Assessment of the Relationship between Environmental Attributes and Urban Quality of Life in, Malaysia.

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Abstract:Quality of life study has become an important issue among most of the researchers especially when it touches about urban living. There are many factors that significantly affect the quality of life and neighborhood satisfaction is one of the areas that concern many of the researches in the field of urbanism. Environment attributes are known as one of the factors that can affect neighborhood satisfaction. As the population is increasing rapidly in an urban area, it caused to increase in the unemployment crisis and amenities provided in urban areas. This study aims to evaluate the environmental attributes that can influence the urban resident's quality of life by adopting neighborhood satisfaction indicator as a mediator between the environmental attributes and quality of life. Primary data was collected in seven selected Klang Valley area through a survey involving 487 respondents for this study. SEM-AMOS was used for the data analysis. The findings revealed that there is partial mediation exist in the study that neighborhood satisfaction mediates the relationship between the environmental attributes and quality of life.

*Index Terms***:** *Environment Attributes, Neighbourhood Satisfaction, Quality of Life.*

I. INTRODUCTION

Urban population growth in Malaysia is increasing rapidly in Malaysia. The increase in urban populations mostly comes from rural areas compared to small town areas. This movement of migrants is due to the attractiveness of the big cities showed by the urbanization in Southeast Asia (Masron & Yaakob et., al, 2017). By 2050, 64 percent of developing countries' will be urbanized and Malaysia is expected that 3 quarters of the population will be living in urban areas. Klang Valley, Ipoh, Johor Bahru, and Penang are the 4 majors urban cities that consist of more than 50 percent population (Shahbaz et al., 2016). This phenomenon will contribute to urban shelter problems, poor residential, environment quality, climate change, the crisis of employment and access to urban services (Abimbola &

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Pauline, 2015; Tacoli & Mcgranahan, 2015). Under provision of public transports, traffic congestions, high rate of accidents, high crime rates, social tensions, air pollution, and water pollution are also the impact of the urbanization process (Sarwar, Chowdhury & Muhibbullah,2006). The high rate of migration will triggered demand for more affordable housing prices, development of new residential areas, acceptable cost of living, employment and job opportunities and good environment and physical features (Fadzil, 2014). Furthermore, most of the people choose to move to an urban area is to change their lifestyle, to improve their living standards and to obtain a higher level of wellbeing and quality of life for their family (Guveli et al., 2016; Shahbaz et al., 2016 ; Ji & Chen, 2015).

In Malaysia, quality of life (QoL) can be explained as increase individual skills, healthy and good lifestyle, freedom and have a variety of access to pursue knowledge and increase in the living standard that can fulfill the basic needs of the people's and to increase the wellbeing level of the people. Malaysian QoL Index was used to determine the differences in QoL. There are ten areas used for the measurement namely income, work life, transportation and communications, wellbeing, schooling, housing, situation, family life, social involvement and public protection (EPU,2011). Overall, from the report from the EPU (2011), Malaysian QoL has increased since 2000-2010 at 11.9 points it can be shown from Figure 1.
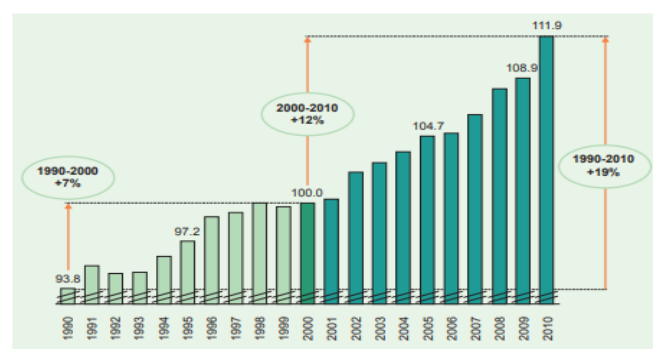

Fig. 1: Malaysian Quality of Life Index (MQLI)

As stated in the MQLI, QoL can be described as how the living standard improves the people to obtain the fundamental needs and psychological needs as overall wellbeing. It is also supported by Omar (2009) that the updated MQLI gauged citizens wellbeing based on salary, service opportunity, family life, the availability of the

transportation system and access to communication, access to health and education, neighborhood, neighborhood social participation, and public safety. The rate of urban population has increased quickly, it is predicted that more people will move to the urban areas and it is expected that more than three-quarters of the total population will reside in urban Malaysia by the year 2030 (Zainal et al.,2012). Thus, the neighborhood quality is important as it will affect people's quality of life overall as some of the researchers believed that neighborhood satisfaction is a part of the quality of life. Sirgy et al., (2000) in their study stated that there are many studies reported in the findings that satisfaction with the neighborhood characteristics affect the quality of life as the neighborhood has the most basic urban unit in the social context within the individuals draw satisfaction and live.

Neighborhood satisfaction is an outcome variable for the interest of planners, governments, and policymakers. There are increasingly emphasizing on the sustainability of urban development by capitalist societies. To have a great quality of life, neighborhood satisfaction must be a concern (Howley et al, 2009; Mohan and Twigg, 2007; Sirgy and Cornwell, 2002). Most of the previous researchers are focusing on social, physical and economic attributes in measuring the neighborhood satisfaction and quality of life (Mohit, 2010; Aiello, 2010; Sirgy et al, 2002; Parmentier & van Ham, 2011; Temelová & Slezáková, 2014). As we are living in different places which have numerous environmental attributes, these environmental attributes are also important in determining people's quality of life. The place that people choose to live will influence their satisfaction towards the overall quality of life (Maran, 2012).

Study by Howley et al. (2009), the research evaluates the relationship between high-density living and neighborhood satisfaction within the central city of Dublin. The findings from the research showed that the environmental quality, level of noise, lack of community involvement, traffic flow and lack of services and facilities are the factors that influence the dissatisfaction with the neighborhood. This study also supported by Ozdamar (2016) exploring the effect of air pollution and crime problems on wellbeing. Air pollution is an indicator of environmental factors that can influence neighborhood life satisfaction. A study conducted by Leslie & Cerin (2008), stated that there is a negative relationship between traffic load and congestion with neighborhood satisfaction. The study also supported by Newman & Duncan (1979) showed that there are no correlations between traffic flow and neighborhood satisfaction. Therefore, this study aims to assess the relationship between environmental attributes and quality of life by adopting neighborhood satisfaction as a mediator between the two. The result from this study may help the urban planner to find the right policy to increase the overall quality of life from the neighborhood satisfaction.

II. LITERATURE REVIEW

A. Quality of Life

Quality of life of the people living in the city is important issues that need to be the focus as the population is rapidly increasing in most of the country especially in an urban city. Quality of life of the urban city is linked with the

infrastructure provided in the neighborhood area and the expectations of the environment in the neighborhood area. The infrastructure and the environment of the neighborhood area can affect people's quality of life (Azahan et. al., 2009). People's quality of life is also affected by the neighborhood environment that can assist the adoption and sustaining active lifestyle (Cerin et. al.,2016). The perception of the urban residence is important in measuring the urban quality of life as they are the ones who lived in a city that directly involved with the environment of the neighborhood in the city. Numerous environmental attributes in different places and the different areas have influenced their lives and their overall quality of life (Maran & Kweon, 2011).

Stainer (1995) defined quality as a degree to which the product or services provided that can satisfy customer expectation. Quality is much related to the productivity where productivity is related to the efficiency of producing the outputs of goods or services by utilization of inputs. Compare to Elassy (2005) define quality as fitness for purpose which means that quality is related to the purpose of the product or services. Quality often measures at the mercy of subjectivity. Quality defined by Gill (2009) as customer satisfaction and loyalty and alternatively, it is characterized as qualification for use. Crosby (1980) referenced quality as conformance to necessities. Deming (1982) characterized quality is constant improvement through diminished variety. The definition additionally upheld by Gibbs (2011) recommended an elective meaning of value as a 'sufficient practice'. As this option featured that this meaning of value was an attention on the sufficient practices that the quality satisfied the desires for the reference gathering. This meaning of value can be bolstered by Green expressed that quality as viability in accomplishing objectives that known as one rendition of qualification for reason model that concentrated on assessing advanced education (Green, 1994, p. 15).

Personal satisfaction is identified with prosperity which is mean by joy and fulfillment by human presence and how individuals can accomplish a decent life. Personal satisfaction likewise can be characterized as individual observation, feeling, and reactions about their life (Andrews and Withey, 1976). Personal satisfaction can be clarified in the zone of prosperity as the prosperity is comprehensively imagined to the mean of personal satisfaction (Andrews and Withey, 1976). Prosperity commanded by two methodologies which are target prosperity and emotional prosperity.

Western and Tomaszewski (2016) in their examination are about the target prosperity approach that analyzes the target segments of the great life and the emotional prosperity approach that looks at individuals' abstract assessment of their lives. Prosperity likewise can be characterized as how people groups feel good with their life, wellbeing condition, and satisfaction. It is utilized to allude to the physical, mental, profound, social and monetary condition of an individual or gathering. Yahya and Selvaratnam (2015) expressed that positive experience results from the abnormal state of personal

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satisfaction and misery and hostile to social are influenced by abnormal state disappointment. Positive physical, social and mental is additionally incorporated into characterizing the prosperity. Steady close to home connections among the network, great money related security, remunerating business, great wellbeing, and a solid and alluring condition is the fundamental needs that should be met and improve (Bakar& Mohamed, 2015). Prosperity is about what is useful for individuals and something we make progress toward yet not all the time we can accomplish it (Tiberius, 2014).

Most of the developed and developing countries putting their interest to study the urban quality of life in the cities which involved variety of discipline such as geography, sociology, political science, economics and urban planning (Discoli et al., 2006 ; Basiago, 1999 ; Mohit,2012 ; Andrews, 1999; Foo et al., 1999).Quality of life in an urban is linked with the environment and the infrastructures provided in the area. If the city's provided with good facilities and infrastructure, they will have a good quality of life (Azahan et al., 2009). Quality of life in an urban context can be defined as the wellbeing of the people and how the quality of the environment where they are living (Mohit,2016). In other words, quality of life in an urban area is touched on the concepts of environmental quality, livability, and quality of place, residential satisfaction /neighborhood satisfaction and sustainability (Dissart and Deller, 2000). The concept of quality of life in an urban area also can be considered all the aspects of urban environments which encompasses the natural, built, social, physical and economic aspects (Mohit, 2016; Mohit & Ali, 2016; Azahan et al; Beck & Stave).

B. Environment Attributes and Neighbourhood Satisfaction

Neighborhood satisfaction is conceptualized in many different ways. Some of the studies analyzed the satisfaction by assessing with the dwelling design, satisfaction on the neighborhood and satisfaction with neighbors. Lu (1999) stated that the household makes their judgments about residential conditions based on their needs and expectation. The absence of complaints by the residents with a high degree of congruence between actual and desired situations is called satisfaction. The dissatisfaction can occur when there is incongruence between their actual housing or neighborhood. Internal and external environment and dwelling conditions also can affect the residential satisfaction where it can act as a stressor and become a factor that can affect the wellbeing of the people (Philip et al., 2005).

Balestra et al. (2013) stated that a neighborhood can affect people's quality of life in several ways. First, from the physical attributes, poor air and water quality can adversely impact people's wellbeing. Giving adult places to exercise and places for children to play at the playground that free from litter, crime, violence, and pollution may promote good health. Second, under the social environment, the social relationship among the residents in the neighborhood also can affect people's well-being by having mutual trust and the feeling of connectedness among neighbors. The close relationship among the neighbors will make them easier to work together in achieving their goals such as have a cleaner and safer public space in their neighborhood area. Instead of

the physical and social environment, accessibility to transportation, access to employment opportunities and public services also can affect people's wellbeing.

There is a direct impact between the quality of the living environment on human health and wellbeing which bad environment will lead to dissatisfaction and a low quality of life. Ozdamar (2016) exploring the effect of air pollution and crime problems on wellbeing. Air pollution is an indicator of environmental factors that can influence neighborhood life satisfaction. From the results, it showed that the individuals who are exposed to air pollution and crimes present on fewer satisfaction scores than those who are not exposed to air pollution and crimes. Air pollution plays a significant role in the subjective wellbeing as the effect of air pollution on wellbeing will need the extra monetary value to improve the air quality (Welsch, 2002, 2006; Luechinger, 2009, 2010; Levinson, 2012).

The indicators of environmental quality that will affect human wellbeing and quality of life are soil, air, and water. Air pollution takes into account and concentrates on PM10 and ground-level ozone and CO2 emissions from transport. For water indicators, access to clean water is fundamental to human wellbeing. The results shown by this study indicated that environmental quality such as water and air have a significant impact on human wellbeing (Streimikiene, 2015). Wokekoro (2015) the study assessed the residents' satisfaction with neighborhood quality attributes in Port Harcourt municipality, Nigeria. From the results, it indicated that the eight neighborhoods in Port Harcourt dissatisfied with the cleanliness of the neighborhood, the safety of lives and properties, electricity supply, water supply, residential planning, provision of basic amenities, hospitals/clinics, police stations, waste collection and disposal, public schools and shopping facilities.

A study conducted by Leslie & Cerin (2008), stated that there is a negative relationship between traffic load and congestion with neighborhood satisfaction. The study also supported by Newman & Duncan (1979) showed that there are no correlations between traffic flow and neighborhood satisfaction. Traffic levels also found don't have any substantial influence on neighborhood satisfaction (Herting and Guest,1985). Hur & Morrow-Jones (2008), stated that traffic issues have negative effects on neighborhood satisfaction contradict the study by Appleyard (1980) and Bosselmann (1987), their study suggested that lower traffic volumes can make higher livability for residents in the city. When traffic volume reaches to the high limits, it works as an important push factor for residents by decreasing their neighborhood satisfaction. In this new era, with a high rate of urbanization in the urban cities, it is important to study the effect of traffic flow on neighborhood satisfaction. Most of the people's in the cities using private transportation for traveling that can cause heavy traffic flow.

Ghonimi, I., & El Zamly (2017) in their study touch on UN- habitat global report stated that there is important to shift and focus on transportation planning as cities continue to change. The result from the study showed that the neighborhood is associated with high traffic volume at main streets and traffic light and heavy traffic congestion during peak hours. From this

study, it is shown that it is important to concern about the speed of traffic flow and the volume of traffic in measuring neighborhood satisfaction in the urban cities. Concerning this matter, it can give a better impact of urban form on movement behavior that could enhance social, economic, and environmental impacts of sustainable development.

Hur & Morrow-Jones (2008) stated that safety and social problems have more significant influences on neighborhood compare physical attributes in the neighborhood. Issues of homelessness and drug addiction are some of the social problems exist in urban cities that found can affect neighborhood satisfaction. This is results from a lack of attention and awareness on overcoming such societal issues and weak coordination at the city level (Temelova et. al., 2017). Property crime and vandalism frequently happen in many cities that caused to social issues that can affect the environment of the neighborhood area (Lagrance ,1999).

In the previous study, most of the researchers concerning the physical environment in measuring neighborhood satisfaction and the result shows that the physical environment has a strong correlation with neighborhood satisfaction (Herting & Guest, 1985). Greater pedestrian/traffic safety, crime safety, attractive aesthetics, access to destinations, diversity of destinations, park access, and lower residential density are some of the physical environment attributes discussed in the study by Lee, Conway et.al (2016). A study by Parkes et al. (2002) found that neighborhood environment attributes have high significant to neighborhood satisfaction compare to demographic factors. There are mixed findings on the relationship between environmental attributes and neighborhood satisfaction that can lead to quality of life. This study aims to evaluate the influence of environment attributes on urban residents' quality of life by adopting neighborhood satisfaction as a mediator between the two.

III. RATIONALES AND HYPOTHESES FOR THIS STUDY

This study evaluating the environmental attributes and quality of life in an urban neighborhood. This study adopted neighborhood satisfaction as a mediator to the relationship between environmental attributes and quality of life. Mediation analysis from this study is to help to clarify "how or why" such effects occur (Wirth et. al., 2015). The mediation factors can influence the quality of life of urban resident's. Geographical scale can be the example of mediating factors that can influence the quality of life. The geographical scale might be the local neighborhood, the city or the regional scale. Sirgy and Cornwell (2002) and Lu (1999) stated in their study that the urban environment attributes in different spatial domains found correlated and quality of life might also be seen as a composite of neighborhood satisfaction (Wirth et. al., 2015).

In modeling this relationship, several hypotheses are tested:

H1: Environment attributes has a positive impact on Neighbourhood Satisfaction

H2: Neighbourhood Satisfaction has a significant effect on Quality of Life

H3: Environment attributes has a positive impact on Quality of Life

H4: Neighbourhood Satisfaction mediates the relationship between environmental attributes and quality of life

IV. METHODOLOGY

A. The Study Area

The analysis of this study covers seven local authorities in the Klang Valley namely Kuala Lumpur City Hall, Petaling Jaya City Council, Shah Alam City Council, Klang Municipal Council, Sepang Municipal Council, Subang Jaya Municipal Council, and Selayang Municipal Council. The main reason to choose these seven local authorities was that they represent the Greater Klang Valley (Zyed., 2016).

B. Sampling Procedure

The aim of this study is to evaluate the contribution of the environmental attributes on the urban residents' quality of life by adopting neighborhood satisfaction as a mediator between the two. Hence, respondents' satisfaction level of environment attributes was measured along with the satisfaction of their neighborhood and the quality of life. Data were obtained through a survey on the environment attributes, neighborhood satisfaction and quality of life which is conducted in the year Nov and Dec 2017. This study obtained through primary data gathered using self-administered questionnaires. Potential respondents requested to complete the questionnaire at their own time. Fivepoint Likert-scale used to measure the satisfaction level with '1=very poor…5=very good'. Three types of variables were used in the research design, environment attribute as an independent variable, quality of life as a dependent variable and neighborhood satisfaction as a mediator between the independent and dependent variables.

This study was used stratified random sampling as the sampling technique. The distribution of the questionnaire was covered for two types of housing which is landed housing and apartment. The criteria of the respondents must be aged 21 and above years of age. A total number of 530 questionnaires were distributed to the respondents. As recommended by Krejcie Morgan (1970) stated that the population more than 1,000,000, the sample size is 384. A total of 487 (92%) questionnaires were retrieved and 43 (8%) were discarded due to incomplete response, and missing data. The incomplete response is the questionnaire that half-filled and missing data refers to the questionnaire that not answered by the respondents. The data were analyzed using SPSS to present the socio-demographic analysis and Structural Equation Modelling (SEM) approach to see the relationship between the independent variables, dependent variables, and mediating variables.

V. RESULTS AND FINDINGS

A. Sample Socio-Demographic Profiles.

The respondent's profile showed that 55 percent were males and 45 percent were females. About 47.2 percent were aged between 21-30 years old; 36.6 percent aged between 31-45 years old, and 16.2 percent aged between 46-59 years old. The respondents are 39.9 percent are single and 58.9 percent are married. From the total respondents, 16.2% of the respondents are from

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postgraduate degree holder and 47.4% are from undergraduate degree holders. In terms of employment sectors, the majority of the respondents are from the private sector (60.1%) and 28.8% of the respondents are working in the public sector. With respect to monthly income level, the most frequent group is between RM1000-RM3000 (53.8%) and monthly income per month from RM9001 and above is the smallest group 5.9%.

B. Respondent Housing Profile

Table 4.1 explaining the context of housing types of the respondents staying in, 57.8 percent are staying in landed housing and 42.2 percent are staying in the apartment. For landed housing, the highest percentage is a double story terrace house with 35.6 percent and the lowest will be 0.8 percent represents for a traditional house. Amongst respondents, 48.1 percent of the respondents are the homeowner of the home and they are living with family and 23.3 percent of the respondents are as a co-tenant.

Table 1: Respondents Housing Profiles

Types of Housing	Percentage (%)
Landed Housing	
Single storey terrace	13.5
Double storey terrace	35.6
Single storey semi-detached	1.0
Double storey semi detached	3.5
Single storey detached	1.2
Double storey detached	2.2
Traditional house	.8
Apartment	
Low cost apartment	12.5
Medium cost apartment	29.6
Status of Homeowners	**Percentage (%)**
Home owner and living alone	4.5
Home owner and living with family	48.1
Co-tenant	23.3
Tenant and living with family	24.1

C. The Confirmatory Factor Analysis (CFA)

The validation of measurement model involves the usage of confirmatory factor analysis of each latent variable in the model.. The unidimensionality, Validity, and Reliability of all constructs will be assessed by the validation procedure in CFA (Zainudin, 2015; Tabachnick & Fidell, 2007). Construct Validity, Convergent Validity, and Discriminant Validity will be measured. Composite Reliability of the constructs will be also be assessed. The recommended range for factor loadings and construct reliability are 0.60 and 0.70 respectively (Brown, 2014; Raykov, 1997) and the recommended value for each fitness index (Hair, Babin, & Krey, 2017) is givenin the following table:

Name of category	Name of index	Level of acceptance
Absolute Fit Index	**RMSEA**	RMSEA ≤ 0.08
	GFI	GFI > 0.90
Incremental Fit Index	AGFI	AGFI > 0.90
	CFI	CFI > 0.90
	TLI	TLI > 0.90
	NFI	NFI > 0.90
Parsimonious Fit Index	**Chisq/df**	Chi-Square/ df ≤ 3.0

Table 2: The summary of Fitness Indexes (Environment)

Name of category	Name of index	Index value	Comments
Absolute fit	RMSEA	0.044	The required level is achieved
Incremental fit	CFI	0.992	The required level is achieved
	TLI	0.990	The required level is achieved
	IFI	0.992	The required level is achieved
Parsimonious fit	Chisq/df	1.945	The required level is achieved

From table 2, it shows that all the fitness index is achieved at the required level. It can be concluded that all the measurement model of the Environment attributes achieved the construct validity (Awang, 2015).

Table 3: The summary of Fitness Indexes (Neighbourhood Satisfaction)

Name of category	Name of index	Index value	Comments
Absolute fit	RMSEA	0.057	The required level is achieved
Incremental fit	CFI	0.986	The required level is achieved
	TLI	0.981	The required level is achieved
	IFI	0.986	The required level is achieved
Parsimonious fit	Chisq/df	2.602	The required level is achieved

From table 3, the neighborhood satisfaction has achieved the construct validity as it shows that from the table all the fitness index has achieved the required level.

Table 4: The summary of Fitness Indexes (Quality of Life)

Name of category	Name of index	Index value	Comments
Absolute fit	RMSEA	0.021	The required level is achieved
Incremental fit	CFI	0.947	The required level is achieved
	TLI	0.959	The required level is achieved
	IFI	0.948	The required level is achieved
Parsimonious fit	Chisq/df	4.802	The required level is achieved

From table 4, construct validity has been achieved by the measurement model sinceeach the fitness index observedreached the expected level. This study used CR to test the reliability of the construct and AVE is to test the construct convergent validity. The value of CR should higher than 0.6 and the value for AVE should higher than 0.5. Below table shows that the CR and AVE value has exceeded the required value which is CR has 0.966 which is higher than 0.6 and AVE has 0.904 which is higher than 0.5 (Zainudin, 2015).

	CR	AVE
Quality	0.966	0.904

D. Structural Equation Model (SEM)

SEM is known as a second-generation statistical technique that used to analyze the relationship between all the variables in the study that can be expressed through single and multiple regression. The combination of quantitative data used in the SEM technique which are included the correlation and causal assumptions in the model (Zainudin, 2015). For hypotheses testing , the structural equation model (SEM) was chosen to analyze the effect of environment attributes on quality of life through the mediation of neighborhood satisfaction. SEM can estimate a series of latent variable inter relationship in parallel manner. There are three hypotheses tested using SEM in this study and the three hypotheses that proposed in this study are as per below:

H1: Environment has a significant effect on

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Neighbourdood Satisfaction
H2: Neighbourhood Satisfaction has a significant on Quality of Life
H3: Environment has a significant effect on Quality of Life

Table 5: The Regression Weights

|			Estimate	S.E.	C.R.	P	Results
Neighborhood Satisfaction	<---	Environment	.168	.051	3.280	.001	Significant
Quality of Life	<---	Neighbor. Satisfaction	.236	.048	4.911	***	Significant
Quality of Life	<---	Environment	.156	.046	3.373	***	Significant

H1 showed that the hypothesis is testing the causal effect of environment attributes on neighborhood satisfaction. The value of the path coefficient of the Environment attributes on Neighbourhood satisfaction is 0.168. This value of 0.168 explained that every one of the units of Environment is increasing, the Neighbourhood satisfaction will increase by 0.168 unit. The standard error of the regression weights estimates is 0.051 which the critical ratios are shown by 3.280. From this result, it can be concluded that the hypothesis that Environment has a significant impact on Neighbourhood satisfaction is suitablyvalidatedsince 0.001 level of regression weight is significant Environment attributes in the prediction of Neighborhood satisfaction.

H2 showed that the hypothesis is testing the causal effect of Neighbourhood Satisfaction on Quality of Life. The path coefficient of Neighbourhood Satisfaction on Quality of Life is 0.236. These figures explained that for each one unit increase in Neighbourhood Satisfaction, its cause to increase in quality of life by 0.236 unit increase. From the results stated in table 5, the hypothesis stated in H2 is duly supported as the regression weight estimates show 0.236 with a standard error of 0.048. The CR is shown by 4.911 and getting a critical ratio of 4.911 in absolute value has the probability of 0.000.

H3 expressed the testing on the causal effect on Environment and Quality of Life and the result shows that the path coefficient of Environment on QoLis 0.156. This value explained increase in each unit in Environment satisfaction will cause to increase in QoL. The estimates of 0.156 of regression weight have a standard error of 0.046 and the critical ratio indicates in the result is 3.373. It can be concluded that the hypothesis that the Environment positively and significantly effects QoL is duly supported.

E. Test of Mediation

This study used neighborhood satisfaction as a mediator between environment attributes and quality of life and it is one of the hypotheses that assess the indirect between environmental attributes and quality of life.

There one research hypothesis in this study that assesses the indirect between the social physical attributes and quality of life which is called as mediator. This study used neighborhood satisfaction as a mediator between Social-Physical attributes and Quality of Life. This study adopted a Step-Wise (Baron & Kenny, 1986) approach. which is recognized as a important tool for assessment of the effect of mediation. Hypothesis statement for testing the mediation effect as per below:
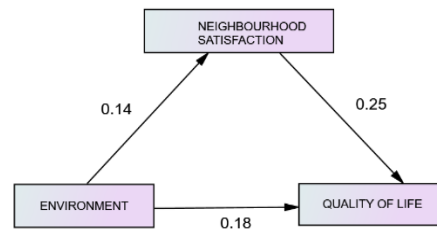
H4: Neighbourhood satisfaction mediates the relationship between environmental attributes and quality of life
Fig. 2: Environment on Quality of Life

INDIRECT EFFECT	DIRECT EFFECT
a = Environment on Neighbourhood Satisfaction = 0.18*** b = Holistic Neighbourhood Satisfaction on Quality of Life = 0.25*** a x b = 0.18 x 0.25 = 0.045***	C' = Environment on Quality of Life = 0.23***
TEST: The results indicate the mediation is caused by a significant indirect effect. The computation of z-test requires the value of indirect effect (a x b) to be significantlydistinct from zero or must greater than the value of direct effect (c').	TEST a x b = 0.045 < 0.23. The value of indirect effect is less than that of direct effect despite the significant indirect effect in the results.

Conclusion

Therefore, the model necessitates the evaluation of direct effect value by exclusion of mediator (Iacobucci, Saldanha, & Deng, 2007; Awang, 2015; Baron & Kenny, 1986). Consequently, the partial mediation existenceis possible with the direct effect (Neighbourhood Satisfaction). This step is only acceptable when the indirect effect significant

From the indirect effect, the result showed that mediation occurs in the model. The result of hypothesis H4 indicates that neighborhood satisfaction mediates the relationship between neighborhood aspects and QoL. Partial mediation exists in this model since the direct effect of the environment on quality of life is significant and positive when the mediator variable exists in the model. In this case, environment attributes found has a significant direct effect and significant indirect effect on the quality of life through neighborhood satisfaction as a mediator between the two.

In the AMOS package, the analysis of the mediation in the model for the study are available and the testing of the mediation was done using Maximum Likelihood Estimator bootstrap to promote the uniformity and effectiveness solutions to the model. Zainuddin (2015) stated that any mediation test must use a bootstrapping procedure to confirm the mediation.

Table 6: The direct and Indirect Effect summary of Environment on Quality of Life through Neighborhood Satisfaction)

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	Indirect Effect	Direct Effect
Bootstrapping Estimate	.044	.175
Bootstrapping P-Value	.01	.008
Result	Significant	Significant
Type of Mediation	Partial Mediation	

Based on table 6, the mediation result using the bootstrap approach supported the previous result showing that Partial mediation truly exists in the model. Partial mediation only exists when there is a significant direct and indirect effect on the model. It is also can be proved that Neighbourhood satisfaction mediates the relationships between Environment attributes and Quality of Life.

VI. DISCUSSION

Since 1911, Malaysian has shown an increasing trend in urbanization in the past three decades. From the report based on the Malaysia Department of Statistics, the urbanization rate was 71 percent in 2010 and had increased from 62 percent in 2000. Selangor is one of the highest levels of urbanization with 91.4 percent (Department of Statistics,2012). Based on section 1, there will be more and more people move to the urban area especially in Klang Valley due to the urbanization process and development done in the Klang Valley area. To respond to this growth of population in urban areas, maintaining people's quality of life looks crucial as it is a measure for better improvement and progress in a country. Thus, measuring the neighborhood satisfaction found important in maintaining the quality of life as both found have linked to each other. There is one variable was selected that best portrays the neighborhood satisfaction. The variable is environment attributes. Neighborhood satisfaction is the mediating variables and quality of life as a dependent variable.

This study highlighted the importance of neighborhood perceptions on the environment and the neighborhood area which can affect the urban resident's quality of life. Previous researchers have discussed the environment within the context of sustainability, it is found that the environment also can affect an individual's quality of life. Each of the variables, environment attributes, neighborhood satisfaction, and quality of life are validated with an AVE which values 0.698, 0.669 and 0.77 respectively. The concept of quality of life much linked with health. Livability and quality environment treated as the determinant of health where it comes from the nature and quality of health care, the human lifestyle and the quality of the social-cultural environment (Van, 2003). From the results of findings, it is can be concluded neighborhood satisfaction can cause the effect to the people quality of life as it is also caused by the satisfaction on environmental attributes.

The model is considered 'Fit' as the minimum is achieved. The variables are classified into two, observed endogenous variables and observed exogenous variables. Dependent variables which are satisfaction with environment attributes are observed endogenous variable. and satisfaction with the quality of life is observed exogenous variable. Quality of life is strongly and directly influence neighborhood satisfaction with a regression weight of 0.236. It also has an indirect effect through the mediating effect of neighborhood satisfaction by neighborhood attributes which is environment attributes with regression weights of 0.156.

Speed of traffic flow, the volume of traffic, air pollution, rubbish or littering around the neighborhood, drug-addicted problem, vandalism and property crime, alcoholism and drinking and homeless are the dimensions of environment attributes which can influence resident's quality of life through neighborhood satisfaction. This study reveals that all the environmental attributes dimensions have a positive impact on neighborhood satisfaction and quality of life. This study contrast with the study conducted by Leslie & Cerin (2008) showing that there is a negative relationship between traffic load and congestion with neighborhood satisfaction.

For the air pollution, this study finding is in line with the study by Streimikiene (2015) and Balestra et al. (2013) stated that the air pollution can directly impact to the human wellbeing. As the population is continuously growing in the cities, they are exposed to the emissions of huge quantities of gases that can affect and harmful to people's health as well as the way how they consume energy in the urban area through transport or heating and air conditioning systems. Free from litter, crime, violence, and pollution also may promote good health (Balestra et al., 2013). This study includes air pollutions as the dimensions of the environment are due to the study by (Herrnstadt & Muehlegger, 2015) indicates that higher pollution can lead to a higher crime rate. This study also supported by Ozdamar (2016), stated that there is a positive impact on air pollution and crimes to the wellbeing and quality of life.

Homelessness is a new dimension that includes in this study as there is a lack of study on homelessness and neighborhood satisfaction and quality of life. A study by Hubley et al. (2014), suggests having more information on addressing the homelessness issues and the relationship between the homelessness people and quality of life. The judgment of the community in the neighborhood that has a high rate of homelessness can increase the conflict on the usage of the public facilities and community space that are increasing where these people don't have any access and opportunity to have their own private space. This conflict can bring to the surface the negative linked perceptions about members of poor society, vulnerable or marginalized. This study finding showed that homelessness is one of the environmental attributes dimensions that can affect neighborhood satisfaction and quality of life.

VII. LIMITATIONS AND FUTURE RESEARCH

Despite some general finding as mention in the discussion section, the study has several limitations that we must acknowledge. Firstly, this study conducted quantitatively to assess the residents on the perceptions of their neighborhood satisfaction and their quality of life. It is suggested that the quantitative and quality study should be employed in this study to have better understanding and feedback from the residents what is their need in the neighborhood area that can increase their satisfaction as different people have different needs and preferences. Secondly, this study covered seven selected areas in Klang Valley which are Kuala Lumpur City Hall, Petaling JayaCity Council, Shah AlamCity Council, Klang Municipal Council, Sepang Municipal Council, Subang JayaMunicipal Council, and Selayang Municipal Council. We

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recommend extending this study to other Klang Valley area which is not covered in this study for future research.

VIII. CONCLUSION

The result of this study is useful for Malaysian policymakers, urban planners, developers, and local authorities. This study has proved that there is a positive relationship between neighborhood satisfaction and quality of life. This study provides new insights on how the resident's environment satisfaction can influence neighborhood satisfaction and quality of life. There are some recommendations to improve the neighborhood environment as this action will benefit the society and increase their quality of life. First, the traffic flow and the volume of the traffic are found important factors that can affect neighborhood satisfaction. In urban Klang Valley the population continuously increased year by year due to an increase in housing development and more job opportunities, more people used their own transport to move from their house to the workplace and it causes a high volume of traffic flow. This can lead to dissatisfaction with the residents and affect their quality of life. To overcome this kind of problem, it is recommended that if the government and local authorities can increase public transport and accessibility to public transport in urban areas. This reduces the usage of the vehicles on the roadway and at the same time can reduce the carbon monoxide which can contribute to air pollution.

Second, this study shows that rubbish and littering, vandalism, drug activity, alcoholism, and public drinking and homelessness are also some of the factors that can influence neighborhood satisfaction. Rubbish, littering and vandalism in the neighborhood area is a sign of a bad area which entails cost for clean-up. This bad habit comes from lack of public and environmental education awareness among the public. There need to be stricter enforcement of laws and regulation to prevent littering and vandalism on public properties. Putting up a visible sign of no littering and prohibiting vandalism continue to be an important communication infrastructure to address the problem. The last improvement that can be taken to reduce the littering problem, local authorities are suggested to install more garbage bin in the various areas for effective garbage disposal such as walking routes, town centres, public areas and near bus stops. Problems of alcoholism and public drinking and the increase of homelessness in the urban city also must be a concern as it also found factors that can affect neighborhood satisfaction. Thus, addressing all this menace contribute towards better neighbourhood which will affect quality of life among urban dwellers.

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	Table 7 . Results of Confirmatory Factor Analysis	L	VE	CR
	Construct			
	Environment Attributes		**0.698**	**0.926**
1	Speed of traffic flow	0.78		
2	The volume of traffic	0.86		
3	Air pollution	0.81		
4	Rubbish or litter lying around	0.79		
5	Property crime. E.g. graffiti/vandalism	0.80		
6	Drug activity	0.78		
7	Alcoholism and public drinking	0.78		
8	Homelessness	0.77		
	Neighbourhood Satisfaction		**0.669**	**0.919**
9	My neighbourhood has a good provisions of facilities and services meet my needs	0.79		
10	My neighbourhood is clean and well-maintained	0.78		
11	Trust and confidence among each other (with other community)	0.77		
12	My neighbourhood is safe and have low crime rate	0.78		
13	My neighbourhood has beautiful landscape and green area	0.8		
14	The location of my neighbourhood is straegic and easy access	0.77		
15	from other area			
16	The location of my neighbourhood adopted green technology for a	0.76		
17	sustainable lifesyle	0.85		
18	Good place to raise kids			
	Quality of Life		**0.77**	**0.966**
	Education			
19	Low education level is linked with unemployment	0.92		
20	High level of education were associated with the better job opportunity	0.75		
21	Academic knowledge is associated with better job opportunity	0.91		
22	Lack of skill contributed towards unemployment	0.75		
	Income			
23	I am satisfied with my current income	0.96		
24	My current income is sufficient my own/my family needs and expenses	0.94		
	Health			
25	I am satisfied with the hospital facilities	0.81		
26	I am satisfied with my clinic facilities	0.88		
27	I am satisfaction of health facilities	0.96		