



## Demographic Profile's Impact on Kuala Lumpur's Public Attitudes Towards the Street Trees Values

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### Article Information

#### Keywords

demographic profile; Kuala Lumpur publics' attitudes; Kuala Lumpur City Hall; street tree planting; Federal Territory Planning Act 1982 (Act 267)

### Abstract

Street trees' planting in urban areas is one of the main aspects on the agenda of local authorities in Malaysia. This study attempts to assess public attitudes towards the value of street trees in Kuala Lumpur. Data collected were based on the methodological framework and application framework. The methodological framework was divided into two: the quantitative section which deals with questionnaire surveys and the qualitative section for semi-structured interview. The application framework refers to the method of data collection by dividing the area into 13 districts and 19 neighbourhood centres. About 1,100 sets of questionnaires were distributed to the target group at the districts and neighbourhood centres. The questionnaire was divided into three parts. Part one and two were allocated for questions aimed at obtaining personal information from the respondents. Part three consisted of items measuring the respondents' attitudes towards the value of street trees. The design of the questionnaire was a combination of closed and open-ended questions and questions with 'Likert-scale' responses. There were seven self-administered questions which were then tested against the demographic profile of the respondents such as gender, age, ethnicity, educational attainment and occupation. A semi-structured interview was conducted to further clarify and verify the findings of the questionnaire. Gender, age, ethnicity and educational attainment showed significant associations in Chi<sup>2</sup> test results. In conclusion, Kuala Lumpur's publics are aware of the importance and functions of trees planted along the streets. Kuala Lumpur City Hall, private agencies and non-governmental organizations should collaborate to improve street trees planting, planning and management.

### INTRODUCTION

Efforts of tree planting and beautification especially in Kuala Lumpur urban areas have become the main agenda for the local authority and private sector in the late 1970's. However, the turning point of the greening movement and awareness among the Malaysian and Kuala Lumpur's urban dwellers was in the late 1980's when excessive land clearance took place to develop an urbanized and modern city of Kuala Lumpur (Department of National Landscape, 1996). With urban public concerned about greenery in urban areas and

more city greening programmes in Kuala Lumpur were initiated by City Hall of Kuala Lumpur, the Federal Territory Planning Act of 1982 (Act 267) was made mandatory where it stipulated the rules and regulations for planting, cutting and conservation of urban trees. In the Kuala Structure Plan 1984, thorough tree planting programmes were exercised extensively, where it emphasized on the concept and direction of urban tree planting, the creation of theme gardens, slope planting, roadside and amenity planting (Webb, 1998 and City Hall of Kuala Lumpur, 1984). For the past decades, the City Hall of Kuala Lumpur has made some efforts of planting trees along the road; public parks and open spaces; planting along highways or expressways; within industrial areas and housing estates; planting or landscaping within major developments in the city centre. People attitudes and perception about their residential environment, and how they appreciate their surrounding, are an important background to attitudes to urban trees.

### ***Purpose of the Study***

The purpose of this study was to determine whether there was a significant association between demographic profiles of the Kuala Lumpur's public attitudes and street trees values. Specifically, the objectives of this study were:

1. To identify Kuala Lumpur's public attitudes towards street trees values
2. To determine which demographic profiles affected the attitudes
3. To determine whether there was a significant association between demographic profiles of Kuala Lumpur's public attitudes and street trees values.

This paper looks at how street trees in particular impact on the life of urban dwellers and attempts to explore how individual characteristics such as gender, age, ethnicity, educational attainments and occupation affected respondents attitudes towards street trees values in Kuala Lumpur.

### **LITERATURE REVIEW**

Trees provide colour and shade, screen out unpleasant sights and sounds, provide habitat for wildlife, enhance the aesthetic quality of urban and suburban neighbourhoods (Schroeder and Cannon, 1983) and increased property values (Sommer et al., 1989). Studies conducted by several distinguished Western social scientists have shown that trees which associated with urban environment may lead to a better quality of urban dwellers life. The effect of trees on people's subjective experiences, moods and feelings may be one of the most important of these qualities (Kaplan, 1984 and Ulrich, 1986).

Smardon (1987) suggested that urban vegetation is beneficial to human use such as economic benefits, instrumental or physiological functions and perceptual functions including visual, sensory benefits and symbolic aspects. Meanwhile psychophysical research has also shown that specific attributes of vegetation such as its total amount (Schroeder et al., 1986), density (Schroeder, 1986) and intactness (Kenner and Mc Cool, 1985) are related to preference or attractiveness. Trees can increase the sense of attachment between individuals and the natural environment (Dwyer et al., 1992). People's desire for trees becomes evident when comparing the property values of house lots with trees to those without (Relf, 1981 and Hull, 1992), as well as in self-reported willingness to pay to visit parks with more dense concentrations of trees than those nearby (Heisler, 1986). Ulrich (1981, 1984) reported health benefits as a result of exposure to nature, which reduced levels of stress and increased healing capacities. Appleyard (1980) points out that gardening that involve direct contact with nature is an important source of recreation for many people.

Most American studies report strong support for trees in urban streets, however a study undertaken in Scotland found that very low level of support for trees in residential streets (Hitchmough and Bonugli, 1997). Attitudes towards urban trees would appear to vary between cultures.

Preference is variable where it differs from one person to another and involves affective response, and affected by images and ideals. People's preferences are not guided by special training, nor do they have knowledge about the appropriate standards. Preferences are thought to be discrepant and subjective (Kaplan, 1989). It can be studied through observation, understanding of the culture and questionnaires. Several attempts have been made to assess people preference particularly on trees and vegetation in cities, suburbs and others. As such the necessity for a closer examination of the influence of certain of the physical qualities of vegetation on judgments of preference is referred to in recent work as diverse as that on street tree plantings (Schroeder, 1986), cross-cultural and sub-cultural comparisons of preference for natural settings (Kaplan and Herbert, 1987), and differences in perceived environmental challenge and preference for landscapes in groups of children (Bernaldez et al., 1989). Trees play an important role in perception of the natural environment thus is consistently refer to as vegetation where it is the most preferred component of naturalness as described by a variety of authors.

A lot of studies of perceptions and preference have been carried out in Western countries, however very little research has been undertaken in Malaysia. Kamal (2000), had discussed on the significance of cross-cultural variability and diverse ethnic groups in environmental perception especially multicultural ethnic groups in Malaysia. The study revealed significant differences of Malays and Chinese people on preferences for scenes of Malaysian rural landscapes.

Apart from Kamal (2000) work on cross-cultural variability in environmental perceptions, no other documented research and study has been located on Malaysian perceptions and preferences especially on tree retention and urban development. This area of study is quite new in Malaysia. However, in time the public will gradually acknowledge the important of participating in decision making of landscape planning and design in Malaysia. Even though the Malaysian Government had included the public in the making of local and structure plans particularly for the development of the area but still the public needs and opinions have not always been considered adequately. Hence Malaysian public should be motivated and encouraged to participate in any planning process in Malaysia.

## **METHODOLOGY**

### ***The study area***

Kuala Lumpur was chosen as the study area because urban dwellers perceptions on issues pertaining street trees values have not studied before and to see how the demographic profiles affected their perceptions. Kuala Lumpur is situated in the Federal Territory of Kuala Lumpur, in the west Peninsular Malaysia. The total population of Kuala Lumpur in 2005 was estimated 1.6 million people (City Hall of Kuala Lumpur, 2008). The ethnicity compositions were 41% Malays, Chinese (39%), Indians (10%) and foreign population at 7%.

### ***Data collection***

Data collected were based on methodological framework and application framework. Methodological framework can be divided into two, the quantitative section which deals with questionnaire surveys and qualitative section for semi-structured interview.

Application framework refers to way of collecting the data by dividing the area into 13 districts and 19 neighbourhood centres. About 1,100 sets of questionnaires were distributed to person in-charge at the districts and neighbourhood centres. The returned percentages were about 36 percent or 400 questionnaires.

### ***Questionnaire survey***

The questionnaire was divided into three parts. Part one and two were allocated for questions aimed at getting some information about the individual characteristics and to have an overview of people with different characteristics and background. Part three consisted of items measuring the respondents' attitudes toward street trees values.

The instrument to measure the respondents' attitudes was modified from the examples of questionnaires used from previous researchers such as Sommer et al (1989) in their research about householder attitudes to street trees species, Summit (1998) in his research on residential tree planting and care, and Wolf (1998a, 1998b, 1998c, 2000, 2004a and 2004b) in her research works about the impact of trees on shopping behavior, trees and business district preferences and community image. The formatting of the questionnaire was also referred to the general guidance of Fink (1995) and Oppenheim (1966) from which the design of the questions was a combination of closed and open-ended questions and question with 'Likert-scale' responses was presented.

The survey questionnaires contain seven questions and they were self-administered. These questions will be tested against the demographic profile of respondents.

A semi-structured interview was conducted purposely to clarify and verify further the findings of the questionnaire. The layout of questions for the interview is not included due to page restriction.

### ***Statistical analysis***

The data was analysed by using the SPSS version 12 software. Descriptive statistics was used to analyse the descriptive data and inferential statistics such as Chi<sup>2</sup> test of association was employed to assess relationships between tested variables in terms of frequency of scoring. The Mann-Whitney U, Kruskal-Wallis and

Spearman’s rank correlation (rho) tests were employed to further explore the differences between the groups of respondents.

**RESULTS AND DISCUSSIONS**

**Background of Respondents**

A total of 400 respondents had responded to the questionnaires distributed to 13 districts and 19 neighbourhood centres. Out of the figure, 166 (41%) were males and 234 (59%) were female. The average age of respondents was between 30 to 39 years old where the youngest respondent was between 15-19 years old, and the oldest was over 59 years old. Majority (40%) of the respondents attained certificates. About 27% of the respondents had their diploma and another 30% of the respondents attained Bachelor degrees. Only 3% of the respondents had their second degree (Master’s degree). Most of the respondents are Malays (67%). Chinese and Indian comprised of 21% and 10% respectively. The remaining percent (2%) was from ‘other ethnicity’. About 80% of the respondents formed skilled workers group whereas another 20% of the respondents were grouped under professionals (2%), retired (5%), housewife (4%), unemployed (2%) and student (7%).

**Respondents’ perceptions towards street trees planting**

Respondents’ ethnicity and educational attainment were two demographic factors that have most significant associations compared to other factors. As for gender, female respondents are responsive to the statement ‘Street trees hinder safety at night’ (Chi<sup>2</sup> test, p = 0.010; Mann-Whitney test, p=0.001) (Figure 1). Research carried out in Ohio State University campus in the U.S (Nasar and Jones, 1997) suggest that hiding places and dark spots will evoked fear especially to females. This was however further supported by a quantitative survey research done on fear where some of the women noted nature was the most frightening places (Hille, 1999). Fear of being harassed, attempts of violence and other unexpected related incidents, resulted in gendered exclusions for women (Hille, 1999). In fact, nowadays in Malaysia, the trend has changed when even day time women feel unsafe walking alone through street trees planting as they are very much exposed to physical violent such as rape, sexual harassment and even being murder.

TABLE 1  
CHI2 TEST, INFLUENCE OF RESPONDENTS’ GENDER ON ATTITUDES TO TREES IN THE STREET, COMPARISON OF MEAN SCORES AND MANN-WHITNEY U TEST

Tested variables	Chi <sup>2</sup> test p-value	Mean Scores for Gender		Mann-Whitney U p-value
		Male	Female	
Safety at night	0.010	0.23	- 0.04	0.001*

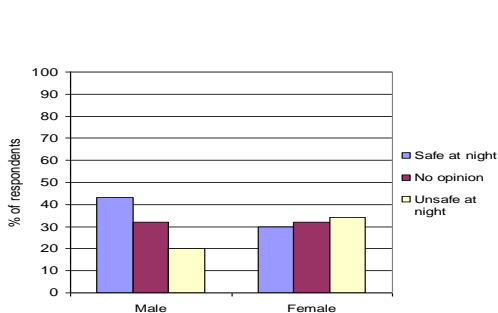


Figure 1 Effect of respondents’ gender on attitudes to towards the statements ‘Street trees hinder safety at night’

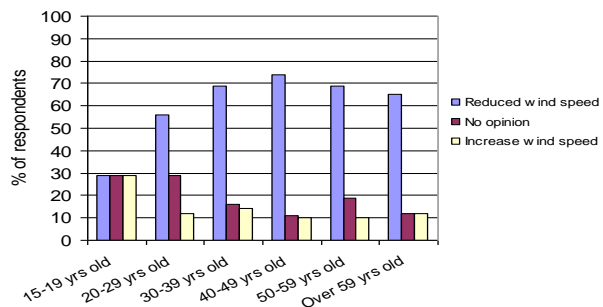


Figure 2 Effect of age on respondents’ attitudes the statement ‘Street trees increase wind speed’

Although vegetation has been positively linked to fear of crime, a study reported by Kuo and Sullivan (2001) revealed that residents living in ‘greener’ areas were less aggressive and have lower level of fear.

Vegetation has always been an ‘accomplice’ to acts of vandalism, disturbing the relative safety of many large cities throughout the world. As a result, many cities have chosen to clear their streets and parks of trees and shrubs (Talbot and Kaplan, 1984). However, Kuo and Sullivan (2001) suggest that vegetation with trees can inhibit crime in some districts in two ways:

1) by increasing surveillance and 2) by mitigating some of the precursory psychological factors of violence. A study using photographs of residential houses examined the effect of architecture and landscape features with respect to the fear of crime. According to the results of this study, houses with trees and shrubs are safer than those without (Brower *et al*, 1983). However, another study based on computer simulated imagery studied spaces inside the city, rejecting the notion that cities with a larger density of trees provide a greater feeling of security (Kuo *et al*, 1998).

Kuo and Sullivan (2001) and Brunson *et al* (2001) have found that homes with more trees experienced less domestic violence than identical homes with fewer or no trees. In addition, residents with more trees and lawn area on their properties state that they are “safer living there” than in areas without trees (Kuo *et al*, 1998).

It seemed that younger respondents were more likely to be less concerned about the statement ‘*Street trees increase wind speed*’ (Figure 2). This factor was included to explore respondents’ attitudes to the climatic modification characteristics of the tree planting. The results show that the majority of respondents correctly rejected the notion that trees increase wind speed.

TABLE 2

CHI2 TEST, INFLUENCE OF RESPONDENTS’ AGE ON ATTITUDES TO TREES IN THE STREET, COMPARISON OF MEAN SCORES, KRUSKAL-WALLIS AND SPEARMAN’S CORRELATION TESTS

Tested Variables	Chi <sup>2</sup> test p-value	Mean Scores for Age Groups						Spearman’s Correlation p-value		Kruskal-Wallis p-value	
		15-19	20-29	30-39	40-49	50-59	Over 59	r <sub>s</sub>	p-value	With 15-19 (p-value)	Without 15-19 (p-value)
Wind speed	0.014	0.57	0.59	0.71	0.61	0.56	0.65	-0.010	0.838	NS	NS

Previous researches done by Lyons (1983) and Ahmad (2005) support the idea that younger people especially teenagers, are less involved with the natural world than both children and older adults.

Involvement of young children with trees and nature are well documented by worldwide researchers especially in the west. Young children tend to climb and hang their bodies in tree branches without knowing their aggressive action may cause danger to them. They blend together with the nature and play hide and seek in bushes. However, this was not the case for younger people.

A male respondent aged between 25 and 29 also expressed views about adolescents and teenagers involvement with nature:

**Mr. AH:** ‘I just think education play an important role in instilling good deed. If we look at the education syllabus at school, the subject is more on technology and academic as an example geography subject. The geography subject syllabuses were different from those school days. Those days the geography book shows a lot on nature and environment but now it shows more on bearing, contour etc. Whenever teacher teaches geography, they never stressed on the important of environment to human being. My two brothers at the secondary school do not have any interest in environment but if they went out with friends, they were the champion. My elder brother, elder sister and myself, we were very much engaged with environment compared to my younger brothers who were born in the 80’s and 90’s. They did not show any interest in environment in fact they could not be bothered with what happened surround them’.

## CONCLUSION

Kuala Lumpur public aware about the importance and functions of tree planted along the street and in urban areas. In the context of people attitudes to street trees values, people most valued the physical effects that street trees has offered such as breaking the wind speed by reducing it. The understanding of having trees along the streets has open the urban dwellers mind of that these trees were not conventionally affected the well being of the city but also offer benefits in terms of health and social.

Values placed on street trees planting differ according to people’s demographic profile, such as gender, age, ethnicity, occupation and educational attainment.

As Federal Territory of Kuala Lumpur is governed by City Hall of Kuala Lumpur, it is the responsibility of the administrator to emphasize a comprehensive planning and managing street trees planting within the jurisdiction areas by collaborating with private agencies and non-governmental organizations to better of street trees planting in urban area.

#### ACKNOWLEDGEMENTS

The author would like to thank the Department of Civil Services, Government of Malaysia for the financial support throughout the study.

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