A Study of Crime Potentials in Taman Melati Terrace Housing in Kuala Lumpur: Issues and Challenges

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Abstract

Recently, Malaysia has adopted “Safe city programme”, which is focused towards creating violence and crime free cities. To achieve this, it is important to address crimes and disorder in residential areas. So far studies identified that changes in built environment and modifications in space design can impact residents and offenders perceptions of criminality. Various CPTED measures are employed to create defensible space. This paper examines the effects of physical design on the occurrences of crime in Taman Melati residential area of Kuala Lumpur City and tests the effects of the built environment on the possibility of crime reduction through physical planning measures.

Keywords: Crimes; terrace housing; environmental design; safe city; CPTED

1. Introduction

Malaysia has been experiencing accelerated urbanization as a result of the structural economic change from dependence on mining and plantation agriculture to manufacturing and services (JPBD, 2005). Urbanization in Peninsular Malaysia has grown rapidly especially during the last two decades whereby the rate of urbanization has increased from 53.4% to 65.4% between 1991 and 2000 (JPBD, 2006). Current rate of urbanization in Malaysia is 63% (RMK9, 2006) and is projected to be 75% by the year...
2020 (JPBD, 2006). As usual, urbanization is often associated with increasing crimes in cities. Crime in housing areas has become a fact of life, with street crimes increasing; crimes against persons and properties generating considerable fear within the community making safety an issue demanding a critical attention at both local and national level. According to the statistics of crime index in Malaysia crime index showed an increase of 13.4% and crime rate has increased by 8.7% during 2006-07 (Mohit and Hannan, 2010). About 90% crimes in Malaysia are property crimes whose occurrences are mainly in the housing areas (Sidhu, 2005). Recently, Malaysia has launched “Safe city programme” by the Federal Department of Town and Country Planning (2005), with an objective to create a city free from violence and crime. In order to achieve the global concern of creating sustainable communities and to assist the implementation of Malaysia’s safe city programme which highlights the importance of quality of life improvements, it is important to address crime and disorder. So far studies have identified that changes in the built environment and modifications of the space design can effectively affect both residents and offenders perceptions of criminality. Various CPTED techniques are employed to create a place which is easy to defend. This study seeks to examine the crime level and safety perception and preparation of the residents in terrace houses in a residential area in Taman Melati of Kuala Lumpur City.

2. Literature Review

Crime has been defined in the Oxford English Dictionary (1989) as ‘an act punishable by law, as being forbidden by statute or injurious to the public welfare; an evil or injurious act; an offence, a sin, especially of a grave character’.

Place-based crime prevention theories have been developed by three schools of thoughts (Colquhoun, 2004). Although these theories were weaved from different fabrics, they became woven together through time as they support mutual concepts. The three schools of thoughts are:

- Oscar Newman’s (1973) Defensible space which proposes that access to an area should be restricted to legal users.
- C. Ray Jeffery’s (1977) Crime prevention through environmental design (CPTED) contains a mutual support to defensible space theory and takes it a step further by the manipulation of the physical environment to influence behaviour to deter crimes.
- Ronald Clarke’s (1983) situational crime prevention (also known as 2nd generation CPTED) takes both theories into concepts that include management and design interventions to reduce crime, furthermore the theory develops social and economical strategies to achieve sustainable environment.

These theories have been developed separately from each other. Environmental criminology by C. Ray Jeffery, resembles to a great extent CPTED and to a lesser extent the other two theories. It is also inspired by Lynch’s (1984) urban design concepts, and zonal ecology theory. These theories have been developed by a number of architects, planners, social workers and criminologists.

At the empirical level, many studies have been conducted to examine the relationship between environmental design and crime rates or occurrences. Yancey (1983) studied the impact of architectural design on the behaviour of people living in Pruitt-Igoe, a housing scheme of eleven storey containing 2,762 apartments in St. Louis, where he found no elements of defensible space either in public or private areas. Hardy (1997) examined the effectiveness of CPTED principles in reducing crime in Las Vegas in two selected apartments – one where the alterations were made to its physical environment, and another one was chosen as the control complex with no alterations to its environment. His analysis showed no reduction in the number of police calls for services; this meant that alterations made to the physical environment in the study complex did not have an impact on the reduction of crimes.

Robinson (1997) conducted a CPTED evaluation of York Campus in Canada to examine its safety in a believed that a campus is a ‘micro-cosm’ of its surrounding environment. Despite the fact that CPTED
features were not incorporated into the physical layout of the campus she found that the campus is a relatively safe area compared to the surrounding neighbourhoods. Serpase (1998) carried out a research to determine the efficiency of CPTED strategies as a tool in reducing crime and the fear of crime in two similar low-income housing apartment complexes – one with CPTED elements and the other one without, in New Orleans, Louisiana. He found no decrease in the crime rates but an increase in crime numbers due to the decrease of police random patrol walks after the installation of the fencing.

Cozens, et.al. (2002) believed that defensible space techniques are greatly unproven and showed that community safety could be achieved by good citizenship. Elbadawi (1991) studied the environmental and physical conditions that encourage criminal behaviour and the role of planning in creating homogeneous communities with good zoning, land uses and hierarchy of public/private places in three case studies located in different areas in Halifax, and examined the environmental factors leading to crime and the physical setting that have encouraged criminal behaviour and CPTED principles were employed for assessment of safe neighbourhoods. He concluded from the three findings that it is rather difficult to generalize safety factors for different communities. CPTED features in each case had varying impacts on the neighbourhoods, therefore, each neighbourhood should be approached as a separate entity according to their composition, nature of crime and the factors that influence the occurrence of crime.

Clontz, et. al. (1995) examined the effectiveness of CPTED principles on the residential and commercial burglary crimes in the entire city of Tallahassee the capital city of Florida. The findings of the study support some of the CPTED principles. The concept of mixed-land use advocated by Jacobs (1961) did not prove to be an effective tool in crime prevention; on the contrary, it was the cause of increased burglaries. Oscar Newman’s idea about residential surveillance did not receive any support from the analysis. Vegetation was effective in residential areas but not in commercial areas to reduce crimes. Cozens, et.al. (2001) examined the perception of crime, fear of crime and defensible space in two buildings with same design (one well-maintained and the other ill-maintained), to test the impact of image on crime, fear of crime and defensible space. The findings showed that detached- houses, semi-detached houses and terrace houses were perceived by the sample group as being safe places to live in and represented positive images of a defensible space. Further, well-maintained housing represented significant factors in deterring crimes. On the other hand, walk-up apartments represent a negative image of a defensible space and high-rise apartments represented a less negative image and were perceived as places with high crime rates and social disorder. The findings of the study greatly support Oscar Newman’s theory of hierarchy of places regarding housing designs.

Baker (2005) examined the impact of urban form in the reduction of crime in a community. Taking the Baltimore neighbourhood as the case study area, she tested the integration of CPTED principles into the design process and found that the physical environment represents only one aspect of crime prevention and other social, economic and political issues should be addressed for an effective CPTED tool. Ewent (1999) studied night safety within a public area, the Pizza Corner in downtown Halifax to identify the social and physical issues affecting safety in the area in an attempt to identify the role of architects, planners, crime prevention professionals and community members in creating safe places and achieving a quality of life. Two surveys were carried, one on the surrounding residents and the other one on the downtown business operators to find how the people evaluate their level of safety in the downtown. The findings showed that the Halifax downtown is a relatively safe area and CPTED principles (territoriality), were supported.

It appears from the above review of empirical studies that the relationship between crime and CPTED elements or environmental design is not conclusive. There are controversies and these provide a ground for further studies which need to be pursued on the case-specific basis in developing countries.
3. Objectives, Methodology and Study Area

The study aims to examine the impacts of the physical environment on crimes in residential areas, thus exploring the relationship between residential crimes and defensible space as indicated by the CPTED principles. The following objectives have been set for the study:

- To identify the types of crimes that occur in Taman Melati terrace housing area;
- To examine the safety level of the terrace housing based on their locations along the main road (TAMR) and around the open space (TAOS);
- To investigate the physical and environmental elements that lead to safer neighbourhoods; and
- To formulate policy recommendations based on the findings.

3.1. Research Questions and Hypothesis

- What are the types of crimes or threats against which persons or properties need protection?
- Where are the crime offender’s entrance areas in terrace housing (roofs, parking, back lanes or access to the rear of the dwelling and play areas)?
- What are the assets (persons, places and property) in each housing type that needs protection?
- What are the assets exposed to the crimes (for example, if the back lanes represent an area of crime, can the offender enter these areas without control)?
- What are the security measures taken to mitigate these threats?

Based on literature review the general hypothesis framed for the study is as follows:

Terrace houses located around the open space (TAOS) are prone to crimes than those located along the main road (TAMR) in the housing area.

3.2. Methodology

The study is formulated to cast light upon the problem of crime and disorder in residential areas which have become a fact of life with the increasing property and street crimes. Crime prevention through environmental design (CPTED) describes ways to provide safety in housing areas. These include enhancing the visual link between the houses and the street (natural surveillance), having clear demarcating private and public spaces to reinforce sense of property among the residents so they can take responsibility for the area assigned to them (territoriality), using signs or other design elements identifying the boundaries to restrict the movement of the offenders and facilitate their identification (access control), adjoining land uses that would activate the areas and increase its safety (image and milieu) and finally preserving and maintaining properties to give a sense of Omni-presence (maintenance). The employment of these principles would create houses which are defensible at least by virtue of their physical characteristics.

Thus, the purpose of the study is to examine the level of safety in the housing of the study area and identify the impact of the physical environment on crime in the area. The researcher had to identify first the factors related to safety in housing areas. This was done through the information gathered from secondary data such as government reports including an intensive literature review. Based on the literature review the factors identified were grouped into six categories - location, social interaction, natural surveillance, omnipresence, security (target hardening) and maintenance. These categories are further analyzed in the questionnaire which forms the primary source of data. The information gathered during the field survey from the questionnaire and the interviews together with the secondary data were analyzed to evaluate the level of safety in the neighbourhood. The response variable - level of safety, has more than one cause as shown in Table 1.
A triangulation approach was adopted in which information was obtained from both quantitative and qualitative methods. The quantitative method involved the use of questionnaire and personal observation. The qualitative approach involved constructing interviews with some residents and the neighbourhood officials to obtain a diverse viewpoint so as to cast light upon the problem and to identify some of the issues that aroused during the survey. A questionnaire consisting of five sections – security check list, residents interview, demographic information, perception of safety and residents’ street, was administered to randomly selected 200 terrace units which were stratified based on their locations along the main road (TAMR) and around the open space (TAOS). Two types of scales – Likert and Thurston, were used to measure the qualitative variables.

3.3. The Study Area

The study area, Taman Melati, is located in Setapak area of Kuala Lumpur. It is situated 15 KM far from the CBD of Kuala Lumpur and is in close vicinity of Gombak which is one of the district of Selangor state. The state has a record of being a high crime state (17%) in Malaysia. Taman Melati is indirectly affected by the high crime rate in the adjacent areas, having a spill over effect of crimes. In Taman Melati, the problem of crimes started in the mid 80’s with the establishment of the Malaysia Institute of Art (MIA) and the Tengku Abdul Rahman College which has increased the need for housing in the area and the crime in the area was related to the poor design of the buildings and the environment. Several housing developments with no consideration of the living conditions of the users were developed. Taman Melati is now booming with a considerable number of housing developments (eight condominiums in five years) resulting in an increase in the population density and an increase in its

| Variables            | Measurement                                                                 |
|----------------------|-----------------------------------------------------------------------------|
| 1. Housing location  | 1. Houses along main road                                                   |
|                      | 2. Houses around open space                                                |
| 2. Social interaction| 1. Neighbourhood watch group.                                              |
|                      | 2. Knowing neighbour.                                                      |
|                      | 3. Visiting neighbour                                                      |
| 3. Natural Surveillance| 1. Front entrance vision.                                                  |
|                      | 2. Rear entrance vision                                                    |
|                      | 3. Lighting.                                                               |
| 4. Omnipresence      | 1. Picking mail.                                                           |
|                      | 2. Curtain opening & closing.                                              |
|                      | 3. Cutting grass.                                                          |
| 5. Security          | 1. Doors and window locks.                                                 |
|                      | 2. Lock changes.                                                           |
|                      | 3. Burglar alarms.                                                        |
| 6. Maintenance       | 1. Neighbourhood cared for.                                                |
|                      | 2. Litter around.                                                          |
|                      | 3. Vandalism.                                                              |
demographic characteristics that might lead to some social problems. It is believed that more development in the area will lead to further increase in the crime rate.

4. Results and Discussions

4.1. Socio-Economic and Demographic Characteristics of Residents

Residents' demographic and socio-economic attributes presented in Table A1 (in appendix A) shows some noticeable characteristics such as the dominance of male head of households in both housing areas (TAMR and TAOS) followed by significant percentage of unmarried respondents; dominance of (60%+) of middle aged residents; Malaya constitutes the majority of residents followed by the Chinese and the Indians. Mean family size is 3 with majority of families in both areas having 1-3 male and female members. Mean monthly family income is around RM4000 (US$1290) in both areas, followed by automobile ownership which exceeds 2.0 per family. The length of residency of the families in both areas are slightly more than 10 years, whereas mean monthly rent of TAOS area is higher by RM200 (US$65) than the prevailing rent in TAMR area.

4.2. Respondents' Safety Perception

The study uses four approaches to measure the level of safety in the two housing areas. The first is the respondents' perception of the neighbourhood safety, the second is the number of break-ins in both housing locations, third, the types of crimes experienced in the neighbourhood, fourth, the target hardening features used by the respondents to deter crime (Table 2). According to the literature review areas along main roads are not safe because of its increased permeability (Brantingham and Brantingham, 1981). The result shows that TAMR terrace units were safer than TAOS terrace units, because the mean for the former is higher than the latter. An independent sample t-test result (t=2.9; p<.05) shows that the mean level of safety perception of the two groups has come from different population.

The second measure of the level of safety is the break-ins within both housing locations. The results showed that the TAOS housing experienced double break-ins than the TAMR housing. The third measure is the type of crimes experienced within both housing locations. The findings showed that although street snatches are the major crimes experienced by all residents, the percentage of AMR residents who became victims of it was higher than those of TAOS residents. Actually, TAMR residents experienced a higher rate of vehicle theft and vandalism than TAMR residents.

The fourth measure is the residents' target hardening. Target hardening measures are CPTED measures that can be used as proxies to gauge the fear of potential crimes in the housing area. Table 2 also shows that both TAMR and TAOS residents have adopted several target hardening as potential crime prevention measures. Most of the residents within both housing locations used window bars and very few used burglar alarms. This might be the reason why most of the break-ins were through the front door.

4.3. Analysis of Factors Influencing Safety Level Within Both Housing Locations

In analyzing the six factors that exerted influence on the safety level in the terrace housing area (Table 3), the following findings deserve careful considerations:

- The level of safety was higher in houses located along the main road than in the houses located around the open space, because less crime incidents were experienced in TAMR houses than in the TAOS houses. Thus, the location of the housing in the area had an influence on the level of safety. However, the location of the terrace (at street junction, end of terrace and mid of terrace) did not affect the safety
level and no relation was found between the location of terrace housing within both housing location and the level of safety.

Table 2. Measuring Level of Safety in Taman Melati Terrace Housing. Source: Field Survey, (2010).

| Respondents’ perception of safety | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|----------------------------------|---------------------------------|----------------------------------|-------|
|                                  | f                              | %                               | f     | %    |
| A safe place to live in          | 65                             | 65.0                            | 54    | 54.0 | 119  | 59.5 |
| A fairly safe place to live in   | 25                             | 25.0                            | 18    | 18.0 | 43   | 21.5 |
| Do not know                      | 0                              | 0.0                             | 1     | 1.0  | 1    | 0.5  |
| An unsafe place to live in       | 10                             | 10.0                            | 27    | 27.0 | 37   | 18.5 |
| Mean                             | 3.45                           | 2.99                            | 3.22  |      |      |      |

Break-in Experience:

|                                | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|--------------------------------|---------------------------------|----------------------------------|-------|
| Yes                             | 22                             | 22                              | 44    | 44   | 66   | 33   |
| No                              | 78                             | 39                              | 56    | 28   | 134  | 67   |

Types of Crimes:

|                                | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|--------------------------------|---------------------------------|----------------------------------|-------|
| House break-in                 | 22                             | 22                              | 44    | 44   | 66   | 33   |
| Vehicle Theft                  | 10                             | 10                              | 5     | 5    | 15   | 7.5  |
| Street Snatch                  | 63                             | 63                              | 51    | 51   | 114  | 57   |
| Vandalism                      | 5                              | 5                               | 0     | 0    | 5    | 2.5  |

Target Hardening Features:

|                                | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|--------------------------------|---------------------------------|----------------------------------|-------|
| Window bars                    | 77                             | 77                              | 66    | 66   | 143  | 71.5 |
| Flood lights                   | 1                              | 1                               | 1     | 1    | 2    | 1    |
| Burglar alarms                 | 3                              | 3                               | 1     | 1    | 4    | 2    |
| All                            | 16                             | 16                              | 21    | 21   | 37   | 18.5 |
| Bars and burglar Alarms        | 2                              | 2                               | 5     | 5    | 7    | 3.5  |
| None                           | 1                              | 0.5                             | 6     | 3    | 7    | 3.5  |

- Social interactions among residents living along the main road are better than those residing around the open space. The neighbourhood watch programme and also the neighbours know and visit each other, were more active in TAMR houses than in TAOS houses. The strong social interaction is one of the reasons why residents along the main road felt safer than the residents around the open space.
- Natural surveillance indicated that TAMR residents had enough lighting and good front vision than the TAOS residents. Based on this finding we can conclude that the level of safety is better within TAMR housing than TAOS housing.
- Omnipresence is a measure of how to make the offender believe that the residence is occupied. The finding did not show any difference between the two housing locations in their level of Omnipresence.
Table 3. Factor Influencing Level of Safety in Taman Melati Terrace Housing. Source Field Survey, (2010).

| Factors Influencing Safety Level | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|----------------------------------|--------------------------------|---------------------------------|-------|
|                                  | f | %   | F  | %   | f  | %   |
| Social Interaction:             |   |      |    |     |    |      |
| None                             | 8 | 8    | 40 | 40  | 48 | 24   |
| Knowing Neighbour               | 18| 18   | 6  | 6   | 24 | 12   |
| Visiting Neighbour              | 5 | 5    | 1  | 1   | 6  | 3    |
| Neighbourhood Watch Program     | 6 | 6    | 5  | 5   | 11 | 5.5  |
| Natural Surveillance:           |   |      |    |     |    |      |
| None                             | 4 | 4    | 33 | 33  | 37 | 18.5 |
| Rear Vision                      | 0 | 0    | 1  | 1   | 1  | 0.5  |
| Front Vision                     | 10| 10   | 5  | 5   | 15 | 7.5  |
| Lighting                         | 23| 23   | 12 | 12  | 35 | 17.5 |
| All                              | 63| 63   | 49 | 49  | 112| 56   |
| Omnipresence:                   |   |      |    |     |    |      |
| None                             | 36| 36   | 43 | 21.5| 79 | 39.5 |
| Picking mail                     | 13| 13   | 16 | 8   | 29 | 14.5 |
| All                              | 51| 51   | 41 | 20.5| 92 | 46   |
| Security Measures:              |   |      |    |     |    |      |
| None                             | 5 | 5    | 27 | 27  | 32 | 16   |
| Locks Change                     | 1 | 1    | 0  | 0   | 1  | 0.5  |
| Burglar Alarms                   | 0 | 0    | 2  | 2   | 2  | 1    |
| Doors & windows Lock             | 28| 28   | 30 | 30  | 58 | 29   |
| All                              | 66| 66   | 41 | 41  | 107| 53.5 |
| Maintenance and Management:     |   |      |    |     |    |      |
| Vandalism                        | 2 | 2    | 0  | 0   | 2  | 1    |
| Litter Around                    | 12| 12   | 15 | 15  | 27 | 13.5 |
| Neighbourhood Neglected          | 13| 13   | 30 | 30  | 43 | 21.5 |
| Neighbourhood Cared for          | 73| 73   | 35 | 55  | 128| 64   |

- Regarding the security measures undertaken by the residents, it was found that the TAMR residents had employed a better target hardening devices than TAOS residents.
- Maintenance and management findings showed that TAMR residents have adopted better management measures compared to TAOS residents.
4.4. Other Findings

Based on the literature review it was apparent that the terrace housing planned around the open space would be more vulnerable to crime. However further analysis indicated the following:

- Crime risk was higher in houses around the open space than the houses located along the main road. This finding does not support Brantingham and Brantingham’s (1981) study which found that many crimes occurred on main roads because accessibility is associated with higher crime rates.
- The location of terrace houses (at street junction, end of terrace and middle of terrace) did not have any effect on the crime rate. This finding does not support Brantingham and Brantingham (1981) findings that middle blocks and middle of terrace are safer than end of blocks or terrace.
- Social interactions proved to have an effect on crime risk. The social interaction makes people feel safe and it has more control of their community. This support Oscar Newman’s theory (1973) of sense of community.
- Natural Surveillance proved to have a relation with the level of safety. This supports Newman’s Defensible Space theory (1973).
- Omnipresence had no impact on crime reduction, thus, no support for CEN (2002) study on abandoned and neglected properties which can be linked to crime problems.
- Security measures did not show a relation with the level of safety crime reductions - this does not support Clarke’s (1997) target hardening studies. There were some cases where the target hardening measures did not prevent the offender from breaking-in.
- Maintenance and management of the neighbourhood had an impact in reducing the crime occurrences. This finding supports Clarke and Mayhew’s (1980) study on environmental management.
- Housing appearance showed a significant relationship with the crime occurrence. It was found that houses with good appearance are more vulnerable to crime, because offenders think that the benefit worth the risk. This finding does not support the ‘Broken Windows Theory’ of Wilson and Kelling (1982) that poor housing maintenance represents an opportunity to potential offenders.
- Offenders’ break-ins were mainly through the front doors. This does not support Coleman (1990) study that identified back lanes as giving access to potential offenders.

In a nutshell, the results showed that no serious crime problems exist in the area. Majority of the break-ins are petty crimes (shoes stealing and drainage covers stealing). Both housing areas have successful neighbourhood program. Nevertheless, interviews with the residents revealed that there is an increase in fear of crime due to the increase of street snatching. The residents’ fear of crime was higher than the actual number of crime incidents that took place. Since the main crime is street snatching, the area has to consider Clarke’s (1997) sixteen opportunities reducing techniques, in particular 6 (formal surveillance), 10 (identifying property) and 12 (denying benefits).

5. Conclusion

The crime situation in Taman Melati housing area is fairly good for living as it appears from residents’ safety perception. However, it is also evident that the residents living along main road are better off than their counterpart residents who are living around the open space. The issue is – crime situation is bad in housing around the open space where a significant percentage (27%) feel unsafe to live compared to 10% of the main road residents who perceived that the area is unsafe to live in. The other issue that emerges from the residents’ survey and opinion is – the house is safe but the neighbourhood is not safe as there are rampant snatching that occur on the roads, in which slightly more than two-thirds of the residents became victims. Therefore, it is necessary that crime prevention measures should be focused towards creating a
safe neighbourhood so that the houses become safe as well. In this regard, the following options can be considered:

- Creating gated community;
- Creating gated and guarded community;
- Employing security guards to patrol the area;
- Neighbourhood watch and patrol

Each of the above measures has financial and legal implications which need to be considered before the community decides to opt for one or a combination of measures. The community should also adopt more situational crime prevention measures in order to build their safety-net environment.

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**Appendix A.**

Table A1. Respondents’ Demographic and Socio-Economic Characteristics. Source: Field Survey, (2010).

| Demographic and Socio-Economic Characteristics | Terrace Along Main Road (TAMR) | Terrace Around Open Space (TAOS) | Total |
|-----------------------------------------------|--------------------------------|---------------------------------|-------|
|                                               | f | %    | f  | %    | f  | %    |
| Gender:                                       |   |       |    |       |    |       |
| Male                                          | 55 | 55.0  | 66 | 66.0  | 121 | 60.5  |
| Female                                        | 45 | 45.0  | 34 | 34.0  | 79  | 39.5  |
| Marital Status:                               |   |       |    |       |    |       |
| Unmarried                                     | 21 | 21.0  | 19 | 19.0  | 40  | 20.0  |
| Married                                       | 76 | 76.0  | 78 | 78.0  | 154 | 77.0  |
| Divorced                                      | 0  | 0     | 1  | 1.0   | 1   | 0.5   |
| Widowed                                       | 3  | 3.0   | 2  | 2.0   | 5   | 2.5   |
| Age:                                          |   |       |    |       |    |       |
| Under 24                                      | 10 | 10.0  | 4  | 4.0   | 14  | 7.0   |
| 25-34                                         | 14 | 14.0  | 17 | 17.0  | 31  | 15.5  |
| 35-54                                         | 33 | 33.0  | 25 | 25.0  | 58  | 29.0  |
| 55-above                                      | 27 | 27.0  | 37 | 37.0  | 64  | 32.0  |
| Ethnicity:                                    |   |       |    |       |    |       |
| Malay                                         | 72 | 72.0  | 60 | 60.0  | 132 | 66.0  |
| Chinese                                       | 11 | 11.0  | 20 | 20.0  | 31  | 15.5  |
| Indian                                        | 13 | 13.0  | 13 | 13.0  | 26  | 13.0  |
| Others                                        | 4  | 4.0   | 7  | 7.0   | 11  | 5.5   |
| Family size:                                  |   |       |    |       |    |       |
| 1-3 persons                                   | 79 | 79  | 75 | 75  | 154 | 77   |
| 4-6 persons                                   | 20 | 20  | 25 | 25  | 45  | 22.5 |
| 7-10 persons                                  | 1  | 1   | 0  | 0   | 1   | 0.5  |
| Mean family size                              | 2.66 |        | 2.75 |        | 2.70 |
| No of males in family: | 1-3 persons | 4-6 persons | 7-10 persons |
|-----------------------|-------------|-------------|-------------|
|                       | 81          | 17          | 2           |
|                       | 81.0        | 17.0        | 2.0         |
|                       | 75          | 25          | 0           |
|                       | 75.0        | 25.0        | 0.0         |
|                       | 156         | 42          | 2           |
|                       | 78.0        | 21.0        | 1.0         |

| No of females in family: |
|--------------------------|
| 1-3 persons              | 78          |
|                          | 78.0        |
| 4-6 persons              | 22          |
|                          | 22.0        |
| 7-10 persons             | 0           |
|                          | 0.0         |

| Educational Level:         |
|---------------------------|
| Junior (grade 8 or less)  | 3           |
| High school               | 26          |
| College                   | 24          |
| Bachelor                  | 42          |
| Master/ PhD               | 5           |

| Monthly family income:    |
|---------------------------|
| RM1000-2000               | 1           |
| RM2001-RM3000             | 6           |
| RM3001-RM4000             | 42          |
| RM4001-above              | 51          |
| Mean income               |
| RM3,930                   | 36          |
| RM3,980                   | 39          |
| RM3,955                   | 25          |

| Employment sector:        |
|---------------------------|
| Employed                  | 36          |
| Own business              | 35          |
| Retired                   | 15          |
| Student                   | 8           |
| Not Working (Unemployed)  | 5           |
| Others (Disabled)         | 1           |

| Vehicle ownership:        |
|---------------------------|
| Car                       | 74          |
| Motorcycle                | 39          |
| Bicycle                   | 0           |
| Car& Motorcycle           | 25          |
| All                       | 0           |

| No of automobiles owned: |
|--------------------------|
| 1                        | 26          |
| 2                        | 42          |
| 3                        | 19          |
| 4                        | 10          |
| 5                        | 2           |
|       | 1     | 1.0   | 0     | 0.0   | 1     | 0.5   |
|-------|-------|-------|-------|-------|-------|-------|
| Mean  | 2.23  | 2.45  | 2.34  |       |       |       |

**Types of maid used:**

- **In-house**: 10 (10.0), 8 (8.0), 18 (9.0)
- **Daily maid**: 0 (0.0), 2 (2.0), 2 (1.0)
- **Weekly maid**: 0 (0.0), 2 (2.0), 2 (1.0)
- **No maid**: 90 (90.0), 88 (88.0), 178 (89.0)

**Housing information:**

- **Owned**: 74 (74.0), 77 (77.0), 151 (75.5)
- **Rented**: 26 (26.0), 23 (23.0), 49 (24.5)

**Monthly rent:**

- **RM700-1000**: 21 (75.0), 5 (21.7), 26 (51.0)
- **RM1001-1500**: 7 (25.0), 17 (73.9), 24 (47.0)
- **RM1501-2000**: 0 (0.0), 1 (4.4), 1 (2.0)

**Mean rent**: RM950, RM1185, RM1056

**Length of residency:**

- **1-5 years**: 34 (34.0), 19 (19.0), 53 (26.5)
- **6-10 years**: 21 (21.0), 29 (29.0), 50 (25.0)
- **11-15 years**: 20 (20.0), 30 (30.0), 50 (25.0)
- **16-20 years**: 17 (17.0), 19 (19.0), 36 (18.0)
- **21-25 years**: 8 (8.0), 3 (3.0), 11 (5.5)

**Mean**: 10.2, 10.9, 10.6