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Suhaila Abdul Rashid, Mohammad Hussaini Wahab, Wan Nurul Mardiah Wan Mohd. Rani, and Syuhaida Ismail

Citation: [AIP Conference Proceedings](#) **1891**, 020008 (2017);

View online: <https://doi.org/10.1063/1.5005341>

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Safety of Street: The Role of Street Design

Suhaila Abdul Rashid^{1, a)} Mohammad Hussaini Wahab^{1, b)} Wan Nurul Mardiah
Wan Mohd. Rani^{1, c)} Syuhaida Ismail^{1, d)}

¹UTM Razak School of Engineering and Advanced Technology, Universiti Teknologi Malaysia

^{a)}suhailla77@gmail.com

^{b)}hussaini.kl@utm.my

^{c)}wnurul.kl@utm.my

^{d)}syuhaida.kl@utm.my

Abstract. Living in the cities poses many challenges for the vulnerable group of user especially women where they are exposed to many issues related to safety. With the changing of lifestyle and demands, women are expected to play multiple roles in the society and working is one of the tasks. When women are expected to be working as men do, they are no longer occupied at one place. Women nowadays travel on a daily basis and being in the streets is one of the important activities. With the influx of diverse group of people into the country, our streets are dominated by different types of people from different background. Due to these factors, there are possibilities of challenges and threats for users especially women. Therefore, city spaces especially the street become an important public realm for women. The design of the street should be able to make women feel safe as these are the public space where they spend time getting to and from work. The way women perceived their environment might be different from men especially when they fear of crime. Perception of safety will affect the quality of life where fear is an important psychological factor in human life. Living in fear will restrict human's freedom. Therefore, this study aimed to explore women's perception of safety in the streets of Kuala Lumpur. The study adopted a mixed-method approach of qualitative and quantitative in order to understand the safety perception among women that will later establish the relationship between built environment and human psychology. 120 respondents were selected randomly around Jalan Benteng, Jalan Tun Perak, Jalan Melaka and Jalan Melayu. Questionnaire survey forms were distributed and structured observation was conducted at interval period at these streets to examine and assess women's behavior. Finding shows that fear does affect women's perception and physical design of the streets are important in affecting their behavior.

INTRODUCTION

There are 3.5 billion people who live in the cities today, and by the year 2030 it is expected to increase to 5 billion and up to ninety percent of the increase will be in Asia and Africa [1]. Urbanization rate in Malaysia is increasing [2] & [3] and this will attract migration towards the city. In Malaysia, most major cities like Kuala Lumpur, Georgetown and Johor Bahru are urbanized [2] and Malaysian societies are morphing into urban society [3].

Urbanization has led to compact living with high-rise buildings [4] and traffic congestion, however public spaces or public domain like street and square remains as spaces for urban dwellers. Planning and strategies of development have change over time to suit current needs on the economic and political situation and social expectation. The way people use public spaces changes over time [5] but the provision is important to create a quality city life and the way every gender use public spaces differently according to their comfort level, safety perception, culture and other aspects. With the increasing of job opportunities for women, they become one of dominant user of public spaces and by 2014, 39.6 percent of women were in labour force. However, due to these changes, it affects the spatial structure of cities and urban processes. This makes them feel unsafe being in public spaces. Many studies and reports have shown that women are vulnerable group of user in public space.

According to United Nations [6] crime has increased, and from the year 1980 until 2000, there was an increase of 30 percent crime rates recorded in the world. There is also an increased fear among urban residents where according to the UN survey the fear of crime is pervasive in both developed and developing countries. However, with the implementation of various strategies at international level together with joint program among many countries, there is a reduction of crime rate. Despite the decreasing crime rate reported, people still feel unsafe and design of the environment should continue to address the issue. Therefore, the design of the physical environment should consider how women perceived and how they will access the public places [7]. Even though there are many initiatives that has been planned, there is a need to create holistic and continuous approach and implementation in Malaysia through Safe City Programme.

Street as Public Space

Public spaces play an important role in the social and economic life of communities. It is a manifestation of city's public sphere and maintained by the public agency in the public interest and accessible to the public [8]. Public space includes the street, square, shopping mall, train station, café and park [9]. Public space includes some roofed space as well, for example civic institutions or religious buildings. Public space is where social life happens and it generates values for the surrounding area and contributes to sense of place [10]. Public space is also a place for equity, diversity and justices where marginalized people can make themselves heard and protest against injustice [10].

Streets and squares are part of the public space that plays an important function within the urban structure. Neighbourhood street and squares are important in the urban fabric offering communication, identity and orientation within and between neighbourhood [11]. Streets and square defined the character of a city [12] and it have a significant effect on our overall well-being [13].

However, compared to square, street is more significant in Malaysian context where it is widely use as public space. Throughout the centuries, street has evolves in terms of design and its role. It was designed for pedestrian and tailored to their needs such as marketplace, town meeting, military parades. Technology comes with opportunity and threats, where advancement in transportation has led to dependent on cars and motorcycles. This changes of transportation has affected the essence of street as public space where it is no longer a safe place for pedestrian. A public realm has become main thoroughfare for vehicles and pedestrian are no longer the main user.

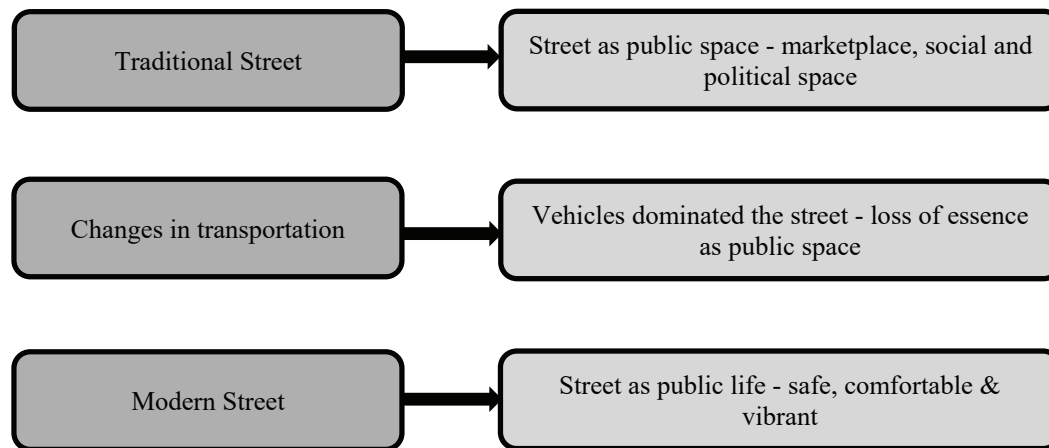


FIGURE 1. Evolution of street

Historically, street play an important role where many activities held on the street like shopping street at Jalan Tunku Abdul Rahman in Kuala Lumpur. In urban design, street is the important component of the urban spaces and is significant in terms of role [14]. Street has been considered as a ‘symbol’ of public space and always been the center of attention. Along with urbanization, the street become a space not only for pedestrian but also crime as reported by Kuala Lumpur’s Dang Wangi in February 2016 that there were 365 snatch theft cases in January 2016 alone around the hotspot area in Kuala Lumpur. Therefore, it is important to design a street that not only serve the function but also safe for all. In order to fully utilised the street, it need to be designed not only as thoroughfare but also as public realm where people would feel comfortable, safe to be around and feel safe as well.

Safety is man's fundamental psychological need. Since the very beginning of human existence, people had to face tasks to ensure safety for themselves and their beloved ones. Women’s safety involves safe spaces. Space which causes fear restricts movement and thus the community’s use of the space. Lack of movement and comfort is a form of social exclusion. UN Habitat [15] highlighted that the increasing population, diversity of people, inequalities and urban crime is rising including crime against women. These crimes occurred in public places where they are under-reported. Urban design choices, the organization of public services and the mix of urban function affect women. Women feels insecure which affect their ‘access’ and ‘use’ of the city. This fear should be regard as an important issue and violence to women’s “right to the city” [16].

Sideris et al. [17] studies have shown that whether the fear is real or only perceived, it gives an impact for women and leads them to utilized precautionary measures and strategies that affect their travel pattern, this includes modifying their behaviour. Jacobs [18] analyzed that street design should be safer especially for women because it is vital to the creation and preservation of community.

RESEARCH METHODOLOGY

In order to evaluate and assess the level of safety perception among women on the streets, a mixed method approach were adopted. Four streets were selected as a study area to assess their perception on safety and how fear has affected their usage and behavior. The four streets selected are Jalan Tun Perak, Jalan Benteng, Jalan Melaka and Jalan Melayu located within the heart of Kuala Lumpur City Centre and many activities along and around the area that attract pedestrians. The streets are also leading to an important nodes which is the Masjid Jamek LRT Station. Women were used as measurement to study the safety perception as women in general feel fearful compared to man [19].

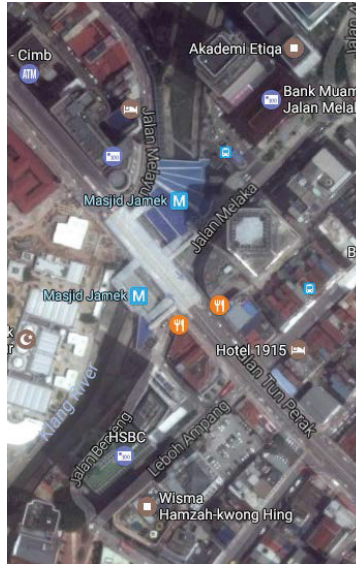


FIGURE 2. Case study area (source: www.google.com)

These study areas have been carefully observed and assessed qualitatively. On the quantitative method approach, the main technique applied is through the self-administered questionnaire survey. The process of data analysis is followed by the combination of both methods. Triangulation is a powerful technique when there are two methods has been applied in a research. The aim of using triangulation is to increase reliability and validity of the result. Triangulation is an attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint [20].

What makes street perceived as unsafe?

The total number of respondent in this study are 120 and was selected randomly in the case study area. Findings show that the built environment does affect their safety perception. The design of the street and its surrounding are important not only as transportation mode but also as public space. Built form especially building plays a role in defining the street which then will affect safety perception. The way the façade of the building are design are important in providing surveillance.

TABLE 1. Respondents Perception of Safety around the case study area

Elements	Questionnaire (N=120)
Hidden walkway	95 percent
Underground passageway	86 percent
Single land use	78 percent
Unkempt landscape	85 percent
Lack of lighting	90 percent
Graffiti	85 percent
Litter	92 percent
Poor maintenance	90 percent

Findings from the questionnaire survey indicate that women feel unsafe when presented with negative elements in their environment such as litter and graffiti with over 80 percent respondents reported to feel unsafe. However, there

is a mismatch where from observation it was found that these two variables look like a social norm where people accept it in their environment. Some were found ignoring their environment where there were litter and graffiti around. According to Blake et al [21], when perceivable stimulus does not change across time; there will be a condition known as habituation or adaptation. When the stimulus is constant, and in this case its litter and graffiti, the response to it typically becomes weaker over time. People become habituated to this kind of environment and this are the process of physiological process and cognitive process.

In terms of underground passageway, data from the questionnaire survey shows that respondent feel unsafe, but during observation there are still many women using the space where the lights are bright and there are also provision of CCTVs. Lighting has been found as consistent for both data where some respondents mentioned during questionnaire survey that the area near to the river is too dark and some of them are working until 10 pm. Most area that are well lit are owned by the private owner like bank and offices, and public area like Jalan Melayu and Jalan Benteng are depending on decorative lighting which are too dim comparing to its street width, location and movement pattern for pedestrian. Landscape was found affecting safety perception where unkempt landscape will block the view and make it perceived as unsafe especially at night. Maintenance of buildings along pedestrian area are important as they gives que whether the area is occupied or otherwise, as negative que will attract negative behavior or activities. This poor maintenance has revealed that it affect safety perception as 90 percent reported feeling unsafe.

As a result of feeling unsafe, it has affected their pattern of street usage. Changing routes has been identified as one of the most likely prompt reaction when they feel insecure. The ways we perceive our environment affect our behavior. When we need to change the pattern, it will directly affect our quality of life where we walk with fear in mind.

TABLE 2. Relationship of feeling unsafe and attempt to change routes

		frequency	changed route
frequency	Pearson Correlation	1	.042
	Sig. (2-tailed)		.649
	N	120	120
changed route	Pearson Correlation	.042	1
	Sig. (2-tailed)	.649	
	N	120	120

From this table it shows that there is a strong relationship between frequency of usage and attempt to change route. Women who frequently use the area is more likely to change route whenever they feel unsafe compared to those we rarely being in the area. According to Bell et al [22]time is a variable in environmental perception where it consists of three important phenomena: perception of movement, habituation (adaptation), and perception of change. Even though they are frequently being in the area and familiar with the environment, adaptation is not always successful in eliminating unpleasant environmental stimuli [22].

CONCLUSION

Public streets are one of the most complex urban environment where planners and designers need to consider multiple levels and category of users. However, the element of safety is often neglected as it is a subjective matter. The study was conducted to address the design of the street and its relation to safety perception. From the above findings, it reflects that there is a need in design intervention in order to create a safer environment for all. Street should be designed as public realm where everybody could fully use it without any fear. When the street is safe to use, it will enhance quality of life which is vital elements in human needs. Findings revealed that the built environment

that we design affect our safety perception. These four important streets need to be upgraded to make it sustainable and safe as they are located in strategic location and with high concentration of pedestrian.

For future research, it need to study further not only relationship between built environment and safety perception but also how does unsafe perception affect the quality of life as the street is important public space in the country.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the Ministry of Education Malaysia, Universiti Teknologi Malaysia (UTM) and the Research Management Centre (RMC) of UTM for providing the financial support for this paper to be published. This study is financed by the Grant for Research University (GUP) Tier 2 of UTM for research funding under Cost Centre No. Q.K130000.2640.12J00.

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