

The Linkage Between Income, Purchasing Power, Housing Satisfaction and Urban Residents' Well-Being in Georgetown, Penang

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ABSTRACT

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The urbanization process has had a significant impact on people's economic, social, and well-being worldwide, especially in urban areas. This process tends to bring changes to the social lives of urban residents. Urbanization is a global phenomenon, and Malaysia is no exception. The migration of people from rural to urban areas is a significant aspect of the urbanization process, as there are many opportunities and advancements. However, rapid urbanization and high population density have a negative impact on the well-being of people living in urban areas. Therefore, this study aims to examine how income, purchasing power and housing satisfaction affect the urban residents' well-being in Georgetown, Penang. This study used a quantitative method, purposive and convenience sampling, and received 200 completed questionnaires, resulting in a 100% response rate. The result shows a significant positive relationship between purchasing power, housing satisfaction, and urban residents' well-being. Monthly income alone did not indicate a relationship with urban residents' well-being. Results also show that housing satisfaction is the main factor affecting urban residents' well-being. There were also limitations identified in this study. First, the limitation is the location of the research, which is mainly focusing on the urban residents in Georgetown, Penang. The study exclusively examined three independent variables. Next, the group of respondents was limited to only 18 years old and older and quantitative method is used to analyse the data. In conclusion, several recommendations have been proposed regarding the role of policymakers in creating a policy that focuses on housing projects which includes green areas and facilities to access public goods. Engagement with NGOs is also important to create awareness about sustainable urban areas.

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1. INTRODUCTION

Urbanization is a multifaceted socio-economic phenomenon that involves changing the built environment, transitioning historically rural areas into urban settlements, and redistributing population density from rural to urban areas. It affects the predominant occupation, way of life, culture, and behaviours, which in turn modifies the social and demographic makeup of both urban and rural areas (United Nations, 2019). It has brought about enormous change in the social, political, economic, ecological, and cultural areas of human life (Hussain & Imtiyaz, 2016). Statistics show the percentage of urban residents will continue to rise from 56 percent in 2021 to 68 percent in 2050 (Habitat, 2022). The global urban transition has occurred all over the world, including in developed and developing countries. As developed countries are countries with a high level of industrialization, economic development, and a high standard of living for their residents, this is based on the data collected, known as the Human Development Index (HDI). The Human Development Index measures three dimensions of human development: a long and healthy life, knowledge, and a decent standard of living (UNDP, 2024). The increasing population in developed countries is significantly larger due to the abundance of opportunities available. 79 percent of the world's population resides in the urban areas of developed countries (Habitat, 2022).

On the other hand, developing countries contribute to the growing number of urban populations. It was recorded that 52 percent of the whole world's population currently resides in the urban areas of developing countries and is expected to increase to 57 percent in 2030 and 66 percent in 2050 (Habitat, 2022). Therefore, this has led to a rise in poverty among urban residents in developing countries as they strive for improved urban futures. Poverty is defined as a lack of resources to meet one's necessities (Britannica, 2023). Urban poverty is complex and multidimensional, extending beyond a lack of income or consumption to include the poor's vulnerability because of insufficient access to land and housing, physical infrastructure and services, economic and livelihood sources, health and education facilities, social security networks, and voice and empowerment (Mathur, 2014). Urban poverty and inequality are not only based on a lack of income, but they go beyond that (Habitat, 2022). The phenomenon is becoming more widespread due to the COVID-19 outbreak.

Continuous urbanization across the country has led to a shift from rural to urban areas, a phenomenon known as the "urbanization of poverty" (Habitat, 2022). Most of the time, people tend to focus on the rural area when discussing poverty, but this trend has changed recently. Residents in rural areas have also felt the effects of urban poverty. Examples of developing countries, such as South Sudan, the Central African Republic, the Democratic Republic of Congo, and Eritrea, have reported approximately 20 percent of their total population living in extreme poverty in urban areas since 2016. Japan has also experienced a spatial concentration of poverty in its megacity (Habitat, 2022). Developing and developed countries often deal with inequality issues that lead to urban poverty. The increasing level of inequality among urban residents is due to factors such as income inequality, socioeconomic disparity, and spatial exclusion (Habitat, 2022). As the data showed, the number of people who reside in urban areas across the world is continually increasing, making the issue of urban poverty one of the most crucial to address to build a more sustainable urban environment and to ensure the well-being of urban residents.

1.1 Problem Statement

Nowadays, the term well-being has been thoughtfully discussed, as it has one of the most significant impacts on the quality of life, especially in the context of urban areas. The fast urbanization and rapid socio-economic momentum have clashed with the well-being of life.

Shafii and Miskam's 2011 study demonstrates that unplanned and uncontrolled development and rapid urban growth can jeopardize the well-being of urban residents. Developed countries such as in the Europe continent have experienced the same impacts of urbanization as developing countries (Greer & Reissman, 1965). While urbanization should contribute to the economic development of a country and be a source of pride, it often has a negative impact on the well-being of its residents. The Malaysia Department of Statistics recorded an increase in the poverty rate in urban areas from 3.9% in 2019 to 4.5% in 2022 (DOSM, 2023). Based on the findings by Nasib et al. (2023), the prevalence of depression among the urban poor in Malaysia varies between 23.9% and 57.8%. The numbers show that they were greater than the national prevalence of depression estimated by the NHMS report (Min et al., 2022). This figure demonstrates how it affects the well-being of urban residents in Malaysia. The factors that led to depression among the urban poor in Malaysia are household income, stressful events, younger age, loneliness, chronic health conditions, a lack of assets, and non-Malay ethnicity (Nasib et al., 2023).

Penang is one of the many urban areas in Malaysia that contributes to the largest number of people. Penang's population gradually increases from 1.7 million people in the first quarter of 2023 to 1.8 million in the first quarter of 2024 (DOSM, 2024). Despite other states having larger populations than Penang, Penang is Malaysia's second-smallest state after Perlis (USM, 2023). Penang's large population and small area result in a high population density. DOSM (2023) ranked Penang third among all Malaysian states and federal territories, with an overall well-being value of 119.0 in 2022. The northeastern area of Penang recorded the highest population of 556,575 with a density of 4,417 per km² (DOSM, 2024). Georgetown is an area of urbanization located in the northeast part of Penang. In 2023, the number of accidents resulted in 1,030, an increase of 3 percent from the previous year (Sinar Harian, 2023). The large population in the small area also leads to road congestion, especially during peak hours and festive season. According to Datuk Mohd Shuhaily Mohd Zain, Penang Police Chief at the time, one of the reasons for road congestion is the lack of awareness of car sharing among Penangites (Focus Malaysia, 2022).

There is a necessity to understand and study the level of well-being among urban residents and to examine the main factors that contribute to the level of well-being. This study focuses on the urban residents' well-being in Georgetown, Penang. The study's result can provide significant information and guidance for the government, policymakers, and related organizations in providing a sustainable urban environment. The study offers several insights into the level of urban residents' well-being by providing a deep understanding of how the factors could have impacts on the well-being of urban residents. The study's findings can also benefit society by motivating individuals to take into account the factors that impact their well-being, particularly in light of the government's goal of enhancing people's well-being through the implementation of the Malaysia MADANI principles. The well-being of urban residents is crucial for achieving a balance in life and freedom from uncertainty, whether it pertains to financial matters or physical needs (James, 2023). Thus, it is important to study the factors that could impact the well-being of urban residents, as it undermines the objective of achieving the concept of well-being in Malaysia MADANI.

The study aimed to 1) examine the level of well-being among urban residents in Georgetown, Penang; 2) examine the relationship between monthly income, purchasing power, housing satisfaction and well-being among urban residents, and 3) determine the main factor that affects urban residents' well-being.

The rest of this paper is organised as follows: Section 2 of the previous studies reviews the variables. Section 3 draws hypothesized relationships and constructs the research model, while section 4 presents the research methodology. Section 6 presents data analysis and research findings. Section 7 outlines the research findings for discussion; as well as depicting the research conclusions and future research suggestions.

2. LITERATURE REVIEW

2.1 Urban Residents' Well-Being

Well-being encompasses both an individual's emotional state, their ability to engage in personal and social activities and their overall assessment of their life (Michaelson et al., 2012). According to Reid et al., (2005), the residents' well-being is based on the four dimensions which are health, sense of security, perceived freedom good social relations and basic material for living well. The other terms to describe the condition of the well-being of urban residents can also be addressed as urban quality of life, standard of living, well-being or prosperity (Gajdos & Hudec, 2020). It is important to identify the condition of the urban residents' well-being to ensure their sustainability living in the urban area. The urban development must be monitored to ensure the cities future sustainability (Panagopoulos et al., 2016).

Recently, the level of urban residents' well-being became worse and worrying. To substantiate the statement, the Health Minister of Malaysia, Dr Zaliha Mustafa said that the mental health screening organized in 2022 towards 336,900 individuals across the Malaysia by Ministry of Health shows that 70 percent of residents in Federal Territory of Kuala Lumpur (WPKL) recorded the highest number affected by depression and anxiety (James, 2023). This health inspection also found that the most affected groups is among the B40 and urban poor. Factors contributing to poor psychological well-being is mental health problems including depression and anxiety (Hiremath, 2021). Health and well-being are two different terms to be discussed but somehow it is frequently defined in the same state of matters. Urban residents' well-being is a broader concept which not only includes the concept of health but also other aspect such as social, economic and environment factors which could lead to better quality of life in the urban areas (WHO, 2021). It impacts on how the urban residents' feel about themselves such as happiness, anxiety or depression, their functions to the surrounding and how they evaluate themselves.

In the study by Somasundram et al., (2018), the study was conducted in Malaysia based on state and urban areas which are Kuala Lumpur, Selangor, Penang and Malacca with the total of 358 respondents. The study seeks to identify and evaluate the challenges faced by the urban residents and linked with the government policies in addressing those challenges. Based on the result, it indicates that the value of RII (Relative Importance Index) shows that crime, RII=0.935 has the highest percentage values of respondents scoring followed by the rising price level challenges which was recorded at RII=0.931. This is followed by the lack of employment opportunities with RII=0.869, air pollution at RII=0.844 and traffic congestion at RII=0.817. It shows that the rising price level give impacts to the standard of living and the purchasing power of the communities. The study found that the government initiatives in addressing those main challenges however would be more ideal and effective by asking the urban residents themselves to join in designing the policies too.

The study conducted by Cui et al., (2019) aimed to determine the happiness of China's residents and, the study was conducted for 898 residents. The participants' target of this study is among rural residents and urban residents of Dazhou. The rural residents refer to the community

ownership and household registration who have reached the age of 18 while urban residents refer to the non-agricultural population in urban communities and long-term local residents. The study recorded 614 out of 898 participants agreeing that income is one of the important factors to improve residents' living conditions and medical conditions. 68 percent agree on the income factor as essential, 57 per cent agree on health and 50 percent agreed on environment (Cui et al., 2019).

Furthermore, a study was conducted in Oslo, capital of Norway to examine the variables of commute satisfaction, neighbourhood satisfaction and housing satisfaction in relation to the well-being of residents itself. The study was conducted among 1344 residents from various locations in the inner city, inner suburbs and outer suburbs from 45 neighbourhoods. The sample was randomly selected by giving the online survey to one member per households. The result showed that housing satisfaction is significantly associated with subjective well-being and life satisfaction. Not only that, the commute and neighbourhood satisfaction also influence the subjective well-being of urban residents in Norway (Mouratidis, 2020).

A study was conducted by Awang et al., (2022) regarding the socio- ecological support and physical facilities towards the social well-being of the urban residents in Malaysia. The study involved 2502 respondents which comprised of 1149 males and 1353 females. The result showed that majority of the urban residents were satisfied with the social support from family and communities which resulted to the improvement in their social well-being. Other than that, NGOs also plays vital role in encouraging the local communities to join activities that promotes social well-being. Most of the urban residents were satisfied with the facilities provided in their residential area such as drainage maintenance systems, clean walkways and physical amenities for pedestrians. The waste disposal system is at the low level of satisfaction (Awang et al., 2022).

2.2 Monthly Income

Monthly income can be defined as the maximum amount that was gained from employment that individual can use in a certain period for daily use (Solomons, 2002). An individual gained a total amount of money in a month. A monthly income is used as a measure of economic status (Lipovcan et al., 2007). People might define a satisfying quality of living by purchasing goods and services with the money they earn from their daily or monthly employment (Burlacu & Birsan, 2016). The research on the relation between life satisfaction and income has become the most popular topic in the world of research field. Many researchers believe that people's life satisfaction will be when there is an increase in a person's source of income. This is because, the development of income will be linked to the satisfaction and well-being of life such as better health care, better living standards, and better housing satisfaction. In addition, income also allows individuals to be satisfied by providing opportunities for them to fulfil their own desires (Cheung & Lucas, 2015). Many studies on happiness and life satisfaction believe that life satisfaction should increase as income grows, because income predicts many additional factors, such as better health or a higher standard of living (Blanchflower & Oswald, 2000).

Residents' well-being that is contained with happiness, life satisfaction and satisfaction with several life domains has differential between groups of people with different monthly income (Lipovcan et al., 2007). The study aims to examine the differences in subjective well-being among people with different monthly income for each household. Results has shown the subjective well-being increases with personal growth of monthly income and this means happiness and life satisfaction becomes significantly greater between groups of people with different monthly incomes. The determinants of personal income occur between demographics and socio-economics groups of an individual (Goh & Tey, 2018). There is also a gap of opinion

towards the people around the city and the countryside. This gap will have a direct impact on the well-being of a person's life. Groups that have increased income can improve their well-being rather than living close to the poverty line (Li & Managi, 2023). Empirical studies have found that the increased income always leads to human well-being improvement because of its effects on the direct and indirect factors that are always positive in most pathways. In other words, the increased income will contribute most to human well-being before reaching the poverty line (Li & Managi, 2023).

2.3 Purchasing Power

Purchasing power could be affecting the urban residents' well-being in many ways. Purchasing power is often associated with the amount of goods or services that can be purchased with one unit of currency (Abdul Aziz, 2023). Urban people's purchasing power is determined by their income levels, the cost of living in the city, and the costs of goods and services. Consumer purchasing power is important in strengthening the national economy (Abdul Bahri, 2023). Purchasing power is strongly influenced by the income of society (Sukirno, 2005). Furthermore, purchasing power of the nation is determined by its income and its monetary policy (Arize et al., 2018). It should be acknowledged that purchasing power and community income level are closely correlated. A high-income level in society has an impact on people's ability to make purchases.

Empirical studies conducted by Zhu et al., (2021) found that higher level of happiness and satisfaction are associated with an increase in expenditure, which means that there is a strong positive correlation between increased happiness and higher levels of expenditure in purchasing goods and services. This study was conducted among the residents in urban and rural areas in China. Dunn et al., (2011) found that money does not buy happiness, and it should be spent on experiences, helping others, and small pleasures. They proposed eight principles to increase happiness and satisfaction from money which are buy more experiences, use money for others, avoid expensive insurance, postpone consumption, consider extra features, avoid comparison shopping, and pay attention to others' happiness. Through this study's findings, urban residents should spend more on experiences and goods for sustained happiness and well-being.

The situations of urban areas in Malaysia can be shown from the study that was done by Sabri and Dass (2017) on urban poor communities in Kuala Lumpur where it reveals that they have moderate financial literacy but struggle with less effective financial behaviour, high financial strain, and poor personal well-being. High-cost of living contributes to urban poverty, and rising commodity prices strain their purchasing power. To improve their well-being, the study suggests fostering positive financial behaviours and reducing financial strain. Huruta and Kim (2021) have completed the study on the relationship between purchasing power and quality of life: the mediating role of safety, using the cross-conceptual data of twenty-eight Asian countries in 2020. This study examines how purchasing power influences the quality of life and the role safety plays in this relationship. There are three hypothesis as a prediction of the relationship between variables in this study. The information above makes it very clear that the three variables are linked. This study consequently suggests that safety plays a mediating role in the relationship between purchasing power and quality of life. Therefore, these explanations drive to the following hypothesis that purchasing power had a direct and positive effect on quality of life, purchasing power had direct and positive effect on safety and safety also has a direct and positive effect on quality of life.

2.4 Housing Satisfaction

The well-being of urban residents closely linked to a person's housing satisfaction in their residential areas and is generally considered an important determinant of individual quality of life (Aragones et al., 2016). The building quality, the layout and style of the house, its size, the amount of space inside, the facilities provided, and the cost of the property are all related to how satisfied one is with their housing. (Aigbavboa and Thwala, 2016; Davis and Fine-Davis, 1991; Galster, 1987; Nguyen et al., 2018). A study by Zhang et., al, (2018) indicates that homeownership and house size significantly impact housing satisfaction and overall happiness, with the perceived value of homeownership estimated at 4.5 times individual income. The paper explores the impact of housing conditions on individual life satisfaction in urban China, utilizing the Chinese General Social Survey dataset. This study was conducted among urban China society with dividing full sample into age groups and income groups to analyse the homogeneity of the results across society. This study also investigates the impact of housing conditions on people's satisfaction and overall satisfaction in urban China (Zhang et al., 2018).

Schwirian & Schwirian (1993) has conducted some studies to find out the relative effects of neighbouring and residential satisfaction on the psychological well-being or urban elders. The data were collected from 254 independently living elderly people in Columbus, Ohio. From this study, researchers also want to know how that effect is influenced by the elders' personal resources such as income, level of health and mobility in their life. This study concludes that the relationship between home satisfaction and mental well-being is influenced by personal resources of the elderly. For example, one group that has a good level of health, enough money to meet daily needs and has the ability to move easily tends to have a good level of mental health and well-being. In addition, when they have enough money, this group also has the means to meet the need to live in a comfortable house, a safe living area, satisfied with the physical condition of the house and are able to live with the important people in their lives.

According to a study by Peck et al., (1985), housing satisfaction is affected by neighbourhood satisfaction and housing unit features, and it makes a substantial impact to overall life satisfaction overall. The purpose of this study was to examine how housing satisfaction contributes to the respondents' overall satisfaction with their quality of life. It also examines the relationship between respondents' housing characteristics and sociodemographic characteristics. Through the conducted survey in this research, respondents reported that they have higher level of happiness with their houses when they enjoyed their neighbourhood, owned their homes, had fewer people living in each room, lived longer in their house, and believed their housing costs were reasonable. Housing satisfaction is linked to overall life satisfaction, as it is influenced by one's satisfaction with their neighbourhood and the quality of their house.

Therefore, these explanation on the previous research leads to the development of the following hypothesis in this study:

- H₁: The level of urban residents' well-being is high.
- H₂: There is a significant correlation between average monthly income and the level of urban residents' well-being.
- H₃: There is a significant correlation between purchasing power and the level of urban residents' well-being.
- H₄: There is a significant correlation between housing satisfaction and level of urban residents' well-being.

As such, the study utilised the previous works of Muhammad et al., (2020); Dass et al., (2017); Ibem and Amole (2013) and Mouratidis (2020) as the basis of the relationships which congregate amongst the variables. The monthly income, purchasing power and housing satisfaction are the determinants that can influence the urban residents' well-being. Figure 1 shows the conceptual framework of the study.

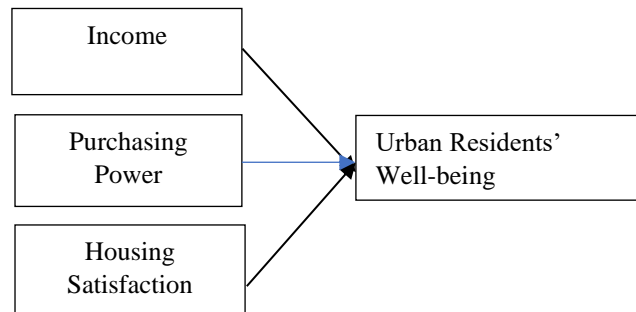


Figure 1: Conceptual Framework

3. METHODOLOGY

3.1 Research Design

This study used cross-sectional study and correlational study to determine the correlation between monthly income, purchasing power and housing satisfaction with the level of urban residents' well-being. Furthermore, in order to perform this study, a quantitative approach was used and deployed to answer the research objectives. The research hypotheses had been developed to focus on analysing the relationships and the impacts of these factors within the context of the study and determining the main factors affecting urban residents' well-being.

3.2 Data Collection Procedure and Analysis

Data was collected using purposive and convenience sampling techniques and a quantitative research design with a survey method is used through online and self-administered survey platform. The questionnaire was adapted from the previous studies of Mouratidis (2020), Ibem and Amole (2013), Muhammad et al., (2020), Dass et al., (2017) to generate the relevant questions and obtain the accurate data regarding the relationship between the three independent variables and the level of urban residents' well-being. The questionnaire included four components that were namely Section A: Sociodemographic (Monthly Income) (10 items), Section B: Level of Urban Residents' Well-Being (10 items), Section C: Purchasing Power (5 items) and Section D: Housing Satisfaction (8 items). Table 1 summarizes the survey and variables items. A pilot study was conducted to obtain the reliability of the instrument in questionnaire. The Cronbach alpha value obtained from pilot study for all three variables in the study instrument is above 0.60. Two hundred respondents were selected from urban residents located in Georgetown, Penang and were available to answer the questionnaire for the actual data collection. According to Roscoe (1975), sample sizes greater than 30 and less than 500 is suitable for most behavioural studies (Memon et al., 2020). 187 respondents conducted this survey through an online questionnaire meanwhile 13 respondents answered hardcopy questionnaire. The total number of response rate was 100%, representing 200 respondents. The data was analysed using IBM SPSS Statistics Version 26 software to conduct descriptive, correlation and multiple regression analysis tests.

Table 1: Survey and Variables Items

Construct	Number of Items	Source
Sociodemographic factors	10	Muhammad et al. (2020) DOSM (2022)
Level of Urban Residents' Well-being	10	Muhammad et al. (2020)
Purchasing Power	7	Dass et al. (2017) Muhammad et. al. (2020)
Housing Satisfaction	8	Ibem and Amole(2013) Muhammad et al. (2020)

4. RESULTS

Table 2 shows the summary profile of the total 200 respondents which are urban residents in Georgetown, Penang. 187 respondents answered this survey through an online questionnaire meanwhile 13 respondents answered with hardcopy questionnaire. The total number of response rate was 100%, that is representing 200 respondents. As shown in Table 2, the most dominant respondents who participated in this study were female with response rate of 52.0% meanwhile male is at 48.0%. The group of urban residents between 18 to 33 years old have the highest rate of response for age in the study where the percentage is 56.5%, compared to urban residents aged between 65 years old and above with response rate 5.5%. Majority of the respondents are Malays with 87.5% to be compared with Chinese at 7.5%, Indian estimated at 4% and the remaining of 1% were from other races.

The highest response rate for the educational level was tertiary education level with 56.0% compared to the primary level and no formal education with 3.0%. Next, in terms of the marital status of the respondents, the majority were single with 48.5% of response rate recorded, meanwhile, 47% of the respondents were married and 4.5% respondent were divorced. In tenure status most of the respondents were owners occupied that represent 50.5% and 49.5% of the respondents were tenants. Furthermore, the dominant employment status of the respondents was from private sector employee with 59.5%, the response rate of 13.5% was as self-employed, followed by 13% of the respondents are from public service employee, 5% respondent was retired and unemployed respondents represent 9%. Next, the majority of respondents made up of 38.0% of household size of four persons in house, meanwhile 16.5% represents the household size which is not more than 2 persons and 3 persons. Most residents have occupied the house for 4 years and above with 60.5% while there is also 14% that represent 24 respondents who have settled in for less than 1 year.

Table 2: Summary of Demographic Profile of Respondents (n=200)

No.	Variables	Profile	Frequency	Percentage(%)
1.	Gender	Male	96	48.0
		Female	104	52.0
2.	Age	18-33 years old	113	56.5
		34-49 years old	43	21.5

		50-65 years old	33	16.5
		65 years old and above	11	5.5
		Malay	175	87.5
3.	Ethnicity	Chinese	15	7.5
		Indian	8	4
		Others	2	1
		No Formal Education	6	3
4.	Educational level/ background	Primary	6	3
		Secondary	76	38
		Tertiary	112	56
		Single	97	48.5
5.	Marital Status	Married	94	47
		Divorced	9	4.5
6.	Tenure Status	Rent	99	49.5
		Owner occupied	101	50.5
		Public Sector Employee	26	13
		Private Sector Employee	119	59.5
7.	Employment status	Self-employed	27	13.5
		Retired	10	5
		Unemployed	18	9
		PLI: RM 0 - RM 2649	116	58.0
		B40: RM 2650 - RM5249	81	40.5
8.	Monthly Income	M40: RM5250-RM11819	3	1.5
		T20: RM 11820 - RM15870 and above	0	0.0
		Not more than 2 persons	33	16.5
9.	Household Size	3 Persons	33	16.5
		4 Persons	58	29
		More than 4 persons	76	38
		Less than 1 year	24	14
10	Length of Stay In The Residence	1 year – 3 years	55	27.5
		4 years and above	121	60.5

4.2 Reliability Analysis

Cronbach's Alpha is a measure of scale reliability that indicates how closely related a set of items are as a group and how well the items in a set are positively correlated to one another (Sekaran & Bougie, 2013). According to Sekaran and Bougie (2013), reliabilities coefficient less than 0.60 are considered to be poor, in the 0.70 range is acceptable, and those over 0.80 or nearer to 1 is considered as good. Therefore, Table 3 illustrates the reliability data for each tested variable. Cronbach's alpha value for urban residents' well-being was 0.9, purchasing power was 0.6, and housing satisfaction was 0.7. Thus, it can be concluded that all the variables measured in this study appeared to be reliable and appropriate.

Table 3: Reliability Analysis

Variables	No. of items	No. of items deleted	Cronbach's Alpha Value	Decision
Dependent Variable:				
Urban residents' well-being	10	-	0.9	Reliable
Independent Variables:				
Purchasing Power	5	-	0.6	Reliable
Housing Satisfaction	8	-	0.7	Reliable

4.3 Descriptive Analysis

The main objective in this study was to investigate the level of urban residents' well-being among urban residents in Georgetown, Penang. The descriptive analysis was carried out in this study to examine the Mean (M) and Standard Deviation (SD) of the variables. Descriptive Statistics is used to describe the data file characteristics that involves the frequencies or percentage and measures of the central tendency, which is mode, median and mean. Mean is also known as a measure of central tendency that offers a general picture of the data without unnecessarily inundating one with each of the observations in a data set (Sekaran & Bougie, 2013). According to El Omda and Sergent (2023), the standard deviation (SD) is measuring the extent of scattering in a set of values, typically compared to the mean value of the set. Based on the result obtained in Table 4, the mean score was 3.69 and the standard deviation was 6.63. Based on Moidunny (2009), the average value of mean as 1.00 to 2.60 is categorized as low, 2.61 to 3.20 in range is considered as moderate, 3.21 to 4.20 is high and 4.21 to 5.00 is very high score. Thus, it concludes that most of the urban residents living in Georgetown, Penang had a high level of well-being. Hence, H₁ was supported.

Table 4: Descriptive Analysis of Urban Residents' Well-Being in Georgetown, Penang

Variable	Mean	Standard Deviation
Well-being	3.69	6.63

4.4 Correlation Analysis

Correlation done to explore the degree of relationship between the two variables which is in the consideration (Senthilnathan, 2019). Pearson's Correlation Coefficient (R or r) use to measure the strength of the variables in a linear fashion (Hauke & Kossowski, 2011). The data used must be interval or ratio variables and fall in the normal distribution. The coefficient has a range of possible values from -1 to +1 where the values will represent the direction (Coakes, 2012). Sekaran & Bougie, (2013) suggested that 0 to 0.20 as very weak, 0.21 to 0.40 as weak, 0.41 to 0.70 as moderate, 0.71 to 0.90 as strong and 0.91 to 1.00 as very strong.

Based on result in Table 5, there was no significant correlation between monthly income and urban residents' well-being. It shows that the R-value was 0.000, which indicates that there was no linear correlation between the variables as the result indicates that $r=0.000$, $p>0.05$. Hence, H₂ is not supported. Then, there was low significant relationship between perceived purchasing power and urban residents' well-being since $r= 0.289$ while the p-value is 0.00 which was less than 0.05. Therefore, H₃ was supported. Housing satisfaction shows high relationship towards

urban residents' well-being in Georgetown, Penang. Therefore, it can be assumed that there was a high significant positive relationship between housing satisfaction and urban residents' well-being in Georgetown, Penang. Subsequently, H₄ was supported.

Table 5: Result of Correlation Analysis

Hypothesis	Results	Remarks
H2: There is a significant correlation between monthly income and the level of urban residents' well-being	p=0.1 (p>0.05),r=0.00	Not supported
H3: There is a significant correlation between purchasing power and the level of urban residents' well-being	p=0.00(p<0.05),r=0.29	Supported
H4: There is a significant correlation between housing satisfaction and the level of urban residents' well-being	p=0.00 (p<0.05),r=0.64	Supported

4.5 Multiple Regression Analysis

Multiple regression is another statistical technique used in this study which analyses the relationship between a single dependent variable and several independent variables. Multiple regression refers to the extension of bivariate correlation where the result can be used to predict the dependent variable from several independent variables in the study (Coakes, 2012). Based on Sekaran & Bougie (2016), multiple regression analysis is like a simple regression analysis but with the use of more than one independent variable to explain the dependent variable. Preliminary analysis was carried out to ensure no violation of the assumption of homoscedasticity, linearity, normality, independence of residuals as shown in appendix. There were several numbers of assumptions underpin the used of regression.

Firstly, the ratio of the cases to independent variables. In this study, the minimum requirement of the respondents to run the regression was 59 at the minimum, so the first assumption was fulfilled as the number of respondents was 200. Next is multicollinearity and singularity. Based on the collinearity statistics, the minimum and maximum number of tolerances is 0.1 and 0.9 respectively. Meanwhile, the minimum and maximum number of VIF was 1.131 and 1.004. Thus, the assumption was not violated as the tolerance is greater than 0.1 and the VIF value was less than 10. Then is normality, linearity, homoscedasticity and independence of residuals. For the normality, this analysis shows that skewness and kurtosis were not violated. The value of Durbin- Watson is 1.889.

Based on the result shown in Table 7, the independent variables stands for 42% of the level of urban residents' well-being which was highly significant. F-value of the analysis was 47.13. The model is statistically significant as the P-value shown is p<0.05. In this study, there were three factors identified as the independent variables which were monthly income, purchasing power and housing satisfaction. As presented in the results, the value of monthly income was ($\beta=0.00$, p=0.54), while the value of purchasing power is ($\beta=0.16$, p=0.15) and the value for housing satisfaction was ($\beta=0.89$, p=0.00). Among these independent variables, there was only one variable found to be significant which is housing satisfaction (p=0.00). Therefore, it can be concluded that the housing satisfaction was the main factor affecting the level of urban residents' well-being in Georgetown, Penang

Table 5: Results of the Multiple Regression Analysis

Variables	Unstandardized Beta	Standard Beta	T-value	p-value	Decision
Monthly Income	0.00	0.00	-0.62	0.54	Not Significant
Purchasing Power	0.16	0.083	1.44	0.15	Not Significant
Housing Satisfaction	0.89	0.615	10.63	0.00	Significant
R ²	0.42				
F-Value	47.13				
P-Value	0.00				

5. DISCUSSION

The finding indicates that urbanization improves the mean scores among respondents of urban residents in Georgetown, highlighting the potential of the urbanization to enhance the level of well-being. Build upon previous research done by Lo et al., (2021), it is shown that the new type of urbanization has positively impact the overall subjective well-being of urban residents. Urbanization phenomenon, which involves the proper way of urban planning will create a healthier environment and more sustainable compact cities (Giles-Corti et al., 2016). Additionally, a study conducted by Hogan et., al (2016) found that convenient facilities and excellent services improve the subjective well-being of residents. The urban built environment also helps to develop a social interaction among residents and maintain good health (Brown et al., 2008 & Leyden, 2003). However, the high population and density may result in noise, pollution and other issues generated by the cities which will reduce the well-being (Fischer, 1975). Therefore, despite the negative impact of urbanization towards residents' well-being (Kopadze & Jikurashvili, 2023), it is pivotal to focus on comprehensive urban elements to build a more sustainable city which may improve the level of urban residents' well-being.

5.1 Correlation between Monthly Income, Purchasing Power, Housing Satisfaction and Urban Residents' Well-Being in Georgetown, Penang.

Correlation between average monthly income, purchasing power and housing satisfaction were analysed using correlation analysis to determine whether there is significant correlation or not between the level of urban residents' well-being in Georgetown, Penang.

The first correlation identified is between monthly income and the urban residents' well-being in Georgetown, Penang. The result shows that there is no correlation between average monthly income and the level of urban residents' well-being in Georgetown, Penang. The findings of this study were supported by a study conducted by Diener et al., (1993) to the 18,032 college students in 39 countries and to the 4942 American Adult. The finding shows that the income level produce lesser increase in subjective well-being for the people with higher income levels in the U.S. Also, according to the Diener & Biswas (2002), the money may enhance the well-beingin which the person were able to hinder poverty, however the level of well-being will be affected in the long-term when the material desires keep on increasing over time with their incomes. As a result, in the findings of this study, there was no significant correlation between average monthly income and the urban residents' well-being. The second correlation was between the purchasing power and urban residents' well-being in Georgetown, Penang. Based on the results, it is found that there is a significant correlation between purchasing power and urban residents' well-being. The findings by Zhu et al., (2021) show that the level of happiness and satisfaction increase due to the ability to make the purchase in their desire.

The last correlation is between the housing satisfaction and the urban residents' well-being among the urban residents' well-being in Georgetown, Penang. The current findings show that there is a significant correlation between the housing satisfaction and the urban residents' well-being. Based on the study by Mouratidis (2020) conducted in the Oslo, Norway about the three predictors which are commute satisfaction, neighbourhood satisfaction and housing satisfaction on the liveability and quality of life of urban residents which determine their subjective well-being. The finding shows that there is a strong relationship between all those predictors. The housing satisfaction shows the direct impact on the subjective well-being of the residents in the urban area. It is interesting to note that, the most influencing factors that affect the urban residents' well-being in this present study was housing satisfaction. It is in line with the study by Costa (2013), conducted among the ageing population in the urban area in Spain and the result showed that housing satisfaction, environmental influences and homeownership does improve their well-being.

6. CONCLUSION

In conclusion, the findings in this study show that the most dominant factor that affects urban residents' well-being among urban residents in Georgetown, Penang, was Housing Satisfaction. In addition, purchasing power had low significant correlation with the level of urban residents' well-being. Besides, this study also found that there was no significant and low positive correlation between average monthly income as socio-demographic factor and urban residents' well-being among urban residents in Georgetown, Penang. In summary, this study highlights the various side characteristics of the factors that affect urban residents' well-being. By understanding these elements, urban planning for residential areas can be developed in order to ensure urban residents are able to fully utilize urban transformation and at the same time their well-being in a good condition.

7. LIMITATIONS

There are several limitations identified throughout the study. Firstly, the respondents of this study are focused only on the urban residents in Georgetown, Penang. Georgetown is located on the northeastern coast of Penang. Thus, the study only focused on the respondents that resides in Georgetown, Penang which do not reflect the well-being for the whole population in Malaysia. Therefore, future research should be conducted at the other part of urban area in different states in Malaysia to improve the generalization of the research findings. Second, the limitation of this study was the restricted number of factors tested. In the current study, the factors discussed only focused on the monthly income, purchasing power and housing satisfaction which are related to the factors that may influence the well-being of urban residents. Eventually, there was a possibility that other kinds of factors also might influence the urban residents' well-being in Georgetown, Penang. The future research should explore more on the groups of factors that might affect the urban residents' well-being such as health factors and security factors.

Next, the study is limited only to the age of the respondents of above 18 years old. Thus, the findings did not reflect the whole population in Georgetown, Penang in determining their well-being as the findings only represent the urban residents' well-being for the residents above the age of 18 years old. The future research also may include the respondents below the age of 18 years old as the data may varies and resulted to different level of urban residents' well-being and to consider them are part of residents in urban areas too. Then, the other limitation of this study is the omission of questions regarding the specific areas where respondents reside. Future research should include a question about the location-based questions to provide more

comprehensive analysis. The last limitation of this study was methodology. Methodology refers to the systematic, theoretical analysis of the methods that applied to the study conducted and qualitative research should be considered for the future research to provide more accurate and perspective in obtaining the data for the findings.

8. RECOMMENDATIONS FOR FUTURE RESEARCH

Effective urban planning is crucial to mitigate these issues, ensuring that cities are sustainable, liveable, and capable of supporting their populations' needs. The intervention is needed by the government to provide policies, rules and regulations that focus more on the development of housing projects that emphasize urban development planning by developers. In urban planning policy, the government should set conditions for housing construction projects in urban housing areas such as green spaces and facilities to access public transport and public infrastructure. Policymakers should prioritize the inclusion of green areas in urban development initiatives which will help citizens interact with the natural environment and participate in physical activities such as community activities, neighbourhood groups, and local organizations that encourage social contacts to be promoted as ways to fortify social networks.

Next recommendation is to improve the current program that organized the Penang State Government which is the Penang Green Agenda (PGA) project that has been introduced since it started in 2017. All government departments have to collaborate with each other as well as with the non-government entities. NGO involvement in this project will often lead the Penang state government in fighting for sustainable urban development. NGOs can implement green initiatives by using their role in organizing community gardens, recycling programmes and renewable energy projects. NGOs can promote widely the 3R Program which is waste reduction, reuse, and recycling practices among residents. By implementing a 3R (Reduce, Reuse, Recycle) project in an urban residential area and being involved in creating a comprehensive plan that promotes sustainable waste management practices among residents. The involvement of NGOs in educational campaigns widely and frequently, can raise awareness about the important of sustainability and environmental protection among urban residents.

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AUTHORS' CONTRIBUTION

NAJ and NR were responsible for conducting the introduction and literature review sections, gathering and processing the data, performing data analysis using SPSS and preparing the sections of data methodology, discussion and implications. MNR was responsible for reviewing, editing and taking the lead in writing the manuscript. All authors provided critical feedback and helped shape the research, analysis, and manuscript. The final manuscript received approval from all authors.

CONFLICT OF INTEREST

We certify that the article is the Authors' and Co-Authors' original work. The article has yet to receive prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole

or in part elsewhere. We testify that all Authors have contributed significantly to the work, validity, and legitimacy of the data and its interpretation for submission to EJSSH.

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