the survey was restricted to currently enrolled students, regardless of year level, who resided in dormitories, shared rooms, or rented houses and apartments. This criterion also extended to students living with relatives on a rent-free basis. The data collection took place over a three-month period from October to December 2023.

Study Tools, Variables, Data Collection

The study utilized a non-probability convenience sampling technique, specifically employing a voluntary response method. Survey invitations and links were distributed via physical posters with QR codes placed in high-traffic areas and strategically shared within student organization-affiliated social media groups. By leveraging both digital and physical platforms, the study successfully captured a broad range of respondents. A total of 461 valid responses were retained following a rigorous data cleaning process, which involved filtering out incomplete, contradictory, or straight-lined entries. This final sample size exceeds the computed minimum threshold, ensuring the homogeneity, validity, and statistical reliability of the dataset.

To facilitate this collection, the research utilized an online structured survey questionnaire implemented via Google Forms. The instrument was organized into five distinct sections designed to capture a comprehensive view of the student housing experience: (1) socio-economic and demographic profile; (2) availability of safety and security features; (3) satisfaction with current residence; (4) perceived importance of accommodation attributes; and (5) hypothetical scenarios to measure the willingness to avail university accommodation. The first portion of this instrument focused on the socio-economic and demographic profile of the respondents. This section gathered data regarding age, gender, degree program, year level, and provincial address of origin. It also captured vital socio-economic indicators, including parental occupation and estimated monthly household income. Furthermore, it detailed the students' current living conditions, such as the geographic location of their accommodation (barangay and city/municipality), living arrangements (renting or living for free), monthly rent, fare expenses, and the primary mode of transportation used for commuting.

Beyond demographics, the survey employed specific metrics to quantify student perceptions and existing living conditions. The availability of safety and security features was assessed using a dichotomous scale (Yes/No). Respondent satisfaction and attribute importance were further measured using five-point Likert scales. The satisfaction scale ranged from 1 (Very Dissatisfied: completely inadequate) to 5 (Very Satisfied: exceeds expectations), while the importance scale ranged from 1 (Least Important: least priority or considered during the decision process) to 5 (Extremely Important: top priority or essential for the choice). These scales allow for the transformation of qualitative student attitudes into quantitative data points for statistical modeling.

Concluding the survey instrument was a section dedicated to a hypothetical choice scenario, designed to elicit preferences for future student housing. Respondents were presented with two accommodation types: an on-campus option provided by USTP and an off-campus option from a third-party provider. To ensure a controlled comparison, both types were described with identical occupant capacities, safety features, and facilities. Respondents were asked to indicate their maximum willingness to pay (WTP) for rent and to specify their final choice by answering "Yes" or "No" regarding their willingness to avail of the provided hypothetical accommodations. This final data point serves as the dependent variable for the binary logistic regression analysis.

Conceptual Framework

The necessity for student housing is fundamentally anchored in Maslow's Hierarchy of Needs, which identifies shelter as a primary physiological requirement for survival [23]. Beyond providing basic refuge, student accommodation serves as a critical environment that addresses every level of the hierarchy. It fulfills safety and security needs through physical protection (fire safety) and financial stability; belongingness needs through social integration and peer support; and esteem needs by providing privacy and a conducive study environment. Ultimately, high-quality facilities enables self-actualization, allowing students to reach their full academic and holistic potential. Conversely, a lack of institutional support from State Universities and Colleges (SUCs) may stifle this growth, particularly for disadvantaged students whose residential quality is left to the mercy of unregulated market dynamics.

The market dynamics governing these choices are rooted in Demand Theory. The Law of Demand posits that, ceteris paribus, an increase in the price of accommodation leads to a decrease in the quantity demanded [24]. This relationship is shaped by the interaction of key actors: the consumers (students and their rent-paying parents), the suppliers (private landlords), and institutional/regulatory bodies (SUCs and local government). While Consumer Choice Theory suggests that students evaluate housing options against specific preferences to maximize personal utility, Budget Constraint Theory dictates the "affordable set" of these choices [25]. For the majority of students, household income establishes a strict financial delimitation, often forcing a trade-off between their preferences for safety and their actual financial capacity.

This decision-making process is further explained by the interaction between Price Elasticity and Alonso's Trade-off Theory [26]. Students demonstrate varying sensitivities to rent prices versus transportation costs (combined weighted measure of time, distance, and other travel-related variables). Those with high price elasticity for travel often trade off higher rent to live near the university, while those with high rent elasticity trade off proximity, opting for longer commutes to avail of lower rental rates. However, as noted by McFadden and Richter [27] in Random Utility Theory (RUT), students act as stochastically rational agents. This framework suggests that housing selection is a stochastic decision-making process where outcomes are influenced by both measurable factors such as rental price and safety features and random environmental variables, including personal perceptions, aesthetics, and social "vibes" [27].

Building upon these theories, this study identifies the critical factors influencing a student's decision to avail of university-provided accommodation. As illustrated in the Conceptual Framework (Figure 1), several predictors specifically

rent price, fare expense, monthly parental income, availability of safety and security features, perceived importance of accommodation attributes, and current residential satisfaction are hypothesized to determine the choice outcome. These variables represent the economic, architectural, and satisfaction-based factors that dictate whether a student is willing to avail of either an on-campus institutional dormitory or an off-campus third-party accommodation.

Data Analysis

Descriptive statistics were employed to summarize the collected data. This analytical approach served primarily to define and contextualize the socio-economic, socio-spatial, and mobility profiles of the student participants. Additionally, descriptive statistics were utilized to categorize the availability of safety and security features, expressed as percentages. For Likert scale responses, weighted means (WM) were calculated to determine students' overall satisfaction with their current accommodations and to assess their perceived importance of various student accommodation attributes.

Due to the binary nature of the dependent variable (Yes=1, No=0), binary logistic regression was performed using Stata to identify the possible factors (rent price and satisfaction of current accommodation, fare expense, available safety and security features, and perceived importance of student accommodation attributes) that influence whether a student will avail an accommodation if the university or a third-party provider offers it hypothetically.

$$0 \quad \left[\frac{}{1-}\right] = {}_0 + {}_{11} + {}_{22} + \dots$$

Where the dependent variable is a dichotomous outcome, 0=No and 1 = Yes and denotes the natural log of the odds of the outcome; ${}_1$, ${}_2$, ... are predictor variables either dichotomous or continuous; ${}_1, {}_2 \dots$ are the parameters of the predictor variables ; and ${}_0$ is the constant.

For binary logistic regression, the odds of success are:

$$\frac{}{1-} = x\,()$$

The odds ratio can be any nonnegative number. An odds ratio of 1 serves as the baseline for comparison and indicates there is no association between the response and predictor. If the odds ratio is greater than 1, then the odds of success are higher for higher levels of a continuous predictor which means that there is a positive relationship between the dependent variable and the predictor variable or the event would likely to occur, while if the odds ratio is less than 1, then the odds of success are less for higher levels of a continuous predictor which means that there is a negative relationship between the dependent variable and the predictor variable or an event is less likely to occur.

Prior to executing the regression analysis, several diagnostic tests were performed to validate the significance and reliability of both Model 1 (Scenario 1: student accommodation provided by USTP) and Model 2 (Scenario 2: student accommodation provided by a third-party provider). The Likelihood Ratio (LR) Chi-square test confirmed that both Model 1 (p = 0.004) and Model 2 (p < 0.001) were statistically significant, indicating a robust fit over the null model. Model reliability was further verified using the Hosmer-Lemeshow Goodness-of-Fit test; the resulting p-values for Model 1 (p = 0.0821) and Model 2 (p = 0.1026) exceeded the 0.05 threshold, demonstrating that both models adequately fit the empirical data. To ensure the stability of the estimated coefficients, multicollinearity was assessed using Variance Inflation Factor (VIF) analysis. Both models yielded a mean VIF of 1.18, well below the conservative threshold of 5.0, affirming the absence of multicollinearity among the predictors. Lastly, to address potential heteroscedasticity in the survey data and ensure robust statistical inferences, we employed robust standard errors. This approach provided consistent standard error estimates and more reliable p-values even when the constant

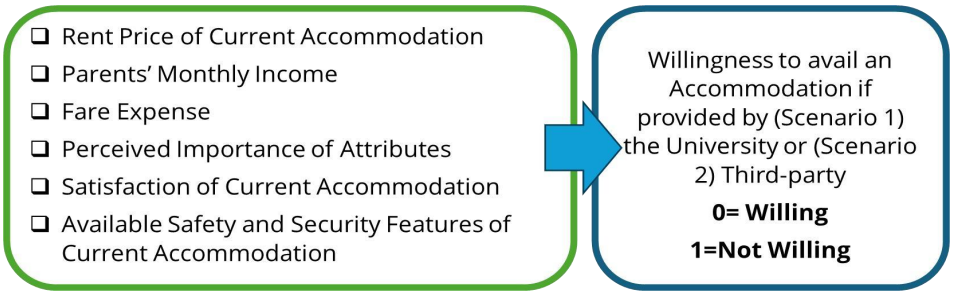

Figure 1. Conceptual Framework of the Study

variance assumption was violated, a common issue in survey-based research [28]. The final analytical sample was comprised of 385 observations. While the analytical sample falls marginally below the computed minimum (n = 390), the difference is minimal (1.3% reduction), and the sample remains substantial for detecting meaningful effects. This exclusion was statistically necessary to ensure model convergence and obtain valid parameter estimates [29].

Ethical Considerations

The study strictly adhered with the Data Privacy Act of 2012 in which the respondents were asked for their consent before participating in the study and were informed that their responses would be treated with complete anonymity and would be used for academic and research purposes only. Furthermore, authorization to conduct the study was sought from and granted by the USTP Office of Student Affairs, ensuring that all institutional protocols for student engagement were fully respected.

RESULTS AND DISCUSSION

Respondent Profile

A total of 461 responses were collected via the distributed Google survey form. As seen in Table 1, the largest portion of respondents was comprised of individuals from the first year (26%) and third year (42%) levels at the University of Science and Technology of Southern Philippines (USTP). Additionally, 68% of the participants came from various cities and municipalities within the Northern Mindanao Region, while those living in Cagayan de Oro city represented only 18% of the total respondents. Only 13% of the total respondents come from the CARAGA, Central Visayas, Davao, BARMM, Soccsargen, and Zamboanga Peninsula regions.

Approximately 42% of participants reported a monthly household income of ₱10,000 or less, which falls below the national poverty threshold of ₱13,873 established by the Philippine Statistics Authority in 2023. An additional 13% of participants were situated near the poverty threshold, with monthly household incomes ranging from ₱10,001 to ₱15,000. Approximately 39% reported monthly family incomes between ₱15,000 and ₱50,000, while only 7% exceeded the ₱50,000 bracket. These financial constraints may expose the majority of students to suboptimal living conditions, compelling them to prioritize affordability and proximity to campus over comfort, safety, and security, as documented in previous research [5, 14, 15, 16].

Only 37% of the respondents resided within barangay Lapasan, Cagayan de Oro city, where USTP is based, while the majority, comprising 61% of the sample size, lived outside the barangay but still within the city limits. This may indicate that student accommodation availability and options within the locality (Brgy. Lapasan), where the university is located, were limited due to the area's existing land use, which is predominantly informal settlements, and medium- to high-intensity commercial uses, thereby forcing students to seek housing elsewhere. The remaining residential areas, particularly repurposed houses near the university converted for student housing, were mostly characterized as informal [21], which presents limitations given that safety and comfortable living conditions are also important factors students consider alongside proximity [30].

In terms of living arrangements, the majority of students were renting, comprising 78%, whereas only 22% were living without charge with relatives or close connections. Additionally, 48% of the participants resided alone in their rooms, whereas only 28% shared their living space with another tenant. A total of 23% of the sample size reported sharing with more than one roommate, while merely 1% indicated sharing a room with over five roommates. The substantial proportion of individuals occupying single-occupancy rooms or accommodation units may suggest a preference for higher levels of privacy over shared spaces with multiple tenants, which offer limited privacy. This finding is corroborated by related studies indicating that students increasingly favor private housing options over communal arrangements [31, 32].

Interestingly, in the era of social media, a significant portion of students, specifically 55% of those surveyed, rely on friends or family to locate suitable accommodations in the city as. In contrast,

only 20% have utilized social media for this purpose. Additionally, 14% secured their housing through walk-ins, while a mere 2% found accommodations via university printed advertisements.

The cost of rent varies depending on the type of accommodation and the facilities and amenities it provides. Based on Table 2, a total of 157 (34%) students opted for room rentals, which had an average cost of P2,423, falling within a price range of P500 to P7,000. In contrast, 68 (15%) students chose to rent bedspaces, averaging P2,219, with prices ranging from P1,000 to P6,000. The solo studio-type apartment or pad emerged as the costliest accommodation option, averaging P4,910, with prices ranging from P2,200 to P10,000, a choice made by 48 (10%) of the respondents. The significant proportion of students (49%) opting for low-cost housing highlights the financial constraints prevalent among the student body. This trend almost aligns with the socioeconomic data discussed previously, which indicates that (42%) of the participants originate from households below the national poverty threshold.

Table 1. Respondents' Profile

Year Level	Frequency (n=461)	%
1st	121	26
2nd	85	18
3rd	193	42
4th	61	13
5th	1	0
Place of Origin		
Caraga Region	31	6.7
Central Visayas	6	1.3
Northern Mindanao (except CDO)	315	68
Davao Region	2	0.4
BARMM	4	
Soccsargen	3	0.9
Zamboanga Peninsula	18	3.9
Cagayan de Oro City	82	18
Estimated Family Income		
P5,000 and below	102	22
P5,001 - P10,000	92	20
P10,001 - P15,000	58	13
P15,001 - P20,000	46	10
P20,001 - P25,000	36	8
P25,001 - P30,000	35	8
P30,001 - P35,000	27	6
P35,001 - P40,000	13	3
P40,001 - P45,000	9	2
P45,001 - P50,000	10	2
P50,001 and above	33	7
Current boarding house or residence location		
Within Brgy. Lapasan, Cagayan de Oro City	170	37
Outside Brgy. Lapasan but within the city	283	61
Outside the city	8	2
Current living arrangement		
Renting	361	78
Living for free	100	22

Table 1 (continued)

Number of students sharing in a room		
Solo	223	48
1	127	28
2	47	10
3	39	8
4	14	3
5	6	1
> 5	5	1
Sources for identifying suitable housing options		
Friend or family	252	55
Social Media	90	20
Walk-in	63	14
Student accommodation agent	21	5
Word-of-mouth or referral	27	6
University Print Advertisements	8	2
Mode of transportation going to school		
Multiple Mode (e.g. jeepney and minibus)	333	72
Motorela	39	8
Personal vehicle	78	17
Walking	11	2

Table 2. Accommodation and Transportation Expenses

Type of rented accommodation	**Freq. (n=461)**	**Rental Price (Php)**		
		Min.	**Max.**	**Ave.**
Room	157	500	7,000	2,423
Bedspace	68	1,000	6,000	2,219
Solo Studio-type apartment/ pad	48	2,200	10,000	4,910
Shared Studio-type apartment/ pad	46	1,500	8,333	3,044
Whole house	15	1,700	6,000	4,400
Shared house	28	375	25,00	1,115
Location		**Transportation Expense (Php)**		
Within Brgy. Lapasan	170	20	50	32
Outside Brgy. Lapasan but within the city	283	20	100	55
Outside the city	8	50	150	80

Available Safety and Security Features

As shown in Figure 2, the survey results reveal substantial deficiencies in essential safety and security features across student accommodations. The most critical gaps include the absence of smoke detection devices (72%), evacuation plans (66%), and fire suppression systems (62%). Additional deficiencies include inadequate setbacks between buildings (50%), missing fire walls between abutting structures (49%), absence of surveillance cameras (48%), non-use of fire-resistive materials (48%), lack of fire exits and wayfinding features (44%), and absence of sidewalks leading to accommodations (41%). The absence of these features poses significant risks, as their effectiveness has been well documented in the literature. Smoke detection devices substantially reduce fire incidences through early detection [33], while fire exits complemented by wayfinding features reduce casualties by facilitating rapid and effective egress [34, 35]. Fire-resistive materials retard flame spread and maintain structural integrity during fires, whereas setbacks and fire walls effectively control fire propagation to adjacent buildings [36]. Properly designed sidewalks complemented by pedestrian

signals and speed tables or marked crossings systematically reduce road crashes [37]. Furthermore, surveillance cameras serve as effective deterrents to criminal activity, with footage providing critical evidence for identifying perpetrators [38]. The identified deficiencies expose students to fires, accidents, theft, and criminal victimization. Stemn et al. [16] attribute inadequate safety features in student housing to landlords' cost-minimization strategies in low-cost housing markets, exacerbated by weak regulatory frameworks, limited government oversight, and insufficient investment in community safety infrastructure.

In contrast to building-specific safety systems, external infrastructure and basic structural features showed higher provision rates, with most students reporting the presence of street lighting (85%), easily navigable and unobstructed hallways and corridors (75%), perimeter fencing (74%), and unobstructed two-way access roads (62%). Additionally, 65% of respondents confirmed that their accommodations were not exposed to flooding or landslide hazards. Nonetheless, the deficiencies in safety and security features identified earlier warrant urgent attention, as inadequate housing conditions can adversely affect students' well-being and academic outcomes. Research indicates that compromised safety and security in student accommodations contribute to poor concentration and focus, reduced attendance and engagement, sleep deprivation, increased stress, diminished academic performance, and ultimately, higher dropout rates [11].

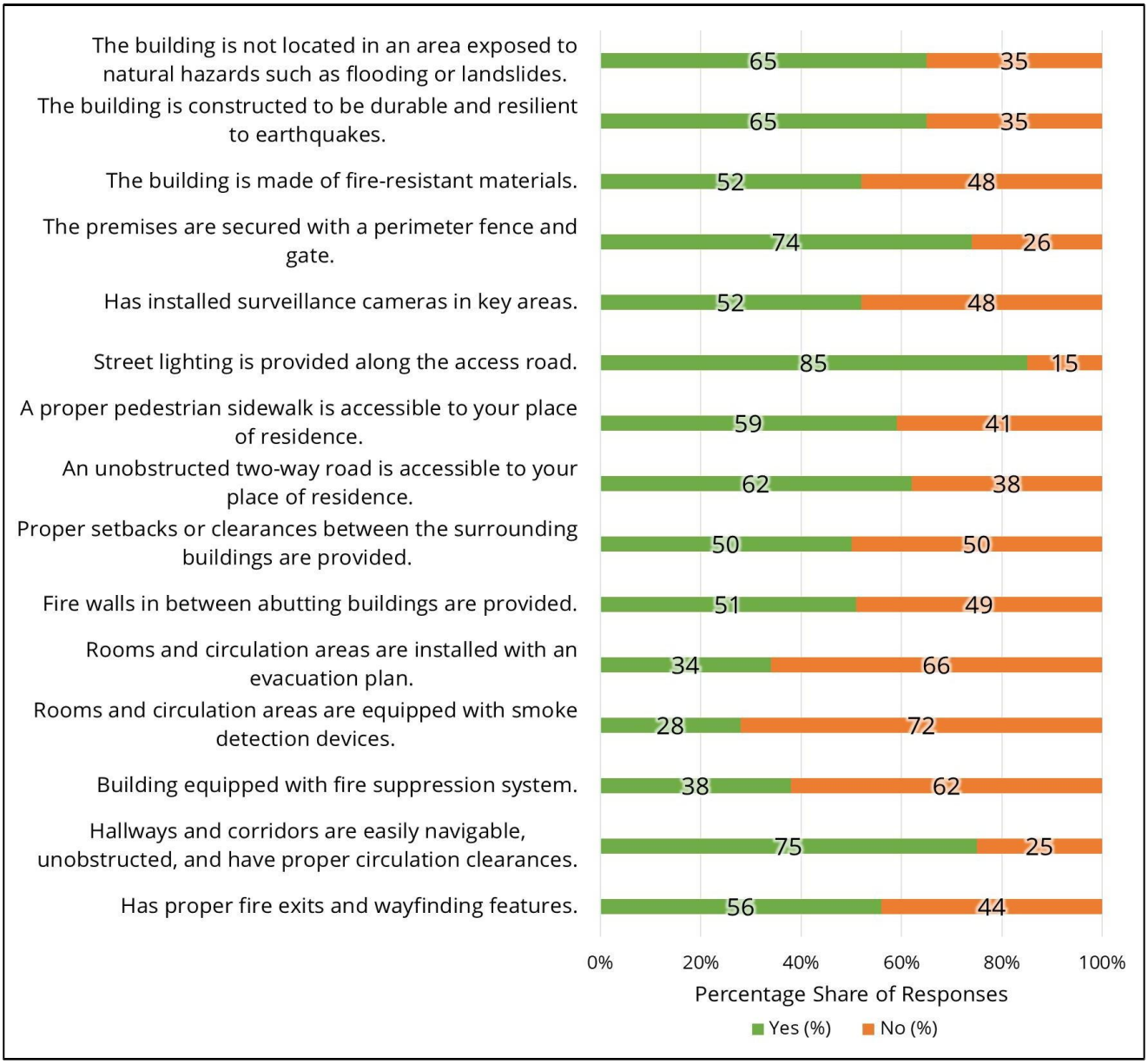

Figure 2. Reported Availability of Safety and Security Features of their Current Accommodations

Student Satisfaction

Satisfaction levels were categorized using weighted mean thresholds: dissatisfied (WM < 2.60), neutral (WM = 2.60–3.39), and satisfied (WM ≥ 3.40). On average, students expressed neutral to satisfied levels of satisfaction with their current accommodations, as shown in Figure 3. Specifically, within the physical environment domain, weighted mean satisfaction ratings for access to residence (WM= 3.28), building design (WM = 3.22), design of living spaces (WM = 3.28), building maintenance (WM = 3.13), cleanliness (WM = 3.25), security (WM = 3.21), learning conduciveness (WM = 3.05), and indoor climate (WM = 3.04) all fell within the neutral range (WM = 2.60–3.39). However, indoor climate and learning conduciveness received the lowest weighted means among all criteria examined, suggesting that a relatively smaller proportion of students experienced optimal conditions in these criteria that merits satisfaction compared to other aspects of their accommodations. Specifically, for indoor climate, 30% of respondents reported dissatisfaction, 32% were neutral, and 35% expressed satisfaction. For learning conduciveness, 35% reported dissatisfaction, 32% were neutral, and 39% expressed satisfaction. These factors are critical, as they influence multiple dimensions of student development and academic success. A study in the United Kingdom found that the lack of control over indoor temperature regulation, particularly during winter and summer seasons in purpose-built student accommodations, negatively impacts students' comfort, well-being, and academic performance [39]. Furthermore, Lukens et al. [40] demonstrated that learning conduciveness, influenced by intentional programmatic design of indoor spaces, can foster holistic social development, enable transformative experiences that equip students with critical skills, and ultimately enhance academic outcomes.

Results in the management area predominantly reflected satisfaction, with weighted means for accommodation contracts (WM = 3.48), policies related to the use of facilities and equipment (WM = 3.53), complaint procedures (WM = 3.45), and curfew (WM = 3.72) all exceeding the 3.40 threshold. While this study did not examine whether third-party providers systematically collect renter feedback, research in Turkey has demonstrated that high satisfaction with dormitory management is linked to the prompt and effective resolution of student concerns facilitated by regular feedback collection and timely data utilization [41]. Curfew policies notably received high satisfaction ratings, with 60% of respondents expressing satisfaction, 25% neutral, and only 16% dissatisfied. Although individual reasons for curfew satisfaction were not explored in this study, several factors may explain these high satisfaction levels found in a number of studies, such as flexible curfew hours in off-campus accommodations. According to Tiwari and Roy [42], flexible curfew policies in off-campus accomodations enable students to manage their own time and exercise greater independence, facilitating increased academic and social participation. Gu and Smith [43] found that students in China opted to live off-campus rather than in university-managed dormitories to gain more freedom, enjoy a less-regulated lifestyle, and maintain greater privacy.

Regarding physical facilities, majority criteria fell within the neutral range, with weighted means for furniture (WM = 3.37), air-conditioning or fan units (WM = 3.31), clothes washing facilities (WM = 3.24), wireless internet speed and reliability (WM = 3.25), and common areas (WM = 3.22). Cooking equipment availability (WM = 3.41) narrowly surpassed the satisfaction threshold (WM = 3.40), indicating borderline satisfactory ratings. Common areas notably elicited the highest proportion of neutral responses (37%) compared to other criteria, with satisfaction and dissatisfaction rates of 37% and 25%, respectively. These findings suggest considerable room for improvements in this domain. Common areas including living spaces, study areas, corridors, and kitchen are crucial for cultivating friendships and fostering a sense of community within student accommodations [44, 45]. These spaces serve as transitional environments where residents exchange ideas, experiences, and cultural perspectives, thereby reducing individual loneliness and anonymity [40]. Furthermore, research on international students in Australian private-sector accommodations found that overcrowding, poor conditions of shared spaces, and the conversion of common areas into additional bedrooms hindered comfortable social interaction, potentially leading to loneliness and social isolation [46]. Beyond social considerations, inadequate design of common-use spaces and furniture can lead to negative long-term health effects, including poor posture and musculoskeletal disorders (MSDs), which

can be mitigated through the application of anthropometric and ergonomic design principles [47].

Weighted means for hygiene and utilities criteria showed mixed results. Utility-related criteria demonstrated satisfactory ratings: availability of proper lighting (WM = 3.65), electrical sockets (WM = 3.59), and electricity stability (WM = 3.80). The relatively high satisfaction with electrical power stability compared to other criteria was likely attributable to the stable electricity supply in the Mindanao region during the study period [48]. While power supply conditions are determined at a regional scale, maintaining power reliability is essential, as substantial power outages cause students to miss lectures, limit access to learning resources, and hinder assessment completion, often leading to increased stress, anxiety, and feelings of isolation [49]. Conversely, potable water supply stability (WM = 3.35) received neutral ratings, likely reflecting the local water district's long-term intermittent service, compounded by low water quality, illegal connections, and damaged infrastructure [50, 51]. Hygiene-related

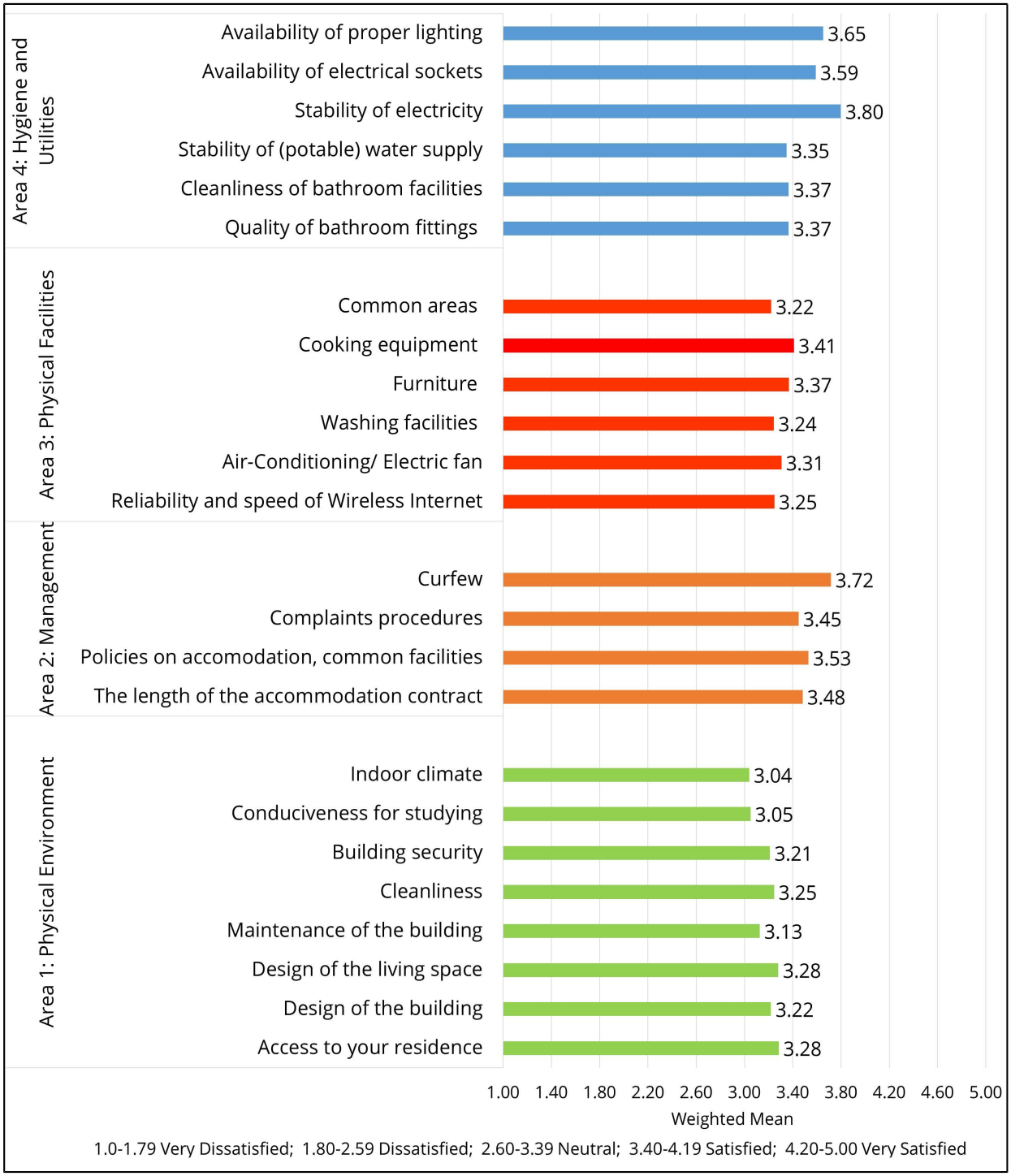

Figure 3. Weighted Mean of Students' Satisfaction Levels of their Current Accommodations.

criteria, cleanliness of bathroom facilities (WM = 3.35) and quality of bathroom fittings (WM = 3.35) also fell within the neutral range, indicating room for improvements. These finding warrants attention, as poor toilet hygiene facilitates the transmission of pathogenic bacteria and viruses, including Salmonella and SARS-CoV-2 [52]. Improvements can be achieved through regular cleaning and disinfection protocols, proper flushing mechanisms, hand hygiene promotion, and efficient ventilation systems to control odor and humidity levels [52].

Overall, 17 criteria (71%) fell within the neutral range, while only 7 (29%) received satisfactory weighted means from respondents. This suggests that, within the context of their current student accommodations, conditions may be insufficient to elicit positive responses yet not poor enough to provoke dissatisfaction. However, neutrality may reflect other factors, including respondents' hesitancy to express definitive opinions, indifference, or considerations not explored in this study [53]. Research indicates that neutral responses may serve as an "escape option," particularly for socially sensitive questions [54]. Consequently, high proportions of neutral responses present interpretive challenges for organizations such as universities, as they provide ambiguous guidance for identifying issues and determining necessary improvements to enhance end-user experience [55]. Nevertheless, neutral ratings may also signal opportunities for enhancement to optimize satisfaction levels in student accommodations [56].

Students Perceived Importance of Student Accommodation Attributes

Analysis of responses in Figure 4 revealed that the attributes students perceived as most important (top tier attributes) in student accommodations, with at least 80% endorsement, were: stable electricity (85%), stable water source (84%), safety (83%), cleanliness (83%), availability of internet connectivity (82%), provided bathroom facilities (81%), privacy (81%), and conducive indoor climate (81%). The prominence of attributes related to physiological and safety requirements including utilities, hygiene, safety, and shelter aligns with Maslow's hierarchy of needs, which posits that these fundamental needs must be satisfied for survival and personal protection before individuals can pursue higher-level needs such as love and belonging, self-esteem, and self-actualization [23]. A research in Ghana similarly found that utilities such as lighting and water were primary determinants of students' accommodation choices [16]. However, students' sensitivity to rental costs and limited viable housing options often compel them to compromise safety and security in favor of more affordable off-campus accommodations [16]. Notably, the high percentage share for internet connectivity reflects its emergence as an essential resource in 21st-century education, particularly for conducting academic research [57, 58] and facilitating online learning, a necessity underscored during the COVID-19 pandemic when it became indispensable for remote instruction [59]. Furthermore, the high importance placed on privacy was consistent with Beder and Imamoğlu [60], which established that low occupant and room density are positively correlated with residential satisfaction, underscoring students' preference for enhanced privacy.

Attributes that received 70–79% endorsement (second tier attributes) included low noise levels (79%), quality of construction (77%), construction materials used (76%), storage for personal items (76%), availability of a study area (75%), management and maintenance (75%), provision of a cooking area (75%), road accessibility (74%), proximity to campus (74%), and rental price (70%). The high endorsement of low noise levels (79%) underscores acoustic comfort's role in cognitive performance, as research demonstrates that high noise levels negatively affect reading comprehension [61] and contribute to auditory problems and reduced concentration among students [62]. Research in Nigeria identified structural quality as a key determinant of student housing satisfaction, alongside functional and aesthetic qualities [63]. Similarly, a study in China found that common facilities such as lounges, study rooms, and kitchens serve as important environmental factors for informal learning experiences, enabling students to learn independently and collaboratively outside classroom settings [64]. Rental price and proximity to campus received endorsement rates of 70% and 74%, respectively lower than safety (83%). This pattern appears to contradict research identifying affordability and proximity as primary drivers of student accommodation choices [16,57]. However,

this discrepancy likely reflected the distinction between stated preferences (what students ideally want) and revealed preferences (what actually drives their choices). When asked to rate importance, students may emphasize aspirational attributes such as safety and quality, yet in practice, financial constraints force them to prioritize affordability. This gap between stated and revealed preferences is well-documented in housing choice literature, where budget constraints compel compromises between desired and attainable housing qualities [65, 66]

Attributes that received 60% - 69% endorsement (third tier attributes) included interior design of the building (69%), number of roommates (68%), availability of a lounge area (67%), proximity to open spaces (66%), proximity to malls (64%), and exterior design of the building (60%). These findings aligned with research indicating that students often compromise on aesthetics, facility quality, occupant density, and proximity to social amenities to secure affordable housing [57, 66]. This pattern was likely attributable to the financial constraints of the majority of respondents, with 55% reporting monthly household incomes of ₱15,000 or below. Magni et al. [15] similarly found that proximity to services such as laundromats (65%) and commercial establishments was considered less important than rental cost. Furthermore, research demonstrated that proximity to services and commercial establishments, particularly shopping centers, commands premium rental and housing prices [67, 68, 69], which may be unaffordable for financially constrained students.

Attributes that received the lowest endorsement rates relative to previously mentioned attributes (fourth tier) included accessibility features for individuals with physical disabilities (55%), proximity to a library (53%), availability of parking space (48%), gym or exercise facilities (46%), and provision of sports facilities (40%). The limited endorsement of wellness and recreation facilities (40%-46%), while noteworthy given their importance for sustaining students' mental and physical well-being, may reflect the additional membership and subscription fees these amenities typically require [57]. The relatively low prioritization of accessibility features for persons with disabilities (PWD) (55%) by the respondents may suggest implicit biases, including ableism [70]. This pattern potentially reflected ablecentrism and universal design apathy worldviews characterized by the prioritization of able-bodied experiences and indifference toward universal accessibility which may indicate insufficient awareness and education regarding the daily challenges PWD students face in accessing educational and residential facilities [71, 72]. Notably, library proximity received limited endorsement (53%), likely reflecting multiple factors. First, the proliferation of digital resources accessible from any location has reduced dependence on physical library collections [73, 74]. Second, the normalization of remote learning during COVID-19 demonstrated the viability of distance-based academic work [59]. Additionally, the availability of alternative study spaces has diminished the need for library proximity [75].

The hierarchy of students' perceived importance of student accommodation attributes revealed critical implications for policy frameworks and institutional planning. Students overwhelmingly endorsed fundamental utilities reflecting Maslow's foundational needs hierarchy [23]. Critically, limited financial resources may compel students to compromise safety, aesthetics, and amenities for affordability, highlighting the urgent need for policies addressing student housing affordability and supply. These findings indicate that effective student accommodation policy must establish enforceable minimum standards for utilities, safety, and environmental quality while simultaneously addressing affordability barriers and ensuring inclusive, holistic support for diverse student needs beyond mere shelter provision.

Willingness to Pay and Binary Logistic Regression Results

This study employed two hypothetical scenarios to examine students' accommodation preferences. Scenario 1 presented a university-provided four-story dormitory building located on campus, housing 33 rooms with a total capacity of 132 students. Each 21-square-meter room accommodated four students and included a private toilet and bath, study area, and closet. Common facilities included a lobby, ground-floor commercial spaces, laundry area, communal kitchen, shared

study area, and parking area. Safety features included CCTV surveillance and a fire suppression system. Scenario 2 presented an accommodation with identical specifications and amenities, but provided by a third-party institution located off-campus. This parallel design isolated the effect of location (on-campus vs. off-campus) and provider type (university vs. third-party) while holding accommodation quality constant, which enabled direct comparison of how these factors influence student choice.

Table 3 demonstrated that 61% of students were willing to pay only ₱1,500 or less per month for

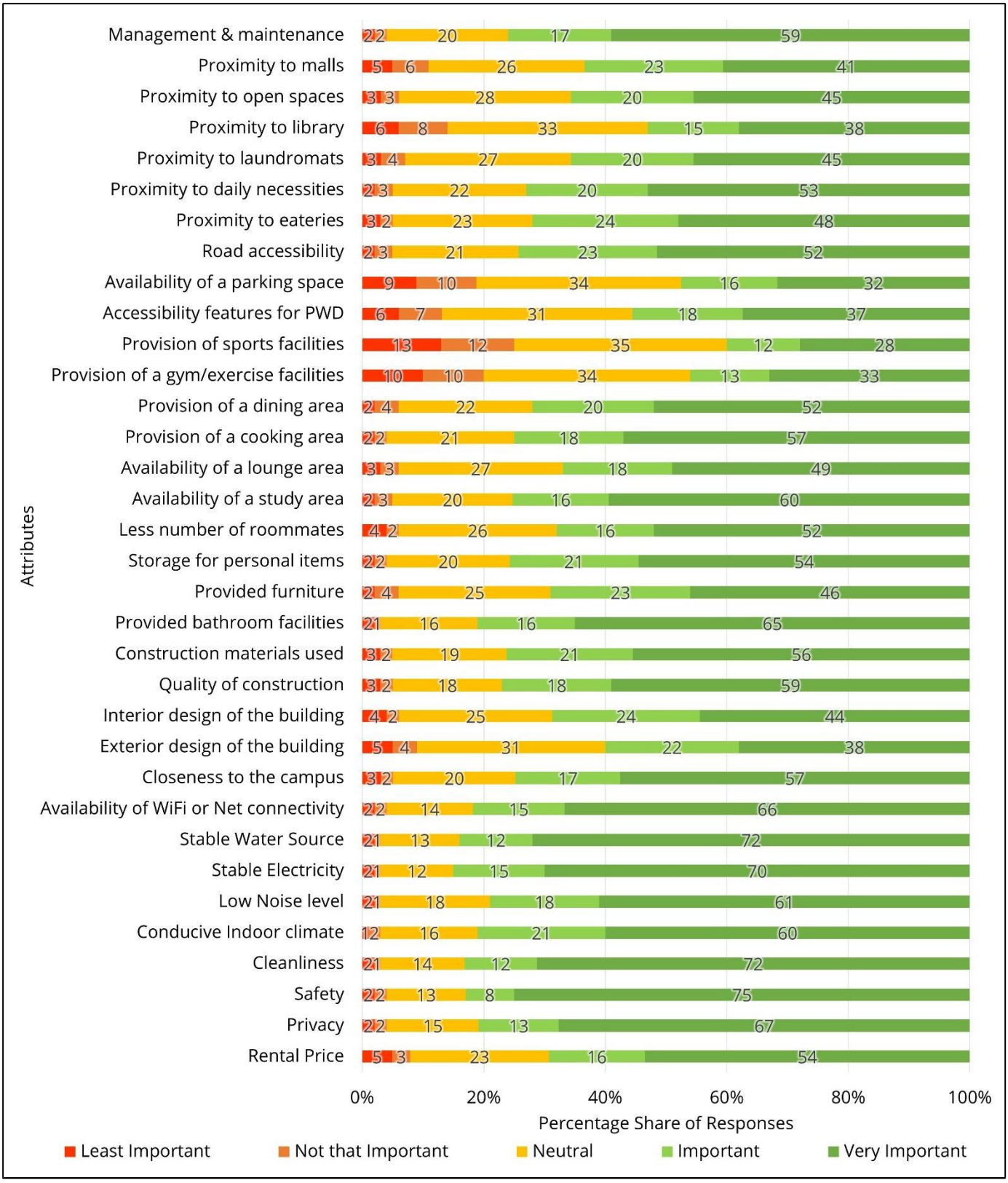

Figure 4. Perceived Importance of Accommodation Attributes

four-person shared accommodation, compared to 39% willing to pay ₱2,500 or more. This preference for budget-friendly options reflected not merely economic choice but financial necessity, particularly among the 55% of respondents with household incomes ≤₱15,000. Without institutional support mechanisms, such economic constraints force students into a documented pattern of compromise, sacrificing comfort, convenience, safety, and social well-being for affordability with cascading negative effects on academic performance and overall student success [5,11, 15, 16, 57, 67]. These findings provide compelling evidence for institutional intervention through expanded on-campus accommodation to support students with less financial capacity to afford conducive housing.

Following the established scenarios, the participants were subsequently queried about their willingness to consider student accommodation under two specified cases, as stated in Table 4. The table presents the results of logistic regression based on two hypothetical scenarios. The output reports the odds ratio (OR), and the robust standard error enclosed in parentheses.

The first scenario examined students' likelihood of choosing university-provided accommodation located on campus. The chi-square test indicated that this model represents a significant improvement in fit relative to an intercept-only model ($p < 0.01$). Two variables significantly predicted students' likelihood of selecting on-campus accommodation: transportation fare expenses and current accommodation satisfaction. Specifically, the likelihood of choosing on-campus accommodation increases by a factor of 1.0124 ($p = 0.033$) with each peso increase in transportation fare expenses. This reflected students' price sensitivity to transportation costs, which function as a combined weighted measure of time, distance, and other travel-related variables [26]. Multiple studies have documented students' preference for minimizing transportation costs, travel distance, and travel time to campus, as well as the negative effects of long commutes on academic performance [4, 57, 77, 78].

Conversely, satisfaction with current accommodation negatively predicted likelihood of choosing on-campus housing (OR = 0.6654, $p = 0.009$). Since USTP had no on-campus accommodation at the time of the study, this variable reflects satisfaction with current off-campus housing provided by third-party landlords. In other words, students already satisfied with their off-campus accommodation would be less likely to relocate to on-campus housing. This resistance likely stems from benefits associated with off-campus living, including greater independence, flexible curfew policies, adaptable living arrangements, diverse accommodation types offering varying degrees of privacy, and potentially lower rental costs [42, 43, 79, 80, 81].

The second scenario examined students' likelihood of selecting accommodation provided by a third-party institution located off-campus. The model demonstrated significant improvement over the intercept-only baseline ($p < 0.01$), consistent with Scenario 1. Three predictor variables achieved significance: parents' monthly income (OR = 1.00, $p = 0.009$), current accommodation satisfaction (OR = 0.5243, $p < 0.001$), and the availability of safety and security features in current accommodation (OR = 1.0121, $p = 0.010$).

The odds ratio for parents' monthly income equaled 1.00 ($p = 0.009$), presenting a puzzling finding: while statistically significant, the null odds ratio indicated no net directional effect on selection likelihood. The significance suggested income played a role in accommodation choice, though not captured by the linear specification. This warrants further investigation, particularly examining whether income moderates the effects of other predictors such as safety features or satisfaction [82].

Current accommodation satisfaction demonstrated a strong negative relationship with selection likelihood (OR = 0.5243, $p < 0.001$), consistent with Scenario 1. Each unit increase in satisfaction reduced the odds of selecting the proposed accommodation by approximately 48%. This pattern reflects the comparative advantages of off-campus living, including greater autonomy, flexible policies, and diverse accommodation options which may outweigh proximity benefits for students already satisfied with their current arrangements. Research confirmed that accommodation satisfaction influences residential loyalty [83, 84]. Conversely, students dissatisfied with their current accommodation demonstrated higher propensity to relocate, likely driven by deficiencies in indoor climate,

comfort, and safety documented in off-campus housing by this study and previous research [7, 83].

The available of safety and security features demonstrated a positive relationship with selection likelihood (OR = 1.0121, p = 0.010), indicating that each percentage point increase in the availability of safety features in current accommodation raised the odds of selecting the proposed accommodation by 1.21%. This finding appeared to contradict previous research identifying rental affordability as the primary determinant overriding safety concerns [14,15,16]. However, this result should not be discounted, as compromised safety and security contribute to poor concentration, reduced attendance, sleep deprivation, increased stress, diminished academic performance, and higher dropout rates [11].

Table 3. Students' Willingness to Pay Price for a Proposed 4-Person Capacity Room Dormitory.

Willingness to Pay Price	Frequency	%
Less than 1,500	134	29
P 1,500	149	32
P 2, 500	117	25
P 3, 500	38	8
P 4, 500	10	2
P 5,500	5	1
More than P 5,500	8	2

Table 4. Results of the Logistic Binary Regression.

Dependent Variable:
Willing to avail a student dorm: Yes = 1, No = 0

Regression Variables	Scenario 1: Student accommodation is provided by USTP and is located inside the campus.	Scenario 2: Student accommodation is provided by 3rd party located outside the campus.
Constant	31.3380***	4.0369**
	(23.2691)	(2.5057)
Rent Price of Current Accommodation	0.9999	1.000
	(0.0001)	(0.0001)
Parents Monthly Income	0.9999	1.000***
	(9.16e-06)	(8.93e-06)
Fare Expense	1.0124**	0.9980
	(0.0060)	(0.0051)
Perceived Importance of Accommodation Attributes	0.7596	1.0638
	(0.1252)	(0.1531)
Satisfaction of Current Accommodation	0.6654***	0.5243***
	(0.1035)	(0.0760)
Available Safety and Security Features of Current Accommodation	1.0064	1.0121***
	(0.0053)	(0.0048)
N	385	385
prob > chi2	0.0012***	0.0001***

*Note: **, *** Indicate significance at the 95%, 99% level, respectively; ( ) Indicate Robust standard error*

CONCLUSION

A substantial body of literature has attested to the importance of student accommodation for students' overall well-being and academic performance, with significant implications for safety, housing security, and financial stability. Consequently, examining students' socioeconomic profiles, available safety and security features, satisfaction levels with current accommodations, perceived importance of accommodation attributes, and factors influencing accommodation choice is crucial for identifying areas where universities can provide effective interventions.

Critically, this study identified that approximately 55% of USTP Cagayan de Oro participants reported monthly household incomes of ≤₱15,000—within the margins of the ₱13,873 poverty threshold established by the Philippine Statistics Authority in 2023. This financial vulnerability may compel students to accept unconducive and unsafe housing options to secure affordable rents despite their compromised quality. Furthermore, through student self-reported assessments and satisfaction ratings, the study documented substantial deficiencies in safety and security features in off-campus accommodations, particularly critical fire safety infrastructure (smoke detection devices, evacuation plans, fire suppression systems, setbacks, and firewalls), alongside neutral ratings across 71% of evaluated criteria, particularly indoor climate and learning conduciveness. These findings underscore the urgent need for improvement through establishment of minimum standards and regulatory oversight to ensure safety, livability, and learning conduciveness across all student accommodation types, whether provided by SUCs or third-party landlords.

This study also identified a hierarchical structure of important accommodation attributes through participants' rated perceived importance: first-tier attributes (utilities, safety, and hygiene), second-tier attributes (building integrity, common areas, rental price and academic considerations), third-tier attributes (aesthetic and lifestyle considerations), and fourth-tier attributes (specialized facilities). This evidence-based hierarchy provides guidance for university administrators, architects, and designers regarding which student accommodation features and facilities to provide and prioritize. Additionally, the logistic regression findings confirm that transportation costs, current accommodation satisfaction, and safety feature availability significantly predict accommodation choices, providing empirical support for university investment in on-campus housing as a mechanism to reduce commuting burdens, ensure safety standards, improve living conditions, and support students from low-income families.

Although this study provides extensive insights into multiple aspects of student accommodation, several methodological limitations warrant acknowledgment. First, the use of non-probability convenience sampling, specifically employing voluntary response methods through online surveys, and the study's exclusive focus on USTP Cagayan de Oro students may limit generalizability. Future studies should employ stratified sampling across multiple institutions with diverse characteristics (public/private, urban/rural, with/without existing on-campus housing) to enhance generalizability. Second, reliance on student self-reports for assessing accommodation characteristics may introduce recall bias, social desirability bias, and limitations stemming from students' technical knowledge. Future research should incorporate validation through follow-up interviews and independent on-site inspections using standardized checklists. Lastly, while the hypothetical scenarios successfully identified determinants of student choice, the method did not capture factors associated with diverse student accommodation types varying in features, rental prices, and distances from campus. Future studies should devise methods that explore these considerations to extend beyond the contributions of this study.

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