

Housing Satisfaction of The Indonesian Adolescents

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ABSTRACT

This study aims to understand the determining factors of housing satisfaction of the Indonesian adolescent, who are potential homebuyers. It investigates the factors of housing satisfaction in multi-stages, such as the socio-demographic attributes and housing attributes. It assists in unveiling the distinctive and prominent housing attributes of the residents according to their determining socio-demographic attributes for housing satisfaction in a quantitative method. From the collected 534 respondents, age and monthly income are the pivotal socio-demographic factors of housing satisfaction. Location and neighborhood are the housing norms with constant factorial attribute to housing satisfaction across the age and monthly income groups. While space and expenditure vary in both groups. These findings also provide a general understanding of the important physical and social features of each housing norm to meet the housing satisfaction of the residents. It is useful for the city authority, planners, and architects as a reference to formulate an aptly regulation, program, planning, and design of housing provision for a certain social group.

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1. Introduction

A report from BPS shares alarming information about the escalating urbanization in Indonesia: the population growth is about 4.10% and proliferates the rise of new urban areas across the archipelago. It predicts, that in 2025, approximately 60% of the Indonesian population will reside in urban areas.

This condition poses various potential urban problems, and one of them is decent housing provision. Until now, the Ministry of Public Works and Housing (MPWH)[46] noted around 45.90% of the Indonesian citizens do not live in decent housing quality, as the consequences of the unaffordable housing market, disintegrated housing delivery system, and lack of affordable housing finance, especially for the underprivileged.

The enacted Strategic Planning of MPWH 2020-2024 states the increasing production of affordable vertical housing with numerous housing subsidy programs becomes the major priority to decrease the housing shortages, especially in the proliferated Indonesian cities. This priority is solidified with the potential challenge from the rise of the millennial generation, who will emerge as the dominant population group in the next 20 years, according to the BPS report in 2020.

This program is prioritized in 6 (six) metropolitan cities located in strategic areas such as close to public transportation hubs to foster environmental-friendly mobility. It also assumes to meet the housing preferences of the millennials, who enjoy modern city life with intense mobility.

Due to the lack of affordable and spacious land in the metropolitan cities, MPWH attempts to accommodate the vertical housing for the approximately 81 million millennials, according to the BPS report in 2020. MPWH plans to provide 13.20 million of vertical housing with 24 m² unit size for early millennials (20-24 years old), 12.96 million of vertical housing with 36 m² unit size for middle millennials (25-29 years old), and 12.24 million of vertical housing with 45 m² unit size for middle millennials (30-34 years old). The predicted marital status and numbers of family members become the primary determinants of the formulated unit sizes.

However, many studies challenge this speculative approach of this typical housing provision planning, as it disavows the myriad factors of housing selection, such as housing preferences, choice, and satisfaction [5][3][16][18]. These studies provide abundant evidence that the mismatch of the housing design and planning with the needs of individuals or households leads to housing mobility [49][50][33][68][74]

Therefore, this study aims to understand the determining factors of housing satisfaction of the Indonesian adolescent, who are the potential homebuyers. The obtained understanding contributes, as one of the references, to the formulation of housing planning and design which meet the needs of the Indonesian citizens.

Housing Satisfaction

A study of housing satisfaction begins in the 1960s to obtain feedback from the residents for housing design and development in the future and claim its pivotal tool for improving the housing policy, design, and development in the 1980s [5]. It has been developed as an effective

tool to investigate the housing behavior of residents and physical quality [28].

Housing satisfaction is a complicated relationship between the physical, psychological, social, demographic, and economic attributes of the housing and the residents [3][59]. Francescato et al. [28] formulate housing satisfaction as the individual's accumulated emotional response towards the inhabited house, while several authors define it as the residents' evaluation of the experienced housing condition [13][47].

Jiang [36] argues if housing satisfaction is the tolerable difference between the ideal and actual housing conditions, then it decreases by the higher difference. Therefore, Galster [29] suggests the investigation of housing satisfaction should concentrate on the difference between the ideal and actual housing conditions for the residents.

Housing satisfaction is important to improve the quantity and quality of physical housing attributes to meet the need of the residents and improve their well-being [40][67][4]. The discrepancies between the housing needs, aspirations, and preferences of the residents with the experienced actual housing conditions will result in housing dissatisfaction and mobility, which compromise the improvement of the well-being of the residents [12].

The attributes of housing satisfaction

Morris and Winter [49] remind us that housing satisfaction also depends on the cultural norms of the residents, regardless of the physical quantity or quality of their inhabited housing. These norms are the pivotal determining factors of housing's satisfaction. The first relates to the housing physical features, which are necessary to meet housing satisfaction. The second denotes the features of neighbourhood quality,

the third corresponds to the types of ownership, the fourth implies the expendable housing costs, and the fifth represents the proximity of housing location to other public facilities, workplaces, or kin/relative's house to meet their daily needs.

Generally, the variables of housing satisfaction are grouped into three major criteria such as physical features of housing units, neighbourhood management, and the quality of environmental features [37]. Some studies classify the attributes of housing satisfaction, such as design, functionality, accessibility, and neighbourhood and community [55][30][34][44]. While in several publications, the determinants of housing satisfaction are classified into three categories: socio-economic characteristics, physical housing, neighbourhood attributes, also housing values of the residents [1].

Many authors have been developed the measured attributes of housing satisfaction over the years, such as the availability of numbers of bedrooms, kitchens, and bathrooms [29], public utilities, and facilities [71][56][32][63][48], type of structure, outdoor space, housing size and appearance [18][63], neighbourhood quality [69][51][19][31], also social interaction in the neighbourhood [66], length and types of tenure [24][54], and housing subsidy scheme [61].

Housing satisfaction and life-cycle

Housing is not merely a construction and design but also social, which implicates the residential satisfaction and well-being improvement [8]. Many studies have been highlighting the role of socio-demographic factors in determining housing satisfaction and mobility, such as age [70][39][72], sex, marital status, occupation [53][6], and monthly income [50][66][20]. Other socio-demographic attributes such as race [11], economic status [68], and household

size [33][58][27] are included as determinants for predicting housing satisfaction.

These studies are rooted in the prominent study by Rossi [60] in Philadelphia (US), who coins the life cycles as the essential factors of housing satisfaction. Later, a classic work by Speare [64] demonstrates the life cycle of households is the most prominent factor of housing satisfaction, which later is supported by various worldwide studies [16][26][22][57][20][33][23][17][35]. Galster [29] claims the ever-changing life cycles of the households transform their needs, which may be suitable with the current housing condition and leads to housing dissatisfaction then mobility.

Several studies show that socio-demographic conditions and physical housing attributes influence the level of housing satisfaction. Kim et al. [41] investigate the factors of housing satisfaction in several cities in South Korea, such as age, sex, level of education, monthly income, length of stay, and social ties. While their study also poses the importance of neighbourhood attachment and proximity to public amenities to housing satisfaction and mobility. While in Hanoi (Vietnam), Nguyen et al. [52] found a significant positive correlation between household income, housing design, the proximity to the public amenities, neighbourhood quality, and price with housing satisfaction, but not with the level of education. They demonstrate the significance of socio-demographic and physical housing attributes in determining housing satisfaction.

In their study, Winstanley et al. [74] elaborate on the life-cycles of the household in the selection of housing attributes, characteristics, and market, which position the changing socio-demographic conditions through the life-cycle stages develop the selection of housing attributes to meet housing satisfaction, rather than as the interrelated factors. It stands on the argument of Speare [64] and Galster [29] that

the ever-changing life cycle implicates the changing needs and, consequently, the housing attributes to meet housing satisfaction.

Unfortunately, regardless of the importance of the studies, the policymakers, urban planners, and architects are hardly interested in elaborating the studies of housing satisfaction for improving the housing provision program and design [69][62]. This ignorance reflects in the rare study on housing satisfaction in Indonesia. One of them is a study by Aulia and Ismail [7] in Medan city (Indonesia), who find housing satisfaction is determined by location, physical design, and the proximity to the public amenities. The study remains to focus on the identification of factors of housing satisfaction without any deliberations with the socio-demographics of the respondents.

Most of the aforementioned studies identify the socio-demographic, housing physical attributes as tantamount factors of housing satisfaction, while both have a causal effect, as the first implicates the second. Whereas several studies indicate, there are distinctive factors of housing satisfaction according to the several socio-demographic attributes, such as age, marital status, sex, level of education, or monthly income. Therefore, this study attempts to investigate the factors of housing satisfaction in multi-stages, such as the socio-demographic attributes and housing attributes. It assists in unveiling the residents' distinctive and prominent housing attributes according to their determining socio-demographic attributes for housing satisfaction.

2. Material and Methods

This study employs a quantitative research method to identify the pivotal socio-demographic features and the implicated housing attributes in housing satisfaction.

This study is divided into three stages, as follows:

- The first is identifying the socio-demography of respondents and housing attributes.
- The second is analysing the significant factors of housing satisfaction and the important housing attributes to meet housing satisfaction according to the determining socio-demographic features.
- The third is providing results to answer the research's aim.

The first stage is using an online questionnaire to obtain primary data from nationwide respondents during the pandemic. It contains 2 (two) parts, such as the socio-demographic of the respondents and housing attributes to meet their housing satisfaction. The online questionnaire is distributed randomly through the communication platforms such as WhatsApp and Instagram from January 17th-February 22nd, 2021 and managed to gather 534 respondents from 25 of 34 provinces nationwide. The number of participating respondents is higher than 385 respondents, as the minimal number of respondents from 270 million Indonesia population as reported by BPS, according to the Slovin formula to meet the confidential ratio of 95%. Post-stratification is delivered for weighting adjustment to reduce the non-coverage and non-response biases [65][9][14] by adjusting the demographic differences between the collected respondents and the actual [25].

Socio-demographic features include 10 (ten) dependent variables, such as age, sex, domicile, length of stay, present homeownership, types of employment, monthly income, level of education, marital status, and the number of children. Housing attributes utilize the housing cultural norms by Morris and Winter [49]. However, homeownership is the ultimate tenure to meet housing satisfaction, so this study eliminates the tenure norm from the

calculated independent variables. Each norm comprises the measured variables, which are commonly utilized by prior studies.

The location norm consists of 10 (ten) measured variables: proximity to the workplace, public transportation, shopping mall, education facilities, highway, government offices, entertainment centres, sports facilities, healthcare facilities, and kin/relatives. The neighbourhood norm encompasses 10 (ten) measured variables: security, community park, worship facilities, sports facility, mini-market, low-rate hazard and crime, cleanliness, sense of the neighbourhood, and calm environment. The space norm consists of 10 (ten) measured variables: land size, number of bedrooms, kitchen, garden, house shape/ form, sustainability, view, interior, living room, and house size. At the same time, the expenditure norm constitutes 5 (five) measured variables such as the house price and installment, operational cost, land and house tax, maintenance cost, and profitable investment. Lastly, the questionnaire asks the respondents about their housing satisfaction experience as the study's dependent variable.

The second stage of this study uses the most common approach to measure housing satisfaction by addressing the residents' perception of the housing attributes with the Likert scale [45][3]. Several studies provide compelling evidence that the odd numbers of scale comfort the respondents to share their neutral opinion on the obscure topics [38], improving reliability [2]. Relating to the number of scales, several studies recommend using the five-point Likert scale because of the shortest reaction time as it keeps lower the cognitive effort of the respondents [15][73].

This study employs a five-Likert scale for accommodating the neutral opinion of the respondents [43][42] and attaining sufficient reliability [2]. Cronbach's alpha examines the

collected data to affirm the internal consistency with the result of 0.7114, which is an acceptable reliability value as it is between 0.70-0.90 [10][21].

This stage consists of two stages of analysis. The first contains a linear regression between the level of the experienced housing satisfaction, as the dependent variable, with the socio-demographic features of the respondents, as the independent variables. The result at this stage depicts the significant factors of housing satisfaction. Later in the second stage, the level of housing satisfaction is linearly regressed by the housing attributes of respondents, according to each identified significant socio-demographic feature. The result of the second stage corresponds to the substantial housing attributes to meet housing satisfaction, according to the determining socio-demographic features.

3. Results and Discussions

3.1. The characteristics of respondents

As shown in Table 1, most of the respondents are 25-45 years old (78.65%), followed by younger than 25 years old (11.05%), and older than 45 years old (10.30%). Although some of them manage to obtain homeownership (42.70%), most of them still struggle to own it, as they live in the parental nest (35.18%), rental housing (19.48%), and official housing (2.25%). The monthly income potentially contributes to the adversity for homeownership, as most of the respondents earn IDR 5-10 million/ month (37.64%) and less than IDR 5 million/ month (27.34%). While some of them earn IDR 10.01-15 million/ month (13.86%), IDR 15.01-20 million/ month (8.24%), and more than IDR 20 million/ month (12.92%). However, the unequal composition of monthly income among respondents does not significantly implicate the numbers of married (57.68%) and single (42.32%) respondents who

participated in this study. Therefore, the monthly income implicates the homeownership status but does not significantly to the marital status.

Table 1: The composition of marital and homeownership status according to age and monthly income

Age (years old)	Monthly income (IDR million)	Marital status		Homeownership status				Total	
		Single	Married	Freehold	Official	Rent	Parental nest	(n)	(%)
<25	< 5	25	3	1	-	7	20	28	47.46
	5.01-10	24	-	-	1	12	11	24	40.68
	10.01-15	4	1	2	-	1	2	5	8.47
	15.01-20	-	2	-	-	2	-	2	3.39
	(n)	53	6	3	1	22	33	59	11.05
	(%)	89.93	10.17	5.08	1.69	37.29	55.93		
25-45	< 5	50	64	33	1	21	59	114	27.14
	5.01-10	62	96	51	5	43	59	158	37.62
	10.01-15	7	45	29	-	8	15	52	12.38
	15.01-20	11	31	21	3	3	15	42	10.00
	> 20	13	41	38	1	6	9	54	12.86
	(n)	143	277	172	10	81	157	420	78.65
(%)	34.05	65.95	40.95	2.38	19.29	37.38			
>45	< 5	-	4	3	1	-	-	4	7.27
	5.01-10	-	19	18	-	1	-	19	34.55
	10.01-15	-	17	17	-	-	-	17	30.91
	> 20	-	15	15	-	-	-	15	27.27
	(n)	-	55	53	1	1	-	55	10.30
	(%)	.00	100.00	96.36	1.82	1.82	.00		
Total	(n)	226	308	228	12	104	190	534	
	(%)	42.32	57.68	42.70	2.25	19.48	35.58		
Monthly income (IDR million)	< 5	75	71	37	2	28	79	146	27.34
	5.01-10	86	115	69	6	56	70	201	37.64
	10.01-15	11	63	48	-	9	17	74	13.86
	15.01-20	11	33	21	3	5	15	44	8.24
	> 20	13	56	53	1	6	9	69	12.92

Most of the adolescent group earn a monthly income less than IDR 5 million (47.46%), followed by IDR 5.01-10 million (40.68%), 10.01-15 million (8.47%), and IDR 15.01-20 million (3.39%). This financial capacity implicates the postponement of family formation (89.93%), and only a small number enter marriage (10.17%). It also brings their struggle to obtain homeownership, as only a small amount of respondents manage it

(5.08%). At the same time, most of them extend their stay in the parental nest (55.93%) or leave for rental housing (37.29%) and official housing (1.69%). Therefore, it seems that financial capacity becomes the prominent factor for adolescents to obtain homeownership and start their family formation.

The implication of monthly income to homeownership and family formation is also depicted in the young adult group, as shown in Table 1. The monthly income tends to rise, as most of them earn IDR 5.01-10 million/ month (37.62%), followed by less than IDR 5 million/ month (27.14%), IDR 10.01-15 million/ month (12.38%), IDR 15.01-20 million/ month (10.00%), and more than IDR 20 million/ month (12.86%). Consequently, this respondent group experiences a shifting composition in the marital status, as the numbers of those who enter marriage (65.95%) are larger than in the postponement (34.05%). Furthermore, most of them manage to obtain homeownership (40.95%), which is larger than those who remain in the parental nest (37.38%) or live in rental housing (19.29%), and official housing (2.38%).

This inclination occurs in the adult group, who earn higher monthly income than the previous groups. Although most of them earn a similar monthly income to the young adult group, which is IDR 5.01-10 million (34.55%), some of them earn IDR 10.01-15 million (30.91%), even more than IDR 20 million (27.27%) and only a small number of respondents still earn less than IDR 5 million/ month (7.27%). Improving financial capacity assists all of them in entering marriage (100.00%). It increases their ability to obtain homeownership (96.36%) or live in rental and official housing (1.82%), and none of them remains in the parental nest. Therefore, this finding indicates that age and monthly income implicate the ability of respondents to enter marriage and obtain homeownership, which shares a similar result with various prior studies [53][6][50][66][20].

Table 2: Factors of housing satisfaction

HOUSING	Regression Statistics				
	Multiple R	R sq	Adj. R Sq	Std Err	Obsv
	.7727	.4298	.4206	.2043	534
	ANOVA	df	SS	MS	Sig. F
	Regression	5	19.8004	3.9601	.0067
	Residual	528	643.8269	1.2194	
	Total	533	663.6273		
Satisfaction		Coeff.	Std. Err.	t Stat	P-value
	Intercept	3.1570	.3729	8.4651	.0000
	Sex	.0612	.0973	.6288	.0529
	Age	.0478	.1224	.3905	.0472
	Monthly income	.1109	.0354	3.1306	.0018
	Marital status	.0406	.0564	.7197	.0963
	Level of education	.1155	.0622	1.8561	.0640

Table-2 shows age (p -value=.0472 < .05) and monthly income (p -value=.0018 < .05) are the prominent factors of housing satisfaction, which shares a similar finding by Van Praag et al [70], Kellekci & Berkos [39], Wagner et al [72], Mulder & Hooimeijer [50], Vera-Toscano

& Ateca-Amestoy][66], and de Groot [20]. Furthermore, what are the pivotal housing attributes in determining housing satisfaction in each age and monthly group?

3.2. Housing Cultural Norms by Age

For the adolescent group, proximity to public transportation (ρ -value=.0414<.05), entertainment facilities (ρ -value=.0172<.05), and kin/ relatives (ρ -value=.0374<.05) are the prominent factors for housing satisfaction in the location norms. However, the essential factors of housing satisfaction for the young adults in the location norms are proximity to the workplace (ρ -value=.0312<.05), public transportation (ρ -value=.0176<.05), education facilities (ρ -value=.0129<.05), healthcare facilities (ρ -value=.0193<.05) and kin/ relatives (ρ -value=.0215<.05). While for the adult respondent group, the proximity to the workplace (ρ -value=.0216<.05), education facilities (ρ -value=.0182<.05), highway (ρ -value=.0166<.05), healthcare facilities (ρ -value=.0471<.05), and kin/ relatives (ρ -value=.0172<.05).

In the neighborhood norms, security (ρ -value=.0172<.05), low-rate hazard (ρ -value=.0172<.05), and crime (ρ -value=.0172<.05) are the essential determinants of housing satisfaction for the adolescent group. For the young adult group, the prominent factors of housing satisfaction are security (ρ -value=.0172<.05), community park (ρ -value=.0172<.05), low-rate hazard (ρ -value=.0172<.05) and crime (ρ -value=.0172<.05), also the sense of the neighborhood (ρ -value=.0172<.05). While security (ρ -value=.0172<.05), community park (ρ -value=.0172<.05), worship facilities (ρ -value=.0172<.05), mini-market (ρ -value=.0172<.05), low-rate hazard (ρ -value=.0172<.05) and crime (ρ -value=.0172<.05), the sense of the neighborhood (ρ -value=.0172<.05), and the calm environment (ρ -value=.0172<.05) are the

important attributes for the adult respondent group to meet their housing satisfaction.

Kitchen (ρ -value=.0445<.05), house shape/ form (ρ -value=.0131<.05) and interior (ρ -value=.0117<.05) are the primary factors of housing satisfaction for the adolescent. For the young adult, the number of bedrooms (ρ -value=.0183<.05), kitchen (ρ -value=.0445<.05), house shape/ form (ρ -value=.0131<.05), sustainability (ρ -value=.0062<.05), and living room (ρ -value=.0003<.05) contribute significantly to housing satisfaction. While land size (ρ -value=.0376<.05), garden (ρ -value=.0118<.05), house shape/ form (ρ -value=.0448<.05), sustainability (ρ -value=.0425<.05), view (ρ -value=.0089<.05), living room (ρ -value=.0496<.05), and house size (ρ -value=.0305<.05) are the important attributes of the space norm for the adult respondents.

In the expenditure norm, house price and its installment (ρ -value=.0168<.05), also operational (ρ -value=.0165<.05), and maintenance costs (ρ -value=.0003<.05) are the essential attributes for the adolescent to meet their housing satisfaction. For the young adult respondents, operational (ρ -value=.0054<.05) and maintenance costs (ρ -value=.0002<.05), land and house tax (ρ -value=.0085<.05) are the crucial determinants to obtain their housing satisfaction. The same factors are also important for the adult respondents to attain their housing satisfaction, such as operational (ρ -value=.0068<.05) and maintenance costs (ρ -value=.0132<.05), land and house tax (ρ -value=.0418<.05), also profitable investment (ρ -value=.0214<.05) is the crucial determinant to obtain their housing satisfaction.

Table 3: The attributes of housing satisfaction for the adolescent

CULTURAL NORMS	ATTRIBUTES	Age (years old)			Monthly income (IDR million)				
		< 25	25-45	>45	<5	5.01-10	10.01-15	15.01-20	>20
LOCATION	Multiple R	.7229	.8899	.7827	.6568	.8908	.8222	.6899	.8259
	Observation (n)	59	420	55	146	201	74	44	69
	Workplace	.5158	.0312	.0216	.0448	.0321	.3914	.0417	.5145
	Public transportation	.0414	.0176	.4376	.0396	.0016	.0335	.1671	.7233
	Shopping mall	.7199	.3899	.1138	.1613	.8835	.0653	.0224	.0132
	Education facilities	.1626	.0129	.0182	.0548	.0056	.0154	.0378	.0445
	Highway	.4490	.0675	.0166	.2150	.9819	.0174	.0456	.0400
	Government offices	.3107	.1274	.1855	.7495	.2110	.6944	.0414	.1286
	Entertainment centers	.0172	.3400	.5074	.8109	.5751	.3982	.7871	.5901
	Sport facilities	.1156	.8264	.7456	.0575	.0397	.0925	.3580	.1114
	Healthcare facilities	.6394	.0193	.0471	.0053	.0181	.0138	.0430	.0280
	Kin/ relatives	.0374	.0215	.0172	.0161	.0205	.0319	.0475	.0252
NEIGHBORHOOD	Multiple R	.7234	.7735	.7070	.7670	.8774	.8563	.8099	.8920
	Observation (n)	59	420	55	146	201	74	44	69
	Security	.0447	.0413	.0095	.0275	.0069	.0087	.0234	.0147
	Community park	.0658	.0018	.0284	.7100	.5292	.0088	.0092	.0082
	Worship facilities	.9828	.1167	.0218	.1144	.1610	.4327	.4779	.9806
	Sport facilities	.3501	.0749	.4056	.7387	.4476	.1404	.9865	.5373
	Mini market	.3320	.3106	.0341	.0741	.4581	.1888	.1405	.0431
	Hazard-free	.0487	.0151	.0313	.0489	.0021	.0064	.0348	.0250
	Crime-free	.0245	.0042	.0129	.0933	.0286	.0070	.0058	.0055
	Cleanliness	.2665	.4871	.6286	.0003	.0172	.0235	.0197	.0065
	Sense of neighborhood	.5369	.0394	.0162	.0348	.0410	.0277	.0226	.0205
	Calm environment	.1065	.0506	.0209	.6188	.2148	.0061	.0094	.0079
SPACE	Multiple R	.7814	.7587	.8287	.8090	.7633	.8625	.8968	.8789
	Observation (n)	59	420	55	146	201	74	44	69
	Land size	.3744	.9300	.0376	.3808	.0892	.0304	.0090	.0257
	Number of bedrooms	.6035	.0183	.4500	.3616	.4001	.0406	.0076	.3509
	Kitchen	.0445	.0049	.7669	.0237	.0037	.6046	.6074	.6898
	Garden	.7976	.7274	.0118	.5878	.6764	.0263	.0067	.0079
	House shape/ form	.0131	.0065	.0448	.1810	.0139	.0066	.0141	.0081
	Sustainability	.6140	.0062	.0425	.1528	.8792	.0220	.0368	.0277
	View	.3154	.6555	.0089	.7398	.2291	.3940	.5495	.0212
	Interior	.0117	.1950	.1067	.9522	.3941	.8894	.0348	.0126
	Living room	.3942	.0003	.0496	.0288	.0100	.0487	.0229	.0085
	House size	.3026	.8118	.0305	.0091	.0468	.0185	.0234	.0384
EXPENDITURE	Multiple R	.8255	.8490	.6213	.8484	.8870	.7509	.8149	.8772
	Observation (n)	59	420	55	146	201	74	44	69

Price & installment	.0168	.6774	.9300	.0049	.0115	.2346	.1313	.6747
Operational cost	.0165	.0054	.0068	.0040	.0056	.0078	.1892	.4730
Land & house tax	.3876	.0085	.0418	.0178	.0156	.2475	.4733	.9748
Maintenance cost	.0003	.0002	.0132	.0329	.0136	.0361	.0347	.2006
Profitable investment	.5018	.8175	.0214	.5179	.0971	.0434	.0003	.0008

This finding indicates the age increment tends to expand the variety of significant factors for housing satisfaction. Most adolescents are postponing family formation and extending their stay in the parental nest, which reflects in their priority to live in a house with proximity to public transportation, entertainment center, and their kin/ relatives to meet their psychological and social needs. At the same time, the primary factors of housing satisfaction for young adults expand as most of them begin family formation while living in their houses, such as proximity to the workplace, public transportation, education, healthcare facilities, also kin/ relatives. They are designated to accommodate their daily activities and family members. Proximity to the highway is the expanded factor of the adult respondents' housing satisfaction as an additional access alternative. Therefore, the age increment implicates the respondents' marital status and homeownership, consequently expanding their prominent determinants of housing satisfaction in the location norm. However, this finding also shows the proximity to kin/ relatives as the most consistent prominent factor of location norm to meet housing satisfaction in all age groups. It illustrates that social ties with kin/ relatives are essential in the respondents' daily life, represents the strong social ties in the Indonesian society, and establishes it as the most prioritized location attribute.

The examination of neighborhood norms finds a similar result to the prior norm. For adolescents, security, low-rate hazard, and crime are the pivotal factors in meeting their housing satisfaction. These factors are expanded in the young adult respondent group with the available community park and sense of

the neighborhood as the additional factors, which indicates this respondent group demands interaction with the neighbors and nature to meet their housing satisfaction. While in the adult respondent group adds the available mini-market in their neighborhood to facilitate daily needs within walking distance and a calm environment to improve their well-being for fulfilling their housing satisfaction. It shows the age increment expands the primary factors of housing satisfaction. Nonetheless, similar to the prior norm, this finding also demonstrates the most consistent factors of housing satisfaction in all age groups, which are security, low-rate hazard, and crime, as primary factors of housing satisfaction in the neighborhood norms.

While in the space norms, the expansion of a variety of the primary factors for meeting housing satisfaction also occurs across the age groups. In the adolescent group, the kitchen, house shape/ form, and interior are the essential attributes to meet their housing satisfaction. The prominent factors for the young adult are the number of bedrooms, kitchen, house shape/ form, sustainability, and living room, while the older group adds land size, garden, view, and house size. It demonstrates that the number of primary factors of housing satisfaction increases along with the age increment. Table 3 also shows the house shape/ form is the most consistent primary factor across the age group, which establishes it as the prominent factor of housing satisfaction in the space norm according to the age group.

While in the expenditure norm, house price and installment, along with operational and maintenance costs, are the prominent attributes

of housing satisfaction for the adolescent group. The young adult respondents consider the operating and maintenance costs with land and building tax as the essential determinants for meeting their housing satisfaction. The adult respondents add that profitable investment is pivotal in achieving their housing satisfaction. It indicates the determinants of housing satisfaction in the expenditure norms expanded through the ages. Nonetheless, operational and maintenance costs are the pivotal factors of housing satisfaction in the expenditure norms as their significance consistently occurs across the age group.

This finding establishes the growing complication of factors to meet housing satisfaction with the age increment, as the development of socio-demographic attributes. The changing life-cycle of respondents may implicate the needs and the housing attributes to meet the housing preferences. It is demonstrated in the varieties of determining attributes in each housing norm to meet housing satisfaction for adolescent, young adult, and adult respondents. However, several pivotal factors in determining housing satisfaction consistently occur across age groups.

3.3. Housing Cultural Norms by Monthly Income

For those who earn less than IDR 5 million/month, proximity to the workplace (ρ -value=.0448<.05), public transportation (ρ -value=.0396<.05), healthcare facilities (ρ -value=.0053<.05), and kin/ relatives (ρ -value=.0161<.05) are the important features of housing satisfaction. Those important features thrive with education (ρ -value=.0056<.05) and sports facilities (ρ -value=.0397<.05) to meet housing satisfaction for those who earn IDR 5.01-10 million/ month. Proximity to the workplace is not a significant factor for the respondents with monthly income IDR 10.01-15 million, but public transportation (ρ -

value=.0335<.05), education facilities (ρ -value=.0056<.05), highways (ρ -value=.0275<.05), healthcare facilities (ρ -value=.0275<.05), and kin/ relatives (ρ -value=.0397<.05). Besides proximity to healthcare facilities and kin/ relatives, the respondents with a monthly income of more than IDR 15 million also prioritize proximity to shopping malls, education facilities, and highways. This finding indicates the number and variety of determining factors for housing satisfaction expand through the improvement of monthly income. Nonetheless, proximity to health facilities and kin/ relatives are the most consistent determining factors of housing satisfaction through the improvement of monthly income.

In the neighborhood norms, security (ρ -value=.0275<.05), cleanliness (ρ -value=.0003<.05), and sense of the neighborhood (ρ -value=.0348<.05) are the essential factors of housing satisfaction for those who earn less than IDR 5 million/ month. These factors gradually expand to the low-rate hazard (ρ -value=.0021<.05) and crime (ρ -value=.0286<.05) for the respondents with monthly income IDR 5.01-10 million. Later, community parks and calm neighborhoods are the additional factors for those who earn monthly income IDR 10.01-15 and IDR 15.01-20 million. While the available mini-market in the neighborhood (ρ -value=.0431<.05) becomes an additional factor of housing satisfaction for those who obtain a monthly income of more than IDR 20 million. Similar to the prior finding, the essential determinants in the neighborhood norms of housing satisfaction expand according to the improvement of monthly income.

In the space norms, kitchen (ρ -value=.0237<.05), living room (ρ -value=.0288<.05), and house size (ρ -value=.0091<.05) are the determining factors of housing satisfaction for those who earn less

than IDR 5 million/ month. House shape/ form (ρ -value=.0139<.05) emerges as an additional factor of housing satisfaction for the respondents with monthly income IDR 5.01-10 million. The determining factors of housing satisfaction expand with land size (ρ -value=.0304<.05), number of bedrooms (ρ -value=.0406<.05), and sustainability (ρ -value=.0220<.05) for those who earn monthly income IDR 10.01-15 million, interior (ρ -value=.0348<.05) for the respondents with monthly income IDR 15.01-20 million, and view (ρ -value=.0212<.05) for those who earn more than IDR 20 million/ month.

However, Table 3 shows the contradictory result in the expenditure norms with the other counterparts. House price and its installment (ρ -value=.0049<.05), operational (ρ -value=.0040<.05) and maintenance costs (ρ -value=.0329<.05), also land and house tax (ρ -value=.0178<.05) are the prominent determinants of housing satisfaction for those who earn less than IDR 5 million. The variety of factors of housing satisfaction are shifting to operational (ρ -value=.0056<.05) and maintenance costs (ρ -value=.0136<.05) also land and house tax (ρ -value=.0156<.05) for the respondents with IDR 5.01-10 million/ month. While for those who earn monthly income IDR 10.01-15 million, operational (ρ -value=.0078<.05) and maintenance costs (ρ -value=.0361<.05) remain as the prominent determinants of housing satisfaction, with profitable investment (ρ -value=.0434<.05) as an additional factor. They are reduced to maintenance cost (ρ -value=.0347<.05) and profitable investment (ρ -value=.0003<.05) for those who earn monthly income IDR 15.01-20 million. While profitable investment (ρ -value=.0008<.05) is the only factor of housing satisfaction for the respondents with a monthly income of more than IDR 20 million. The finding indicates the numbers and varieties of determining factors of housing satisfaction in the expenditure norms decrease with the

increment of monthly income, which is contradictory with the other cultural norms.

4. Conclusion

This study shows the role of socio-demographic characteristics in determining the housing satisfaction of the residents. For Indonesian adolescents, age and monthly income are the key contributing factors to housing satisfaction. Both factors indicate a high correlation, as the younger the age, the lower the monthly income. Individuals start their employment career at a younger age, which determines their monthly income.

According to these factors, this study obtains several interesting findings which relate to the pivotal factors of each housing cultural norm, such as location, neighborhood, space, and expenditure. Generally, there are consistent contributing factors, which indicate the pivotal factors throughout the age and monthly income groups.

The proximity to health facilities and kin/ relatives plays a pivotal role in housing satisfaction through the improvement of monthly income. It indicates that family health and social connectedness are the priorities of their housing satisfaction, as both are the support the well-being of their families. However, the proximity to other city facilities is changing according to the increment of their monthly income and life-cycle.

For neighborhood norms, there are 4 (four) consistent key determinants of their housing satisfaction, such as security, a calm neighborhood, free from hazards and crime. These determinants become the primary factors as they provide the survival warranty from physical and psychological danger for the household members. While other neighborhood features are changing according to the changes

in monthly income or the life-cycle of the individuals or households.

Surprisingly, none of the space norms' attributes are constantly contributing to housing satisfaction, according to age and monthly income. It suggests the physical features of housing are adjustable by the residents to meet their changing needs according to the volatile life-cycle. It is different from the previous norms, which are beyond the capabilities of the residents to change according to their ever-changing needs.

It shares a similar finding with the expenditure norms. At a younger age and with less monthly income, the housing price, installment fee, and operational and maintenance cost becomes the prominent factors of housing satisfaction. However, along with the increasing age and monthly income, profitable investments replace them as the key determinants of housing satisfaction.

These findings remind us that housing satisfaction cannot be universalized according to a single social group in all cities around the world, as mentioned in many prior studies as if the individuals do not any changes during their life. The increasing age and monthly income ignite new everyday needs with different capabilities to meet them. The housing satisfaction of each social group evolves because of its vulnerable dependencies to the particular ever-changing socio-economic condition of the city, household, and individual. These findings also provide a general understanding of the important physical and social features of each housing norm to meet the housing satisfaction of the residents.

As the ever-changing global socio-economic condition contributes to the socio-economic condition of the individuals or households, it is important to deliver a similar study continuously with wider social groups and the

number of respondents. It provides a comprehensive understanding of the residents' satisfaction with their housing and environment as one of the efficacious references of housing planning in Indonesia.

These findings carefully consider the city authority, planners, and architects to formulate an aptly regulation, program, planning, and design of housing provision according to the socio-demographic characteristics of the targeted beneficiaries.

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