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THE UNIVERSITY OF HONG KONG

# A STUDY OF FACTORS AFFECTING RESIDENTS' ATTACHMENT TO THEIR HOUSING COMMUNITY— SUGGESTION ON ESTABLISHMENT OF COMMUNITY QUOTIENT IN HONG KONG

A DISSERTATION SUBMITTED TO
THE FACULTY OF ARCHITECTURE
IN CANDIDACY FOR THE DEGREE OF
BACHELOR OF SCIENCE IN SURVEYING

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION

BY

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HONG KONG

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## Declaration

**I declare that this dissertation represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or any other institution for a degree, diploma or other qualification.**

**Signed:** _____

**Name:** **Lee Ming Wai**

**Date:** **13 April 2006**

# Abstract

Residential mobility in fact is a valuable subject in understanding consumer behavior in the housing market. Understanding the background on residential mobility is useful to urban planners, developers, the Government as well as home buyers. The subject on intra-urban residential mobility and neighbourhood attachment has rather been extensively studied in the United States. However, not much has been done in Hong Kong, or even in Asia. This study therefore aims to provide an insight into the micro-"pulling" factors on residents' attachment to their housing community in Hong Kong.

Not surprisingly, residents' neighbourhood attachment is determined by an interaction of multiple factors. Recent research has suggested that housing environment, age of household, income and education level as well as residents' formal and informal involvements in the community are having significant impact on residents' neighbourhood attachment. In this dissertation, the author will try to examine how these factors affect residents' willingness to stay in their housing community in Hong Kong and how these factors affect the community bonding.

However, the degree of residents' attachment in a housing community is rather difficult to be portrayed in words, it is therefore suggested to establish a quantified term—Community Quotient—originated from the Harvard University, the U.S., for assessing the level of social capital of a housing community in the context of Hong Kong. This quotient can help to indicate the performance of the housing community, to study the urban demand and to predict trends of residential development in Hong Kong.

Community cohesiveness and community building have become much more important after various adverse incidences in Hong Kong, such as the SARS, increasing familial crime occurrence and the H5NI pandemic. Establishment of Community Quotient in Hong Kong will be meaningful and useful for measuring cohesiveness and for the sake of community building work. This study hopes to arouse the public interest on the matter of community cohesiveness, which is a fundamental prerequisite for building a more harmonized living place in Hong Kong.

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# Chapter 1 Introduction

## 1.1 Background

The subject on intra-urban residential mobility and neighbourhood attachment has been rather extensively studied in the United States. Some of the consequences on mobility at macro-level are also commonly reported. More recently, micro-level analyses on neighbourhood attachment have been advanced by various analytical techniques and empirical knowledge in order to study the residents' mobility motives, benefits of mobility, cost of mobility, as well as the outcome in a micro-level. However notwithstanding these advances, very little research and studies have been done on this topic in Hong Kong, or even in Asian cities. Therefore, the basic intention of this dissertation is to arouse the interest of public on fundamental questions of intra-community mobility.

Residential mobility in fact is a valuable subject in understanding consumer behavior[1] in the housing market. It is a behavioral mechanism in which households consequently adjust themselves to changing needs for housing. In the world of marketing[2] ordinary consumer goods, companies first need to understand the needs of each consumer so as to provide suitable products in satisfying their needs. Therefore, consumer behavior is a precious field of study to those companies. This is the case when replacing housing with those conventional consumer goods. Developers need to understand the needs of each resident and housing consumer in order to implement

[1] Consumer behavior is the study of the psychology of how consumers think, feel, reason and select between different alternatives. It is also a psychology of how consumers are influenced by the surround environment as well as their motivation and decision strategy.

[2] Marketing can be defined as a mean for satisfying consumers' needs. Therefore, before thinking the ways of satisfying the needs of consumers, one should first understand the consumers by studying consumer behavior.

certain selling strategies to cope with the phenomenon. Hence, understanding consumer behavior in the housing market is irresistible.

The only way to distinguish housing consumption from conventional goods and services is to look at its multidimensional heterogeneity, durability and locational immobility. These features of housing jointly produce a unique effect on the consumption of housing over time. Residents generally need to relocate themselves in order to fulfill themselves their needs on consumption of housing over time. In this way, residential mobility is an integral factor influencing the formation and change of urban residential spatial structure. Government and urban planners should therefore, take notes on this for the sustainable growth of the society.

Understanding residents' mobility motives is a way to explore consumer behavior in the housing market. Consideration on housing movement is based on both the "push"[3] and "pull"[4] reasons. This means in making housing movement decision, residents need to have cognitive decision process on the pre-move considerations and the post-move consequences—in what ways the housing community retains the residents and in what ways other locations attract the residents.

In view of the limited research in this field of studies in Hong Kong, this dissertation is devoted to provide an empirical investigation on the major determinants of resident's attachment to their housing community, in which to focus on factors influencing residents' decision before their move. Nevertheless, the concept of

[3] They are reasons attracting residents to move to another area from their originated area, e.g. better facilities provided in the new area.

[4] They are reasons retaining residents to stay in their originated area, e.g. the neighbours that residents are familiar with.

residents' attachment in a housing community is rather difficult to be portrayed in words, it is therefore suggested to establish a quantified term—Community Quotient—for assessing the level of social capital of a housing community in the context of Hong Kong.

Computation of Community Quotient is based on a massive community survey originated from the Saguaro Seminar at the John F. Kennedy School of Government, Harvard University in the U.S[5]. It is a quantified notion on the level and the accumulation process of social capital in a housing community. This is said to be useful as an indicator for residents' willingness of staying in their respective housing community. Community Quotient also helps to show a community's performance on a number of indicators such as levels of education, degree of cohesiveness, sense of neighbourhood and age distribution. The higher the quotient, the more amiable the housing community is.

After the SARS[6] incidence and the fear of H5NI pandemic[7], community cohesiveness and close bonding between neighbours become an important support for the members in the community. Housing choice of residents in relation to location will depend more on physical and neighbourhood factors rather than on the housing price

[5] For further detail on the Social Capital Community Benchmark Survey, please refer to website: http://www.ksg.harvard.edu/saguaro/communitysurvey/index.html. There is information concerning the national results of the survey in U.S., Community results matrix and some press releases related to the survey.

[6] SARS is an abbreviation of Severe Acute Respiratory Syndrome. The emergence of SARS in 2003 was a severe challenge to Hong Kong and Hong Kong was a significant infected area listed by WTO at that time. The epidemic has affected 1,755 including 300 deaths in Hong Kong. Source: Website of SARS, available from: http://www.info.gov.hk/info/sars/eindex.htm

[7] The outbreak of H5N1 is mainly due to the subtype of influenza A. It is originally a kind of bird flu which affects birds' population in countries throughout Southeast Asia. However, human cases are reported recently which caused death.

appreciation. Owing to the economic downturn resulting in numerous negative equity households and downward price adjustment, increasing the level of social capital and cohesiveness of a community can help to alleviate the soaring grievance and discontent of Hong Kong citizens. A better neighbourhood and a more harmonious Hong Kong can be built. Establishment of Community Quotient in Hong Kong is therefore meaningful and useful to the study of urban housing demand and urban sustainability in Hong Kong.

## 1.2 Objectives of the Study

The objectives of this dissertation are basically four-fold:

- To define the relative weighting of different attributes to the bonding between residents in a housing community
- To identify the factors most influential in residents' attachment to their community and measure the degree to which each of them contribute to residents' willingness to stay
- To examine the feasibility of establishing Community Quotient for measuring community cohesiveness in Hong Kong
- To verify that the Community Quotient can act as an indicator for residents' community attachment in Hong Kong

## 1.3 Framework of the Study

The empirical study is divided into 7 chapters. This chapter is introduction. It describes the background of this dissertation, the objective of this study, as well as its structure.

This introduction chapter is followed by a chapter of literature review. Previous academic research studies related to this field are illustrated. The chapter includes some basic background and definition on community; relevant comments on residential mobility and its determinants; and also a basic introduction of the construction of Community Quotient in the U.S.

Chapter 3 provides an overall insight of the housing community and housing movement in Hong Kong. Community Quotient in the context of Hong Kong will also be discussed.

Chapter 4 is the overview of the methodology employed in this study. Analytic Hierarchy Process and the Regression Analysis will be introduced. The general development processes of these two models are outlined.

Chapter 5 is the overview of the empirical models, in which both the specification of Analytic Hierarchy Process and Regression Analysis in this study will be explained respectively. The source of data for the two models and the expected results are given.

Chapter 6 presents the results obtained from both the Analytic Hierarchy Process and the ordered probit regression model. A comprehensive analysis will be provided and some implications from the results will also be illustrated.

The last chapter, chapter 7, is the concluding chapter. The main findings and observation in this study, the study's limitation and suggestion on further researches will be provided in this concluding chapter.

# Chapter 2 Literature Review

## 2.1 Introduction

Before starting off the analysis on factors affecting residents' attachment to their housing community, it is better to have a comprehensive review on the related field of studies first. The first step is therefore to find out the fundamental theoretical underpinnings about community building and development as well as residential mobility. Then the second step is to further the understanding on the theoretical principle of reasons behind for driving residents' attachment in their community. Numerous studies have been done to investigate the factors affecting neighbourhood attachment of residents in the past few decades. These previous researches would be reviewed in order to establish the framework of this dissertation. They can provide useful insights into the theoretical underpinnings, approaches and variables for the construction of the empirical study models. Section 2.2 will focus on the background of community building and development; Section 2.3 will address the issues on residential mobility or attachment and to review previous studies on the determinants of neighbourhood attachment, and lastly in Section 2.4, establishment of Community Quotient in the community in U.S. will be reviewed.

## 2.2 The Community

This section attempts to give a general picture on the concept of community as well as community building.

### 2.2.1 Community in Concept

In a systemic term, the community is perceived as a social system containing differentiated, interlinking subsystems and operating through intricate linkages with extracommunity systems (Edwards & Jones, 1976). It can be said that the interaction of community system depends on the interrelatedness of each individual in the community, those informal groups and formal groups. And the mentioned interaction also depends on the subsystems of family, economy, religion, government, education and social welfare which interact with each other within the community. Therefore, it can be said that a "community" is a rather complicated system.

In simplicity, community can be said to have four components. They are people, location in geographic space, social interaction and common tie. Definition of "community" would be easily understood by remembering these four components,. In line with it, Edwards & Jones (1976) further identify the meaning of "community". They define community as a grouping of people who reside in a specific locality and who exercise some degree of local autonomy in organizing their social life in such a way that they can, from that locality base, satisfy the full range of their daily needs (Edwards & Jones, 1976, p. 12).

Recently, research has also been focused on community building. Community building can be observed by individual and community empowerment and enhanced social capital in order to advance and sustain community gains (Pierson & Smith, 2001). Therefore, the word "community" can be interlinked with "social capital" and "sustainability". According to Putnam (2000), social capital "refers to connection among individuals—social networks and the norms of reciprocity and trustworthiness

that arise from them" (Putnam, 2000, p.19). Social capital therefore can be said as intrinsically embedded in formal and informal collaborative relationships existing within neighbourhoods, and in the linkages between subsystems which in turn having an impact on neighbourhood.

"Community", therefore is a result of a celebration of relationships. The linked relationships can inspire the collective creation of more caring, innovative, and productive neighbourhood.

### 2.2.2 Gated Community

Community is a geographic space in which people interact with each other within space. Under this definition, a place with bounded private zones can then be regarded as a community. Gated communities refer to physical areas that are fenced or walled of from its surroundings. Entrance into the areas, are prohibit or controlled by means of gates (Landman, 2000). Simply put, residential areas with restricted access can be regarded as gated communities. In gated communities, they should have a staffed front entrance with round-the-clock security requires all cars to pass the guard; residents' cars are issued an identification sticker. Even unstaffed entrances have intercom systems, and some have video monitors. Private communities are providing their own security; street cleaning, park maintenance, and garbage collection. Further more, their swimming pools, street, and the tot lots are private, used only by the residents and their invited guests.

Numerous researches have been arguing the pros and cons of gated communities (Bible & Hsieh, 2001; Blakely, 1999; Landman, 2000). Studies have indicated that

gated communities can either enhance or reduce the sense of community. Blakely (1999) provides in his study that gated communities may create a sense of community spirit among the inhabitants. Consequently, developers of gated communities see themselves providing for both security and a self-directed community in which all members of the association are active participants in community governance. Nevertheless, some African studies stated that the drive to enclose neighbourhoods in their own area or surrounding areas is causing increased conflict between residents and has created an atmosphere of tension and hostility (Landman 2000). Nevertheless, Bible and Hsieh (2001) find that the benefits of reduced traffic, increased prestige, and perceived greater safety and security outweigh the potential negative effects of limited access for visitors and any perceived area-wide crime problem. They then further hypothesize that gates add values to the homes they surround.

Some scholars relate gated community with property values in their researches. It is arguable that there are many possible ways gated communities might affect property values; the one most commonly-cited in the literature is security (LaCour & Malpezzi, 2001). LaCour and Malpezzi (2001) use hedonic specification and robust estimation procedures for testing the hypothesis that gated street have a positive effect in valuation, and the results and outcome conform to their expectation. The notion is that gated communities may reduce the incidence of crime and thus the reduction in crime rate may then have impact on the housing price. In addition, Bible and Hsieh (2001) also have the same outcome as LaCour and Malpezzi (2001) that there are specific values added to homes attributable to being located in gated communities.

It is therefore believed that gated communities are important to be studied in the notion of property values. They are also needed to be carefully considered for planning urban future needs in a way for urban sustainability.

### 2.2.3 Community Building

Community building is generally defined as strengthening the capacity of residents, neighbourhood associations and neighbourhood organizations to work towards sustained change in conditions (Pierson & Smith, 2001). It can be said as a process that people of the community cooperatively giving effort to promote the well-being of their community.

In the community development studies by Edwards and Jones (1976), they state that the community building process is compiled of two essential components. First is the participation by the people themselves in an effort to improve their level of living and the second is the provision of technical services which helps to encourage initiative, self-help and mutual-help of the people.

As a result, community building is dependent on the mutual-help and cooperation of the people themselves. And this may then be interlinked with the relationship between people within the community. Felkins (2002) claims that the foundations of community relationships are the narratives, social rules and agreements that people create together. Narratives institutionalize the history, tradition, and values of the organization as the most basic foundation of community. Social rules define that norms, roles and relationships for participation in everyday community practices.

Agreements provide a structure for responsibility, obligation, and collective performance within a community.

Social interaction and communication will be aroused by people in the community involving in narrative telling, complying social rules and establishing agreement with each others. And these will be maintained through responsiveness, understanding and accountability in community relationships between people. Responsiveness, understanding, and accountability would help to sustain relationships among a community, which in turn retaining people to stay in the community.

## 2.3 Residential Mobility

This section attempts to give a brief understanding on the definition of residential mobility or attachment as well as the theoretical underpinnings of factors affecting residents' attachment to their community or neighbourhood.

### 2.3.1 Definition of Residential Mobility

Residential mobility has long been of interest to urban planners, sociologists, economists, and geographers, and much is known in both intercommunity migration and local movement (Fredland, 1974). Clark and Moore (1980) define that residential mobility is the relocation of household from one dwelling to another. However, Rossi (1980) defines residential mobility as an address shift that does not involves changes in localities. Rossi further identifies that there are differences between migration and residential mobility. Migration is a movement involves changes in addresses with markedly different locality whereas residential mobility is movement remains in the same locality. The two can be very similar, depending on what is meant by "markedly

different locality". Residential mobility is therefore consistent with the definition of another term called internal migration, which means a shift within a locality, city or a country, depending on the situation.

One interesting point to distinguish between migration and residential mobility has been raised by Kim (1987). He claims that migration involves a shift from one labour market to another, and hence, is motivated primarily by employment considerations; while residential mobility implies shifts that could take place without changes in employment (Kim, 1987, p.2). Researches and literatures contains some overlap between the two types of mobility mentioned above, and it is not always possible in reviewing past research to make a clear separation. The author of this dissertation will thus make a point that residential mobility is basically referred to intra-urban move in residence.

### 2.3.2 Residential Mobility in Concept

Residential mobility is a goal-orientated, voluntary activity. It is assumed that mobility is undertaken by those who have concrete idea of why and where they move, and by those who can organize search activities in the way that they think will be the most effective (Kim, 1987, p.2). Residential mobility has also interested many scholars and researchers in discipline including economics, urban geography, urban planning and marketing research.

For economist, residential shifts provide a means of studying the housing and land markets (Kim, 1987, p.7).Studying of this kind can establish linkages with housing market and thus implement certain relevant housing policies.

For Geographers, studying residential mobility can help them to understand a spatial population distribution (Kim, 1987, p.7). And this has furthered the elaboration on shopping and commuting behavior and behavior of household searching.

For sociologists, interest in residential mobility can help from stemming the studying of human ecology, and also at the same time, establishing a concern with the peculiar quantities of urban life (Kim, 1987, p.7).

On the whole, studying residential mobility can help people understand why they move, how they move and in what ways they move. It can then establish linkage in certain subjects, like consumer behavior, housing, and so the ultimate aim is to establish concern on the improvement in urban life of people.

### 2.3.3Theory concerning the Determinants arriving on Residential Mobility or Neighbourhood Attachment

In this section, summary of the reasons for residential mobility will be discussed. There is indeed an array of factors contributing to neighbourhood attachment. As per the discussion in the related researches and papers, factors affecting residents' community attachment can be divided into micro and macro factors. Generally speaking, micro and macro factors can be split between individual behavior and aggregated flow respectively (Clark and Moore, 1980). In summing up all the findings from researches related to this field, micro factors include economic, personal, familial ,sociopsychological and demographic aspects of residents' decision as well as ecological aspect, whereas macro factors refers to the interaction with market, public program or Government policies.

#### *2.3.2.1 Micro Factors*

There are many researches studying the relationship between personal factors and neighbourhood attachment. These can be known as using Microbehavioural approaches to explain residential mobility (Fredland, 1974; Rossi, 1980; Porell, 1982; Hui and Lam, 2002). Moreover, various personal, demographic and social characteristics appear to play an important role in community sentiment.

*Personal and familial aspect*

Rossi (1980) states that household housing needs are strongly conditioned by stages of family life cycles. He then defines family life cycle to reflect the fact that households change in a virtually regular way in response to personal processes like births, deaths and marriages. This time-related character of personal processes constantly shifts the size and age composition of members of the household. And so the proportion of residential move that is associated with household formation, reformation and dissolution is likely even higher. He also points out the needs of housing tends to be different in every stage of the family life cycle. These residential moves may be explained in changes in housing demand. Chevan's work (1971) further substantiates the life cycle hypothesis. Chevan (1971) gives primary attention to moving by families with married heads. Marriage itself is strongly associated with moving. He finds that length of marriage and bearing of children is also significant. The proportion of families moving declines with time married (Fredland, 1974, p.8).

Moreover, the relationship of age of household and mobility tends to be inversely correlated (Fredland, 1974; Rossi 1980; Porell, 1982). The mobility frequency sharply decreases with an increase in age, but then declines after mid-forties (Kim, 1987,

p.90). Young household are usually aggressive and proactive in searching their best dwelling. They are relatively more mobile when compared with the older ones as the latter have already been settled down and become stable in their residence.

*Personal economic aspect*

The personal stages described by Rossi (1980) also have been adopted in Hui and Lam's studies (2002) in Hong Kong. Hui and Lam (2002) believe that affordability of new household is the major factor in deciding the choice of relocation. Affordability is in terms of money, meaning that household needs to attain a certain level of income and wealth in order to meet the expense on new home as well as the cost of moving.

Apart from income level and age of household acting as major factors for residential mobility, other more universally applicable factors like the education level is also one of the determinants. Porell (1982) investigates the intra-urban residential relocation in United States. He claims that higher education levels are associated with higher mobility rates. As income is usually positively associated with education level, when one becomes better educated, his income increases so does his affordability of housing. This is also a reason why higher educated people are more mobile. Kim (1987) further elaborates Porell's (1982) suggestion that when one attains higher education, there would be increase in housing requirement. As a result, better educated people usually have higher requirements in their living place and will then progressively search for the best dwelling and so this increases the residential mobility.

*Neighbourhood ecological aspect*

Rossi (1980) finds from his survey that complaints about neighbourhood environment are associated with mobility intentions. Therefore, neighbourhood characteristics may influence the rate of movement. This phenomenon is further affirmed by Kim's (1987) studies which state that a decline in neighbourhood quality will increase the incidence of moving. This means that the environment of the housing community is a vital factors influencing residents' attachment towards their community. This is because physical structure and physical environment appear to play a role in community identification as well as sentiment (Guest & Lee, 1983).

Satisfaction of residents with the types of housing that they are living is also a determinant of residential mobility, as mentioned by Kim (1987). His research shows that the variable "type of housing" is positive and statistically significant. That means household preference on housing type is influencing their willingness to stay.

Neighbourhood environment may be indirectly related to neighbourhood safety. This is because improving the quality of neighbourhood environmental characteristics will increase resident's concern with the appearance of the neighbourhood along with their concerns about the quality of people who live there, which in turn enhances higher perceived levels of neighbourhood safety (Austin & Baba, 1989). However, it is surprising that there are not many studies on the degree of residents' perception of community safety towards their community attachment. One of the few is Landman (2000) who states that safety might mean reduction of crime which influences residents' sense of belonging to the community.

Residents' perception towards safety is in fact having a diplomatic on with social integration. Lewis and Salem (1981) argue that level of social integration is related to fear of crime. In communities with high levels of social integration, residents are more willing to get to know their neighbours, leading to increased feelings of safety and a reduction in the fear of crime. Skogan (1986) suggests that fear, in conjunction with other factors, can stimulate more rapid neighbourhood decline in a feedback process which includes weakening of informal social control and even more serious, withdrawal from community life.

*Sociopsychological aspect*

Fredland (1974) in his study states that class differences perceived by respondents between themselves and their neighbours are highly significant in relation to actual moving and moving intentions.

Opinion divergence from class differences can be alleviated by participation in activities, formally or informally. Formal community activities participation means involvement in neighbourhood organizations such as committees or joining activities organized by the formal organization, whereas informal community activities can be regarded as voluntary participation in volunteering work, informal socializing with neighbours in the community. It is suggested that the primary source of neighbourhood attachment is participation in formal organizations created to protect the community from outside threat (Crendhaw & St. John, 1989). Hunter (1975), in a study of an urban neighbourhood in New York, finds that a community organization originally formed in response to local problem now serves as a mechanism of social

integration that leads participants to increased informal neighbouring and to an increased sense of community.

Past research has indicated that community interaction in the form of visiting with neighbours or participating in neighbourhood-based organization has a positive impact on community sentiment and so increasing residents' neighbourhood attachment. Kasarda and Janowitz (1974) provide empirical support for the theory that length of residence is positively related to individual's local friendships, community sentiment, and participation in local affairs. This theory is undoubtedly tied to a basic focus of the human ecological paradigm: the locality-based social networks and collective identity that constitute the core social fabric of human communities (Sampson, 1988).

There are others who argue that a positive relationship exists between satisfaction and acquaintance with neighbours (Austin *et al*., 1986), and social cohesion and confidence in the neighbourhood (Varady, 1986). Social network of residents is therefore quite important as it is as a catalyst for residents' community sentiment. Ringel and Finkelstein (1991) further confirm this in their paper that extensiveness of within-neighbourhood social network is the independent predictor of attachment. This measure can be used to operationalize perceived choice in residential locations.

Therefore, both informal and formal participation in community activities can help residents to extend their social network and thus increasing their cohesion within the neighbourhood.

#### *2.3.2.2 Macro Factors*

Macro factors for residential mobility could be regarded as Government policies which influence the aggregate flow of residents. Oberai (1983) examines mobility-influencing policies by dividing them as direct and indirect policies. Direct policies are specialized to influence residential mobility directly. They will stipulate residence and movement pattern. Some examples include land development programs, land settlement schemes and housing allocation.

Indirect policies put the impact on mobility as secondary goal as mentioned by Oberai (1983). He gives a definition to indirect policies as aiming to improve the conditions in places of origin or in alternative destinations in order to minimize the difference between these places and so as a result, flow of migrants will be resulted. The Migration Review Task Force (1977) further gives definition that indirect policies can be regarded as "intended" measures which were designed for certain purpose but ultimately leads to shift in population. Among all, urban renewal, new town and infrastructure development and social welfare provision can be regarded as indirect policies.

### 2.3.4 Satisfaction and Neighbourhood Attachment

Attachment is a positive affective bond or association between individuals and their environment (Shumaker & Taylor, 1983, p. 233). However, it may also include "cognitions of satisfaction and expectations of stability, feelings of positive affect, greater knowledge of the locale, and behaviors that serve to enhance the location"(Shumaker & Taylor, 1983).Satisfaction with neighbourhood is indeed dependent on various assessments of attributes of the environment that meets one's

needs or goals (Galster & Hesser, 1981; Guest & Lee, 1983). It can be said that it is a feeling of favorableness or unfavorableness towards the object in question (Goodman & Hankin, 1984). From Fried (1984), it has a detailed definition on satisfaction:

"*On empirical grounds, satisfaction remains a core indicator of attachment, as do a number of attitudinal and behavioral measures that may have only a tenuous relationship to a deep sense of home, of a profound local commitment, or a sense of belonging and stability*" (Fried, 1984, p. 62).

Therefore, it can be said that satisfaction is the behavioral measurement of sense of belonging towards an object in questions. In this dissertation, the object in question is the housing community, and so residents' satisfaction towards their housing community is the behavioral measurement of sense of belonging towards their housing community.

## 2.4 Community Quotient

This section attempts to give an overview of the establishment of Community Quotient (CQ). The computation of CQ is based on the massive survey originated from the Saguaro Seminar at the John F. Kennedy School of Government, Harvard University.

### 2.4.1 An Overview

In the period of July to November, 2000, A National Social Capital Community Benchmark Survey was conducted. This survey was based upon the work of Dr. Robert Putnam, Director of the Saguaro Seminar at the John F. Kennedy School of

Government of Harvard University in the U.S. The aim of this survey was sought to provide a point-in-time snapshots of levels of social capital throughout the U.S. This could be done by the investigation on the civil engagement of American over 41 communities across the country in which to focus on topic of social connections and community involvement. Each community was then given raw local and national results of the survey. In order to compare the results with other participating communities and the whole nation, Saguaro Seminar developed a quotient, the Community Quotient, for the comparison of results with another similar demographic characteristic.

### 2.4.2 Social Capital in relation to Community Quotient

Social capital can be thought of as the way the people in the community relate to one another and to their community—how involved they are with community organizations, the social and racial trust they hold, their interactions with each other, their involvement in projects to make their community better place to live (Wilson, 2004). Referring to Putnam (2000), social capital is "a way in which our lives are made more productive by social ties." It consists of "connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them."

Putnam further shows in his research that social capital among the U.S. has declined since the mid-1960. He has proposed some reasons for it such as the increased television watching and increased working hours among adults in household etc. The National Social Capital Community Benchmark Survey aims at identifying and

investigating the level of social capital in the U.S so as to provide solutions for building a better community.

The measures of social capital discussed in the study from Wilson (2004) cover many different elements of the relationship between people within the community. The dimensions of social capital presented in Wilson's study are:

- Social Trust
- Racial Trust
- Diverse Friendships
- Conventional Politics
- Activist Politics
- Civil Leadership
- Associational Involvement
- Informal Socializing
- Giving and Volunteering
- Faith-Based Engagement
- Social Capital Equity

In order for communities to measure and compare the above components with other communities in the U.S., the Saguaro Seminar has constructed a method, called Community Quotient. The result is that CQ which incorporates the account of social capital in the U.S. tends to be more abundant in certain segments of the population especially in those who are more educated, higher-income, white and older. In the Benchmark Survey, having CQ above 100 indicates that a community shows more of

this connectedness than its demographics would predict; conversely, a score of CQ below 100 indicates that a community is lacking social capital that its demographics would expect.

The National Social Capital Community Survey is conducted in the U.S., so is the computation of Community Quotient. Therefore, the background and the rationale in use are based on the U.S. community culture. Certain adjustments should be adjusted according to situation if the Community Quotient is going to be used and analyzed in other regions outside America, for instance, in Asia or in Hong Kong.

# Chapter 3 In the Context of Hong Kong

## 3.1 Introduction

This chapter aims to give some insights into the studying field of this dissertation in light of the situation in Hong Kong. In the previous chapter, fundamental theoretical underpinnings about community building and development as well as residential mobility and neighbourhood attachment have been reviewed. In addition, Community Quotient used in the National Social Capital Community Benchmark Survey in the U.S. has also been considered. Here, the author will elaborate some points with regard to the context of Hong Kong. Section 3.2 will provide an overview of the community in Hong Kong, and Section 3.3 will suggest the use of Community Quotient as an indicator for residents' attachment to their housing community in Hong Kong.

## 3.2 The Hong Kong Community

### 3.2.1 "Housing Community" in Hong Kong

As per the discussion in the previous literature review, the definition of residential mobility in this dissertation refers to intra-urban move in residence. Emphasis in this dissertation is given on local movement within Hong Kong or more specifically, intercommunity movement within Hong Kong.

In the population census conducted by the Census and Statistic Department of HKSAR Government, a chapter was included to study the characteristic of internal migration and home moving. It set the boundary of "marked different locality" within Hong Kong and then examined the internal population movement within Hong Kong.

Since this dissertation is mainly studying the factors affecting residents' attachment to their housing community in Hong Kong, the residential mobility in Hong Kong is referring to any intercommunity address shift within the boundary of Hong Kong.

Furthermore, in defining what is meant by "intercommunity address shift", the in-depth definition of residential internal migration and home moving from the Census and Statistic Department of the HKSAR Government can also act as a reference.

With reference to the 2001 Population Census: Main Report Volume I (2002), residents who are internally migrated are those who had moved either (i) from a District Council district to another District Council district; or (ii) within a District Council district in the New Territories, from a new town to another new town, or from a new town to another area in the district or vice versa. In addition, residents who are defined as moving home are those who have moved home within the same district of residence (i.e. their current area of residence is the same as that five years ago).

There are totally 18 District Council districts in Hong Kong. These 18 District Council districts are further divided into constituency areas. Each of these constituency areas are regarded as a community system in which they have different domestic household subsystems interacting together. A domestic household consists of a group of persons who live together and make common provision for essentials of living. Referring back to each of these constituency areas in a District Council district, they are supposed to be self-sufficient, which means they have all the basic and social necessity for the residents living within the constituency areas.

In this dissertation, the term "housing community" referring to a locality area where it is self-sufficient enough for its growth and for supporting the residents attached to it and the term "locality area" can refer to each constituency area in each of the District Council district in Hong Kong.

### 3.2.2 "Housing Community" as Gated Community

In Hong Kong, it is a common practice for every private housing estate[8] in each constituency area to establish its own private zone, to name some are the Whampoa Garden and Taikoo Shing[9]. Those streets around the areas of the housing estates are erected with "Private Road" signs and the entrances of the whole estate are restricted by an entrance gate with security guards. This is more or less consistent with the definition of gated community mentioned in previous literature review, where it is a place with bounded private zones.

If it is theoretically consistent with previous literature, the gated housing communities in Hong Kong are expected to provide a safe and secure, as well as self-directed community to the residents. The private housing estates in Hong Kong have higher values due to decline in crime rate. Most important is that gated communities may create a sense of community spirit among the inhabitants. A sense of community spirit is a very significant catalyst to drive residents to involve in both informal and formal activities in the housing community and so to improve social cohesion within the community. This is adding benefits to the level of social capital in that particular

[8] Private housing estate corresponding to private flats built mainly for residential are within the definition of "Private Permanent Housing" as defined by the Hong Kong Housing Authority. Source: Explanatory notes of 2005 Housing Figure, available from: http://www.housingauthority.gov.hk/en/aboutus/resources/figure/0,,3-0-13906-2005,00.html

[9] For the location of Whampoa Garden and Taikoo Shing, they can be found from the dissertation's appendix.

housing community, and thus the Community Quotient of that particular housing community is expected to be higher in score.

### 3.3 Studies on housing movement in Hong Kong

There is in fact very limited surveys studying the housing movement in Hong Kong over the past decade. Generally, studies by scholar and surveys by Government parties are focusing on the demand and supply of housing in Hong Kong, but not the intrinsic factors driving residents' housing demand, which may in turn, be the fundamental reasons for residents' neighbourhood attachment.

There is a survey constantly launched in Hong Kong by the Planning Department, HKSAR Government, called the "Survey of Housing Aspiration of Household". The purpose of this survey is to collect statistical data confirming the assumptions used in the housing demand model for compiling the housing demand projections[10] in Hong Kong. The latest Survey of Housing Aspiration of Household[11] was conducted in 1999 which covers the needs of housing by households in different categories. Although the survey is termed as "Survey of Housing Aspiration", there is only one section about whether interviewees are deciding to move out from their present housing community. Therefore, it can be said that the Government is having limited insight on questions about residents' moving motives. This is also evidence that Hong Kong is lacking cognition on the related field of neighbourhood attachment.

[10] Housing demand projects are derived from the housing demand model, which takes account on the latest statistic, assumptions, and Government policies and programme.

[11] This survey covered all land-based household in Hong Kong. A total of 12,384 households were successfully interviewed, giving a response rate of 77%.

With regard to the Survey of Housing Aspiration in 1999, it showed that about 30% of all the households in Hong Kong are intended to move out of their present accommodation within the next ten years. Most of them (96%) would require other accommodation and 59.8% preferred to live in private flats. This is because most of the interviewees think that the quality of the private housing is better and more spacious. The results therefore imply a need to adjust the building standard in view of the aspiration for more spacious accommodation. The findings of the survey which are a snap shot of the housing aspirations of households in a particular period of time, indicate a minor effect on further housing demand in Hong Kong.

Housing or to be specific, property, is treated as an investment tool in Hong Kong. It is a common phenomenon that most Hong Kong people are consuming housing for investment, not merely for satisfying their basic consumption needs. However, after the SARS incident in Hong Kong in 2003 and the recent H5NI pandemic, Hong Kong people have increasing concerns about physical and neighbourhood factors when they are making their housing choice decision, not only based on potential value capacity of housing. As a result, it is an appropriate time to start to investigate the fundamental questions about neighbourhood attachment and find ways to increase the performance of the neighbourhood.

### 3.4 Establishment of Community Quotient in Hong Kong

In this study, a new concept has been introduced for describing the attachment behavior of residents to their housing community. Residents' willingness to stay in their respective housing community can be qualified in a term called Community

Quotient. The U.S. started using Community Quotient in 2000 and this quotient can act as an indicator for community performance as well as community development.

### 3.4.1 Reasons for Establishment

Establishment of the Community Quotient in Hong Kong is basically based on three reasons. Firstly, after the SARS incident in Hong Kong in 2003 and progressive residential development being launched in Hong Kong by certain developers, community building and development has become a growing concern. The current emphasis on community building and development triggers a good deal of searching work on the fundamental reasons for an era of increasing residential mobility and decreasing dependence on the local neighbourhood. It is believed that residential mobility can be explained by certain micro and macro-factors in terms of personal or familial perspective, sociological perspective, ecological perspective and economic perspective.

In addition, with current emphasis on community building and development, community cohesiveness is also becoming an increasing noticeable concern between citizens in Hong Kong, as well as the HKSAR Government. It is believed that community cohesiveness is a significant support for the members in the housing community during the downturn and turmoil of Hong Kong. Therefore, establishment of a Community Quotient can provide a way for each housing community to compare its level of community cohesiveness with one another.

Since the property prices were downwardly adjusted by a substantial magnitude from 1998[12], households will tend to be less mobile when compared to the past. Therefore, housing choice in relation to location will be dependent more on physical and neighbourhood factors than price appreciation factors. Community Quotient in this sense is meaningful as it can act as an index for providing information on community performance to the public.

### 3.4.2 Adjustment made in Hong Kong

With reference to previous chapter, Community Quotient, which originated from the Saguaro Seminar at the John F. Kennedy School of Government of Harvard University, is used to calculate the results obtained from the National Social Capital Benchmark Survey. The Quotient is used to compare the performance of each community. Participants from the University have selected a broadly diverse group of community foundations in 41 communities across U.S. and conducted questionnaires in light of the following areas:

1. Social Trust
2. Inter-Racial Trust
3. Conventional Politics
4. Protest Politics
5. Civic Leadership
6. Associational Involvement
7. Informal Socializing

[12] The price index of private domestic in all class in 1997 is 163.1 whereas that in 1998 is 117.1, showing a significant drop for nearly 30%. Source: Rating and Valuation Department. (1998) *Hong Kong Property Review*. Hong Kong: Rating and Valuation Department.

8. Diversity of Friendships
9. Giving and Volunteering
10. Faith-Based Engagement

Since the list is based on the U.S. community culture, certain adjustments are needed to be made in order to suit the situation in Hong Kong. In the context of Hong Kong, political engagement and religious participation is omitted. Political participation enthusiasm of Hong Kong citizens is not as high as in the U.S. The most apparent evidence is the relatively low voting rate in various elections and the low involvement in political parties. Therefore, as political engagement is not that popular in Hong Kong, it is not a main determinant for social capital within the Hong Kong Housing Community. In U.S., each of their communities will have a sub-ordinate for a kind of religion. For instance, there should be at least one church situated in a housing community. This is because the boundary of a housing community in the U.S. is big and each housing community is widely separated. However, this is not the case in Hong Kong as Hong Kong is a small society with densely-developed housing communities. Residents can travel to another housing community for religious-based meetings and activities.

In addition, from the Executive Summary of the National Social Capital Community Benchmark Survey published on September 2001, the data collected from the survey is also used for further research on the correlated levels of social capital with gender, age, length of residence, commute tome, race, education levels of the respondents; and other more relevant factors like the safety of the neighbourhood and performance of child welfare. The outcome is that they are correlated and yet it is believed that

those factors can also act as areas for computation of Community Quotient the other way round.

As Hong Kong is a rather complex and densely-populated city, its living culture is different from that in the U.S., simply looking at the involvement of residents in the housing community cannot truly explain the whole picture of social capital in each housing community. As a result, with reference to the previous chapter, living environment, age, income and education level of the household will also be taken into consideration. This proposes new areas to be studied for the levels of social capital and residents' interaction or bonding in Hong Kong. They are therefore included as determinants for computation of Community Quotient in Hong Kong.

# Chapter 4 Methodology

## 4.1 Introduction

As per the objectives of this dissertation, it intends to demonstrate the major factors affecting residents' attachment to their housing community. This can be done by construction of questionnaires for collecting useful data for the computation of statistical models. The statistical models to be used are the Analytic Hierarchy Process and the multiple regression technique. In particular in this dissertation, the Analytic Hierarchy Process will be integrated with the Regression Model together to establish a framework for analyzing the factors affecting the residents' attachment to their housing community. This chapter therefore intends to give an overall account of these approaches.

Details on methodology of this dissertation will be discussed in the following sections. Section 4.2 will introduce the Analytic Hierarchy Process and its statistical tool for figuring out the appropriate weighting of factors regarding the bonding of residents within the community. Section 4.3 will introduce the multiple regression technique and the statistical tool for constructing the model for analyzing the determinants of residents' willingness to stay. Section 4.4 will briefly describe the development processes of the use of these models.

## 4.2 Analytic Hierarchy Process

### 4.2.1 Introduction

The Analytic Hierarchy Process is a model for formulating a judgment as to the relative weight or ratio of each pair of objects within a system (Saaty, 1996). It is usually used for evaluating decision alternatives. The theory was first developed to solve a specific problem in contingency planning by Dr. Thomas Saaty, a professor at the Wharton School of Business and a later major application was to design alternative futures for a developing country. Nevertheless, this idea have gradually evolved through use in a number of other applications and it continues to be the most highly regarded and widely used decision-making theory. Armacost, Componation, Mullens and Swart (1994) introduce the process on prioritizing customer requirement on housing application. Ho, Newell and Walker (2005) introduce the process on identifying the property-specific attributes in assessing CBD office building quality.

The purpose of this theory is to provide a methodology for modeling unstructured components — to include and measure all important tangible and intangible, quantitatively measurable and qualitative factors. It is therefore a powerful and flexible decision making process to set priorities and make the best decision when both qualitative and quantitative aspects of a decision need to be considered.

### 4.2.2 Process Interpretation

The essential steps in the application of Analytic Hierarchy Process involve decomposing the general decision into a hierarchical fashion. These attributes or subattributes can then be comprehended and evaluated, determining the priorities of

the elements at each level of the decision hierarchy, and synthesizing the priorities to determine the overall priorities of the decision alternatives (Armacost *et al*., 1994).

The respondents are asked to compare the elements at a given level on a pairwise basis to estimate their relative importance in relation to the element in a higher level. For instance, if the given level of the hierarchy includes $n$ elements, a total of $n(n-1)/2$ pairwise comparisons are required. A nine-point scale is used to allow respondents to express their preferences between as equally, slightly, moderately, strongly or extremely preferred. These preferences are then translated into pairwise weights of 1 to 9 respectively.

Each pairwise comparison represents an estimate of the ratio of the weighting of each element. Saaty's eigenvector method is then used to calculate the weighting for each pairwise comparison matrix. An overall weight or priority of each element over the entire hierarchy will be obtained. The resulting priorities represent the intensity of the respondents' judgmental perception of the preferences of the elements, taking into account the relative importance of the criteria represented in the hierarchy and considering the importance of the attributes.

### 4.2.3 Consistency

An important consideration when using Analytic Hierarchy Process is the notion of consistency. Saaty's eigenvector method allows a quantitative assessment of consistency. It is better to have a consistency level equal or less than 0.1 for acceptable results. When the judgments are inconsistent, the decision maker should be given opportunities to revise the pairwise comparisons again.

### 4.2.4 Statistical Tool

The Analytic Hierarchy Process can be processed by computer software, Expert Choice[13]. The weighting or priority of the factors affecting bonding between residents within a community can be calculated. In this dissertation, Expert Choice Version 11.0 is used. It provides a mathematically rigorous application and proven process for prioritization and decision-making.

## 4.3 Regression Analysis

### 4.3.1 Introduction

Regression analysis is a statistical technique which tries to "explain" changes in one variable, the dependent variable, as a function of changes in a set of other variables, which are the independent or explanatory variables, through the qualification of a single empirical equation (Cassidy & Studenmund, 1987).

Multiple regression is said to be "multiple" in a form that it involves a single dependent variable and two or more independent variables. In the single empirical equation, Y is the dependent variable whereas $X_1$, $X_2$ and $X_3$ are the independent variables. Y is the function of $X_1$, $X_2$ and $X_3$ and the form of the conventional regression equation is like this:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_j X_j + \varepsilon \qquad (1)$$

In addition to the independent variables stated in the single empirical equation, there must be some variables from other sources which will also cause variation in the

[13] Expert Choice Version 11.0 for Windows, Release 11.0 (12 July 2004), Standard Version. Copyright@ Expert Choice, Inc., 1983-2004.

dependent variables. This kind of variable can be defined as $\varepsilon$ , a stochastic error term, and is necessary to add to the equation. The aim of adding a stochastic error is to show that all the variation of Y cannot be explained by the included Xs in the regression equation.

The general regression equation can be summed up in this form:

$$Y = \beta_0 + \sum_i \beta_i X_i + \varepsilon \qquad (2)$$

### 4.3.2 Aggregate and Non-aggregate Data

There are two types of data, namely the aggregate data and the non-aggregate data or disaggregate data. If each observation in the data set consists of a value of the attribute vector *a* (representing an individual who has been interviewed), and an observed choice, then the data set is said to be disaggregate. If, on the other hand, the data includes only information on groups of people, then this data set is aggregated or name as grouped data (Carlos, 1979).

Different types of data are to be used with different technique or method in a regression analysis. The most common type of method used for the estimation of linear regression model (LRM) is the Ordinary Least Square (OLS) technique. The function will be estimated by this method in a way that will minimize the sum of squared differences between the actual and the estimated values of the pool of data. OLS involves the implicit assumption that the intervals between adjacent categories are equal. However, when a variable is ordinal, its categories can be ranked from low to high, but the distances between adjacent categories are unknown. Misleading results may be given if LRM is to be used for these ordinal variables. Therefore, if the

measurement is in a non-continuous, ordered nature, this set of data is regarded as non-aggregated data and the ordered probit estimation procedure must be utilized (Pelletiere & Reinert, 2004).

### 4.3.3 Ordered Probit Regression Model

Probit analysis has been used as early as 1930's to study the impact of insecticides towards insects. Over the years, the model has been applied in various disciplines, like Lee and Trost (1978) introduce probit model to housing economics. Ordered Probit Regression Model was first introduced by Mckelvey and Zavoina (1975) in terms of an underlying latent variable with observed, ordered categories. This model is further applied in various fields, like Pelletiere and Reinert (2004) introduce the ordered probit analysis to find out the points to new automobile production as a key factor for automobile protection. In this dissertation, ordered probit regression model is used since the data collected from respondents on the factors affecting respondents' willingness to stay in their community is in a non-continuous and ordered nature.

The ordered probit model is commonly presented as a latent variable model. Defining Y* as a latent variable ranging from $-\infty$ to $\infty$, and the outcome is expanded to divide Y* into *J* ordinal categories:

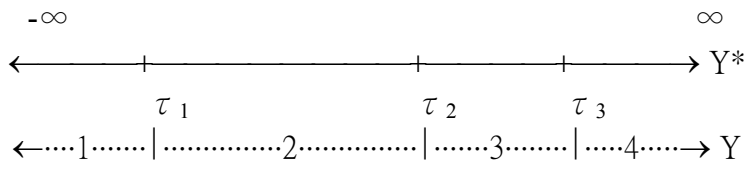
$$Y_i^* = m \quad \text{if } \tau_{m-1} \leq Y_i^* < \tau_m \quad \text{for } m = 1 \text{ to } J$$

Where the cutpoint or threshold $\tau_1$ through $\tau_{J-1}$ are estimated. And the extreme categories 1 and J are usually defined with open-ended intervals with $\tau_0$ to $\tau_J$, where $\tau_0$ is assumed to be equal to $-\infty$ and $\tau_J$ is equal to $\infty$. Considering the response categories from the questionnaires are "Strongly Disagree" (SD), "Disagree" (D),

"Agree" (A), and "Strongly Agree" (SA), the observed Y is related to Y* according to the measurement model:

$$Y_i = \begin{cases} 1 \rightarrow \text{SD} & \text{if } \tau_0 = -\infty \leq Yi^* < \tau_1 \\ 2 \rightarrow \text{D} & \text{if } \tau_1 \leq Yi^* < \tau_2 \\ 3 \rightarrow \text{A} & \text{if } \tau_2 \leq Yi^* < \tau_3 \\ 4 \rightarrow \text{SA} & \text{if } \tau_3 \leq Yi^* < \tau_4 = \infty \end{cases}$$

This mapping from the latent variable to the observed categories is illustrated in the following:




The solid line represents the latent variable Y*. The cutpoints are indicated by the horizontal lines marked $\tau_1$, $\tau_2$ and $\tau_3$. The values of the observed variable Y over the range of Y* are marked below with a dotted line. In general, the results of the LRM only correspond to those of the ordered probit regression model if the thresholds are all about the same distance apart, for instance the distance between $\tau_1$ and $\tau_2$ is the same as the distance between $\tau_2$ and $\tau_3$. When this is not the case, the linear regression model can give a very misleading result.

Nevertheless, in general, the equation of the ordered probit regression is similar to that of using the OLS technique:

$$Y_i^* = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_i X_j + \varepsilon \qquad (3)$$

Where i is the observations and $\varepsilon$ is the stochastic error term.

### 4.3.4 Model Interpretation

After the generation of the result from the regression model, certain information should be noted. The observation of the information can act as an indicator to evaluate the accuracy and significance of the model.

***(1) Partial regression coefficient***

The Partial regression coefficients ( $\beta_i$ ) are the coefficients of each of the independent variables. The partial coefficients measure the changes of the dependent variable associated with a unit change of the independent variable, holding all other factors constant, i.e. when all other things being equal, one unit change in $X_1$ will cause Y to change in $\beta_1$ unit. The sign of the partial coefficient will also indicate the relationship between the dependent variable and the independent variables, either positive or negative.

***(2) z-statistic and p-value***

The z-statistic is similar to the t-statistic[14] of the OSL technique. The z-statistic of such independent variable in the ordered probit regression model will indicate whether the variable is a significant determinant of the dependent variable. If the z-statistic is greater then a critical value, the variable is said to be statistically significant. Alternatively, the p-value can also be used. The closer the p-value to zero, the more significant the independent variable.

[14] The critical value of t-statistics determined from the Table of t-Distribution with reference to the significance level (95% in this study) and two different degrees of freedom.

*(3) LR-statistic*

The LR-statistic is similar to the F-statistic[15] of the OSL technique. This is used to test whether the several partial coefficients are simultaneously equal to 0, i.e. to test the null hypothesis. LR test assesses the constraint by comparing the log likelihood of the unconstrained model, to the log likelihood of the constraints model (Long, 1997). If it is greater than a critical value, the null hypothesis is rejected.

### 4.3.5 Statistical Tool

With the help of the statistical computer software, it is not difficult to generate a comprehensive result. E-Views Version 3.0[16] is used in this dissertation. After collecting and computing the necessary data, the program will automatically undergo the regression analysis in the ordered probit technique. The result will be shown clearly in a display window.

## 4.4 Development of the Models

### 4.4.1 Analytic Hierarchy Process

The empirical analysis by using the Analytic Hierarchy Process is based on the theoretical principle of attributes contributing to bonding between residents within a housing community, i.e. in quantified term, the Community Quotient, mentioned in Chapter 2. Although Analytic Hierarchy Process is normally used to evaluate decision alternatives, the methodology provides a ready tool to assess the priorities the dissertation seeks.

[15] The critical value of F-statistics determined from the Table of F-Distribution with reference to the significance level (95% in this study) and two different degrees of freedom.

[16] E-Views Version 3.0 for Windows, Copyright@ Microsoft Corp. 1990-2000.

A questionnaire is first completed by an expert group of respondents related to the field of community and its environment to assess the relative importance of the attributes on a pairwise basis. The resulting estimates from each of the completed questionnaires will be evaluated using the Saaty eigenvector method to determine the priorities or the weighting of the attributes. The collective weighting or the final weighting of each of the presumed attributes will be the mean weighting of the summation from each of the questionnaires.

It is a matter of fact that whenever there is inconsistency resulting from the pairwise comparison of the individual respondent, the particular respondent should be given an opportunity to revise the comparison. Once the final weightings are obtained, the degree of the weighting of each attribute will be recognized to study their effect on the Community Quotient.

### 4.4.2 Regression Analysis

The empirical analysis on regression analysis of this study is again based on the theoretical principle of factors affecting community bonding which is reviewed in Chapter 2. A single equation is constructed. The willingness for residents to stay in their respective housing community will be regressed by some micro-factors. The factors are believed to be the major determinants which affect the residents' willingness to stay in their respective housing community. They are selected based on the previous research and literature done in this field.

Once the equation is designed, data of these variables will be collected by the rating chosen by interviewees from the constructed questionnaires. At the same time, the

rating of residents' willingness to stay in the housing community will also be obtained in the same questionnaires. After computing the collected data into E-Views, relationship between these chosen factors and the residents' willingness to stay in their respective housing community will be observed through the results.

Once the results are obtained, the signs of the partial regression coefficient and the p-values of the independent variables will be recognized in order to study their effect on residents' willingness to stay in their housing community. The observations will also be used to justify whether the results fit with the initial hypothesis and expectation. Subsequently, the relative degree of influences of those significant independent variables will be studied by comparing the absolute values of their partial regression coefficients.

# Chapter 5 Empirical Models

## 5.1 Introduction

This chapter intends to provide an overview of the empirical models for investigating the important determinants and major factors affecting the bonding between residents and the residents' willingness to stay in their housing community. In particular in this dissertation, Analytic Hierarchy Process will be integrated with the Regression Model together to establish a framework for the investigation. Therefore, in this chapter, both empirical models for Analytic Hierarchy Process and Regression Analysis will be demonstrated. Section 5.2 is concerning the Analytic Hierarchy Process whereas section 5.3 will be focused on Regression Analysis.

## 5.2 Analytic Hierarchy Process

### 5.2.1 Introduction

The whole section attempts to give an overview of the Analytic Hierarchy Process for figuring out the weighting of factors towards residents' bonding within their housing community. Section 5.2.2 will identify how Analytic Hierarchy Process is carried out with respect to this dissertation. Section 5.2.3 will define the source of the data used for Expert Choice in calculating the weighting.

### 5.2.2 Process Specification

A hierarchical structure is developed to categorize the attributes using procedures similar to the Tree Diagram Approach. In this dissertation, only two levels of hierarchy are needed to be considered. As reviewed from previous literature, bonding

between residents within a community can be contributed by several factors. The hierarchy structure is then as follows:

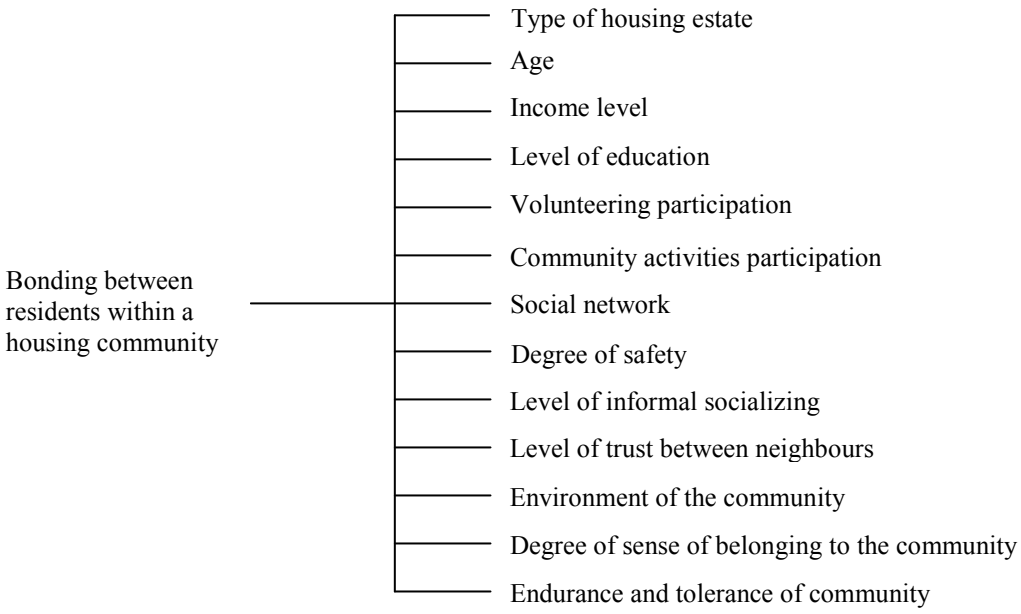



Figure 5.2.1 Hierarchy structure of residents' bonding within housing community

The hierarchy structure is then used for the construction of the questionnaires. A nine-point scale is used in the questionnaires to allow respondents to express their preferences among 'equally', 'slightly', 'moderately', 'strongly' or 'extremely preferred'. These preferences are translated into pairwise weights of 1 to 9 respectively, as in the following:

| Types of Housing Estate | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Age |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Occupation/Income level |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of education |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

Figure 5.2.2 Sample Questionnaire Item

Respondents are asked to use a pairwise comparison approach to assess the relative importance of one attribute against the other. The results are entered into Expert Choice, a statistical tool for Analytic Hierarchy Process, for generating the weighting of each attributes. The final weighting of each attribute will be obtained by averaging the sum of each result from each questionnaire.

### 5.2.3 Source of Data

The respondents of the questionnaires are from expert groups concerning community and residential environment. People who have been defined as experts concerning

community and residential environment in this dissertation are residential division surveyors, architects, urban planners and social workers. A total of 125 questionnaires were distributed to various companies and organizations which were considered as related to the expert group as defined, such as developers, surveying firms, related Government departments and community centres. There were altogether 82 questionnaires received. The respondents are listed in the following:

1. Aberdeen Kai-fong Welfare Association Social Service
2. Caritas Community Centre, Caine Road
3. Cheung Kong (Holdings) Limited
4. Hong Kong West Point Baptist Church Elderly Centre
5. Jones Lang LaSalle Limited
6. North Point Alliance Church Family Service Centre
7. Rating and Valuation Department, HKSAR Government
8. The Centre of Urban Planning and Environmental Management, The University of Hong Kong

It is a matter of fact that whenever there is inconsistency resulting from the pairwise comparison of the individual respondent, the particular respondent should be given an opportunity to revise the comparison. However, in reality, it is difficult to include a group of target experts to complete the questionnaires together under the supervision of the author; those inconsistent results in this dissertation will therefore be discarded. Only the consistent results with consistency ration equal or less then 0.1 will be used for further calculation of the final weighting of each attribute.

## 5.3 Regression Analysis

### 5.3.1 Introduction

This whole section attempts to give an overview of the empirical regression model for determining the major factors impacting the residents' willingness to stay in their housing community. Section 5.3.2 will identify the independent variables that are hypothesized to influence the willingness of residents to stay. An initial model specification will be constructed for ordered probit regression. Section 5.3.3 will give a detailed account of all proposed variables, based on past literature and research references as well as the local situations in Hong Kong. Section 5.3.4 will provide the expected effects of the selected independent variables on residents' willingness to stay. Their expected signs of partial regression coefficient will be specified. Section 5.3.5 will define the source of variables employed in the regression model.

### 5.3.2 Model Specification

As reviewed, bonding between residents within their respective housing communities can be used to show a community performance based on a number of indicators. These indicators are the perception of residents towards their nearby neighbourhood and living environment, including their personal aspect, ecological aspect, and psychological aspect, etc. These perceptions can be identified as determinants which have impacts on residents' willingness to stay in their housing community. Therefore, the residents' willingness to stay in their housing community can be specified as a general function as follows:

Willingness to stay = $f$( Perception of residents towards their nearby neighbourhood and environment in different aspects)

Basically, according to the literature review on the previous chapter, the perception of residents towards their nearby neighbourhood and environment can be further divided into several factors. And so these factors are the ultimate determinants affecting residents' willingness to stay. In this dissertation, those micro-"pulling" factors will be focused to study their influence on willingness of residents to stay in their housing community—how these "pulling" factors retain residents to stay. Micro-factors have been amended based on those used in the US community for the suitability of the environment in Hong Kong. With specific considerations of the local situation in Hong Kong, thirteen explanatory variables are hypothesized to affect the residents' willingness to stay in their housing community and are incorporated into the model specification.

The thirteen explanatory variables included Types of Housing Estate (**HOUSE**), Age (**AGE**), Income Level (**INCOM**), Level of Education (**EDU**), Volunteering Participation (**VP**), Community Activities Participation (**CAP**), Degree of Safety (**SAFE**), Social Network (**SN**), Level of Trust between neighbours (**TRUST**), Level of Informal Socializing (**IS**), Environment of the Community (**ENV**), Degree of Sense of Belonging to the Community (**SOB**) and Endurance and Tolerance of the Community (**ETC**).

These variables are supposed to have close connection with the perception of residents towards their living neighbourhood which in turn affecting their willingness to stay in their housing community. Further reasons for choosing these variables will be discussed in the later section.

Residents' willingness to stay in their housing community (**WTS**) is regressed by the micro-factors. The model specification for this dissertation is given by the following dynamic equation:

$$\mathbf{WTS} = \alpha + \beta_1\mathbf{HOUSE} + \beta_2\mathbf{AGE} + \beta_3\mathbf{INCOM} + \beta_4\mathbf{EDU} + \beta_5\mathbf{VP} + \beta_6\mathbf{CAP} + \beta_7\mathbf{SAFE} + \beta_8\mathbf{SN} + \beta_9\mathbf{TRUST} + \beta_{10}\mathbf{IS} + \beta_{11}\mathbf{ENV} + \beta_{12}\mathbf{SOB} + \beta_{13}\mathbf{ETC} + \varepsilon \quad (4)$$

where $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, $\beta_5$, $\beta_6$, $\beta_7$, $\beta_8$, $\beta_9$, $\beta_{10}$, $\beta_{11}$, $\beta_{12}$ and $\beta_{13}$ are the partial regression coefficient whereas $\varepsilon$ is the stochastic error term.

Equation (4) is then used for empirical analysis of ordered probit regression using the data summarized in the later section of Chapter 5 and the methodology described in Chapter 4.

### 5.3.3 Investigation of Variables for Regression

In this section, all the variables used in the ordered probit regression model are being investigated. For the dependent variable, i.e. residents' willingness to stay in their housing community (**WTS**), its definition and its importance towards a sustainability of a housing community will be explained in order to provide an insight for the housing community development in Hong Kong. For the independent variables, each of them will be evaluated to explain why it is employed as an explanatory variable. Justification will be made with reference to the previous literatures and research related to this field and the local situations in Hong Kong.

#### *5.3.3.1 Dependent Variable*

*Residents' willingness to stay in their housing community (**WTS**)*

Residents' willingness to stay in their respective housing community, which can be regarded as residents' degree of attachment to their community, is regressed by thirteen explanatory variables to determine the major factors affecting residents' willingness to stay in a non-aggregate level.

Residents' degree of attachment to their housing community can be explained with the level of social capital of that housing community. It is expected to be reflected by the Community Quotient of a particular housing community. The author of this dissertation suggests that several areas of attributes should be included in order to emphasize their importance on the level of social capital of a particular housing community in Hong Kong. These areas of attributes to be studied are the expected thirteen independent variables mentioned below. Their developments are based on the National Social Capital Community Benchmark Survey in the U.S. with considerable amendment with regard to the Hong Kong context.

The level of residents' attachment towards their housing community can be used as an indicator for various community performances. It also can be used to indicate and explain certain community related projects, such as community development and sustainability campaign or urban development campaign.

### *5.3.3.2 Independent Variables*

*Types of Housing Estate (**HOUSE**)*

Types of housing estates refer to the kind of housing estates residents are living in, either private or public. In Hong Kong, the living environment in the public housing estate and in the private one is very different. This is because the housing allocation is somehow dependant on the wealth level of the household in Hong Kong. It is expected that those who are eligible to apply for public housing are having a lower wealth level. In view of the extreme disparity between rich and poor in Hong Kong, the difference in the living environment is also extreme.

It is a matter of fact that the quality of private housing is better than that of public housing. Living environment is one of the elements that will affect the growth of residents. The internal design of a housing estate affects resident's perception about the usage of space. These spacial areas are providing a media for interaction activities between neighbours, and hence, helping to increase the level of social capital of a housing community (Li, 2004).

It is therefore believed that the type of housing estate, hereafter referring to the specific design of the housing estate, is having a significant impact on the growth of residents. It affects residents' inter-personality, their mindset as well as their involvement to their housing community, which in turn is the main component in determining the social capital of a community, so as residents' attachment to their housing community.

*Age (**AGE**)*

Age refers to the average age of households within a particular housing community. Research suggested that age of households is correlated with residents' residential mobility. Younger residents tend to continuously searching for a new home while the aged want to stay in the same housing community as they have already settled down.

From the results obtained from 2001 Population Census (2001 Population Census: Main Report—Volume I., 2002), people who have internally migrated tended to be those of prime marriageable age. This phenomenon is consistent with the literature in which people who are in the age of 25-30 are having higher chance for moving home when compared with the aged. As age of the household is an important determinant for residents' attachment to their housing community, it is included as one of the explanatory variables in the regression analysis.

*Income Level (**INCOM**)*

Income level refers to the average family monthly income of residents within a particular housing community. It is suggested from the previous chapter that there is correlation between income level of the inhabitants and their mobility.

Over the years, the range between upper and lower quartiles of employment wages has been widening. The monthly average income from all selected occupations of the working population was HK$10,438 in September 2005 (Hong Kong Monthly Digest of Statistics, January 2006). And from the Main Report of the 2001 Population Census (2002), it stated that people who have internally migrated tended to be those of a more senior or professional job. Hui and Lam (2002) have carried out their

studies on population mobility in Hong Kong. They suggest that age and career advancement are positively correlated when income is taken into account of consideration. Advancement in career most probably has an increase in income. Income level is, therefore, suggested to have impacts on the residents' level of attachment to their housing community.

*Level of Education (**EDU**)*

Level of education represents the average education level the residents obtained within a particular housing community. From previous literature, higher education levels are associated with higher mobility rates.

Hong Kong is a city with various study opportunities. The education attainment level in Hong Kong can be categorized into kindergarten, primary, lower secondary, upper secondary, matriculation and tertiary including degree and non-degree courses. With the advancement of the society, better education attainment certainly has a larger advantage. From the statistic obtained by the Census and Statistic Department, 52.1% of Hong Kong people are having education attainment level at least in the Upper secondary. This means over half of the Hong Kong population have completed the higher education in Hong Kong.

Usually income level is positively associated with education level. When one becomes better educated, income increases so as affordability of housing, he then tends to be less attached to the original community.

*Volunteering Participation (**VP**)*

Volunteering participation refers to the frequency of volunteering activities in which residents participate in their respective housing community. Volunteering participation can be said to be a kind of informal or formal involvement in the community.

In Hong Kong, many housing communities have quite a numbers of community centres for providing social welfare for residents. These community centres are generally opened by different voluntary parties or religious parties. They aim to help residents solve their problems, build-up residents' personality, enlarge residents' social network or even provide some basic necessity for residents. On the whole, they help to build the housing community into a harmonized and better place in which to live. As a result, those community centres need a large number of volunteering helpers for helping in daily work or occasional activities. Residents are welcome to join the voluntary team.

Residents doing volunteering work in their housing community are believed to be more involved in their community because the frequency of interaction with neighbours is increased. The linkage of people in the community is stronger, and hence, having a high level of social capital.

*Community Activities Participation (**CAP**)*

Community participation refers to the frequency of estate activities participation. Activities participation can be considered as informal or formal involvement in the community.

Most of the private housing estates in Hong Kong have Owners' Incorporation for managing building management issues and representing various owners in the estate. The committee members are from units of the estate and usually elected by vote. Acting as a committee member is a kind of formal commitment to the housing community. Moreover, there should be Owners' Incorporation meeting at least twice per year. Attending these meetings is also a kind of involvement. Owners' Incorporation also holds some leisure events for residents; say some day trips and annual dinner. Involvement in these events can enhance the interaction with neighbours in the community. This is a way of uplifting the level of social capital of the housing community.

*Degree of Safety (**SAFE**)*

Degree of safety is related to the frequency of victimization and crime occurrence. It also relates to the intrinsic perception towards safety by the residents. With higher victimization, degree of safety is consequently lower.

With reference to previous chapter, research indicates that residents living in the gated community perceived greater safety and security. Lewis and Salem (1981) claim that level of social integration is related to fear of crime. With a higher perceived level of safety, level of residents fearing crime is being alleviated and thus they are more willing to be involved in the housing community and increasing the social integration.

The perceived level of safety of the housing community by residents is having significant impact on their willingness to stay in that particular community. Therefore, it should be included as one of the independent variables.

*Social Network (**SN**)*

Social network of residents related to whether they are familiar with the neighbours around them. This can be indicated by the number of neighbours one knows within his or her housing community.

Larger social network will enhance the resident's perception of sense of community. This is because the more neighbours one knows, the higher the perception of sense of familiarization to the environment. This relaxes one's tension and fear to the community. Residents with a larger social network in the housing community tend to be more involved. Interaction between residents will be increased. This in turn is affecting the level of social capital of the housing community.

*Level of Trust between Neighbours (**TRUST**)*

Level of trust between neighbours is the perceived value that whether one's neighbour is trustworthy or not. This can be indicated by whether the residents are willing to find their neighbours for help when they face certain problems. Level of trust on neighbours can be increased by higher involvement in formal and informal activities within the housing community. This is an important component of determining the level of social capital and hence the willingness of residents to stay in their housing community.

*Level of Informal Socializing (**IS**)*

Level of informal socializing is the measurement of the frequency of informal socializing with neighbours. Informal socializing activities include activities like home visits and leisure talk with neighbours. The level may be related to one social

network in the housing community. It is explicitly stated in previous research that informal interactions are seen as the intervening variables between neighbourhood context and neighbourhood attachment. Therefore, level of informal socializing of the residents is regarded as one of the explanatory variables for residents' willingness to stay in their housing community.

*Environment of the Community (**ENV**)*

Environment of the community refers to the scenic environment around the private housing estate within the housing community. As per the discussion in the literature review, neighbourhood characteristics influence the rate of movement. Good neighbourhood characteristic enhance the positive sentiments of residents towards their housing community. Good neighbourhood means having exquisite, greenery and tranquil surroundings and at the same time, with complete and adequate amenities.

There is an increasing trend in Hong Kong to provide a comfortable and an all-inclusive environment for residents within a housing community. Developers are trying ways to increase the comfort and provide more innovative facilities to attract residents. Various clubhouses with different levels of amenities are provided.

In addition, the surrounding areas around the housing within the community and the amenities provided are not only acting as a hardcore for residents' usage, but are also a media for the interaction of residents (Li, 2004). Appropriate usage on these surrounding areas can help to stimulate mutual contact between neighbours. This mutual contact is the essence of social capital for the community. The surrounding

environment of the housing estate within the housing communities has a significant impact on residents' attachment.

*Degree of Sense of Belonging to the Community (**SOB**)*

Degree of sense of belonging to the community indicates whether the residents like their original housing community. High degree of sense of belonging reflects higher likelihood towards the housing community. It is also in relation to the cognitions of satisfaction and expectations of stability and feelings of positive effect by the residents. With reference to previous literature review, satisfaction is a core indicator of neighbourhood attachment of residents.

In an abstract perspective, degree of sense of belonging to the housing community can be reflected by the willingness and likelihood of residents to stay in their respective community during holidays. Residents who are more likely to stay in their housing community during holidays may do so because of a great satisfaction they gained, no matter in what way, from the community. When their needs are satisfied, they are happy with their community, and hence enhancing their sense of belonging to it.

As satisfaction is the core indicator of neighbourhood attachment, sense of belonging to the community is naturally becoming one of the explanatory variables in the regression analysis.

*Endurance and Tolerance of the Community (**ETC**)*

Endurance and tolerance of the community refer to the willingness of residents to accept different ethnic groups or people of different classes in the housing community.

As per the discussion in the previous literature, class differences perceived by residents between themselves and their neighbours are highly significant in relation to actual moving and moving intention, which is the residents' attachment to their housing community.

In a housing community, there should be residents having different living styles and with different careers, say residents being doctors or lawyers are totally different to those who are drivers or waiters. Therefore, it is of utmost important for residents to accept different walks of lives to be their neighbours. Especially in the context of Hong Kong, where it is an international and open city, there should be residents from different nationality or ethic groups. Chances for residents to get in touch with neighbours with different living styles to them are very high. As a result, willingness of residents to accept different type of neighbours is a major factor affecting neighbourhood attachment in Hong Kong.

### 5.3.4 Expectation of Results

Since the independent variables included in the regression equation are selected based on past literature and research in this area, it is expected that all of them will have a significant effect on the dependent variable. In addition, as per the discussion in past literature and research in this area, the signs of the partial regression coefficient of the independent variables could be expected. In the following section, the signs of each of the partial regression coefficient included in the equation will be discussed.

### *5.3.4.1 Expected Signs of Partial Regression Coefficient of each Independent Variable*

*Types of Housing Estate (**HOUSE**)*

As per the discussion in previous chapter, type of housing is having a significant impact on residential mobility. This is because there is difference in design and internal environment between private and public housing estate. It is believed that the better the internal design of the types of housing, the more attached the residents to their housing community. As in the questionnaires, the answer rating representing the types of housing estate will be higher for private estate. The independent variable, types of housing estate (**HOUSE**), is therefore expected to have a positive sign in its partial regression coefficient in the ordered probit regression analysis.

*Age (**AGE**)*

The age of the household tends to be inversely correlated with residential mobility, in other words, positively correlated with residents' attachment towards their housing community. This is because when the household age becomes higher, they tend to be more stable in their residence as they have already settled down. It is then difficult for them to adapt to a new environment if they choose to move out from their homes. Younger residents are more energetic and eligible to try and adapt to new housing environment and so they are usually more aggressive to search for the best dwelling when comparing with the ages. As a result, the partial regression coefficient of age of the household (**AGE**) is expected to be positive.

*Income Level (**INCOM**)*

Higher income level means a greater affordability. Residents with higher income level are having enough money to search for a better housing as well as to afford the cost of moving. Therefore, they are more eligible to find new homes, and thus their mobility chances increase. In view of this, the partial regression coefficient of income level of residents (**INCOM**) is expected to have a negative sign in the regression equation.

*Level of Education (**EDU**)*

With reference to the previous literature, higher education levels are associated with higher mobility rates. Residents with higher education attainment are supposed to have a higher housing requirement. They are then constantly searching for new homes in order to meet their increased housing requirement. Moreover, with a higher education attainment, they eventually have a better career and thus a better salary. They are said to be having a greater affordability to search for a better dwelling and so the explanatory variable, level of education of residents (**EDU**), is expected to have a negative sign in its partial regression coefficient.

*Volunteering Participation (**VP**)*

Volunteering participation is a kind of social involvement in the housing community by the residents. Residents joining volunteer work and activities are expected to have more friends in the community. They are also supposed to have a stronger linkage with other residents and thus are more willing to stay in their respective housing community. The partial regression coefficient of volunteering participation of residents (**VP**) is expected to have a positive sign in the regression analysis.

*Community Activities Participation (**CAP**)*

Community activities participation by residents is said to be a kind of formal interaction with the community. The higher the interaction with the community and its residents, the greater the positive sentiment with the community. It is suggested from some research that primary source of neighbourhood attachment is the participation in formal organizations in the housing community. Therefore, the partial regression coefficient of community activities participation of residents (**CAP**) is expected to be positive in the equation.

*Degree of Safety (**SAFE**)*

As mentioned, level of social integration of residents is related to fear of crime. Level of occurrence of crime incidents is an indicator for degree of safety. The higher the degree of safety of the community, the lower the sense of crime fearfulness of residents, and thus the higher the social integration in the housing community. With higher social integration in the housing community, residents are more willing to involve in it and consequently, to be more attached to the housing community. Therefore, the partial regression coefficient of degree of safety of the housing community (**SAFE**) is expected to have a positive sign in the regression model.

*Social Network (**SN**)*

In an abstract view, social network is related to the numbers of neighbours that one knows. The more neighbours that residents are familiarized, the greater the sense of community they perceived. Residents with larger social network are supposed to have more friends in the community and thus affecting their willingness to stay in their

housing community. As a result, the partial regression coefficient of social network of the residents (**SN**) is expected to be positive in the regression analysis.

*Level of Trust between Neighbours (**TRUST**)*

With a higher level of trust between neighbours in a housing community, a higher level of interaction is between residents. Interaction is a powerful process which helps residents to involve in their housing community. When the level of involvement becomes higher, the willingness of staying in the housing community will be greater. Therefore, level of trust between neighbours in a housing community (**TRUST**) is expected to have a positive sign in its partial regression coefficient.

*Level of Informal Socializing (**IS**)*

As per the discussion in the previous chapter, informal interaction is seen as the intervening variables between neighbourhood context and neighbourhood attachment. Informal socializing is a kind of informal interaction. Higher level of informal socializing can be an indicator indicating residents are very familiar with their neighbours. This helps to increase the willingness for them to stay in the housing community. Hence, the partial regression coefficient of level of informal socializing of residents (**IS**) is expected to be positive in the regression equation.

*Environment of the Community (**ENV**)*

Environment of the community is explicitly having an effect on the rate of movement of residents. The better the surrounding environment of the housing community, the more willingness the residents to stay in their community. As a result, the explanatory

variable, environment of the community (**ENV**) is expected to have a positive sign on its partial regression coefficient in the ordered probit regression analysis.

*Degree of Sense of Belonging to the Community (**SOB**)*

Degree of sense of belonging to the community is the intrinsic satisfaction of residents towards their housing community. Residents with a higher sense of satisfaction towards their community are expected to live happier in the respective place. When they are happy to live in, they will be more willing to stay and having lower chances to move out. Therefore, the higher the degree of sense of belonging to the community of residents, the higher the chances for them to attach to the community. As a result, the partial regression coefficient of degree of sense of belonging to the community (**SOB**) will be positive.

*Endurance and Tolerance of the Community (**ETC**)*

Endurance and tolerance of the community means the level of acceptance of residents for different classes of people in their housing community. The higher the endurance of residents to accept different walks of life, the lesser chances for them to move out from the housing community due to the annoyance with their neighbours. Therefore, the partial regression coefficient of endurance and tolerance of the community (**ETC**) is expected to have a positive sign in the regression analysis.

Below is the summary of the expected signs of partial regression coefficient of each independent variable:

| Independent Variables | Expected Sign of its Partial Coefficient |
|---|---|
| HOUSE | + |
| AGE | – |
| INCOM | – |
| EDU | + |
| VP | + |
| CAP | + |
| SAFE | + |
| SN | + |
| TRUST | + |
| IS | + |
| ENV | + |
| SOB | + |
| ETC | + |

Table 5.3 Expected Signs of Partial Regression Coefficient of Independent Variables

### 5.3.5 Source of Data for Variables

In this study, the data from both the dependent variable and independent variables are collected by means of questionnaires. The questions and answers included in the questionnaires are carefully designed for the sake of useful quantitative data for identifying the variables incorporated in the regression equation. Some questions involved in the questionnaires are indeed acting as a reference or hint of the respondents' perception of the dependent and independent variables used in the regression analysis. Answers for each question are expressed in an ordered rating basis for computation in the ordered probit regression model. In conclusion, both the quantitative data used for dependent variable and the thirteen independent variables in this dissertation are entered into E-Views in a form of discrete and non-aggregate rating from the results obtained from the questionnaires. In the following section, the target respondents, the content of the questionnaires and the results from the survey will be discussed.

#### *5.3.5.1 Target Respondents*

The questionnaires are carried out in three private housing estates to examine the residents' willingness to stay in their housing community and their perception degree of different attributes contributing to their attachment to their housing community. The target respondents are the residents living in Taikoo Shing, Whampoa Garden and City One Shatin. In other words, Taikoo Shing, Whampoa Garden and City One Shatin are the sample housing communities for identifying the factors affecting residents' attachment to their housing community throughout Hong Kong.

Choosing these three private housing estates as target is because of their popularity and their obvious identity as a housing community in Hong Kong. Taikoo Shing is the largest estate type development in Hong Kong Island. It can be said as an icon of housing community, which is self-sufficient, in the minds of Hong Kongers. Whampoa Garden is another huge estate type development situated in Kowloon. Within its housing community, it provides all the needs for the residents living in Whampoa. City One Shatin is a representative of private estate type development in New Territories. Three of them are regarded as constituency areas in 2001 Population Census.

In addition, consider the annual Hong Kong Property Review issued by the Rating and Valuation Department, HKSAR Government, Taikoo Shing, Whampoa Garden and City One Shatin are among the most popular developments in Hong Kong. They are used for the calculation of Private Domestic (Selected Popular Developments) Monthly Price Indices. Therefore, Taikoo Shing, Whampoa Garden and City One Shatin are having enough representative and confidence for reaching and catering the

definition of housing community in this dissertation. It is expected that the residents living in these three private housing estates will provide a significant and comprehensive indicator for the variable data used in the regression equation.

Residents living in public housing developments are not included as target respondents because they don't have freedom to choose their accommodation in a certain extent. The type of housing community that they are involving depends on the central allocation system of the HKSAR Government. This is in contrast to residents living in private housing developments whom can exit and enter freely in the housing market. In this dissertation, as residents' attachment to their housing community, in other words, residents mobility, is investigated, freedom in exit and enter the housing marketing is therefore a prerequisite for the subject matter.

#### *5.3.5.2 The result of the survey*

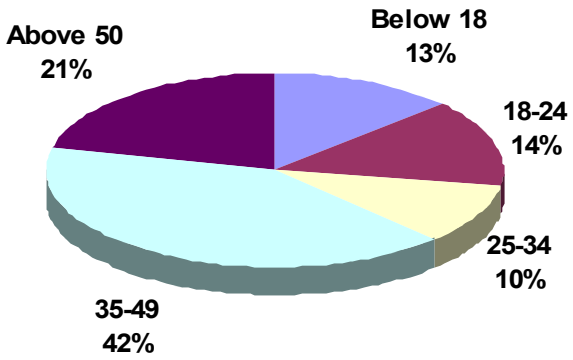
Throughout the on-site survey, 270 questionnaires have been carried out, in which 90 questionnaires are done in Taikoo Shing, Whampoa Garden and City One Shatin respectively. Long (1997) proposed that at least 10 observations per parameter should be reasonable and that there should be minimum of 100 samples to run the Maximum Likelihood test. As there are more then 10 parameters and more then 100 samples, the data set is regarded as large enough to run the test.

The results of the survey are as follows:

**Age of Interviewees**

On a whole, there are altogether 270 interviewees. From the 270 questionnaires, 21% is done by interviewee of age above 50. The group of age range of 35-49 is 42% which is the highest percentage. Age group of 25-34 has a percentage of 10%, whereas the age of 18-24 occupies 14% and lastly age group under 18 occupies 13%. Although even distribution of age group cannot obtain from the on-site survey, it is not any extreme case either. The resulting data will be used for explanatory variable *"Age (**AGE**)"* in the regression model.

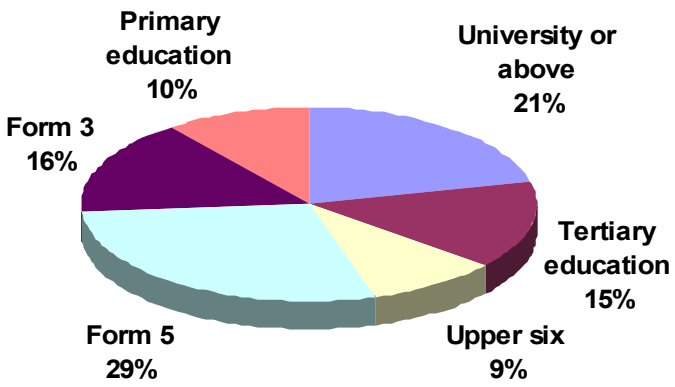
Figure 5.3.1 Age of Interviewees




**Education Level of Interviewees**

From the result, there are altogether 36% of interviewees having education level of tertiary or above. This evidence shows that majority of the residents generally have high levels of education. It is possible that the better educated have a higher requirement in their living environment. The resulting data will be used for *"Levels of education (**EDU**)"* in the regression model.

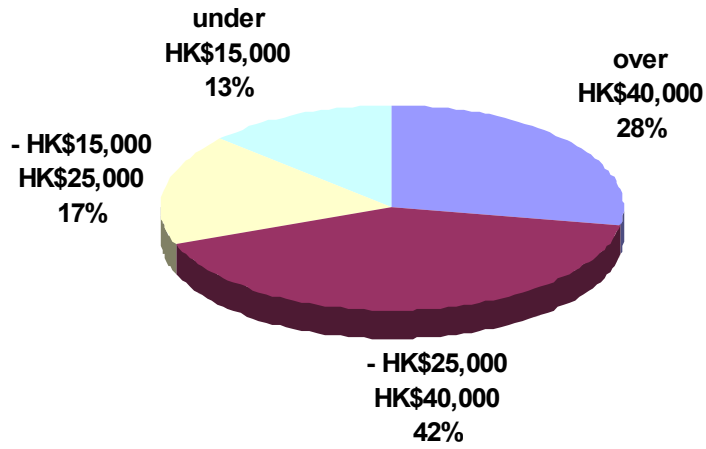
Figure 5.3.2 Education Level of Interviewees




**Income Level of Interviewees**

Interviewees with monthly household income below HK$25,000 comprised of 30%, whereas those with monthly household income above HK$25,000 comprised of 70%. In average, the monthly household income of interviewees' families is high. This can be explained by generally high education levels and senior job positions. The resulting data will be used for independent variable *"Income Level* ***(INCOM)****"* in the regression model.

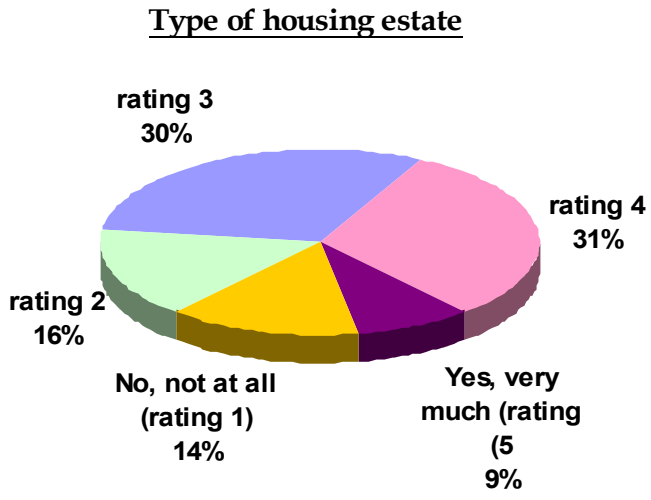
Figure 5.3.3 Income Level of Interviewees



**Types of Housing Estate**

As mentioned, some questions involved in the questionnaires are indeed acting as a reference or hint of the respondents' perception of the dependent and independent variables used in the regression analysis. Question 15 is acting as the reference question to indicate the perception of interviewees about how the types of housing estate affecting their personal development and in turn impacting on their willingness to stay. The resulting data is used for the explanatory variable *"Types of Housing Estate* ***(HOUSE)****"* in the regression model. Among the interviewees, over 60% of them given rating 3 & 4 implying types of housing estate they are living in will affect their personal growth in a prudent way.

Figure 5.3.4 Type of Housing Estate

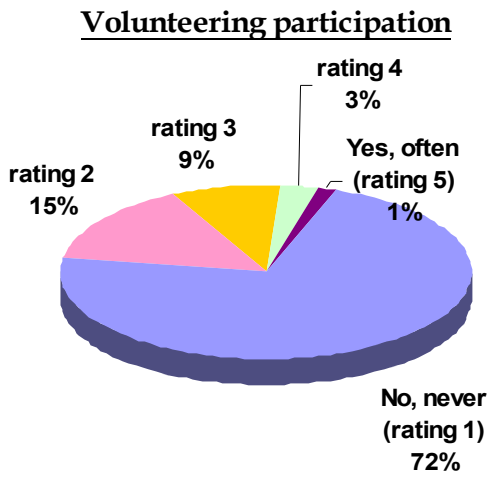



**Volunteering Participation**

Question 3 in the questionnaire is used to directly collect information on the frequency of involvement in local volunteering activities by the residents. The rating that interviewees have been chosen are used for the data of *"Volunteering Participation* ***(VP)****"* for entering into E-Views for computation of regression model. It

is surprising to note that over 70% of the respondents never do any volunteering work within their local housing community.

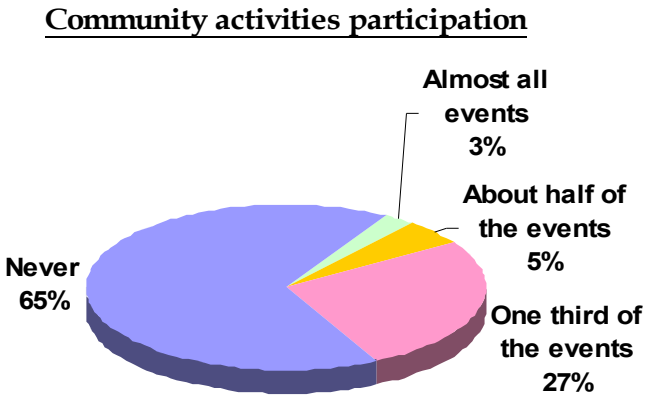
Figure 5.3.5 Volunteering Participation




**Community Activities Participation**

Question 10 in the questionnaire is used to collect information concerning the rate of community activities participation of the residents. The rating chosen from the survey will be used for the data of *"Community Activities Participation (**CAP**)"* in the regression model. Again, residents who never participate in any community activities held by their local housing community is taking up the highest percentage.

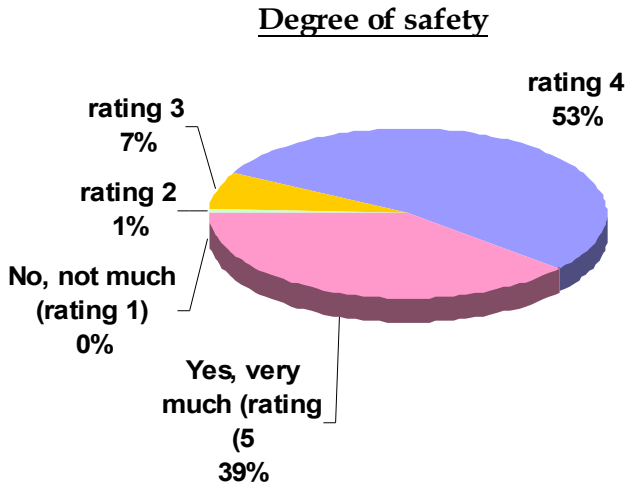
Figure 5.3.6 Community Activities Participation



**Degree of Safety**

Question 4 is explicitly used to collect information about the perception of safety of respondents towards their housing community. The rating of safety is then acting as data for the independent variable *"Degree of Safety (**SAFE**)"* in the regression model. Among the interviewees, most of them think their local housing community is safe enough. Survey result shows that over 90% of the respondent given rating 4 and above.

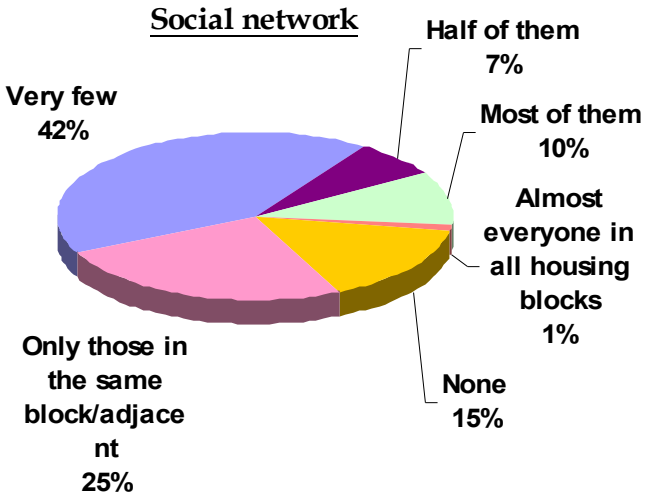
Figure 5.3.7 Degree of Safety




**Social Network**

Question 5 in the questionnaire is indeed acting as a reference question for collecting information about respondents' social network within the housing community. The result is then used for the data of *"Social Network (**SN**)"* in the regression model. 42% of the respondents know a few neighbours with their housing community. 25% of them know those living in the same block with them, whereas 10% of them know most of the neighbours. Among the respondents, 7% know half of their neighbours in their housing community and only 1% of the respondents know everyone. It is surprised that 15% of the interviewees know none of their neighbours.

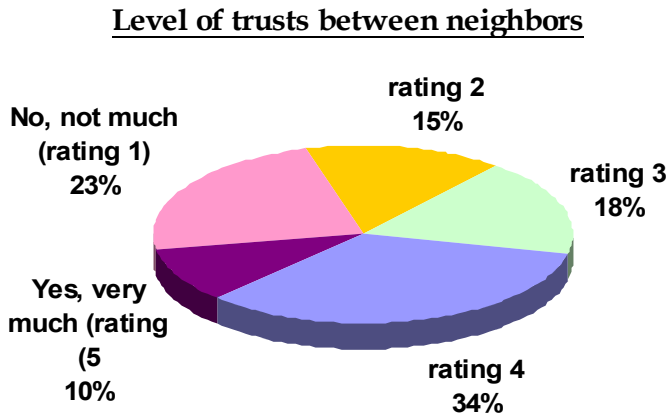
Figure 5.3.8 Social Network




**Level of Trust between Neighbours**

Question 8 in the questionnaire is a hiding question for collecting information on the level of trust of the respondent with their neighbours in the housing community. The rating collected will be used for computation of the explanatory variable *"Level of Trust between Neighbours (**TRUST**)"* in the regression model. The distribution of the resulting rating of this question is rather even, in which rating 1, 2, 3, 4 and 5 are having percentages 23%, 15%, 18%, 34% and 10% respectively.

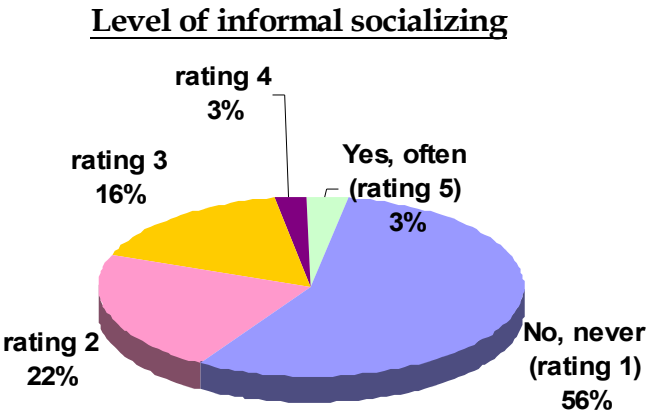
Figure 5.3.9 Level of Trusts between Neighbours



**Level of Informal Socializing**

Question 6 indicates the level of informal socializing of the interviewees. The rating collected will be used for the data entry of *"Level of Informal Socializing (**IS**)"* in the regression model. The result found that over 50% of the residents never visit their neighbours within the housing community, showing that the level of informal socializing is low.

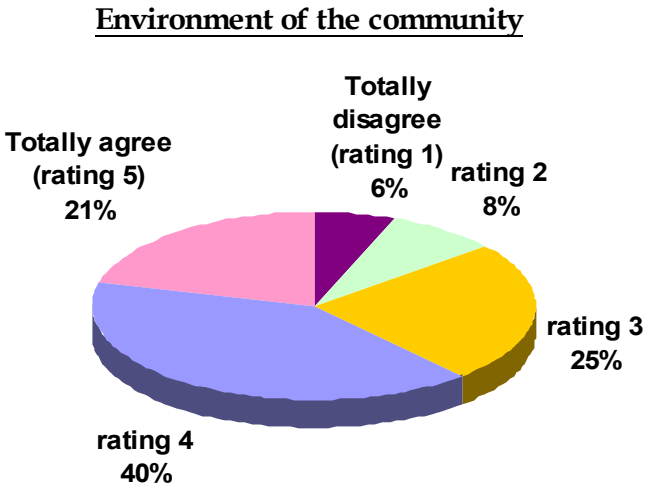
Figure 5.3.10 Level of Informal Socializing




**Environment of the Community**

Question 7(vi) is acting as the reference question to indicate the perception of interviewees about how the surrounding environment affects their emotion and in turn impacting on their willingness to stay. The resulting data will be used for data entry of the independent variable *"Environment of the Community (**ENV**)"* in the regression model. Among the interviewees, over 60% of them given rating 4 and above. That means the surrounding environment of their housing community will affect their emotion as well as their willingness to stay in the community very much.

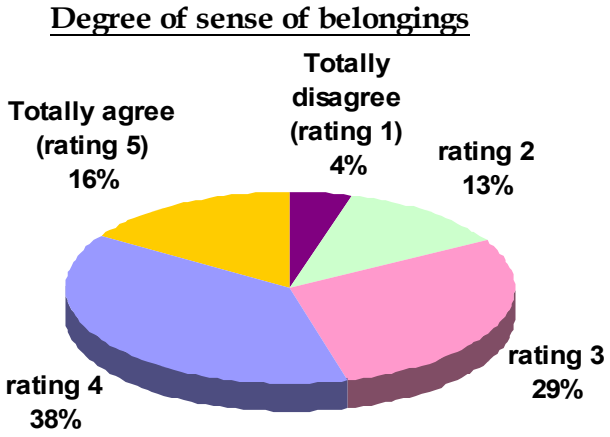
Figure 5.3.11 Environment of the Community




**Degree of Sense of Belonging**

Question 7(i) asks whether interviewees like growing up in their housing community. This is a reference question to show the degree of likelihood towards their housing community of the interviewees. The result can in turn indicate the degree of sense of belonging of the interviewees towards their community. The survey result will then be used as data for the independent variable *"Degree of Sense of Belonging (**SOB**)"* in the regression model. Over 50% of the respondents like to grow up in their housing community whereas only 4% of the respondents dislike.

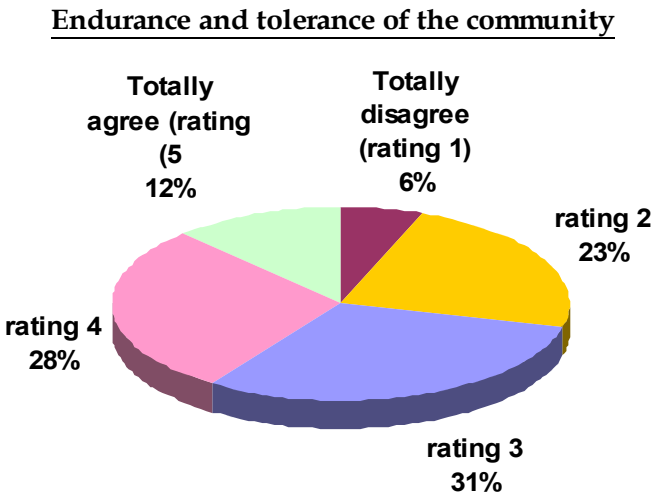
Figure 5.3.12 Degree of Sense of Belonging



**Endurance and Tolerance of the Community**

Question 7(iii) is a hiding question on how interviewees can accept different walks of life in their housing community. This is an indicator of respondents' bearing of different ethic group in the community, which in turn showing the endurance and tolerance of the community. The data is used for the explanatory variable *"Endurance and Tolerance of the Community (**ETC**)"* in the regression model.

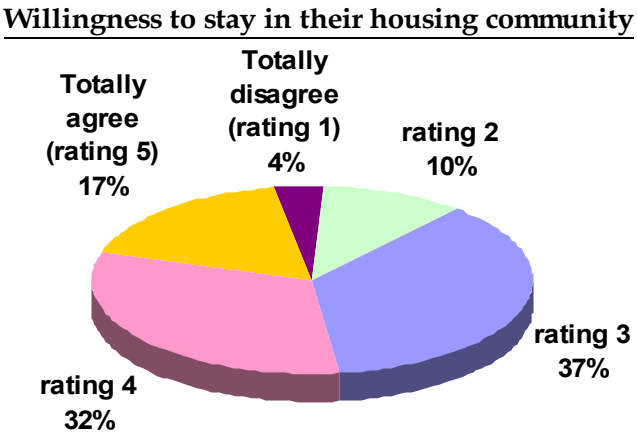
Figure 5.3.13 Endurance and Tolerance of the Community




**Willingness to stay in their housing community**

Question 7(iv) explicitly collecting information on how likely the interviewees would like to stay in their respective housing community. The result is used for data entry of the dependent variable *"Residents' willingness to stay in their housing community **(WTS)**"*in the regression model. From the survey, respondents who are having neutral attitude towards whether they are willing to stay in their community are having the highest percentage, which is 37%. However, this percentage is not regarded as a majority. Those who tend to be more likely to stay comprise of 49% and those who tend to be less likely are 14%.

Figure 5.3.14 Willingness to stay in their housing community




All the results obtained from the survey will be used as the quantitative data for both the dependent variable and the thirteen independent variables in the ordered probit regression model. The results from the regression computation from E-views will be analyzed in the next chapter.

# Chapter 6 Empirical Results and Analysis

## 6.1 Introduction

In this chapter, the results from both the Analytic Hierarchy Process and the ordered probit regression analysis will be shown and illustrated. The results are obtained from Expert Choice version 11.0 and E-Views version 3.0 respectively. Section 6.2 is concerning the Analytic Hierarchy Process whereas section 6.3 will be focus on Regression Analysis.

## 6.2 Analytic Hierarchy Process

### 6.2.1 Introduction

After the Analytic Hierarchy Process is carried out by Expert Choice, weightings of the factors towards residents' bonding within housing community for each respondent are generated. The result of the process will be shown first in this section. Then the analysis will be given, followed by the implication of this empirical study.

### 6.2.2 Empirical Results

As mentioned, the result of the respective weighting of the factors contributing to the bonding between residents within a community is generated. A total of 82 questionnaires are used for computation of the results. Among them, 38 questionnaires having results with consistency equal or lower than 0.1, whereas 44 of them are having inconsistency higher than 0.1. As a result, 44 questionnaires are discarded.

The table below is the results, i.e. the weighting of each attributes for the residents' bonding within community, generated from the 38 qualified questionnaires:

| | HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | 0.233 | 0.256 | 0.146 | 0.037 | 0.036 | 0.036 | 0.04 | 0.036 | 0.036 | 0.036 | 0.036 | 0.036 | 0.036 |
| **2** | 0.046 | 0.028 | 0.028 | 0.035 | 0.028 | 0.028 | 0.089 | 0.12 | 0.114 | 0.034 | 0.15 | 0.15 | 0.15 |
| **3** | 0.039 | 0.025 | 0.028 | 0.028 | 0.099 | 0.141 | 0.073 | 0.114 | 0.089 | 0.142 | 0.059 | 0.115 | 0.048 |
| **4** | 0.091 | 0.092 | 0.098 | 0.068 | 0.067 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 |
| **5** | 0.022 | 0.115 | 0.038 | 0.035 | 0.111 | 0.111 | 0.059 | 0.112 | 0.071 | 0.094 | 0.032 | 0.13 | 0.07 |
| **6** | 0.013 | 0.015 | 0.015 | 0.013 | 0.119 | 0.062 | 0.076 | 0.142 | 0.157 | 0.107 | 0.047 | 0.17 | 0.064 |
| **7** | 0.019 | 0.085 | 0.013 | 0.024 | 0.013 | 0.014 | 0.266 | 0.11 | 0.089 | 0.064 | 0.134 | 0.084 | 0.085 |
| **8** | 0.015 | 0.026 | 0.018 | 0.024 | 0.1 | 0.104 | 0.099 | 0.09 | 0.124 | 0.078 | 0.062 | 0.15 | 0.11 |
| **9** | 0.037 | 0.031 | 0.04 | 0.047 | 0.057 | 0.052 | 0.178 | 0.073 | 0.078 | 0.07 | 0.154 | 0.112 | 0.071 |
| **10** | 0.014 | 0.027 | 0.017 | 0.017 | 0.07 | 0.066 | 0.18 | 0.097 | 0.131 | 0.108 | 0.081 | 0.106 | 0.086 |
| **11** | 0.292 | 0.029 | 0.023 | 0.024 | 0.029 | 0.024 | 0.202 | 0.073 | 0.036 | 0.025 | 0.122 | 0.074 | 0.047 |
| **12** | 0.086 | 0.054 | 0.026 | 0.027 | 0.068 | 0.126 | 0.049 | 0.145 | 0.146 | 0.054 | 0.057 | 0.094 | 0.068 |
| **13** | 0.031 | 0.022 | 0.06 | 0.063 | 0.031 | 0.031 | 0.317 | 0.062 | 0.17 | 0.081 | 0.051 | 0.037 | 0.044 |
| **14** | 0.061 | 0.082 | 0.02 | 0.032 | 0.042 | 0.064 | 0.04 | 0.126 | 0.094 | 0.112 | 0.103 | 0.116 | 0.108 |
| **15** | 0.057 | 0.043 | 0.022 | 0.019 | 0.04 | 0.098 | 0.053 | 0.113 | 0.194 | 0.096 | 0.064 | 0.124 | 0.077 |
| **16** | 0.096 | 0.01 | 0.026 | 0.017 | 0.016 | 0.021 | 0.128 | 0.04 | 0.172 | 0.042 | 0.085 | 0.171 | 0.176 |
| **17** | 0.091 | 0.063 | 0.057 | 0.107 | 0.038 | 0.032 | 0.182 | 0.054 | 0.041 | 0.024 | 0.218 | 0.06 | 0.033 |
| **18** | 0.029 | 0.036 | 0.083 | 0.107 | 0.02 | 0.013 | 0.13 | 0.045 | 0.152 | 0.066 | 0.22 | 0.045 | 0.054 |
| **19** | 0.013 | 0.024 | 0.026 | 0.037 | 0.051 | 0.087 | 0.031 | 0.206 | 0.092 | 0.124 | 0.065 | 0.199 | 0.045 |
| **20** | 0.246 | 0.016 | 0.048 | 0.04 | 0.051 | 0.057 | 0.045 | 0.066 | 0.073 | 0.066 | 0.16 | 0.071 | 0.061 |
| **21** | 0.013 | 0.014 | 0.017 | 0.015 | 0.113 | 0.121 | 0.048 | 0.134 | 0.143 | 0.083 | 0.062 | 0.184 | 0.053 |
| **22** | 0.058 | 0.056 | 0.042 | 0.067 | 0.074 | 0.072 | 0.078 | 0.099 | 0.095 | 0.103 | 0.087 | 0.093 | 0.076 |
| **23** | 0.038 | 0.027 | 0.107 | 0.114 | 0.024 | 0.042 | 0.134 | 0.094 | 0.108 | 0.03 | 0.068 | 0.106 | 0.108 |
| **24** | 0.014 | 0.02 | 0.011 | 0.019 | 0.066 | 0.054 | 0.29 | 0.055 | 0.165 | 0.047 | 0.065 | 0.151 | 0.043 |
| **25** | 0.013 | 0.01 | 0.018 | 0.015 | 0.057 | 0.071 | 0.17 | 0.087 | 0.072 | 0.099 | 0.041 | 0.232 | 0.115 |
| **26** | 0.021 | 0.021 | 0.186 | 0.073 | 0.085 | 0.031 | 0.034 | 0.056 | 0.129 | 0.121 | 0.058 | 0.105 | 0.08 |
| **27** | 0.024 | 0.023 | 0.027 | 0.055 | 0.051 | 0.05 | 0.051 | 0.08 | 0.082 | 0.079 | 0.12 | 0.167 | 0.191 |
| **28** | 0.023 | 0.011 | 0.012 | 0.011 | 0.027 | 0.033 | 0.101 | 0.138 | 0.146 | 0.117 | 0.128 | 0.157 | 0.096 |
| **29** | 0.066 | 0.075 | 0.073 | 0.089 | 0.068 | 0.06 | 0.121 | 0.092 | 0.079 | 0.078 | 0.067 | 0.066 | 0.066 |
| **30** | 0.134 | 0.01 | 0.106 | 0.1 | 0.009 | 0.009 | 0.126 | 0.089 | 0.065 | 0.06 | 0.134 | 0.086 | 0.072 |
| **31** | 0.097 | 0.03 | 0.016 | 0.018 | 0.08 | 0.12 | 0.183 | 0.091 | 0.066 | 0.041 | 0.033 | 0.08 | 0.145 |
| **32** | 0.02 | 0.023 | 0.031 | 0.08 | 0.086 | 0.046 | 0.082 | 0.109 | 0.186 | 0.062 | 0.04 | 0.189 | 0.046 |
| **33** | 0.014 | 0.017 | 0.018 | 0.076 | 0.036 | 0.035 | 0.227 | 0.1 | 0.099 | 0.042 | 0.086 | 0.112 | 0.138 |
| **34** | 0.073 | 0.042 | 0.021 | 0.015 | 0.037 | 0.055 | 0.17 | 0.086 | 0.061 | 0.056 | 0.166 | 0.105 | 0.113 |
| **35** | 0.127 | 0.034 | 0.087 | 0.128 | 0.023 | 0.027 | 0.032 | 0.111 | 0.16 | 0.117 | 0.053 | 0.048 | 0.053 |
| **36** | 0.093 | 0.011 | 0.125 | 0.171 | 0.013 | 0.016 | 0.313 | 0.047 | 0.034 | 0.012 | 0.105 | 0.05 | 0.01 |
| **37** | 0.012 | 0.029 | 0.058 | 0.031 | 0.098 | 0.083 | 0.028 | 0.134 | 0.197 | 0.107 | 0.034 | 0.155 | 0.034 |
| **38** | 0.074 | 0.1 | 0.036 | 0.115 | 0.047 | 0.082 | 0.084 | 0.11 | 0.09 | 0.035 | 0.062 | 0.118 | 0.047 |

Table 6.1 Analytic Hierarchy Process Results

Note:
HOUSE = Types of housing estate
AGE = Age of household
INCOM = Income level
EDU = Level of education
VP = Volunteering participation
CAP = Community activities participation
SAFE = Degree of safety
SN = Social network
TRUST = Level of trust between neighbours
IS = Level of informal socializing
ENV = Environment of the community
SOB = Degree of sense of belonging to the community
ETC = Endurance and tolerance of the community

The summation of each attribute weighting of each question is equal to 1. The results shown in the above table are further summed up and then averaged to get the finalized respective weighting for each attributes towards residents' bonding within the community. After the general calculation in Microsoft Excel, the final weightings are listed below.

| | Final Weighting | Rank |
|---|---|---|
| **Types of housing estate** | **0.064342** | **8** |
| **Age of household** | **0.042947** | **13** |
| **Income level** | **0.047974** | **12** |
| **Level of education** | **0.052447** | **11** |
| **Volunteering participation** | **0.054737** | **10** |
| **Community activities participation** | **0.059132** | **9** |
| **Degree of safety** | **0.120579** | **1** |
| **Social network** | **0.094974** | **4** |
| **Level of trust between neighbours** | **0.108132** | **3** |
| **Level of informal socializing** | **0.073289** | **7** |
| **Environment of the community** | **0.089** | **5** |
| **Degree of sense of belonging to the community** | **0.113711** | **2** |
| **Endurance and tolerance of the community** | **0.078737** | **6** |

Table 6.2 Weights of Resident's bonding within Housing Community Attributes

Among the category of factors affecting residents' bonding within the housing community, safety of the housing community (0.120579) is the most important, followed by the sense of belonging of residents towards their housing community (0.113711) and trust between neighbours (0.108132). The top three attributes are two or three times more important than community activities participation, volunteering

participation, education level, income level and age distribution of the community. Social network of residents (0.094974), environment (0.089) and endurance and tolerance of the community (0.078737) rank middle among all the 13 attributes. In conclusion, safety of the housing community and sense of belonging of residents are the most significant factors affecting the bonding between residents within the housing community. They affect the Community Quotient calculation in a larger percentage.

### 6.2.3 Implication of Findings

This study has investigated the respective weighting of attributes affecting bonding between residents within a housing community. The result shows that the degree of safety of the community and sense of belonging of residents to their housing community are the most important factors impacting residents' bonding in the community.

As mentioned in pervious chapter, residents' bonding within a housing community can be quantified in a new term, called the Community Quotient. Community Quotient is a quotient which helps to identify the performance of a community. Proactive use of Community Quotient can help certain parties to identify certain issues concerning community so as to provide correspondent plans or solutions.

The thirteen attributes mentioned in the Analytic Hierarchy Process are expected to be affecting the residents' bonding within the housing community, in other words, the Community Quotient. Therefore, in calculation of the Community Quotient, it is suggested that one should include the thirteen attributes. They are: types of housing

estate, age distribution, income level, level of education, volunteering participation, community activities participation, degree of safety, social network, level of trust between neighbours, level of informal socializing, environment of the community, degree of sense of belonging to the community and lastly, the endurance and tolerance of the community.

Although there are thirteen attributes to be included in calculation of Community Quotient, it is believed that different attributes will have different degree of impact towards Community Quotient. Therefore, Analytic Hierarchy Process is carried out to identify the weighting of different attributes.

When calculating the Community Quotient for each community, the final weighting stated in Table 6.2 is regarded as weighting of each attribute. Safety of the community and residents' sense of belonging to the community are having the highest impact towards Community Quotient. They contribute to Community Quotient in a larger percentage. The weightings of the thirteen attributes stated in Table 6.2 can be used for calculation of Community Quotient. The result obtained from this study will also be jointly recognized with the result generated by Regression Analysis for a further implication and conclusion.

## 6.3 Regression Analysis

### 6.3.1 Introduction

To this end, residents' willingness to stay in their housing community (**WTS**) is being regressed by thirteen explanatory variables. Ordered probit regression model has been employed to obtain the results as the data used for both dependent and independent variables are in ordinal, rating or categorized nature. The purpose of this chapter is to provide a comprehensive insight into the empirical results. Firstly, the results from the regression model will be shown, followed by their analysis. The implication of findings from the result will come last.

### 6.3.2 Empirical Results

From Section 5.3, the model specification undergoing regression analysis in this study is:

$$\mathbf{WTS} = \alpha + \beta_1\mathbf{HOUSE} + \beta_2\mathbf{AGE} + \beta_3\mathbf{INCOM} + \beta_4\mathbf{EDU} + \beta_5\mathbf{VP} + \beta_6\mathbf{CAP} + \beta_7\mathbf{SAFE} + \beta_8\mathbf{SN} + \beta_9\mathbf{TRUST} + \beta_{10}\mathbf{IS} + \beta_{11}\mathbf{ENV} + \beta_{12}\mathbf{SOB} + \beta_{13}\mathbf{ETC} + \varepsilon \quad (4)$$

where $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$, $\beta_5$, $\beta_6$, $\beta_7$, $\beta_8$, $\beta_9$, $\beta_{10}$, $\beta_{11}$, $\beta_{12}$ and $\beta_{13}$ are the partial regression coefficient whereas $\varepsilon$ is the stochastic error term.

The result of the regression analysis is shown in Table 6.3 below.

Dependent Variable: WTS
Method: ML - Ordered Probit
Sample: 1 270
Included observations: 267
Number of ordered indicator values: 5

| Variables | Coefficient | Std. Error | z-Statistic | p-value |
|---|---|---|---|---|
| HOUSE | 0.101457 | 0.058438 | 1.736162 | 0.0825 |
| AGE | -0.101789 | 0.053863 | -1.889770 | 0.0588 |
| INCOM | 0.082926 | 0.074838 | 1.108078 | 0.2678 |
| EDU | -0.026593 | 0.043863 | -0.606278 | 0.5443 |
| VP | 0.032933 | 0.083344 | 0.395147 | 0.6927 |
| CAP | 0.050086 | 0.109002 | 0.459495 | 0.6459 |
| SAFE | 0.239790** | 0.110335 | 2.173297 | 0.0298 |
| SN | 0.054801 | 0.068102 | 0.804682 | 0.4210 |
| TRUST | 0.085934 | 0.052592 | 1.633980 | 0.1023 |
| IS | 0.001988 | 0.079155 | 0.025110 | 0.9800 |
| ENV | 0.072472 | 0.064194 | 1.128951 | 0.2589 |
| SOB | 0.261201* | 0.067864 | 3.848863 | 0.0001 |
| ETC | 0.088770 | 0.063559 | 1.396656 | 0.1625 |
| Limit Points | | | | |
| LIMIT_2:C(14) | 0.960367 | 0.629311 | 1.526061 | 0.1270 |
| LIMIT_3:C(15) | 1.786439 | 0.619884 | 2.881893 | 0.0040 |
| LIMIT_4:C(16) | 2.989278 | 0.627655 | 4.762614 | 0.0000 |
| LIMIT_5:C(17) | 4.009343 | 0.643795 | 6.227668 | 0.0000 |

| | | | |
|---|---|---|---|
| Log likelihood | -347.0379 | Hannan-Quinn criter. | 2.818623 |
| Restr. log likelihood | -370.0589 | Avg. log likelihood | -1.299767 |
| LR statistic (13 df) | 46.04208 | LR index (Pseudo-R2) | 0.062209 |

Table 6.3 Results of regression model

*p < 0.001.
** p < 0.05.

The result is having a high LR-statistic of 46.04208, indicating the probability of accepting the null hypothesis is very low. This means the probability of having all partial regression coefficients of independent variables equal to zero is denied.

From the observation of the p-value of each independent variable, the significant of their respective partial regression coefficient can be identified. In this dissertation, the standard of significance of each independent variable is set at 5% level. This shows that the partial regression coefficient will be generally accepted if its p-value is smaller or equal to 0.05, which is at 5% level.

Table 6.3 shows the z-statistics and p-values of the thirteen independent variables. Both **SAFE** and **SOB** have z-statistics level higher then critical level, which is 2.0. It can be observed that both **SAFE** and **SOB** have a significant positive effect on **WTS**; **HOUSE**, **INCOM**, **VP**, **CAP**, **SN**, **TRUST**, **IS**, **ENV** and **ETC** have insignificant positive effect on **WTS**, whereas **AGE** and **EDU** are insignificantly and negatively related to **WTS**. The explanation of all these regression results will be discussed in the following section.

The table below is the summing up of the results:

| Variable | Abbreviation | Absolute Value of Partial Coefficient | Expected Sign of Partial Coefficient | Actual Sign of Partial Coefficient |
|---|---|---|---|---|
| **Dependent Variable** | | | | |
| **Residents' Willingness to stay in their housing community** | **WTS** | **N.A.** | **N.A.** | **N.A.** |
| **Independent Variables** | | | | |
| **Significant Variables** | | | | |
| **Safety of the community** | **SAFE** | **0.2398** | + | + |
| **Sense of belonging to the community** | **SOB** | **0.2612** | + | + |
| **Insignificant Variables** | | | | |
| **Types of housing estate** | **HOUSE** | **0.1015** | + | + |
| **Age** | **AGE** | **0.1018** | + | – |
| **Income level** | **INCOM** | **0.0829** | – | + |
| **Level of education** | **EDU** | **0.0266** | – | – |
| **Volunteering participation** | **VP** | **0.0329** | + | + |
| **Community activities participation** | **CAP** | **0.0501** | + | + |
| **Social network** | **SN** | **0.0548** | + | + |
| **Level of trust between neighbours** | **TRUST** | **0.0859** | + | + |
| **Level of informal socializing** | **IS** | **0.0020** | + | + |
| **Environment of the community** | **ENV** | **0.0725** | + | + |
| **Endurance and tolerance of the community** | **ETC** | **0.0888** | + | + |

Table 6.4 Summary results of regression analysis

### 6.3.3 Empirical Analysis of the Results

In this section, the findings of the empirical study will be analyzed. Explanation will be given to all insignificant variables, also with justification with those variables having actual signs of their partial regression coefficients contradict with the expected. Next, those significant variables, i.e. Safety of the community (**SAFE**) and residents' sense of belonging to the community (**SOB**) will be discussed. Their relative degree of influence to residents' willingness to stay in their respective housing community (**WTS**) will also be examined by comparing the absolute values of their partial coefficients.

#### *6.3.3.1 Insignificant Variables*

*Types of housing estate (**HOUSE**)*

In contrast to the previous chapters that types of housing estate (**HOUSE**) is a significant factor affecting residents' mobility, it is now found to be having insignificant impact on residents' willingness to stay. As the type of housing estate is referring to the specific design of the housing estate, this anomaly may be explained by the fact that the similar internal format of every housing estate in Hong Kong. The housing estate design in Hong Kong, either private or public, is said to have been followed with a definite mode, i.e. a rectangular type design with common corridor in the lift lobby. This malpractice is due to the limited supply of land in Hong Kong, there is therefore not much room for architects to design some innovative formats other than the conventional flat format in Hong Kong. As the difference of internal environment for residents to live in different housing estates is not as big as expected, the results shown is therefore contradict to the previous studies.

*Age (**AGE**)*

The age of household (**AGE**) in the results is having a contradictive outcome to previous studies. The results indicate that age of household is not a significant determinant of household's neighbourhood attachment in Hong Kong. This can be explained by the abnormal workaholic nature of Hong Kong citizens. Hong Kong people are renowned for its hardworking attitude on their works. Most of them would like to continue their career even though they have already reached their retirement age. Age is therefore not a critical factor in explaining various social phenomenon in Hong Kong which can be used in the case of other countries. Thus, age of residents in Hong Kong is not a significant factor for neighbourhood attachment.

In addition, the actual sign of the partial regression coefficient of age is opposite to the expected. This shows that the older the residents, the more mobile they are. This can be explained by the belated retirement age and accumulation of wealth of the aged in Hong Kong. As mentioned, most of the Hong Kong citizen will still continue to work upon reaching their retirement age. Residents with later retirement will have lesser time to stay in the housing community and to enjoy the life there. The sense of settlement in the housing community is therefore lower, and so they are not having a very strong desire to stay back in their housing community as expected. Moreover, the affordability for cost of moving will be higher for Hong Kong people compared with other people in the world with the same age. They are therefore, still eligible to search for a better dwelling. In addition, a recent phenomenon in Hong Kong is that, retired people tend to move to places with a better and greener environment for their retirement. The frequency of advertising on retirement housing is in an increasing rate. Therefore, people in Hong Kong are attracted to move to more spacious place upon

retirement. Some are even more inclined to move to a more spacious and a greener environment such as Shenzhen and Dongguan.

*Income Level (**INCOM**)*

Income level of residents (**INCOM**) in Hong Kong is said to have an insignificant effect on residents' willingness to stay in their housing community. This is due to a generally accepted concept in Hong Kong that having increased wealth does not necessitate a search for a better residence. They would rather make use of their wealth to invest in properties or to consume on clothing and dinning, but not buying better property for their own use. Property is a usual and common type of investment and speculative activity for Hong Kong citizens. Therefore, income level will not have a significant impact on neighbourhood attachment in Hong Kong.

Regarding the negative sign of the partial regression coefficient of income level which is contrary to the expected sign; the concept of Hong Kong people to use extra wealth to invest can be used for explanation. Residents having lower income are more willing to move their house when compare with those having higher income in Hong Kong. This is because the wealthy people tend to use their extra wealth for investment rather to use that money on searching better dwelling, on the other hand, people who are less wealthy are having higher aspiration in moving to a better dwelling once affordable.

*Level of education (**EDU**)*

The result of level of education (**EDU**) is in contrast with the results in previous research. Level of education of residents is found not to significantly affect residents'

attachment to their community in the context of Hong Kong. This is because the difference of education attainment of residents in Hong Kong is not very large. As per the discussion in the previous chapter, over 50% Hong Kong citizen is having higher education level. This may in turn due to Hong Kong is a small society compared with other countries, like the U.S., chances for citizen to receive higher education is relatively higher. As a result, the level of education in Hong Kong is not a significant factor in determining residents' neighbourhood attachment.

*Volunteering participation (**VP**)*

Volunteering participation (**VP**) is found to be insignificant to affect residents' willingness to stay in their housing community. Hong Kong is a small city with a good transportation network. Residents who are willing to do voluntary work are not necessary to stay in their respective housing community only. With the advancement of transportation in Hong Kong, residents can easily travel to different places and districts for voluntary activities. Therefore, participation in voluntary activities is not necessary to be an important catalyst for residents to involve in their housing community more; hence, it is not a significant indicator for residents' attachment in Hong Kong.

*Community activities participation (**CAP**)*

In contrast to the previous studies that formal community activities participation (**CAP**) is significant to residents' mobility, the results here now is the opposite. Result shows that community activities participation is not a significant factor in determining residents' neighbourhood attachment. This is because residents in Hong Kong are generally not so keen on joining formal community activities within their housing

community. Basic evidence can be found from the low election and voting rate on the committee of Owners' Incorporation and low attendance in owners' meeting. In addition, with the good transportation network in Hong Kong, residents are not necessarily joining day trip events organized by their housing community management company. Instead, residents can go for rural day trip on their own. As a result, community activities participation is not a significant factor for residents' willingness to stay in their housing community, in the context of Hong Kong.

*Social Network (**SN**)*

Social network of residents (**SN**) is found to be insignificant to residents' neighbourhood attachment in Hong Kong. This is possibly due to the advancement in technology, as well as the convenience in Hong Kong. Because of the advancement in technology, people more easily to get in touch with each other by telephone and by internet. As a result, even residents with large social network will not consider their connection with neighbours as a reason for decision on housing movement. Residents can still easily have usual contact with their old neighbours even if they have been moved out from the original housing community. In-person connection can also be continued because of the convenient transportation network in Hong Kong.

*Level of trust between neighbours (**TRUST**)*

Level of trust between neighbours (**TRUST**) is also an insignificant determinant on residents' willingness to stay in their housing community. In Hong Kong, even one with problems will try all methods to solve it by himself. The extensive information on the internet can help to solve numerous problems. Moreover, even one wants to find people for help, Hong Kong people will not usually find their neighbours based

on the fact that they are not familiar with their neighbours, or don't even know their neighbours. This is a common phenomenon in Hong Kong which will not be the case in different countries, like the U.S. As a result, level of trust between neighbours does not significantly affect residents' willingness to stay in the situation in Hong Kong.

*Level of informal socializing (**IS**)*

Level of informal socializing (**IS**) is found to be insignificant to determine neighbourhood attachment in the context of Hong Kong. This is because it is not a common phenomenon for Hong Kong people to invite their neighbours to their flats. Moreover, Hong Kong people are generally chasing for a fast-track life. Time is always seems to be limited to Hong Kong people. Therefore, even residents meet their neighbours somewhere in the housing community; they usually do not have time and stop for a leisure talk. As a result, level of informal socializing is difficult to be built in this fast-pace city and hence, will not be a significant determinant in affecting household attachment to their housing community.

*Environment of the community (**ENV**)*

In contrast to the previous researches, environment of the community (**ENV**) is found not to be significant to residents' willingness to stay in their housing community in Hong Kong. Hong Kong is renowned in its convenience. It is easy for residents from every different housing community to find all the necessity within their housing community. Moreover, as Hong Kong is a small city, in order to incorporate all the necessary amenities for residents within a housing zone, the setting must be more or less the same for the sake of fully utilization of the places. In addition, environmental protection is a rising concern; trees are planted in every possible place for beautifying

the surrounding. Therefore, there is not much difference in the surrounding environment between one housing community and the other, thus is not an important factor for residents' attachment in Hong Kong.

*Endurance and tolerance of the community (**ETC**)*

Endurance and tolerance of the community (**ETC**) is insignificant in determining residents' attachment to their housing community. Hong Kong is an international city with different walks of lives rooted here. Therefore, no matter in any housing estate, there should be large ranges of different kinds of people. Hong Kong will not have a specific zone for a particular ethic group to be settled, which is the case in foreign countries. For instance in the U.S., the white will live in a specific zone while the black will live in the other. Generally, every housing community in Hong Kong is having a good mixture of different kinds of residents and thus, endurance and tolerance of the community is not a significant factor for residents' willingness to stay in their housing community in the context of Hong Kong.

### *6.3.3.2 Significant Variables*

*Degree of safety (**SAFE**)*

Degree of safety of the housing community (**SAFE**) is found to be statistically significant in the residents' neighbourhood attachment determination. It has a partial coefficient of 0.2398, which is the second large absolute value of partial coefficient among the thirteen explanatory variables. This implies that when residents' making decision on moving house from their originated residences, they would consider the degree of safety of the originated residences. A high degree of safety in the originated

residence may act as a "pull" back reason for residents to stay back in their housing community.

In addition, as expected, the partial coefficient of it has a positive sign. It is consistent with the previous suggestion that the safer the housing community, the more willing the residents to be stayed in their housing community. For Hong Kong people, safety is a very important factor in determining housing movement. And the degree of safety somehow depends on the management company of the housing estate as most of the housing in Hong Kong is a kind of gated community, where there are security guards in the main entrance. With a higher perceived level of safety by Hong Kong resident, their level of fearing of crime will be alleviated and thus they will be more willing to involve in the housing community and increasing the social integration.

*Degree of sense of belonging to the community (**SOB**)*

Degree of sense of belonging to the community by the residents (**SOB**) is shown to be statistically significant with a partial regression coefficient of 0.2612. Among all the explanatory variables, degree of sense of belonging to the community can be said to be the most significant factor, which have the largest absolute value of 0.2612 in its partial coefficient. Its absolute value is even 9% higher than that of **SAFE**. This implies that the change in residents' degree of sense of belonging to the community causes the most substantial change in their willingness to stay in their respective housing community.

The positive sign of its partial regression coefficient confirm that high degree of sense of belonging reflects higher likelihood towards the housing community, and thus a

higher degree of attachment to the community. It is in relation to ones' cognitions of satisfaction and expectations of stability on their housing community. For Hong Kong residents, if they are satisfied with their living environment and gaining enough stability from their housing community, they are happy with it and so they will not easily move out. This is possibly a kind of psychological satisfaction of residents. The results suggest that, in Hong Kong, the degree of sense of belonging of residents in a housing community is having the greatest impact on their housing movement decision.

### 6.3.4 Implication of Findings

This regression analysis has investigated the effect of thirteen independent variables (**HOUSE**, **AGE**, **INCOM**, **EDU**, **VP**, **CAP**, **SAFE**, **SN**, **TRUST**, **IS**, **ENV**, **SOB** and **ETC**) on residents' willingness to stay in their housing community (**WTS**). Among the thirteen variables, only two of them are having significant influence on residents' attachment to their community. In summary, only the degree of safety of the community and the sense of belonging of residents towards their housing community are the major determinants to residents' housing attachment.

The findings from the empirical results have three major implications. Firstly, safety of the community determines residents' attachment to stay in the community to a certain extent. With a higher degree of safety of the housing community, residents living there will be more attached to the community. Therefore, in order to retain Hong Kong people in a particular housing community, specific policies on decreasing the rate of victimization should be carried out. The owners themselves and the Owners' Incorporation, as well as the management company can help in preventing or minimizing the occurrence of crime by a more stringent and tight security system.

Secondly, sense of belonging of residents towards their housing community affects their willingness to stay in the highest extent. This is in relation to the cognitive and psychological satisfaction and stability towards their living environment of the residents. Different residents have different needs and hence the degree of satisfaction. In order to retain residents in their housing community, every single need of the residents should first be examined. This can be done by progressive surveys or home visits by the Owners' Incorporation or the management company so as to understand more about the residents within the housing community. These acts can also show that they are concerned for each and every resident's opinion. When residents feel that their opinions and feelings are to be taken seriously, they will feel more comfortable and harmonized to live in, which in turn will increase their involvement in the housing community and their willingness to stay.

Lastly, the insignificant and negative correlation of types of housing estate and age of residents with residents' willingness to stay in their housing community implies that they are not important factors in the context of Hong Kong. This can be explained by the unique characteristic of Hong Kong residents and the facsimile housing design. These two explanations reveal the problems in Hong Kong. Hong Kong people are said to be workaholic, many of them even continue to work even they have already reached the retirement age. This is not a healthy phenomenon in terms of citizen' personal life and this phenomenon will also have impact on the economy of Hong Kong. Personal life of Hong Kong people maybe destructed as they don't know how to enjoy life, stress continue to build up between them leading to increasing social problems in Hong Kong. Moreover, the labour force cycle in Hong Kong will also be affected. When considering the housing design in Hong Kong, it is commented to be

too alike. Everywhere is facsimiled housing estate and this have a significant impact on the architecture and urban development industry in Hong Kong, in which it is termed as having a gloomy prospect. Therefore, something has to be done to face up to these problems.

As this study does not involve any time-series data, the estimated equation does not provide any forecasting power of residents' attachment trend to certain housing community in Hong Kong. It only provides further insight of the major determinants on residents' housing community attachment behavior. The results may give hints for certain parties, like developers or urban planners, for studying of residents' attachment behavior so as to make or adjust certain residential development or urban planning policies. The result obtained from this study will also be jointly recognized with the results generated by Analytic Hierarchy Process for a further implication and conclusion.

# Chapter 7 Conclusion

## 7.1 The Conclusion

Residential mobility in fact is a valuable subject in understanding consumer behavior in the housing market. Understanding the background and the drive on residential mobility is useful to urban planners and developers. Various researches have suggested numerous determinants in residents' neighbourhood attachment, however unfortunately, little has been done in Hong Kong. This study therefore aims to provide an insight into the micro-"pulling" factors in affecting resident's attachment to their housing community. It is hoped to arouse the interest of the public on the fundamental questions and importance of community cohesiveness in Hong Kong.

Analytic Hierarchy Process and ordered probit regression analysis is used as empirical models to find out the factors contributing to bonding between residents within the community and the willingness of residents' to stay in their housing community respectively. In particular, degree of safety of the housing community and the sense of belonging of residents to their housing community are shown to be the attributes having the highest weighting in determining the bonding between residents. On the other hand, surprisingly, the degree of safety of the housing community and the sense of belonging are also the most significant factors having substantial influence on residents' attachment to their housing community. From the results that the two empirical models being consistent with each other, it can be concluded that "safety" and "sense of belonging" are the most important factors affecting community bonding.

Within the context of the dissertation, Community Quotient is suggested to be constructed in Hong Kong. Community Quotient is originated in the U.S., which is a quantified term used in measuring level of social capital of a community. Social capital can be thought of as the way the people in the community relate to one another and to their community. It is a kind of resources that help to build up a better community for advantages and benefits. Therefore, social capital concerns with the interaction of residents in between. In this dissertation, the author is putting the Community Quotient in an abstract term in which it is referring to the bonding between residents. In short, Community Quotient is a quantified term to quantify the level of bonding between residents within a housing community.

With reference to the results from the empirical models, outcomes from Analytic Hierarchy Process and that from regression analysis are consistent. Also, Community Quotient is regarded as a quantified term for level of bonding between residents. Therefore, base on the fact that significant attributes for bonding between residents and the willingness of residents' to stay in their housing community is the same, it is believed that Community Quotient can act as indicator for residents' community attachment.

Undoubtedly, community cohesiveness and community building have become much more important after various adverse incidences in Hong Kong for the last few years. Community building is also stressed by the Government as neighbourhood cohesiveness can act as a support for the members in the community. Computation of Community Quotient can help to identify the level of bonding between residents within a housing community so as to determine the performance of a particular

housing community for them to implement certain specific action. Establishment of Community Quotient in Hong Kong is therefore meaningful and useful to the study of urban housing demand and urban sustainability in Hong Kong.

Developer may also be interested in taking Community Quotient of different housing community as references for residential development and to attract target buyers. Community Quotient together with the population statistic of the target areas can jointly act as an indicator for developers to plan its property development strategy in the target district as it shows the readiness of residential mobility in certain district. Developers would also like to take note of the implications generated from the results of the regression analysis. As the degree of safety and the sense of belonging to the community are important drives on residents' neighbourhood attachment, it is crucial for developers to find a suitable and professional estate management company for the management work of the building. A good management company is helpful in preventing the occurrence of crime and, at the same time increasing the sense of belonging of the residents to the housing community by caring more on residents.

Last but not least, the computation of Community Quotient can act as an index for home consumer when making home purchasing decisions. After the adverse drop in the residential prices and the SARS incident, physical and neighbourhood factors are becoming a concern when making housing decisions, but not only the price appreciation factor. Therefore, Community Quotient is also useful to housing consumer's housing choice decision.

Whatever happens, community cohesiveness and bonding between residents is valuable and is a significant subject that need to be recognized in Hong Kong. It is a fundamental prerequisite for building a more comfortable and a more harmonized environment in Hong Kong and to make Hong Kong into a better living place in the world.

## 7.2 Limitations in this Study

The limitations of this study are basically in two-fold:

### 7.2.1 Inadequate data for the Analytic Hierarchy Process

In this study, the Analytic Hierarchy Process is used as a methodology for studying the priority of different attributes towards the bonding of people within a housing community. In a normal and formal implementation of Analytic Hierarchy Process, the group of invited interviewees are required to perform the process under the supervision of the interviewer, in this case is the author of this dissertation, so that they can be asked to re-evaluate their results and re-correct them immediately if the consistency of their results are higher than 0.1. However, in the process of doing this research, it is impossible to include all the invited interviewees to complete the questionnaires together under the supervision of the author. Therefore, results which are inconsistent will be discarded in this study, leading to an inadequate data for the computation of the process.

### 7.2.2 Lacking time-series data

The computation of Community Quotient is a useful indicator for assessing the housing demand and housing value of Hong Kong. However, this dissertation can be

said as the first of the kind to suggest the computation of Community Quotient in Hong Kong. Information on Community Quotient movement in different housing community is lacked. Due to the limitation of time, it is therefore impossible to assess any correlation between community quotient and housing prices or housing demand in Hong Kong at the time being in this study.

## 7.3 Suggestion on Further Research

In this dissertation, the regression analysis has only taken into account on the general type of factors affecting residential mobility. Neighbourhood attachment is a rather complex study; it involves numerous types of factors to determine the motives for the move of residents and those motives will be changed over time in this ever-changing advanced society. Moreover, different residents have their own set of values driving their move. Hence, there must be factors haven't been included in the regression equation and it is believed that more factors will be needed to be investigated again in the future when the society is becoming more complex.

Continuous studies on attributes affecting neighbourhood attachment are therefore meaningful. Further research can involve more attributes which will provide the researcher with a greater degree of reliability and accuracy in determining the factors affecting residents' willingness to stay in their community. Changes in attributes on neighbourhood attachment can also be compared so as to find out the significant impact over time.

In addition, as the computation of Community Quotient is meaningful and useful to the study of urban housing demand and urban sustainability in Hong Kong, it is

suggested to have a continuous record of Community Quotient in different residential estates in Hong Kong. Further research can then be based on the recorded Community Quotient movement as reference to study the level of social capital and residents' attachment of various housing community.

Further more, studies on the correlation of the recorded Community Quotient with the housing price movement, housing demand and the movement in housing transaction can be carried out. Last but not least, further research can also be done to compare the price movement and the stability of housing transaction volume of particular residential estate, in light of their recorded Community Quotient, with the price movement and housing transaction stability in the overall Hong Kong real estate market. This can then make a further recognition of the importance of Community Quotient in Hong Kong.

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# Appendix I

Suggestion method for Community Quotient computation

---

**Background**

As per the discuss in the dissertation, it is suggested that Community Quotient can be established in Hong Kong for the sake of the Government, urban planners, developers and housing consumers. Community Quotient is originated from the Saguaro Seminar at the John F. Kennedy School of Government, Harvard University in the U.S. The aim of this survey was sought to provide a point-in-time snapshots of levels of social capital throughout the U.S. The calculation of Community Quotient in U.S. can act as an index used in line with the survey for community performances. In Hong Kong, computation of Community Quotient can act as a hint for studying resident's attachment to their housing community. In this section of appendix, the suggested computation method of Community Quotient will be shown and the survey results from TaiKoo Shing, Whampoa Garden and City One Shatin will be used as samples for the their preliminary Community Quotient calculation.

**Suggested Community Quotient calculation method**

As mentioned, the determinants for affecting residents' attachment to their housing community in Hong Kong are as follows:

1. Types of housing estate
2. Age
3. Income level
4. Level of education
5. Volunteering participation
6. Community activities participation
7. Degree of safety
8. Social network
9. Level of trust between neighbours
10. Level of informal socializing
11. Environment of the community
12. Degree of sense of belonging to the community
13. Endurance and tolerance of the community

These thirteen attributes are also used for determining the degree of bonding between residents in a housing community in the dissertation. With reference back to the results from the empirical models, outcomes from Analytic Hierarchy Process and that from regression analysis are consistent. With Community Quotient is indeed a quantfied term for level of bonding between residents and base on the fact that significant attributes for bonding between residents and the willingness of residents' to stay in their housing community is the same, it is believed that these attributes are therefore, can be included to calculation the Community Quotient level of each housing community.

The calculation of the Community Quotient is suggested to follow the following equation:

$$\text{Community Quotient (CQ)} = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12} \text{ and } X_{13})$$

, where $X_i$ is the factors believed to be affecting the quotient. This is the summation value of rating of factors from each household in a housing community.

In this case, there are 13 attributes to the Community Quotient and each of them is believed to affect the quotient in different weighing, therefore the equation comes up with this form:

$$CQ = \sum (X_1W_1, X_2W_2, X_3W_3, X_4W_4, X_5W_5, X_6W_6, X_7W_7, X_8W_8, X_9W_9, X_{10}W_{10}, X_{11}W_{11}, X_{12}W_{12}, X_{13}W_{13})$$

, were $W_i$ is the weighting of each factor.

The following table, which is the finalized weighting of each attribute from the Analytic Hierarchy Process, can be used as references for the weighting of each factor in the equation.

| | **Finalized Weighting** |
|---|---|
| **Types of housing estate** | **0.064342** |
| **Age of household** | **0.042947** |
| **Income level** | **0.047974** |
| **Level of education** | **0.052447** |
| **Volunteering participation** | **0.054737** |
| **Community activities participation** | **0.059132** |
| **Degree of safety** | **0.120579** |
| **Social network** | **0.094974** |
| **Level of trust between neighbours** | **0.108132** |
| **Level of informal socializing** | **0.073289** |
| **Environment of the community** | **0.089** |
| **Degree of sense of belonging to the community** | **0.113711** |
| **Endurance and tolerance of the community** | **0.078737** |

**Example of calculation**

The summation value of each factor can be calculated from Appendix XIII -Data for Regression Analysis

Community Quotient of Taikoo Shing
From Appendix XIII, the summation value of each factor is as follows:

| HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| • | • | • | • | • | • | • | • | • | • | • | • | • |
| • | • | • | • | • | • | • | • | • | • | • | • | • |
| • | • | • | • | • | • | • | • | • | • | • | • | • |
| *4* | *5* | *1* | *4* | *3* | *2* | *4* | *3* | *3* | *2* | *2* | *2* | *2* |
| *3* | *3* | *2* | *1* | *1* | *1* | *4* | *3* | *4* | *1* | *3* | *3* | *2* |
| *2* | *2* | *2* | *1* | *1* | *1* | *4* | *3* | *3* | *1* | *3* | *2* | *2* |
| *2* | *5* | *4* | *4* | *5* | *2* | *5* | *3* | *4* | *4* | *3* | *5* | *3* |
| | | | | | | | | | | | | |
| 287 | 257 | 171 | 303 | 132 | 101 | 379 | 214 | 347 | 154 | 317 | 298 | 254 |

Therefore the Community Quotient of Taikoo Shing is:

$$CQ_{\text{Taikoo Shing}} = \text{HOUSE} \cdot W_{\text{Types of housing}} + \text{AGE} \cdot W_{\text{Age}} + \text{INCOM} \cdot W_{\text{Income level}} + \text{EDU} \cdot W_{\text{Level of education}} + \text{VP} \cdot W_{\text{Volunteering participation}} + \text{CAP} \cdot W_{\text{Community activities participation}} + \text{SAFE} \cdot W_{\text{Degree of safety}} + \text{SN} \cdot W_{\text{Social network}} + \text{TRUST} \cdot W_{\text{Level of trust}} + \text{IS} \cdot W_{\text{Level of informal socializing}} + \text{ENV} \cdot W_{\text{Environment of the community}} + \text{SOB} \cdot W_{\text{Degree of sense of belonging}} + \text{ETC} \cdot W_{\text{Tolerance of the community}}$$

$$= 263.73 \text{ (corr. to 2 dec. place)}$$

The calculation method will also be used for calculating the Community Quotient of Whampoa Garden and City One Shatin.

Community Quotient of Whampoa Garden

The summation value of each factor:

| HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 257 | 349 | 196 | 303 | 122 | 140 | 399 | 271 | 219 | 155 | 324 | 332 | 301 |

$$CQ_{\text{Whampoa Garden}} = HOUSE \cdot W_{\text{Types of housing}} + AGE \cdot W_{\text{Age}} + INCOM \cdot W_{\text{Income level}} + EDU \cdot W_{\text{Level of education}} + VP \cdot W_{\text{Volunteering participation}} + CAP \cdot W_{\text{Community activities participation}} + SAFE \cdot W_{\text{Degree of safety}} + SN \cdot W_{\text{Social network}} + TRUST \cdot W_{\text{Level of trust}} + IS \cdot W_{\text{Level of informal socializing}} + ENV \cdot W_{\text{Environment of the community}} + SOB \cdot W_{\text{Degree of sense of belonging}} + ETC \cdot W_{\text{Tolerance of the community}}$$

$$= 270.95 \text{ (corr. to 2 dec. place)}$$

Community Quotient of City One Shatin

The summation value of each factor:

| HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 277 | 321 | 217 | 297 | 143 | 148 | 383 | 260 | 222 | 162 | 336 | 311 | 300 |

$$CQ_{\text{City One Shatin}} = HOUSE \cdot W_{\text{Types of housing}} + AGE \cdot W_{\text{Age}} + INCOM \cdot W_{\text{Income level}} + EDU \cdot W_{\text{Level of education}} + VP \cdot W_{\text{Volunteering participation}} + CAP \cdot W_{\text{Community activities participation}} + SAFE \cdot W_{\text{Degree of safety}} + SN \cdot W_{\text{Social network}} + TRUST \cdot W_{\text{Level of trust}} + IS \cdot W_{\text{Level of informal socializing}} + ENV \cdot W_{\text{Environment of the community}} + SOB \cdot W_{\text{Degree of sense of belonging}} + ETC \cdot W_{\text{Tolerance of the community}}$$

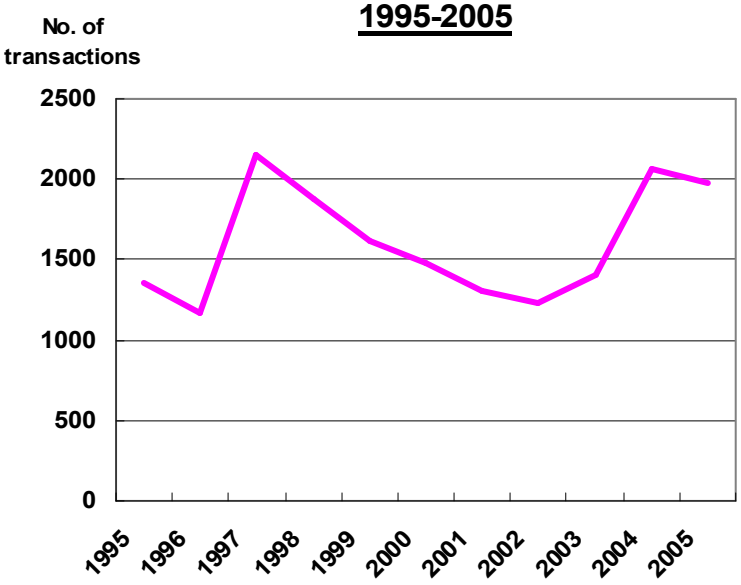
$$= 269.82 \text{ (corr. to 2 dec. place)}$$

From the calculation results, Whampoa Garden is having the highest level of Community Quotient among all. Therefore, the residents living in Whampoa can be said as having a greater willingness to stay in the Whampoa community when compare with the residents living in Taikoo Shing and City One Shatin. And the community performance of Whampoa Garden is believed to be better than that of Taikoo Shing and City One Shatin.

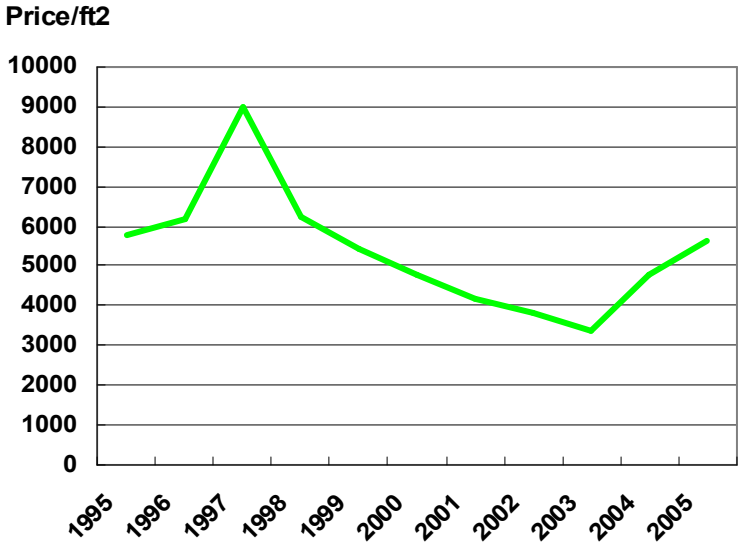
The Community Quotient can be used together with the transaction volume of the residential property in a particular housing community, the residential prices of the housing community and the population of a particular housing estate by developers to act as indicators and references to formulate residential development and selling strategy.

Below are the trends of the transaction volume and the residential prices of Taikoo Shing, Whampoa Garden and City One Shatin as well as the residential price index. They are also shown for references.

**Number of sales transactions of TaiKoo Shing 1995-2005**

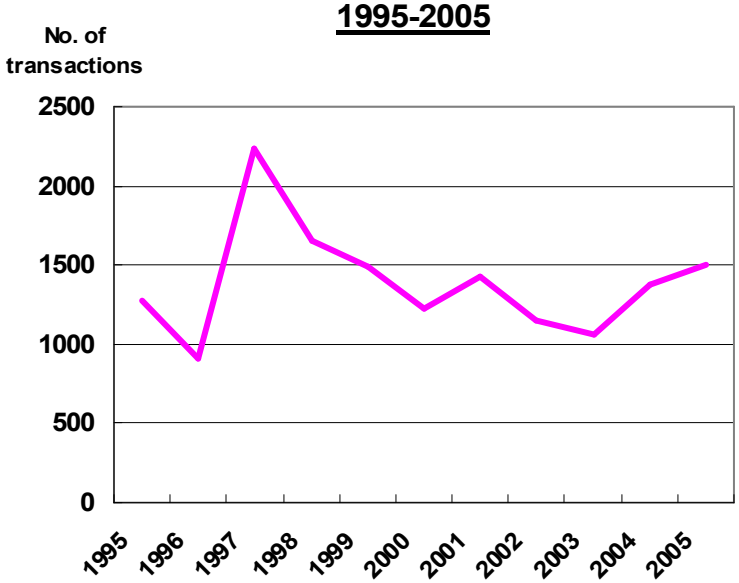



**Average residential transaction prices of Taikoo Shing 1995-2005**

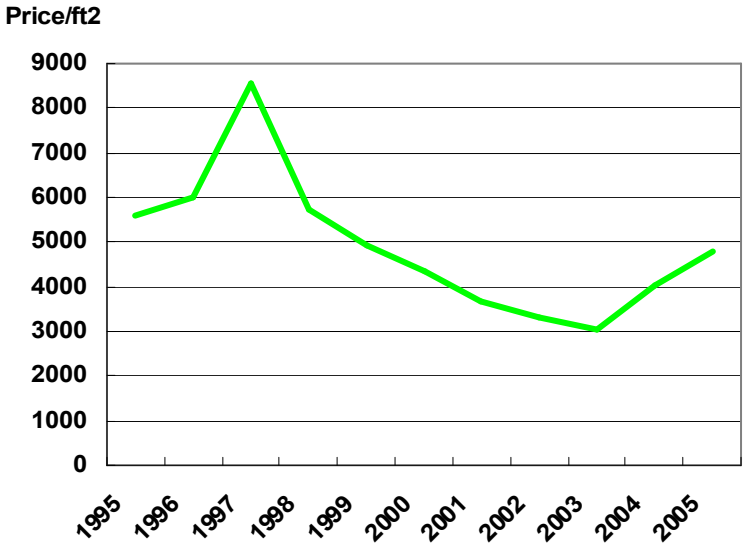



[Source: Economic Property Research Centre Version 5.01]

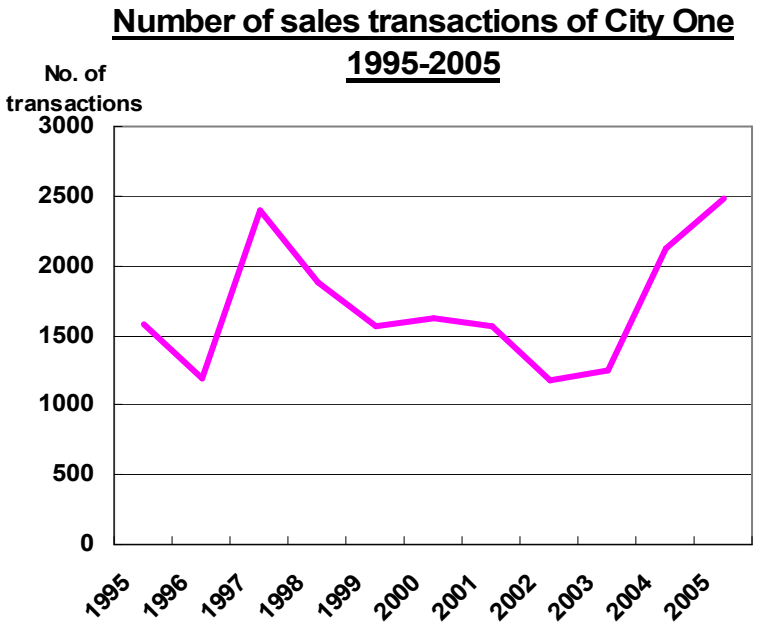
**Number of sales transactions of Whampoa Garden 1995-2005**

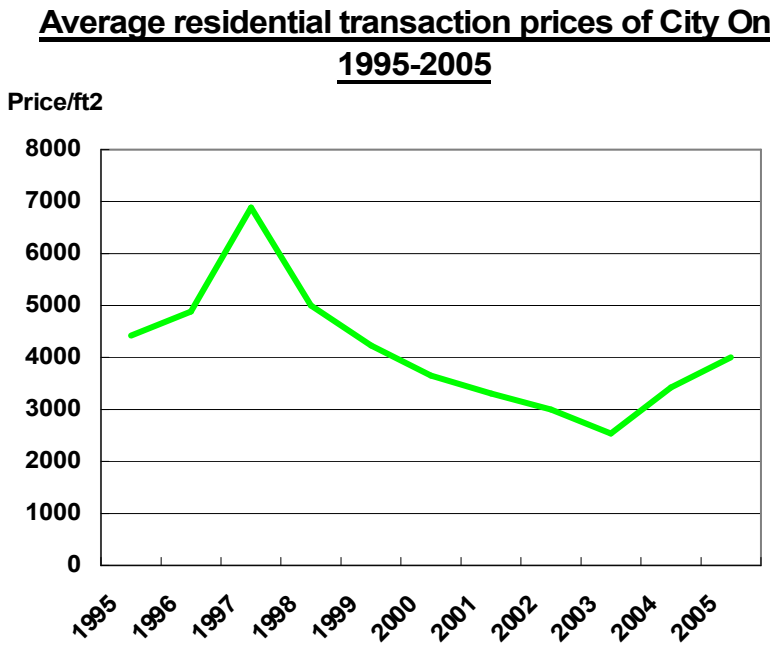



**Average residential transaction prices of Whampoa Garden 1995-2005**

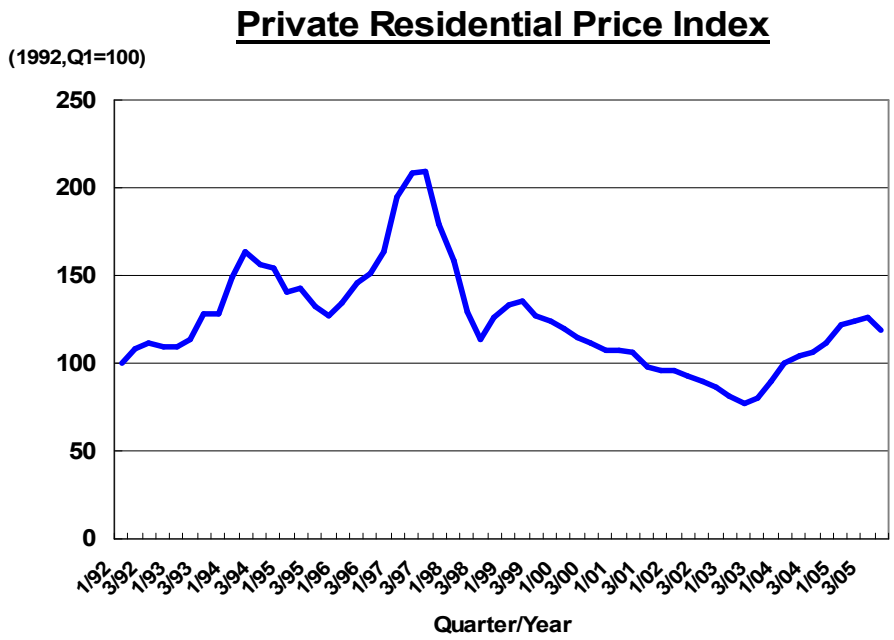



[Source: Economic Property Research Centre Version 5.01]




[Source: Economic Property Research Centre Version 5.01]




[Source: Savills Hong Kong]

## Appendix II

Sample of Questionnaires – For Analytic Hierarchy Process

---

**Faculty of Architecture**
**Department of Real Estate and Construction**
**The University of Hong Kong**

# ASSESSING THE WEIGHTING OF FACTORS AFFECTING THE COMMUNITY QUOTIENT: A PILOT STUDY

The objective of this questionnaire is to assess the importance that you place on various attributes which affect the **bonding within a community, which in turn defined as community quotient in this study**.

This research study is to evaluate the Social Capital of a community. It is focusing on how neighbourhood or the living environment will affect the community bonding between people. Community bonding is quantified as community quotient, which is a function of all the attributes.

The attributes that affect the community quotient and their definition is as follows:

1. **Types of housing estate**
   Kind of housing estate (public or private) citizens are living
2. **Age**
   Average age of citizens within a community
3. **Income level**
   Citizen monthly income
4. **Level of education**
   Education level the citizen obtained
5. **Volunteering participation**
   Frequency of participation of volunteering services within a community

6. **Community activities participation**
   Frequency of participation of estate activities, e.g. day trip, owners' meeting
7. **Degree of safety**
   Frequency of occurrence of criminal offences within a community
8. **Social network**
   How many neighbours one knows or familiarize
9. **Level of trust between neighbours**
   Whether one thinks his neighbours is trustworthy to ask for help
10. **Level of informal socializing**
    Frequency of informal socializing, e.g. home visit, with neighbours
11. **Environment of the community**
    Likelihood of the community environment by the citizen
12. **Degree of sense of belonging to the community**
    Willingness of citizen to stay in the community for holidays
13. **Endurance and tolerance of the community**
    Willingness of citizen to accept different ethic groups and different walks of life within a community

This questionnaire survey is used to assess the relative importance of community bonding related attributes against the other in the same hierarchical level through pairwise comparisons.

## General Information

1. **Your Organization: _____**

2. **Your Gender: ❑ Male ❑ Female**

3. **Your Professional Qualification(s)**

   _____

# Relative Importance of Factors Contributing Community Quotient

This questionnaire uses a pairwise comparison approach to assess the relative importance of one attribute against the other. You should first **decide** whether the **right**-hand-sided or the **left**-hand-sided factor is relatively more important. Then **circle the degree of importance** to indicate how much more important that factor is relative to the other factor in determining the safety performance of a residential building. The table below explains what the degree of importance means:

| Degree of Importance | Description |
|---|---|
| **1** | The two factors are equally important |
| **2-3** | One factor is slightly more important than the other |
| **4-5** | One factor is moderately more important than the other |
| **6-7** | One factor is strongly more important than the other |
| **8-9** | One factor is extremely more important than the other |

The following example demonstrates that among those attributes in *Community Bonding*

- *Degree of Safety* is extremely more important than *Age*,
- *Degree of Safety* is equally important as *Volunteering participation*, and
- *Age* is moderately less important than *Volunteering participation*.

| Example | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Degree of Safety | (9) | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Age |
| Degree of Safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | (1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | (5) | 6 | 7 | 8 | 9 | Volunteering participation |

## Table 1 of 12

| Types of Housing Estate | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | | Slight | | Moderate | | Strong | | Extreme | |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Age |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Income level |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of education |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities participation |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Types of housing estate | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 2 of 12

| Age | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Income level |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of education |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities participation |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Age | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 3 of 12

| Income Level | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of education |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities participation |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Income level | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 4 of 12

| Level of Education | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Volunteering participation |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities participation |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Level of education | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 5 of 12

| Volunteering Participation | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Community activities participation |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Volunteering participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 6 of 12

| Community Activities Participation | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of safety |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Community activities participation | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 7 of 12

| Degree of Safety | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Social network |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Degree of safety | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 8 of 12

| Social Network | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Social network | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of trust between neighbours |
| Social network | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Social network | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Social network | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Social network | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 9 of 12

| Level of Trust between Neighbours | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | |
| Level of trust between neighbours | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Level of informal socializing |
| Level of trust between neighbours | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Level of trust between neighbours | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Level of trust between neighbours | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 10 of 12

| Level of Informal Socializing | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | |
| Level of informal socializing | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Environment of the community |
| Level of informal socializing | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Level of informal socializing | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 11 of 12

| Environment of the Community | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Environment of the community | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Degree of sense of belonging |
| Environment of the community | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

## Table 12 of 12

| Degree of sense of belonging | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extreme | | Strong | | Moderate | | Slight | | Equal | Slight | | Moderate | | Strong | | Extreme | | |
| Degree of sense of belonging | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Endurance and tolerance of the community |

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**END OF QUESTIONNAIRE**

**Thank you!**

**Appendix IIIA**

Sample of Questionnaires – For Regression Analysis (Chinese)

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# 香港大學房地產及建設系
# 社會資本問卷

在下列的問題中, 請選擇或填寫最適當的答案.

[1] 被訪者資料
i.閣下年齡(填寫問卷者) a.18 歲以下_____, b.18-24 歲_____, c.25-34 歲, d.35-49 歲, e.50 歲以上_____
ii.性別_____,iii.居住年期_____, iv 家庭共有多少位成員? _____
v.出生地 a. 香港_____, b.內地/澳門_____, c. 其他_____
vi.所在屋村/社區_____

[2] 職業_____

[3] 您有在社區裡當義工嗎?
否,從不 是,時常 (每週最少一次)
1 2 3 4 5

[4] 您所在的社區安全嗎?
否,十分不安全 是,十分安全
1 2 3 4 5

[5] 閣下/家人認識幾多個鄰居? (請√)
a. 差不多(屋村/社區內)每個_____, b. (屋村/社區內)多數_____
c. (屋村/社區內)一半_____, d. 很少_____
e. 只有同座/隔壁鄰居_____, f. 沒有_____

[6] 您會常常探訪鄰居嗎?
否,從不 是,時常 (每週最少一次)
1 2 3 4 5

[7] 閣下與社區之間的關係 :
(請根據所列的程度圈出答案: 1. 非常不同意 → 5. 非常同意)

| | | | | | |
|---|---|---|---|---|---|
| i. 您喜歡在同一社區成長 | 1 | 2 | 3 | 4 | 5 |
| ii. 您喜歡小的鄰舍或社區 | 1 | 2 | 3 | 4 | 5 |
| iii. 您喜歡鄰居或社區包含有全部階層的人 | 1 | 2 | 3 | 4 | 5 |
| iv. 您喜歡留在鄰舍或社區 | 1 | 2 | 3 | 4 | 5 |
| v. 青少年/小孩在社區內可以容易觀察/感受成年人之 | | | | | |

間的溝通及行為對他們的成長很重要　　1　2　3　4　5
vi. 社區的設計/環境經常影響您(及家人)的情緒　　1　2　3　4　5

[8] 當您最需要幫助的時候, 您可從鄰居中獲得援手嗎?
否,從不　　是,時常可以
1　2　3　4　5

[9] 過去 6 個月內,閣下有否在屋村內至陌生鄰居聊天? (請√)
a. 經常_____　　b. 不多_____　　c. 從未_____

[10] 過去十二個月內,閣下/家人參與在屋村內的社區/居民活動幾多次? (請√)
a. 差不多每個活動_____
b. 差不多一半的活動_____
c. 三分之一的活動_____
d. 從未參加過_____

[11] 如您與鄰居有爭執(如嘈音或狗隻等)時,您會主動找他/她討論嗎?
否, 從不　　是, 絕對會
1　2　3　4　5

[12] 您目前居住的房子是自置物業嗎?
a.是　　b.否

[13] 在搬進目前居住的房子之前, 您在什麼類型的房屋居住呢? 有多久?
a.木屋　　b.臨屋　　c.公屋　　d.出售公屋　　e. 私人房屋
f.宿舍　　_____ 年

[14] 您十來歲 (即青少年階段) 的時候居住在什麼類型的房屋呢? 有多久?
a.木屋　　b.臨屋　　c.公屋　　d.出售公屋　　e. 私人房屋
f.宿舍　　_____年

[15] 您覺得上述這段時間的居住環境(房屋類型)對您今天的人生觀和成就有多大影响呢?
毫無關係　　十分大影响
1　2　3　4　5

[16] 您每月全户的收入大概為
a. <HK$15,000
b. HK$15000-HK$25,000
c. HK$25000-HK$40,000
d. >HK$40,000

[17] 您的學歷程度為

a. 小學程度_____
b. 初中程度_____
c. 中五程度_____
d. 預科程度_____
e. 大專程度_____
f. 大學或以上_____

## Appendix IIIB

Sample of Questionnaires – For Regression Analysis (English)

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**The Social Capital Community Questionnaire**
**Department of Real Estate & Construction**
**University of Hong Kong**

This questionnaire is part of the evaluation of the Social Capital Project and is funded by a CRGC Grant.

For the following questions, please choose or give the most appropriate answers.

[1] Personal Particulars
i. Age (Interviewee) a. Below 18_____, b.18-24_____, c.25-34, d.35-49,
e. Above 50_____
ii. Sex_____,
iii. Duration of Study_____
iv. Number of Household Members_____
v. Place of Birth a. HK_____, b. Mainland/Macao_____, c. Others_____
iv. Which estate/district do you live? _____

[2] What is your occupation? _____

[3 Do you participate in local group activities as a volunteer?

| No, never | | | | Yes, often (at least once a week) |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

[4] Does your neighbourhood have a reputation for being a safe place?

| No, not much | | | | Yes, very much |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

[5] How many neighbours do you know (Please tick √)?
a. Almost everyone in all housing blocks_____, b. Most of them_____,
c. Half of them_____, d. Very few_____,
e. Only those in the same block/adjacent_____, f. None_____

[6] Do you visit your neighbour(s) regularly?

| No, never | | | | Yes, often (at least once a week) |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

[7] Relationship between you and your local community:
Please circle the most appropriate answer:
(1. Totally disagree → 5. Totally agree)

i. Do you like growing up in your community?
1 2 3 4 5

ii. Do you like your neighbours or community? 1 2 3 4 5

iii. Do you feel good if your community consists of all walks of life? 1 2 3 4 5

iv. Do you like staying in your community? 1 2 3 4 5

v. Do you agree that observing and experiencing communications among adults is also a learning process for children and teenagers?
1 2 3 4 5

vi. Does your community's design and environment have an influence on your emotion? 1 2 3 4 5

[8] Can you get help from your neighbours when you need it the most?

No, not much Yes, very much

1 2 3 4 5

[9] Have you chatted with your neighbours whom you are not familiar in the past six months (Please tick √)?

a. Always_____ b. Occasionally_____ c. Never_____

[10] How many times have you or your household members participated in local community events during the past twelve months? (Please tick √)

a. Almost all events_____

b. About half of the events_____

c. One-third of the events_____

d. Never_____

[11] If you have a dispute (e.g. over noise or dogs) with your neighbours, will you seek mediation?

No, never Yes, definitely

1 2 3 4 5

[12] Do you own the apartment you are living in?

a. Yes b. No

[13] Which type of housing had you lived in before you moved into your current apartment, and how long?

a. Squatter b. Temporary c. Public d. Public Sale e. Private

_____ years

[14] Which type of housing had you lived in when you were a teenager, and for how long?

a. Squatter b. Temporary c. Public d. Public Sale e. Private

_____ years

[15] Do you think that the living environment (the type of housing estate) during your years growing up had an impact on your judgment on success?

No, not at all Yes, very much

1 2 3 4 5

[16] How much is your current monthly household income?

a. <HK$18,000
b. HK$18000-HK$25,000
c. HK$25,000-HK$40,000
d. >HK$40,000

[17] What is the maximum educational level you have attained?

a. Primary Education_____
b. Form 3_____
c. Form 5_____
d. Upper Six_____
e. Tertiary Education (Non-degree)_____
f. University or Above_____

## Appendix IV

Raw data from the Questionnaires – For Regression Analysis

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There are altogether 270 questionnaires collected from 3 private housing estate in Hong Kong (Taikoo Shing, Whampoa Garden and City One Shatin). The frequency of each answers are stated in the corresponding position in blue, if appropriate.

# 香港大學房地產及建設系
# 社會資本問卷

在下列的問題中，請選擇或填寫最適當的答案.

[1] 被訪者資料
i. 閣下年齡(填寫問卷者) a. 18 歲以下__35__, b. 18-24 歲__39__, c. 25-34 歲,__28__
d. 35-49 歲__110__, e. 50 歲以上__58__
ii. 性別__F: 157　M: 103____, iii. 居住年期_____, iv 家庭共有多少位成員? _____
v. 出生地　a. 香港__197____, b. 內地/澳門__58____, c. 其他__13____
vi. 所在屋村/社區_____

[2] 職業_____

[3] 您有在社區裡當義工嗎?

| 否,從不 | | | | 是,時常（每週最少一次） |
|---|---|---|---|---|
| 194 | 41 | 23 | 8 | 4 |

[4] 您所在的社區安全嗎?

| 否,十分不安全 | | | | 是,十分安全 |
|---|---|---|---|---|
| 0 | 2 | 20 | 143 | 105 |

[5] 閣下/家人認識幾多個鄰居? (請√)
a. 差不多(屋村/社區內)每個__3____, b. (屋村/社區內)多數__28____
c. (屋村/社區內)一半__19____, d. 很少__112____
e. 只有同座/隔壁鄰居__67____, f. 沒有__41____

[6] 您會常常探訪鄰居嗎?

| 否,從不 | | | | 是,時常（每週最少一次） |
|---|---|---|---|---|
| 151 | 60 | 44 | 7 | 8 |

[7] 閣下與社區之間的關係 :
(請根據所列的程度圈出答案:　1. 非常不同意 → 5. 非常同意)

| | | | | | | |
|---|---|---|---|---|---|---|
| i. 您喜歡在同一社區成長 | | 12 | 34 | 78 | 103 | 43 |
| ii. 您喜歡小的鄰舍或社區 | | | 37 | 68 | 79 | 72 | 14 |
| iii. 您喜歡鄰居或社區包含有全部階層的人 | | 16 | 62 | 82 | 76 | 33 |

iv. 您喜歡留在鄰舍或社區 10 28 99 85 47
v. 青少年/小孩在社區內可以容易觀察/感受成年人之間的溝通及行為對他們的成長很重要 3 14 46 103 102
vi. 社區的設計/環境經常影響您(及家人)的情緒 16 21 66 109 57

[8] 當您最需要幫助的時候, 您可從鄰居中獲得援手嗎?
否,從不 是,時常可以
63 41 48 91 27

[9] 過去 6 個月內,閣下有否在屋村內至陌生鄰居聊天?(請√)
a. 經常__16____ b. 不多__120____ c. 從未__134____

[10] 過去十二個月內,閣下/家人參與在屋村內的社區/居民活動幾多次?(請√)
a. 差不多每個活動__7____
b. 差不多一半的活動__13____
c. 三分之一的活動__72____
d. 從未參加過__178____

[11] 如您與鄰居有爭執(如嘈音或狗隻等)時,您會主動找他/她討論嗎?
否, 從不 是, 絕對會
178 41 24 13 10

[12] 您目前居住的房子是自置物業嗎?
a.是 231 b.否 37
[13] 在搬進目前居住的房子之前, 您在什麼類型的房屋居住呢? 有多久?
a.木屋 0 b.臨屋 0 c.公屋 44 d.出售公屋 10 e.私人房屋 207
f.宿舍 5 _____ 年

[14] 您十來歲(即青少年階段)的時候居住在什麼類型的房屋呢? 有多久?
a.木屋 9 b.臨屋 0 c.公屋 67 d.出售公屋 5
e.私人房屋 179
f.宿舍 3 _____年

[15] 您覺得上述這段時間的居住環境(房屋類型)對您今天的人生觀和成就有多大影响呢?
毫無關係 十分大影响
38 43 82 84 23

[16] 您每月全户的收入大概為
a. <HK$15,000 36
b. HK$15000-HK$25,000 47
c. HK$25000-HK$40,000 112
d. >HK$40,000 75

[17] 您的學歷程度為

a. 小學程度__28____
b. 初中程度__43____
c. 中五程度__77____
d. 預科程度__25____
e. 大專程度__40____
f. 大學或以上__57____

## Appendix V

Raw questionnaire data from Taikoo Shing

| | 1 (i) | 1 (ii) | 1 (iii) | 1 (iv) | 1 (v) | 2 | 3 | 4 | 5 | 6 | 7 (i) | 7 (ii) | 7 (iii) | 7 (iv) | 7 (v) | 7 (vi) | 8 | 9 | 10 | 11 | 12 | 13i | 13ii | 14i | 14ii | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | b | f | 9 | 4 | a | management assistant | 1 | 5 | e | 1 | 4 | 2 | 3 | 5 | 3 | 4 | 4 | c | d | 5 | a | e | 14 | e | 9 | 1 | b | f |
| 2 | b | m | 14 | 3 | a | student | 1 | 5 | e | 1 | 5 | 4 | 4 | 4 | 5 | 5 | 3 | c | d | 2 | a | e | 5 | e | 14 | 4 | c | f |
| 3 | b | M | 9 | 4 | a | student | 1 | 4 | e | 1 | 4 | 3 | 4 | 5 | 4 | 5 | 4 | c | d | 3 | a | c | 10 | e | 9 | 4 | b | f |
| 4 | b | f | 19 | 4 | a | student | 1 | 5 | f | 1 | 3 | 2 | 4 | 5 | 3 | 4 | 4 | c | d | 1 | a | e | 19 | e | 19 | 5 | d | f |
| 5 | b | f | 11 | 3 | a | Student | 1 | 4 | f | 1 | 2 | 3 | 2 | 3 | 4 | 3 | 3 | c | d | 1 | a | e | 8 | e | 11 | 2 | c | e |
| 6 | d | m | 6 | 4 | b | retail | 1 | 4 | e | 2 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | c | d | 2 | a | e | 14 | a | 15 | 4 | c | d |
| 7 | b | M | 19 | 4 | a | stuent | 1 | 5 | f | 1 | 4 | 2 | 3 | 4 | 5 | 5 | 4 | c | d | 1 | a | e | 19 | e | 19 | 4 | d | e |
| 8 | d | f | 4 | 4 | a | housewife | 1 | 4 | e | 1 | 4 | 3 | 2 | 3 | 5 | 4 | 4 | b | d | 2 | a | e | 5 | e | 20 | 3 | c | c |
| 9 | c | f | 10 | 3 | a | bank | 1 | 4 | d | 2 | 3 | 3 | 2 | 4 | 4 | 5 | 4 | b | d | 3 | a | e | 15 | e | 10 | 3 | b | e |
| 10 | b | f | 4 | 4 | a | student | 1 | 3 | d | 3 | 3 | 4 | 3 | 3 | 5 | 3 | 3 | b | d | 1 | b | e | 5 | e | 4 | 5 | c | e |
| 11 | c | f | 10 | 4 | a | student | 2 | 5 | d | 2 | 3 | 4 | 3 | 3 | 5 | 4 | 4 | c | d | 1 | a | e | 6 | e | 10 | 4 | c | f |
| 12 | d | f | 8 | 2 | a | teacher | 1 | 5 | d | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | c | d | 2 | a | c | 12 | c | 12 | 3 | c | e |
| 13 | e | m | 23 | 3 | a | retired | 1 | 4 | e | 1 | 4 | 2 | 4 | 4 | 4 | 2 | 4 | b | d | 2 | a | e | 5 | e | 19 | 3 | c | b |
| 14 | d | f | 6 | 3 | a | secretary | 1 | 5 | e | 1 | 3 | 1 | 2 | 3 | 4 | 5 | 4 | c | d | 1 | b | d | 8 | e | 10 | 3 | c | d |
| 15 | d | f | 3 | 3 | a | housewife | 1 | 4 | e | 1 | 4 | 2 | 3 | 4 | 4 | 5 | 4 | b | d | 2 | a | e | 14 | e | 20 | 3 | d | c |
| 16 | e | f | 10 | 5 | a | retired | 1 | 5 | e | 1 | 5 | 3 | 3 | 5 | 4 | 4 | 4 | c | d | 1 | a | c | 20 | a | 15 | 2 | d | a |
| 17 | a | f | 14 | 5 | b | student | 1 | 4 | d | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 5 | c | d | 2 | a | c | 2 | e | 14 | 4 | c | c |
| 18 | a | f | 15 | 5 | a | student | 2 | 5 | d | 2 | 3 | 4 | 1 | 3 | 4 | 3 | 4 | c | d | 2 | a | e | 15 | e | 15 | 3 | c | b |
| 19 | a | m | 13 | 3 | a | student | 2 | 4 | e | 1 | 3 | 4 | 3 | 2 | 5 | 3 | 4 | c | d | 2 | a | e | 13 | e | 13 | 4 | d | b |
| 20 | b | m | 12 | 4 | a | student | 1 | 4 | f | 1 | 3 | 2 | 4 | 3 | 4 | 2 | 4 | c | d | 4 | a | e | 9 | e | 12 | 4 | d | f |
| 21 | c | f | 32 | 4 | a | secretary | 1 | 3 | d | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | b | c | 1 | b | e | 6 | c | 10 | 2 | c | d |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | a | f | 6 | 3 | a | student | 1 | 5 | d | 2 | 4 | 3 | 3 | 4 | 4 | 5 | 4 | c | d | 1 | a | e | 6 | e | 6 | 3 | b | a |
| 23 | a | f | 7 | 4 | a | student | 1 | 5 | d | 3 | 2 | 3 | 2 | 4 | 3 | 3 | 5 | c | d | 1 | b | e | 5 | e | 7 | 4 | c | b |
| 24 | e | f | 14 | 2 | a | houserwife | 1 | 5 | d | 3 | 4 | 3 | 2 | 4 | 3 | 3 | 5 | b | d | 1 | a | c | 25 | e | 16 | 4 | c | b |
| 25 | e | m | 19 | 6 | b | retired | 1 | 4 | d | 3 | 4 | 4 | 3 | 3 | 5 | 3 | 4 | b | d | 2 | a | e | 15 | e | 15 | 1 | d | b |
| 26 | b | f | 10 | 4 | a | student | 2 | 5 | d | 2 | 3 | 4 | 4 | 3 | 4 | 4 | 4 | c | d | 1 | a | e | 6 | e | 10 | 4 | c | e |
| 27 | b | M | 11 | a | a | student | 1 | 4 | e | 1 | 3 | 2 | 3 | 3 | 3 | 3 | 4 | c | d | 1 | a | e | 8 | e | 11 | 4 | c | d |
| 28 | b | m | 7 | 4 | a | student | 1 | 4 | f | 1 | 2 | 3 | 2 | 3 | 4 | 3 | 3 | c | d | 1 | a | e | 12 | e | 7 | 2 | c | e |
| 29 | e | m | 6 | 2 | b | travel agency company | 1 | 5 | e | 1 | 4 | 2 | 3 | 3 | 3 | 4 | 4 | c | d | 3 | a | e | 23 | c | 14 | 4 | c | e |
| 30 | e | f | 13 | 4 | b | retired | 1 | 4 | d | 5 | 5 | 2 | 3 | 3 | 4 | 3 | 5 | b | d | 1 | a | c | 20 | e | 16 | 4 | c | a |
| 31 | d | m | 12 | 4 | a | insurance | 1 | 4 | f | 1 | 3 | 3 | 2 | 4 | 3 | 3 | 4 | c | d | 1 | a | e | 9 | e | 12 | 4 | c | f |
| 32 | d | f | 10 | 4 | b | housewife | 1 | 5 | d | 2 | 4 | 2 | 2 | 4 | 4 | 5 | 4 | c | d | 1 | b | e | 5 | e | 12 | 3 | d | f |
| 33 | d | f | 13 | 4 | a | housewife | 1 | 4 | e | 1 | 4 | 3 | 4 | 2 | 4 | 5 | 4 | c | d | 1 | a | e | 18 | e | 15 | 4 | c | c |
| 34 | c | f | 4 | 3 | a | accountant | 1 | 4 | d | 1 | 4 | 3 | 3 | 4 | 4 | 4 | 4 | c | d | 1 | b | e | 3 | e | 20 | 4 | d | f |
| 35 | e | f | 11 | 5 | c | retired | 1 | 4 | d | 2 | 4 | 2 | 3 | 3 | 4 | 3 | 4 | b | d | 1 | a | c | 20 | e | 20 | 2 | c | b |
| 36 | c | f | 2 | 4 | a | retail | 1 | 4 | d | 2 | 3 | 4 | 3 | 4 | 4 | 4 | 5 | c | d | 1 | a | e | 10 | e | 18 | 3 | c | d |
| 37 | e | m | 13 | 2 | b | retired | 3 | 4 | d | 3 | 5 | 3 | 3 | 5 | 3 | 4 | 4 | b | c | 1 | a | e | 14 | e | 20 | 3 | d | b |
| 38 | d | f | 9 | 4 | a | clerk | 1 | 4 | d | 2 | 4 | 3 | 2 | 4 | 5 | 4 | 4 | c | d | 1 | a | e | 3 | e | 10 | 3 | c | d |
| 39 | d | f | 10 | 4 | b | housewife | 1 | 4 | d | 1 | 4 | 4 | 3 | 5 | 4 | 4 | 4 | b | d | 2 | a | e | 9 | e | 17 | 4 | c | c |
| 40 | c | f | 8 | 4 | a | promotion assistant | 1 | 5 | e | 1 | 3 | 2 | 4 | 3 | 4 | 4 | 4 | c | d | 1 | a | e | 20 | e | 14 | 3 | d | e |
| 41 | a | m | 4 | 5 | b | student | 1 | 4 | d | 1 | 3 | 3 | 4 | 3 | 4 | 4 | 5 | c | d | 2 | b | e | 10 | e | 4 | 4 | c | c |
| 42 | d | f | 18 | 4 | a | housewife | 2 | 4 | e | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | c | d | 4 | a | e | 2 | c | 10 | 2 | c | d |
| 43 | d | m | 17 | 3 | c | salon | 1 | 4 | d | 2 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | c | d | 2 | a | e | 20 | e | 15 | 4 | c | c |
| 44 | e | M | 34 | 6 | b | retired | 3 | 4 | d | 2 | 2 | 3 | 2 | 3 | 4 | 2 | 3 | b | c | 3 | a | e | 12 | e | 7 | 3 | c | a |
| 45 | b | m | 11 | 4 | a | student | 1 | 5 | d | 1 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | c | d | 3 | a | e | 12 | e | 11 | 3 | c | f |
| 46 | e | f | 10 | 3 | c | 開舖 | 2 | 3 | d | 4 | 4 | 2 | 2 | 3 | 4 | 3 | 3 | c | d | 2 | a | c | 18 | a | 15 | 4 | b | c |
| 47 | c | f | 3 | 2 | a | agent | 1 | 5 | e | 1 | 4 | 3 | 2 | 3 | 3 | 3 | 2 | c | d | 1 | a | c | 18 | e | 7 | 3 | c | d |
| 48 | c | m | 18 | 4 | a | advertisement | 1 | 4 | e | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | c | d | 1 | a | e | 7 | e | 18 | 4 | d | f |

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| 49 | c | f | | 4 | a | resturant | 1 | 5 | d | 1 | 3 | 2 | 4 | 4 | 4 | 3 | 4 | a | d | 2 | a | e | 23 | e | 23 | 3 | c | c |
| 50 | e | m | 13 | 5 | b | retired | 1 | 4 | d | 2 | 5 | 2 | 3 | 4 | 4 | 3 | 5 | c | d | 1 | a | c | 25 | a | 17 | 5 | d | a |
| 51 | a | f | 5 | 4 | a | student | 2 | 5 | d | 3 | 3 | 4 | 3 | 4 | 2 | 3 | 4 | c | d | 1 | a | e | 9 | e | 5 | 4 | c | b |
| 52 | a | f | 10 | 3 | b | student | 2 | 4 | e | 1 | 4 | 3 | 4 | 3 | 3 | 3 | 4 | c | d | 1 | a | e | 4 | e | 10 | 2 | c | b |
| 53 | b | f | 9 | 4 | c | student | 1 | 4 | e | 1 | 4 | 4 | 1 | 4 | 4 | 4 | 2 | c | d | 1 | a | e | 10 | e | 9 | 4 | c | f |
| 54 | b | m | 8 | 3 | a | waiter | 1 | 5 | d | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | c | d | 2 | a | e | 14 | e | 8 | 3 | c | c |
| 55 | a | f | 9 | 4 | a | student | 3 | 4 | e | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | c | d | 3 | a | e | 9 | e | 9 | 3 | b | a |
| 56 | a | f | 4 | 3 | a | student | 1 | 4 | d | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | c | d | 1 | a | e | 7 | e | 4 | 4 | c | a |
| 57 | d | f | 12 | 4 | a | property management | 1 | 4 | d | 1 | 4 | 1 | 2 | 4 | 5 | 5 | 4 | c | d | 2 | a | e | 8 | e | 9 | 4 | d | f |
| 58 | b | f | 8 | 3 | a | student | 1 | 4 | d | 1 | 2 | 3 | 2 | 4 | 5 | 3 | 4 | c | d | 1 | a | c | 12 | e | 8 | 3 | c | e |
| 59 | a | f | 4 | 5 | a | student | 2 | 4 | e | 1 | 4 | 3 | 2 | 2 | 3 | 4 | 4 | c | d | 3 | b | e | 2 | e | 4 | 3 | c | b |
| 60 | a | f | 5 | 3 | a | student | 3 | 5 | e | 1 | 3 | 2 | 2 | 4 | 4 | 4 | 3 | b | c | 2 | b | e | 6 | e | 5 | 3 | d | c |
| 61 | e | f | 19 | 4 | b | retail | 1 | 4 | e | 2 | 3 | 4 | 3 | 3 | 3 | 4 | 4 | c | d | 2 | a | e | 14 | e | 15 | 4 | c | b |
| 62 | d | M | 34 | 6 | b | retired | 3 | 4 | d | 2 | 2 | 3 | 2 | 3 | 4 | 2 | 3 | b | c | 4 | a | e | 7 | e | 12 | 4 | c | a |
| 63 | b | f | 13 | 4 | a | student | 1 | 4 | d | 1 | 3 | 2 | 3 | 4 | 3 | 4 | 4 | c | d | 2 | a | e | 9 | e | 1 | 2 | d | f |
| 64 | a | m | 5 | 3 | a | student | 1 | 5 | f | 1 | 2 | 2 | 4 | 4 | 3 | 3 | 4 | c | d | 1 | b | e | 10 | e | 5 | 1 | d | b |
| 65 | e | f | 50 | 6 | a | 2 | 4 | 3 | a | 3 | 4 | 3 | 2 | 4 | 4 | 3 | 3 | b | c | 2 | a | e | 10 | e | 4 | 2 | d | c |
| 66 | a | f | 14 | 5 | c | student | 3 | 4 | d | 3 | 4 | 3 | 2 | 3 | 4 | 3 | 4 | b | d | 1 | a | e | 14 | e | 14 | 3 | c | b |
| 67 | b | f | 6 | 4 | a | 賣衫 | 1 | 5 | e | 1 | 3 | 3 | 4 | 4 | 3 | 4 | 5 | c | d | 1 | a | e | 12 | e | 12 | 2 | c | c |
| 68 | b | m | 8 | 5 | a | student | 1 | 4 | d | 2 | 4 | 3 | 2 | 3 | 4 | 3 | 4 | c | d | 2 | a | c | 10 | e | 8 | 3 | b | d |
| 69 | a | m | 7 | 4 | a | student | 3 | 4 | e | 1 | 3 | 3 | 2 | 3 | 4 | 2 | 5 | c | d | 2 | a | c | 8 | e | 7 | 2 | c | b |
| 70 | a | f | 3 | 5 | b | student | 1 | 3 | d | 1 | 3 | 4 | 4 | 3 | 3 | 2 | 3 | c | d | 1 | b | e | 5 | e | 3 | 2 | d | b |
| 71 | b | f | 14 | 4 | a | nurse | 2 | 4 | d | 2 | 2 | 3 | 4 | 3 | 4 | 4 | 4 | c | d | 2 | a | e | 10 | e | 14 | 1 | d | f |
| 72 | e | f | 25 | 5 | b | housewife | 1 | 4 | d | 1 | 4 | 3 | 4 | 3 | 4 | 3 | 5 | c | d | 2 | a | e | 12 | e | 13 | 4 | c | b |
| 73 | b | f | 6 | 3 | b | student | 1 | 4 | d | 1 | 2 | 3 | 2 | 4 | 5 | 3 | 4 | c | d | 1 | b | e | 10 | e | 6 | 3 | d | d |
| 74 | d | M | 12 | 4 | a | 採購 | 1 | 4 | d | 1 | 2 | 3 | 2 | 3 | 4 | 2 | 3 | c | d | 1 | a | e | 10 | e | 4 | 3 | c | a |
| 75 | e | f | 10 | 3 | b | retired | 3 | 4 | d | 3 | 4 | 3 | 3 | 3 | 4 | 4 | 4 | c | d | 1 | a | e | 30 | a | 20 | 3 | a | c |

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| 76 | a | m | 12 | 4 | a | student | 1 | 4 | d | 2 | 4 | 3 | 2 | 3 | 3 | 3 | 4 | c | d | 2 | a | e | 12 | e | 12 | 3 | b | b |
| 77 | b | m | 11 | 4 | a | student | 3 | 4 | e | 3 | 4 | 2 | 3 | 3 | 4 | 3 | 5 | b | d | 2 | a | e | 1 | e | 11 | 3 | c | e |
| 78 | a | f | 10 | 5 | a | student | 2 | 4 | e | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 1 | b | d | 2 | a | e | 6 | e | 10 | 3 | b | c |
| 79 | e | f | 18 | 5 | b | 義工 | 1 | 4 | d | 1 | 4 | 4 | 1 | 4 | 5 | 4 | 5 | a | b | 1 | a | e | 6 | e | 14 | 4 | c | d |
| 80 | a | f | 2 | 6 | a | student | 1 | 4 | e | 1 | 2 | 3 | 4 | 3 | 4 | 3 | 3 | b | d | 3 | b | e | 14 | e | 2 | 3 | c | a |
| 81 | b | f | 6 | 4 | a | student | 1 | 4 | d | 1 | 1 | 2 | 2 | 4 | 3 | 4 | 4 | c | d | 1 | a | e | 13 | e | 6 | 3 | c | e |
| 82 | b | f | 11 | 4 | a | student | 2 | 3 | d | 5 | 1 | 4 | 3 | 4 | 2 | 4 | 3 | b | d | 2 | b | c | 11 | c | 11 | 4 | b | f |
| 83 | a | f | 7 | 4 | a | student | 1 | 4 | e | 1 | 4 | 3 | 4 | 4 | 3 | 4 | 4 | c | d | 1 | a | e | 3 | e | 7 | 3 | c | a |
| 84 | e | m | 5 | 4 | c | lawyer | 3 | 4 | d | 3 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | b | c | 3 | a | d | 10 | e | 10 | 4 | d | f |
| 85 | b | f | 12 | 4 | a | student | 2 | 4 | d | 1 | 4 | 2 | 2 | 3 | 3 | 4 | 4 | c | d | 1 | a | e | 12 | e | 12 | 4 | d | f |
| 86 | b | m | 2 | 2 | a | 攝影 | 1 | 4 | e | 1 | 3 | 4 | 3 | 2 | 3 | 3 | 4 | c | d | 2 | b | | 一直住 | e | 10 | 2 | b | e |
| 87 | e | f | 3 | 2 | b | retired | 3 | 4 | d | 2 | 2 | 3 | 2 | 4 | 4 | 2 | 3 | b | c | 3 | a | e | 20 | e | 13 | 4 | d | c |
| 88 | c | m | 4 | 3 | a | teacher | 1 | 4 | d | 1 | 3 | 3 | 2 | 4 | 5 | 3 | 4 | c | d | 1 | a | e | 10 | e | 5 | 3 | c | f |
| 89 | b | m | 14 | 4 | c | student | 1 | 4 | d | 1 | 2 | 2 | 2 | 4 | 4 | 3 | 3 | b | d | 1 | a | c | 6 | e | 14 | 2 | c | f |
| 90 | e | f | 12 | 2 | b | 義工 | 5 | 5 | d | 4 | 5 | 2 | 3 | 4 | 4 | 3 | 4 | a | c | 2 | a | e | 15 | a | 20 | 2 | a | c |

## Appendix VI

Raw questionnaire data from Whampoa Garden

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | | | | | | | | | | | 7 | | 7 | | | | | | | 13i | | | | 1 |
| 1 (i) | 1 (ii) | 1 (iii) | 1 (iv) | 1 (v) | 2 | 3 | 4 | 5 | 6 | 7 (i) | 7 (ii) | 7 (iii) | (iv) | 7 (v) | (vi) | 8 | 9 | 10 | 11 | 12 | 13i | i | 14i | 14ii | 15 | 16 | 17 |
| 1 | e | m | 70 | 2 | a | retired | 1 | 4 | e | 2 | 5 | 2 | 3 | 5 | 5 | 2 | 2 | c | d | 1 | a | c | 30 | e | | | 2 | a | a |
| 2 | d | m | | | a | 油漆技工 | 2 | 4 | a | 3 | 4 | 4 | 4 | 4 | 5 | 2 | 4 | a | a | 1 | b | e | 6 | e | | 15 | 3 | b | b |
| 3 | e | f | 90 | 4 | a | retired | 1 | 4 | e | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | c | d | 1 | a | c | 30 | e | | 10 | 2 | a | a |
| 4 | e | f | 50 | | b | retired | 1 | 5 | b | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 2 | c | d | 1 | a | e | 16 | e | | 28 | 5 | a | a |
| 5 | e | f | | | a | retired | 2 | 4 | e | 2 | 4 | 4 | 3 | 4 | 5 | 3 | 2 | c | c | 1 | a | e | 10 | a | | 10 | 5 | a | b |
| 6 | c | f | 20 | | a | clerk | 3 | 4 | d | 1 | 4 | 2 | 4 | 2 | 5 | 2 | 2 | b | d | 1 | a | e | 10 | e | | 10 | 4 | b | e |
| 7 | d | f | 30 | | a | housewife | 1 | 5 | b | 3 | 3 | 2 | 4 | 4 | 5 | 4 | 2 | b | c | 1 | a | c | 5 | e | | 10 | 3 | b | c |
| 8 | d | m | 30 | | a | clerk | 1 | 3 | d | 1 | 3 | 3 | 3 | 3 | 5 | 4 | 2 | b | c | 1 | b | e | 6 | c | | 30 | 3 | a | c |
| 9 | c | f | 10 | | b | housewife | 1 | 4 | b | 2 | 5 | 3 | 4 | 5 | 5 | 3 | 3 | b | d | 1 | b | e | 3 | e | | 10 | 4 | b | b |
| 10 | e | f | 16 | 2 | c | housewife | 1 | 4 | d | 1 | 3 | 4 | 3 | 3 | 5 | 5 | 3 | b | c | 1 | b | e | 12 | e | | 60 | 3 | c | e |
| 11 | e | f | 30 | 3 | b | retired | 1 | 5 | b | 1 | 5 | 2 | 3 | 4 | 3 | 2 | 2 | b | d | 1 | a | e | 4 | e | | 30 | 2 | a | a |
| 12 | d | f | 35 | | a | housewife | 2 | 5 | d | 4 | 2 | 4 | 4 | 2 | 5 | 4 | 3 | a | c | 1 | a | e | 6 | e | | 8 | 5 | d | e |
| 13 | d | f | 8 | 3 | b | housewife | 1 | 3 | d | 1 | 3 | 2 | 2 | 2 | 4 | 3 | 2 | b | c | 1 | a | e | 5 | e | | 10 | 1 | b | b |
| 14 | d | f | 30 | | b | housewife | 4 | 5 | b | 4 | 3 | 3 | 2 | 3 | 4 | 3 | 2 | c | c | 1 | a | e | 4 | c | | 10 | 4 | d | d |
| 15 | e | m | | 2 | b | retired | 2 | 5 | e | 4 | 5 | 4 | 3 | 5 | 4 | 4 | 2 | b | c | 1 | a | e | 10 | e | | 15 | 4 | a | d |
| 16 | d | f | 10 | 3 | b | clerk | 1 | 4 | d | 1 | 3 | 2 | 2 | 4 | 5 | 3 | 2 | a | a | 2 | a | f | 10 | e | | | 2 | c | e |
| 17 | d | m | 0.5 | 5 | a | factory owner | 1 | 4 | c | 1 | 1 | 2 | 4 | 4 | 2 | 5 | 1 | c | c | 1 | a | d | 10 | c | | 20 | 3 | c | e |
| 18 | e | f | more then 10 | 2 | b | retired | 1 | 4 | d | 2 | 4 | 5 | 4 | 3 | 2 | 4 | 1 | b | d | 1 | | c | 3 | e | | 15 | 2 | c | c |
| 19 | c | f | 15 | 3 | b | secretary | 1 | 5 | f | 1 | 5 | 2 | 3 | 4 | 4 | 4 | 1 | b | d | 1 | a | e | 10 | e | | 10 | 3 | c | f |
| 20 | e | | 10 | 4 | c | retired | 1 | 4 | d | 1 | 4 | 2 | 3 | 4 | 2 | 2 | 1 | c | d | 1 | a | e | 30 | | | | 1 | a | b |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 d | f | 15 | 4 a | housewife | 1 | 4 e | 1 | 4 | 2 | 3 | 2 | 4 | 3 | 1 b | c | 1 a | e | 3 a | 18 | 2 d | c |
| 22 d | f | 10 | 3 a | | 1 | 4 c | 2 | 3 | 3 | 2 | 5 | 1 | 1 | 5 b | d | 5 a | e | 5 c | 15 | 3 c | c |
| 23 d | f | 35 | 3 a | housewife | 1 | 4 b | 1 | 3 | 4 | 4 | 4 | 3 | 5 | 1 a | b | 5 a | c | 10 c | | 5 c | c |
| 24 e | m | 22 | 3 a | manager | 2 | 5 a | 4 | 4 | 3 | 4 | 2 | 5 | 3 | 5 c | d | 5 a | e | 15 e | 15 | 2 d | c |
| 25 d | f | 16 | 3 a | housewife | 1 | 5 d | 1 | 5 | 2 | 2 | 3 | 2 | 1 | 1 b | b | a | e | 27 c | | 1 d | d |
| 26 d | m | 10 | 4 b | | 1 | 5 e | 1 | 5 | 2 | 4 | 2 | 1 | 1 | 1 b | c | 1 a | e | 10 c | 20 | 1 c | e |
| 27 d | m | 4 months | 2 a | fund manager | 1 | 4 e | 1 | 2 | 1 | 5 | 1 | 5 | 2 | 1 c | d | 1 b | e | 8 e | 10 | 4 d | f |
| 28 d | m | 15 | 5 a | civil servant | 1 | 4 c | 3 | 5 | 4 | 2 | 3 | 2 | 2 | 4 b | c | 2 a | e | 10 村屋 | 15 | 1 d | e |
| 29 d | f | 4 | 4 a | clerk | 1 | 5 d | 2 | 3 | 2 | 4 | 2 | 5 | 5 | 4 c | a | 2 a | e | 5 c | 20 | 3 d | c |
| 30 c | m | 10 | 4 a | fashion merchandising | 1 | 4 b | 3 | 5 | 3 | 2 | 4 | 4 | 4 | 3 b | c | 3 a | e | 10 c | 10 | 3 b | d |
| 31 c | f | 1 | 4 b | housewife | 1 | 3 f | 1 | 2 | 1 | 2 | 5 | 5 | 4 | 1 c | c | 1 a | e | 4 e | 10 | 2 d | c |
| 32 d | m | 40 | 3 a | real estate | 1 | 5 c | 1 | 3 | 1 | 5 | 3 | 5 | 1 | 4 a | d | a | e | e | 16 | 2 c | c |
| 33 e | m | 40 | 4 b | lawyer | 2 | 4 e | 1 | 4 | 2 | 4 | 4 | 5 | 4 | 4 b | d | 1 a | f | 7 c | 24 | 5 d | f |
| 34 b | m | 19 | 4 a | student | 4 | 4 e | 4 | 3 | 4 | 4 | 4 | 5 | 4 | 1 b | d | 4 a | e | 9 e | 9 | 2 b | e |
| 35 d | m | 49 | 4 a | clerk | 1 | 4 d | 2 | 4 | 4 | 3 | 3 | 2 | 4 | 2 b | c | 3 b | e | 10 e | 12 | 1 c | c |
| 36 d | f | 36 | b | housewife | 4 | 5 d | 1 | 2 | 4 | 2 | 4 | 4 | 2 | 1 b | c | a | c | 25 c | | 3 c | c |
| 37 a | m | 11 | a | student | 3 | 2 b | 3 | 1 | 1 | 1 | 3 | 2 | 1 | 4 a | b | 1 a | e | 11 e | 11 | 1 b | a |
| 38 d | m | 49 | 4 a | logistic | 1 | 5 d | 1 | 5 | 4 | 3 | 3 | 3 | 5 | 1 b | d | 1 a | e | 8 e | 20 | 2 d | f |
| 39 d | m | 44 | a | engineer | 1 | 4 d | 1 | 4 | 4 | 4 | 4 | 3 | 5 | 2 b | d | 1 a | e | 30 e | 30 | 2 c | e |
| 40 a | m | 17 | a | student | 2 | 5 e | 1 | 4 | 4 | 3 | 5 | 4 | 4 | 4 b | d | 4 a | e | 7 e | 11 | 2 c | d |
| 41 e | m | 55 | a | building and construction | 1 | 5 b | 1 | 2 | 4 | 2 | 3 | 2 | 4 | 4 c | c | 4 a | e | 29 c | 17 | 4 c | e |
| 42 d | m | 40 | a | sales | 1 | 5 f | 1 | 5 | 5 | 4 | 5 | 3 | 5 | 3 c | d | 1 a | c | 30 c | 30 | 1 c | c |
| 43 d | m | 48 | a | merchant | 1 | 5 f | 1 | 4 | 5 | 4 | 5 | 3 | 4 | 1 c | d | a | e | 13 c | 10 | 5 d | b |
| 44 b | m | 15 | b | student | 2 | 5 b | 1 | 4 | 4 | 4 | 5 | 2 | 1 | 1 b | d | 2 a | 丁屋 | 4 e | 15 | 2 a | f |
| 45 e | m | 54 | a | clerk | 1 | 3 e | 1 | 2 | 2 | 4 | 1 | 5 | 5 | 1 b | d | 1 a | e | 20 e | 20 | 3 b | c |
| 46 e | f | 15 | 7 a | housewife | 1 | 5 f | 1 | 5 | 1 | 5 | 5 | 3 | 3 | 3 c | c | 1 a | e | 3 e | 20 | 3 c | c |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 e | m | 3 | 4 b | merchant | 1 | 5 d | 1 | 5 | 3 | 5 | 5 | 5 | 5 | 2 c | c | 5 a | e | 10 c | 10 | 3 c | b |
| 48 d | f | 6 | 4 c | housewife | 1 | 5 e | 3 | 5 | 1 | 4 | 5 | 5 | 4 | 5 c | c | 1 a | e | 16 c | 20 | 4 c | e |
| 49 c | f | | 5 a | merchant | 1 | 5 d | 1 | 5 | 5 | 5 | 5 | 4 | 4 | 1 c | d | 1 a | e | 10 e | 10 | 3 c | e |
| 50 e | f | 16 | 6 b | housewife | 1 | 4 e | 1 | 4 | 3 | 5 | 5 | | | 1 c | d | 1 a | e | 10 e | 25 | 1 c | a |
| 51 d | f | 8 | 4 a | clerk | 4 | 5 b | 2 | 4 | 1 | 2 | 5 | 5 | 4 | 4 c | b | 1 a | e | 2 c | 30 | 4 c | c |
| 52 a | f | 2 | 3 a | student | 1 | 4 f | 1 | 4 | 3 | 3 | 2 | 4 | 2 | 1 c | d | 1 a | e | 13 e | 13 | 1 c | b |
| 53 b | f | 7 | 4 b | | 1 | 5 f | 1 | 3 | 2 | | 1 | 5 | 3 | 1 c | d | 1 a | e | 2 e | 2 | 1 d | d |
| 54 d | f | 19 | 3 a | housewife | 1 | 5 d | 1 | 3 | 1 | 1 | 5 | 5 | 1 | 1 b | d | 1 a | e | 1 d | 6 | 3 a | c |
| 55 d | m | 13 | 3 a | clerk | 1 | 4 e | 2 | 4 | 2 | 5 | 2 | 4 | 5 | 2 c | d | 1 a | e | 20 e | 20 | 1 b | c |
| 56 b | f | 7 | 5 a | student | 1 | 5 f | 1 | 4 | 1 | 3 | 1 | 4 | 5 | 1 c | d | 1 b | d | 5 e | 18 | 2 c | c |
| 57 d | m | 8 | 2 a | engineer | 1 | 5 d | 1 | 3 | 3 | 3 | 3 | 4 | 4 | 1 b | d | 1 a | e | 4 c | 25 | 4 d | f |
| 58 d | f | 9 | 2 a | IT | 1 | 4 e | 1 | 3 | 2 | 1 | 3 | 4 | 4 | 1 c | d | 1 a | e | 4 c | 20 | 1 d | f |
| 59 d | f | 1 | 2 a | owner | 1 | 5 d | 2 | 2 | 1 | 5 | 5 | 5 | 4 | 4 b | c | 1 b | e | 2 d | 20 | 3 c | c |
| 60 d | m | 1 | 2 a | sales | 1 | 4 f | 1 | 2 | 1 | 3 | 4 | 4 | 4 | 3 b | d | 1 b | e | 30 e | 30 | 4 c | d |
| 61 c | m | 10 | 4 a | civil servant | 1 | 4 f | 1 | 1 | 1 | 1 | 2 | 5 | 4 | 1 c | d | 1 a | f | f | | 3 c | f |
| 62 d | m | 13 | 4 a | merchant | 1 | 5 d | 1 | 3 | 3 | 3 | 3 | 2 | 3 | 3 c | d | 4 a | e | 18 e | 12 | 2 d | f |
| 63 d | f | 8 | 4 a | housewife | 1 | 5 b | 5 | 4 | 1 | 4 | 3 | 5 | 5 | 5 b | c | 1 a | c | 20 c | 20 | 4 d | c |
| 64 e | f | 20 | 4 a | profession | 1 | 5 e | 1 | 5 | 1 | 2 | 3 | 5 | 1 | 4 b | c | 3 a | e | 10 e | 20 | 1 c | e |
| 65 e | m | 50 | 4 a | retired | 1 | 4 d | 1 | 4 | 1 | 3 | 3 | 5 | 4 | 1 b | c | 1 a | e | 10 e | 25 | 1 c | f |
| 66 e | m | 3 | 2 a | merchant | 1 | 5 d | 1 | 5 | 4 | 5 | 5 | 3 | 5 | 2 b | c | 5 a | e | 19 c | 10 | 2 c | c |
| 67 d | f | 13 | 4 a | housewife | 1 | 5 c | 2 | 4 | 2 | 5 | 3 | 4 | 5 | 1 c | c | 1 a | e | e | 30 | 4 d | c |
| 68 a | f | 11 | 4 a | student | 1 | 5 f | 1 | 3 | 2 | 5 | 5 | 5 | 4 | 3 c | d | 1 a | e | 11 e | 11 | 1 d | a |
| 69 d | f | 10 | 2 a | housewife | 1 | 4 e | 1 | 2 | 4 | 3 | 3 | 4 | 4 | 4 b | d | 1 a | e | 11 c | 11 | 4 b | c |
| 70 d | m | 13 | 3 a | clerk | 1 | 4 c | 1 | 5 | 1 | 3 | 5 | 5 | 5 | 4 c | d | 1 a | e | 30 e | 30 | 3 c | f |
| 71 d | f | 13 | 3 a | housewife | 1 | 5 d | 1 | 3 | 3 | 3 | 5 | 4 | 4 | 4 b | d | 1 a | e | 5 c | 20 | 3 c | c |
| 72 b | f | 10 | 5 a | student | 1 | 5 f | 1 | 4 | 1 | 5 | 5 | 5 | 5 | 3 c | d | 1 a | e | 10 e | 10 | 4 c | f |
| 73 e | m | 15 | 4 b | retired | 1 | 5 d | 1 | 5 | 4 | 4 | 2 | 5 | 3 | 5 b | d | 1 a | c | 13 村屋 | 15 | 5 c | a |
| 74 e | f | 15 | 4 a | housewife | 1 | 3 e | 1 | 5 | 3 | 3 | 3 | 4 | 4 | 3 c | d | 1 a | c | 10 e | 25 | 1 a | a |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | b | m | 5 | 5 | a | clerk | 1 | 5 | c | 1 | 4 | 3 | 4 | 3 | 5 | 4 | 4 | b | d | 1 | a | e | 2 | e | 15 | 4 | c | e |
| 76 | c | m | 13 | 4 | a | programmer | 1 | 4 | b | 3 | 3 | 3 | 3 | 4 | 5 | 4 | 3 | b | d | 4 | b | e | 10 | e | 10 | 2 | d | e |
| 77 | d | m | 16 | 5 | a | accountant | 1 | 5 | e | 2 | 3 | 3 | 2 | 3 | 5 | 5 | 4 | b | d | 1 | a | e | 8 | e | 18 | 2 | c | f |
| 78 | e | m | 17 | 6 | b | retired | 1 | 5 | d | 3 | 2 | 3 | 3 | 3 | 5 | 3 | 1 | c | c | 1 | a | c | 18 | e | 4 | 5 | c | a |
| 79 | d | m | 7 | 3 | a | manager | 1 | 4 | d | 1 | 4 | 3 | 5 | 3 | 5 | 4 | 2 | b | d | 1 | a | e | 6 | c | 10 | 4 | b | c |
| 80 | d | f | 15 | 4 | b | housewife | 5 | 5 | c | 5 | 4 | 3 | 5 | 5 | 5 | 5 | 1 | c | c | 1 | a | e | 27 | e | 10 | 5 | d | c |
| 81 | e | m | 10 | 5 | a | financial | 1 | 4 | d | 1 | 4 | 5 | 3 | 4 | 5 | 5 | 3 | b | d | 1 | a | e | 15 | e | 10 | 3 | c | f |
| 82 | d | f | 3 | 5 | a | business | 1 | 5 | c | 2 | 5 | 1 | 2 | 5 | 5 | 5 | 4 | b | c | 3 | a | e | 40 | | 10 | 4 | d | c |
| 83 | a | m | 8 | 4 | a | student | 3 | 4 | b | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 4 | b | d | 4 | a | e | 5 | e | 8 | 5 | b | c |
| 84 | d | f | 13 | 4 | a | housewife | 2 | 5 | d | 2 | 5 | 4 | 4 | 3 | 5 | 4 | 4 | c | c | 1 | a | d | 5 | d | 3 | 2 | b | c |
| 85 | d | f | 14 | 5 | a | development | 2 | 4 | c | 3 | 4 | 2 | 3 | 4 | 5 | 5 | 2 | b | c | 1 | a | e | 3 | c | 18 | 5 | d | e |
| 86 | e | f | 17 | 1 | b | | 1 | 4 | d | 2 | 4 | 1 | 3 | 5 | 5 | 4 | 1 | c | d | 3 | a | e | 25 | e | 10 | 4 | a | b |
| 87 | d | m | 5 | 4 | a | communication | 1 | 5 | e | 1 | 4 | 3 | 2 | 2 | 5 | 4 | 1 | b | d | 1 | a | e | 2 | c | 10 | 4 | d | f |
| 88 | d | m | 6 | 4 | a | service | 1 | 4 | d | 2 | 4 | 4 | 4 | 4 | 5 | 5 | 2 | b | d | 1 | a | e | 10 | c | 10 | 3 | b | d |
| 89 | d | m | 5 | 7 | a | engineer | 1 | 4 | d | 1 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | b | c | 1 | a | d | 7 | c | 10 | 4 | d | f |
| 90 | d | f | 14 | 4 | b | housewife | 1 | 5 | c | 3 | 5 | 3 | 4 | 4 | 4 | 5 | 5 | b | c | 2 | a | e | 20 | e | 10 | 2 | a | a |

## Appendix VII

Raw questionnaire data from City One Shatin

| 1 (i) | 1 (ii) | 1 (iii) | 1 (iv) | 1 (v) | 2 | 3 | 4 | 5 | 6 | 7 (i) | 7 (ii) | 7 (iii) | 7 (iv) | 7 (v) | 7 (vi) | 8 | 9 | 10 | 11 | 12 | 13i | 13ii | 14i | i | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 c | m | 4 | 3 a | social service | | 1 | 5 f | | 1 | 2 | 2 | 2 | 5 | 4 | 4 | 2 c | d | | 1 a | c | | 30 c | | 30 | 4 c | e | |
| 2 d | m | 10 | 4 a | engineer | | 2 | 4 b | | 3 | 4 | 3 | 4 | 3 | 4 | 4 | 4 a | b | | 3 a | e | | 10 e | | 5 | 1 d | f | |
| 3 c | | 2 | 5 a | bank | | 1 | 5 e | | 1 | 3 | 1 | 4 | 3 | 4 | 1 | 1 b | one time | | 3 a | e | | 5 e | | 25 | 1 d | e | |
| 4 c | | 6 | 4 a | | | 1 | 4 b | | 3 | 3 | 4 | 2 | 2 | 3 | 4 | 3 c | c | | 1 a | 村屋 | | 2 c | | 20 | 3 d | f | |
| 5 d | f | 15 | 5 c | clerk | | 1 | 5 d | | 1 | 5 | 2 | 1 | 2 | 5 | 4 | 1 c | d | | 1 a | e | | 6 e | | 40 | 4 b | f | |
| 6 d | m | 10 | 4 a | security guard | | 1 | 4 d | | 1 | 2 | 4 | 3 | 2 | 3 | 1 | 1 c | d | | 5 a | e | | 30 e | | 30 | 1 d | c | |
| 7 d | m | 6 months | 4 a | engineer | | 2 | 4 f | | 1 | 1 | 2 | 3 | 3 | 4 | 4 | 3 b | d | | 1 b | e | | 10 e | | 20 | 3 c | c | |
| 8 d | f | 2 | 4 a | housewife | | 2 | 3 c | | 2 | 1 | 1 | 2 | 2 | 4 | 3 | 1 b | b | | 3 a | e | | 7 e | | 10 | 1 c | d | |
| 9 d | f | 4 | 3 b | hotel management | | 1 | 5 e | | 2 | 4 | 4 | 3 | 3 | 4 | 3 | 1 b | d | | 3 a | e | | 6 e | | 20 | 1 b | c | |
| 10 b | f | 2 | 2 a | editor | | 2 | 4 e | | 1 | 4 | 5 | 3 | 4 | 5 | 4 | 2 c | d | | 2 a | e | | 11 c | | 15 | 4 a | f | |
| 11 e | m | 15 | 5 c | director | | 1 | 4 e | | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 c | d | | 1 a | e | | 5 e | | 20 | 1 d | f | |
| 12 e | f | 22 | 4 a | housewife | | 5 | 5 d | | 2 | 5 | 5 | 3 | 2 | 3 | 1 | 4 b | a | | 2 a | e | | 3 e | | 20 | 5 b | b | |
| 13 b | f | 0.5 | 3 a | student | | 3 | 5 d | | 2 | 3 | 5 | 5 | 3 | 3 | 4 | 3 c | d | | 1 b | e | | 5 e | | 5 | 1 d | e | |
| 14 d | m | 5 | 4 a | | | 2 | 5 c | | 1 | 3 | 3 | 2 | 4 | 5 | 5 | 1 b | b | | 1 a | e | | 5 村屋 | | 20 | 4 d | c | |
| 15 e | f | 15 | 1 a | service | | 1 | 4 b | | 1 | 1 | 2 | 1 | 1 | 5 | 4 | 3 b | d | | 5 b | e | | 10 c | | 10 | 3 a | b | |
| 16 d | f | 45 | 4 a | bank | | 1 | 5 f | | 1 | 2 | 4 | 1 | 2 | 2 | 3 | 1 c | d | | 1 a | c | | 10 e | | 20 | 1 d | e | |
| 17 d | f | 35 | 3 a | civil servant | | 3 | 4 e | | 1 | 3 | 3 | 2 | 3 | 3 | 3 | 2 b | c | | 1 b | c | | 20 c | | 20 | 3 d | f | |
| 18 d | m | 45 | 2 a | sales | | 1 | 4 e | | 1 | 4 | 3 | 5 | 3 | | 4 | 1 b | d | | 1 a | e | | 8 c | | 15 | 4 d | f | |
| 19 d | f | 45 | 4 a | clerk | | 1 | 3 d | | 2 | 4 | 4 | 2 | 3 | 4 | 3 | 4 b | c | | 1 a | e | | 10 c | | 15 | 4 a | c | |
| 20 d | m | 38 | 3 a | arts | | 1 | 4 d | | 2 | 2 | 4 | 4 | 4 | 5 | 5 | 4 b | d | | 1 a | 村屋 | | 30 村屋 | | 30 | 4 d | c | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | b | m | 21 | 4 | a | student | 4 | 5 | e | 1 | 1 | 4 | 4 | 3 | 4 | 4 | 2 | c | d | 1 | a | e | 6 | e | 15 | 1 | c | f |
| 22 | d | f | 35 | 5 | | housewife | 1 | 5 | e | 1 | 3 | 5 | 5 | 3 | 5 | 4 | 1 | b | b | 1 | a | d | 10 | c | 20 | 2 | d | a |
| 23 | a | m | 14 | | a | student | 2 | 3 | b | 3 | 3 | 4 | 4 | 3 | 4 | 3 | 4 | b | b | 3 | a | c | 6 | e | 4 | 3 | b | b |
| 24 | d | f | 35 | | | housewife | 4 | 4 | b | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | b | a | 4 | a | c | 22 | c | 22 | 4 | b | c |
| 25 | b | m | 20 | | a | student | 1 | 4 | e | 1 | 4 | 3 | 5 | 4 | 5 | 5 | 2 | b | d | 1 | a | e | 20 | e | 20 | 4 | d | f |
| 26 | d | f | 42 | | a | clerk | 2 | 4 | d | 1 | 5 | 3 | 3 | 3 | 5 | 2 | 1 | c | c | 1 | a | e | 20 | e | 20 | 1 | b | c |
| 27 | a | m | 17 | | a | student | 1 | 4 | e | 1 | 4 | 2 | 5 | 5 | 5 | 1 | 2 | c | d | 1 | a | e | 2 | e | 2 | 3 | c | d |
| 28 | d | f | 38 | | a | teacher | 1 | 5 | e | 1 | 5 | 5 | 2 | 3 | 4 | 5 | 4 | c | c | 1 | a | e | 4 | c | 18 | 1 | d | f |
| 29 | d | f | 3 | 2 | a | clerk | 1 | 5 | f | 1 | 1 | 5 | 5 | 1 | 5 | 5 | 1 | c | d | 1 | b | e | 20 | e | 10 | 5 | b | c |
| 30 | e | m | 18 | 3 | a | | 1 | 5 | d | 1 | 4 | 4 | 4 | 2 | 5 | 4 | 1 | b | d | 4 | a | c | 35 | c | 10 | 3 | a | b |
| 31 | c | f | 15 | 4 | a | housewife | 1 | 4 | e | 1 | 4 | 2 | 3 | 3 | 4 | 4 | 4 | c | d | 1 | a | e | 10 | e | 10 | 4 | b | c |
| 32 | e | f | 20 | 2 | b | retired | 1 | 5 | d | 3 | 5 | 1 | 5 | 5 | 4 | 4 | 4 | b | d | 1 | a | c | 20 | f | 7 | 1 | a | b |
| 33 | b | f | 1 | 1 | a | surveyor | 1 | 4 | e | 1 | 3 | 2 | 4 | 2 | 4 | 4 | 1 | c | d | 1 | b | c | 20 | c | 20 | 2 | b | f |
| 34 | e | f | 18 | 3 | a | housewife | 1 | 4 | e | 1 | 3 | 2 | 4 | 4 | 5 | 4 | 1 | a | d | 1 | a | e | 4 | c | 20 | 1 | b | c |
| 35 | e | m | 16 | 3 | b | retired | 5 | 4 | d | 3 | 4 | 1 | 4 | 4 | 4 | 4 | 5 | a | c | 1 | a | e | 15 | c | 15 | 1 | a | f |
| 36 | d | f | 20 | 3 | a | housewife | 1 | 5 | b | 3 | 3 | 1 | 4 | 1 | 5 | 3 | 4 | c | c | 1 | a | e | 2 | e | 20 | 3 | d | c |
| 37 | a | f | 15 | | a | student | 1 | 5 | d | 5 | 3 | 1 | 5 | 5 | 5 | 2 | 3 | b | d | 1 | a | e | 2 | e | 15 | 2 | c | e |
| 38 | d | f | 25 | 4 | a | housewife | 1 | 5 | d | 1 | 4 | 4 | 3 | 4 | 4 | 4 | 5 | c | d | 1 | a | c | 20 | c | 20 | 1 | b | b |
| 39 | e | m | 5 | 3 | a | electric | 3 | 5 | c | 3 | 2 | 4 | 4 | 4 | 4 | 4 | 5 | a | a | 1 | a | e | 13 | e | 6 | 2 | a | b |
| 40 | d | f | 13 | 5 | a | customer service | 1 | 5 | d | 2 | 4 | 2 | 5 | 3 | 5 | 5 | 1 | b | c | 1 | a | e | 5 | c | 20 | 4 | b | c |
| 41 | e | f | 5 | 3 | b | housewife | 1 | 5 | c | 2 | 1 | 1 | 5 | 1 | 5 | 1 | 1 | b | c | 1 | a | e | 4 | e | 25 | 4 | b | c |
| 42 | d | f | 20 | 4 | a | housewife | 3 | 4 | d | 1 | 3 | 3 | 4 | 2 | 4 | 4 | 5 | c | c | 1 | a | c | 10 | e | 12 | 1 | b | c |
| 43 | d | f | 5 | 2 | b | housewife | 1 | 4 | d | 1 | 3 | 3 | 2 | 4 | 5 | 5 | 1 | b | d | 1 | a | c | 15 | c | 10 | 4 | b | a |
| 44 | d | f | 5 | 1 | a | clerk | 1 | 4 | f | 1 | 4 | 4 | 4 | 3 | 4 | 4 | 2 | b | d | 1 | a | c | 34 | c | 34 | 4 | a | c |
| 45 | d | f | 20 | 4 | a | clerk | 1 | 4 | b | 2 | 5 | 5 | 5 | 5 | 5 | 4 | 1 | b | c | 5 | b | e | 30 | e | 30 | 5 | a | d |
| 46 | d | f | 12 | 5 | a | housewife | 2 | 3 | e | 1 | 5 | 1 | 5 | 5 | 4 | 5 | 5 | c | c | 5 | a | c | 15 | c | 10 | 5 | c | a |
| 47 | d | f | 3 | 4 | a | housewife | 1 | 5 | e | 1 | 2 | 2 | 3 | 2 | 4 | 4 | 5 | b | d | 1 | a | d | 3 | c | 10 | 1 | d | c |
| 48 | d | f | 3 | 2 | b | lecturer | 2 | 5 | d | 2 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | b | c | 1 | a | e | 30 | e | 30 | 5 | c | f |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 c | f | 10 | 3 a | clerk | 1 | 4 b | 3 | 5 | 4 | 1 | 5 | 5 | 4 | 4 b | c | 1 a | c | 10 c | 10 | 5 d | d |
| 50 e | f | 1 | 2 b | teacher | 1 | 4 e | 1 | 5 | 3 | 3 | 5 | 5 | 4 | 4 c | c | 1 a | e | 10 e | 25 | 4 a | e |
| 51 b | m | 3 | 3 a | student | 1 | 4 f | 1 | 3 | 4 | 4 | 4 | 4 | 2 | 1 c | d | 1 b | c | 5 c | 5 | 4 d | e |
| 52 e | f | 25 | 4 a | servant | 1 | 4 d | 1 | 3 | 2 | 2 | | 5 | 5 | 1 a | b | 3 a | c | 20 e | 25 | 4 c | a |
| 53 c | m | 28 | 4 a | physiotherapist | 3 | 4 c | 2 | 3 | 5 | 5 | 4 | 5 | 5 | 2 b | c | 2 a | e | e | | 3 c | f |
| 54 d | f | 10 | 3 b | housewife | 3 | 5 d | 1 | 4 | 2 | 4 | 4 | 4 | 4 | 1 b | c | 1 a | e | 6 c | 15 | 3 c | c |
| 55 d | m | 10 | 3 a | civil servant | 1 | 4 d | 3 | 4 | 1 | 4 | 2 | 5 | 1 | 3 c | d | 1 a | e | 5 e | 30 | 3 c | c |
| 56 c | f | 10 | 3 a | clerk | 3 | 3 c | 2 | 4 | 4 | 2 | 2 | 4 | 4 | 1 c | c | 1 a | c | 18 c | 18 | 5 a | c |
| 57 d | m | 5 | 2 a | engineer | 1 | 4 d | 2 | 4 | 1 | 5 | 5 | 5 | 1 | 1 b | c | 1 a | e | 10 e | 20 | 4 c | f |
| 58 d | f | 9 | 3 a | housewife | 2 | 4 c | 5 | 3 | 1 | 5 | 3 | 5 | 5 | 5 b | d | 1 a | e | 10 c | 27 | 4 d | c |
| 59 d | m | 25 | 3 a | printing | 1 | 5 b | 2 | 5 | 1 | 5 | 5 | 5 | 4 | 2 b | d | 1 a | e | 18 e | 18 | 5 c | d |
| 60 b | m | 10 | 4 a | student | 1 | 4 f | 1 | 4 | 4 | 3 | 3 | 4 | 5 | 1 c | d | 1 b | e | 20 e | 20 | 4 b | f |
| 61 c | f | 7 | 4 a | adminstrative | 1 | 5 e | 1 | 3 | 3 | 4 | 4 | 4 | 4 | 1 b | d | 1 a | e | 20 e | 20 | 3 c | e |
| 62 d | m | 0.5 | 2 a | | 1 | 4 e | 1 | 5 | 4 | 1 | 3 | 3 | 5 | 1 c | d | 1 b | e | 1 c | 15 | 5 a | c |
| 63 e | f | 15 | 3 b | housewife | 1 | 4 e | 1 | 4 | 3 | 3 | 3 | 4 | 4 | 1 b | d | 1 a | e | 4 c | 20 | 4 d | c |
| 64 d | | 8 | 3 b | merchant | 1 | 5 b | 3 | 3 | 2 | 1 | 5 | 5 | 5 | 2 b | c | 1 a | e | 7 e | 10 | 4 d | f |
| 65 d | | 35 | 3 a | engineer | 1 | 4 e | 3 | 3 | 2 | 2 | 4 | 4 | 4 | 3 b | c | 1 a | e | 4 e | 13 | 4 c | e |
| 66 d | | 20 | 3 a | import & export | 1 | 3 e | 3 | 4 | 4 | 4 | 3 | 5 | 3 | 3 c | d | 1 | e | 10 e | 10 | 3 a | a |
| 67 d | m | 10 | 3 a | clerk | 1 | 4 e | 2 | 4 | 4 | 2 | 3 | 3 | 3 | 2 b | d | 1 a | e | 6 e | 10 | 3 a | c |
| 68 d | | 9 | 4 a | nurse | 2 | 4 e | 2 | 4 | 4 | 3 | 4 | 4 | 3 | 3 b | c | 1 a | e | 4 c | 20 | 4 d | c |
| 69 e | f | 15 | 3 c | housewife | 1 | 5 e | 1 | 4 | 1 | 5 | 5 | 5 | 1 | 3 b | d | 1 a | e | 3 e | 10 | 4 a | b |
| 70 d | f | 10 | 3 a | clerk | 2 | 3 d | 2 | 4 | 4 | 2 | 3 | 4 | 3 | 2 b | c | 1 b | e | 8 e | 10 | 3 b | c |
| 71 d | | 0one month | 2 a | clerk | 1 | 4 d | 1 | 2 | 2 | 4 | 4 | 5 | 3 | 4 b | d | 1 a | e | 14 c | 23 | 2 b | c |
| 72 d | | 3 | 1 a | merchant | 1 | 3 d | 1 | 3 | 2 | 1 | 3 | 4 | 3 | 2 c | d | 1 a | d | 10 d | 10 | 3 b | c |
| 73 e | m | 3 | 3 a | | 1 | 4 e | 1 | 4 | 3 | 4 | 3 | 3 | 5 | 1 c | d | 1 a | e | 7 c | 10 | 3 a | b |
| 74 d | f | 14 | 4 a | housewife | 2 | 4 b | 5 | 5 | 4 | 3 | 3 | 4 | 4 | 4 a | a | 1 a | e | 4 c | 10 | 4 d | f |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 a | m | 15 | 4 a | student | 2 | 5 d | 1 | 4 | 4 | 3 | 5 | 3 | 5 | 3 c | b | 1 a | e | 6 | | 4 c | b |
| 76 a | m | 12 | 4 a | student | 1 | 4 d | 2 | 3 | 2 | 4 | 4 | 3 | 4 | 3 c | c | 1 a | e | 12 e | 12 | 3 b | b |
| 77 e | f | 18 | 2 b | clerk | 1 | 5 e | 3 | 3 | 2 | 2 | 3 | 4 | 4 | 1 b | b | 1 a | f | 2 f | 10 | 3 c | e |
| 78 a | f | 2 | 5 a | student | 2 | 4 e | 2 | 4 | 2 | 3 | 4 | 4 | 3 | 2 b | c | 3 a | e | 5 e | 5 | 3 d | b |
| 79 d | f | 6 | 5 b | adminstrative | 1 | 5 e | 2 | 3 | 4 | 2 | 3 | 5 | 4 | 3 b | c | 2 a | e | 40 e | 10 | 2 d | f |
| 80 d | m | 2 | 3 a | import & export | 1 | 4 e | 2 | 4 | 4 | 2 | 4 | 5 | 4 | 2 b | d | 3 a | d | 13 c | 20 | 4 c | f |
| 81 c | f | 3 | 1 a | clerk | 1 | 4 e | 1 | 5 | 1 | 3 | 3 | 5 | 5 | 1 a | d | 1 a | e | 30 e | 10 | 3 a | c |
| 82 a | | 14 | 4 a | student | 3 | 5 d | 2 | 4 | 3 | 4 | 4 | 5 | 5 | 1 c | c | 4 a | e | 14 e | 10 | 3 a | b |
| 83 a | f | 5 | 4 a | student | 4 | 5 b | 3 | 4 | 2 | 4 | 4 | 5 | 5 | 4 c | d | 1 a | f | 10 e | 5 | 3 b | b |
| 84 a | f | 15 | 4 b | student | 1 | 4 e | 2 | 3 | 3 | 4 | 5 | 4 | 3 | 3 c | d | 1 a | e | 15 e | 5 | 3 a | b |
| 85 d | f | 2 | 5 b | social worker | 2 | 5 d | 2 | 4 | 4 | 4 | 4 | 5 | 5 | 2 b | d | 2 a | e | 3 c | 10 | 2 d | e |
| 86 c | f | 5 | 3 a | housewife | 1 | 3 d | 1 | 3 | 3 | 3 | 3 | 5 | 3 | 2 b | d | 1 a | e | 23 e | 10 | 3 a | c |
| 87 d | m | 10 | 5 a | clerk | 2 | 4 b | 3 | 4 | 3 | 3 | 4 | 5 | 5 | 4 c | c | 4 a | e | 3 d | 10 | 4 c | f |
| 88 a | m | 3 | 4 a | student | 1 | 2 c | 3 | 4 | 3 | 5 | 3 | 5 | 4 | 3 b | d | 1 a | c | 5 c | 5 | 4 a | b |
| 89 d | f | 12 | 3 b | housewife | 3 | 5 b | 3 | 4 | 1 | 4 | 4 | 5 | 5 | 5 c | c | 3 b | e | 3 a | 10 | 3 c | a |
| 90 d | f | 10 | 2 a | adminstrative | 2 | 4 d | 1 | 3 | 2 | 1 | 1 | 4 | 3 | 2 b | d | 1 a | e | 20 e | 10 | 3 c | d |

## Appendix VIII

Rating and Valuation Department, Technical Note – Selected Popular Residential Developments

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## Technical Notes

**Price Indices for Selected Popular Residential Developments**

The indices are based on an analysis of prices paid for units in selected developments as recorded in Sale and Purchase Agreements. **Developments** selected for analysis from **2004 onwards** are slightly different from those of previous years, and include:

**Hong Kong** - Baguio Villa, Beverly Hill, Braemar Hill Mansions, Cavendish Heights, Chi Fu Fa Yuen, Convention Plaza Apartments, Dynasty Court, Euston Court, Heng Fa Chuen, Hong Kong Parkview, Illumination Terrace, Island Place, Island Resort, Kornhill, New Jade Garden, Pacific View, Robinson Place, South Horizons, Taikoo Shing, The Belcher's, The Leighton Hill, The Redhill Peninsula, Tregunter, Villa Lotto;

**Kowloon** – Banyan Garden, Galaxia, Island Harbourview, Laguna City, Laguna Verde, Mei Foo Sun Chuen, Metro Harbour View, Parc Oasis, Park Avenue, Royal Peninsula, Sceneway Garden, Sorrento, Telford Gardens, The Harbourside, The Waterfront, Whampoa Garden;

**New Territories** – Aegean Coast, Bellagio, Caribbean Coast, Castello, City One, Sha Tin, Dawning Views, Discovery Bay, Discovery Park, Fanling Centre, Flora Plaza, Grand Pacific Views, Hong Kong Gold Coast, Hong Lok Yuen, Kingswood Villas, Marina Cove, Metro City, Ocean Shores, Oscar by the Sea, Park Island, Parkland Villas, Riviera Gardens, Royal Ascot, Royal Palms, Sea Crest Villa, Serenity Park, Sunshine City, Symphony Bay, The Parcville, Tierra Verde, Tuen Mun Town Plaza, Villa Athena, Villa Esplanada.

The component index for each property group in the sample developments is calculated by reference 5 to the factor of price divided by rateable value of the subject properties. The composite index for a property group is compiled by calculating a weighted average of the component indices. For the year 2004, the weights are based on the number of transactions effected in 2003.

Sources: Rating and Valuation Department. (2006 Website). *Website of Rating and Valuation Department* [Online] Available from: http://www.rvd.gov.hk/en/home/index.htm [Accessed on 17-11-2005]

## Appendix IX

Location map of TaiKoo Shing

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Source: Centaline Group. *Centamap*. [Online] Available from: http://www.centamap.com/cent/index.htm [Accessed on 17-11-2005]

## Appendix X

Location map of Whampoa Garden

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Source: Centaline Group. *Centamap*. [Online] Available from: http://www.centamap.com/cent/index.htm [Accessed on 17-11-2005]

## Appendix XI

Location map of City One Shatin


Source: Centaline Group. *Centamap*. [Online] Available from: http://www.centamap.com/cent/index.htm [Accessed on 17-11-2005]

## Appendix XII

Results of each of the questionnaire from the Analytic Hierarchy Process

| | Type of housing estate | Age | Income level | Level of Education | Volunteering Participation | Community Activities participation | Degree of Safety | Social Network | Level of Trust | Level of Informal Socializing | Environment | Degree of sense of belonging | Endurance and Tolerance of Community | Inconsistency |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.233 | 0.256 | 0.146 | 0.037 | 0.036 | 0.036 | 0.04 | 0.036 | 0.036 | 0.036 | 0.036 | 0.036 | 0.036 | 0.01 |
| 2 | 0.046 | 0.028 | 0.028 | 0.035 | 0.028 | 0.028 | 0.089 | 0.12 | 0.114 | 0.034 | 0.15 | 0.15 | 0.15 | 0.04 |
| 3 | 0.039 | 0.025 | 0.028 | 0.028 | 0.099 | 0.141 | 0.073 | 0.114 | 0.089 | 0.142 | 0.059 | 0.115 | 0.048 | 0.04 |
| 4 | 0.091 | 0.092 | 0.098 | 0.068 | 0.067 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.073 | 0.04 |
| 5 | 0.022 | 0.115 | 0.038 | 0.035 | 0.111 | 0.111 | 0.059 | 0.112 | 0.071 | 0.094 | 0.032 | 0.13 | 0.07 | 0.06 |
| 6 | 0.013 | 0.015 | 0.015 | 0.013 | 0.119 | 0.062 | 0.076 | 0.142 | 0.157 | 0.107 | 0.047 | 0.17 | 0.064 | 0.06 |
| 7 | 0.019 | 0.085 | 0.013 | 0.024 | 0.013 | 0.014 | 0.266 | 0.11 | 0.089 | 0.064 | 0.134 | 0.084 | 0.085 | 0.06 |
| 8 | 0.015 | 0.026 | 0.018 | 0.024 | 0.1 | 0.104 | 0.099 | 0.09 | 0.124 | 0.078 | 0.062 | 0.15 | 0.11 | 0.06 |
| 9 | 0.037 | 0.031 | 0.04 | 0.047 | 0.057 | 0.052 | 0.178 | 0.073 | 0.078 | 0.07 | 0.154 | 0.112 | 0.071 | 0.06 |
| 10 | 0.014 | 0.027 | 0.017 | 0.017 | 0.07 | 0.066 | 0.18 | 0.097 | 0.131 | 0.108 | 0.081 | 0.106 | 0.086 | 0.08 |
| 11 | 0.292 | 0.029 | 0.023 | 0.024 | 0.029 | 0.024 | 0.202 | 0.073 | 0.036 | 0.025 | 0.122 | 0.074 | 0.047 | 0.08 |
| 12 | 0.086 | 0.054 | 0.026 | 0.027 | 0.068 | 0.126 | 0.049 | 0.145 | 0.146 | 0.054 | 0.057 | 0.094 | 0.068 | 0.08 |
| 13 | 0.031 | 0.022 | 0.06 | 0.063 | 0.031 | 0.031 | 0.317 | 0.062 | 0.17 | 0.081 | 0.051 | 0.037 | 0.044 | 0.08 |
| 14 | 0.061 | 0.082 | 0.02 | 0.032 | 0.042 | 0.064 | 0.04 | 0.126 | 0.094 | 0.112 | 0.103 | 0.116 | 0.108 | 0.08 |
| 15 | 0.057 | 0.043 | 0.022 | 0.019 | 0.04 | 0.098 | 0.053 | 0.113 | 0.194 | 0.096 | 0.064 | 0.124 | 0.077 | 0.08 |
| 16 | 0.096 | 0.01 | 0.026 | 0.017 | 0.016 | 0.021 | 0.128 | 0.04 | 0.172 | 0.042 | 0.085 | 0.171 | 0.176 | 0.08 |
| 17 | 0.091 | 0.063 | 0.057 | 0.107 | 0.038 | 0.032 | 0.182 | 0.054 | 0.041 | 0.024 | 0.218 | 0.06 | 0.033 | 0.09 |
| 18 | 0.029 | 0.036 | 0.083 | 0.107 | 0.02 | 0.013 | 0.13 | 0.045 | 0.152 | 0.066 | 0.22 | 0.045 | 0.054 | 0.09 |
| 19 | 0.013 | 0.024 | 0.026 | 0.037 | 0.051 | 0.087 | 0.031 | 0.206 | 0.092 | 0.124 | 0.065 | 0.199 | 0.045 | 0.09 |
| 20 | 0.246 | 0.016 | 0.048 | 0.04 | 0.051 | 0.057 | 0.045 | 0.066 | 0.073 | 0.066 | 0.16 | 0.071 | 0.061 | 0.09 |
| 21 | 0.013 | 0.014 | 0.017 | 0.015 | 0.113 | 0.121 | 0.048 | 0.134 | 0.143 | 0.083 | 0.062 | 0.184 | 0.053 | 0.09 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 0.058 | 0.056 | 0.042 | 0.067 | 0.074 | 0.072 | 0.078 | 0.099 | 0.095 | 0.103 | 0.087 | 0.093 | 0.076 | 0.09 |
| 23 | 0.038 | 0.027 | 0.107 | 0.114 | 0.024 | 0.042 | 0.134 | 0.094 | 0.108 | 0.03 | 0.068 | 0.106 | 0.108 | 0.1 |
| 24 | 0.014 | 0.02 | 0.011 | 0.019 | 0.066 | 0.054 | 0.29 | 0.055 | 0.165 | 0.047 | 0.065 | 0.151 | 0.043 | 0.1 |
| 25 | 0.013 | 0.01 | 0.018 | 0.015 | 0.057 | 0.071 | 0.17 | 0.087 | 0.072 | 0.099 | 0.041 | 0.232 | 0.115 | 0.1 |
| 26 | 0.021 | 0.021 | 0.186 | 0.073 | 0.085 | 0.031 | 0.034 | 0.056 | 0.129 | 0.121 | 0.058 | 0.105 | 0.08 | 0.1 |
| 27 | 0.024 | 0.023 | 0.027 | 0.055 | 0.051 | 0.05 | 0.051 | 0.08 | 0.082 | 0.079 | 0.12 | 0.167 | 0.191 | 0.1 |
| 28 | 0.023 | 0.011 | 0.012 | 0.011 | 0.027 | 0.033 | 0.101 | 0.138 | 0.146 | 0.117 | 0.128 | 0.157 | 0.096 | 0.1 |
| 29 | 0.066 | 0.075 | 0.073 | 0.089 | 0.068 | 0.06 | 0.121 | 0.092 | 0.079 | 0.078 | 0.067 | 0.066 | 0.066 | 0.1 |
| 30 | 0.134 | 0.01 | 0.106 | 0.1 | 0.009 | 0.009 | 0.126 | 0.089 | 0.065 | 0.06 | 0.134 | 0.086 | 0.072 | 0.1 |
| 31 | 0.097 | 0.03 | 0.016 | 0.018 | 0.08 | 0.12 | 0.183 | 0.091 | 0.066 | 0.041 | 0.033 | 0.08 | 0.145 | 0.1 |
| 32 | 0.02 | 0.023 | 0.031 | 0.08 | 0.086 | 0.046 | 0.082 | 0.109 | 0.186 | 0.062 | 0.04 | 0.189 | 0.046 | 0.1 |
| 33 | 0.014 | 0.017 | 0.018 | 0.076 | 0.036 | 0.035 | 0.227 | 0.1 | 0.099 | 0.042 | 0.086 | 0.112 | 0.138 | 0.1 |
| 34 | 0.073 | 0.042 | 0.021 | 0.015 | 0.037 | 0.055 | 0.17 | 0.086 | 0.061 | 0.056 | 0.166 | 0.105 | 0.113 | 0.1 |
| 35 | 0.127 | 0.034 | 0.087 | 0.128 | 0.023 | 0.027 | 0.032 | 0.111 | 0.16 | 0.117 | 0.053 | 0.048 | 0.053 | 0.1 |
| 36 | 0.093 | 0.011 | 0.125 | 0.171 | 0.013 | 0.016 | 0.313 | 0.047 | 0.034 | 0.012 | 0.105 | 0.05 | 0.01 | 0.1 |
| 37 | 0.012 | 0.029 | 0.058 | 0.031 | 0.098 | 0.083 | 0.028 | 0.134 | 0.197 | 0.107 | 0.034 | 0.155 | 0.034 | 0.1 |
| 38 | 0.074 | 0.1 | 0.036 | 0.115 | 0.047 | 0.082 | 0.084 | 0.11 | 0.09 | 0.035 | 0.062 | 0.118 | 0.047 | 0.1 |
| 39 | 0.069 | 0.077 | 0.198 | 0.138 | 0.025 | 0.039 | 0.206 | 0.036 | 0.019 | 0.019 | 0.071 | 0.051 | 0.052 | 0.11 |
| 40 | 0.063 | 0.065 | 0.088 | 0.078 | 0.038 | 0.045 | 0.153 | 0.088 | 0.076 | 0.062 | 0.1 | 0.067 | 0.077 | 0.11 |
| 41 | 0.062 | 0.053 | 0.064 | 0.077 | 0.113 | 0.069 | 0.073 | 0.066 | 0.084 | 0.07 | 0.104 | 0.07 | 0.095 | 0.12 |
| 42 | 0.074 | 0.042 | 0.075 | 0.072 | 0.053 | 0.046 | 0.054 | 0.026 | 0.123 | 0.043 | 0.068 | 0.217 | 0.107 | 0.13 |
| 43 | 0.065 | 0.087 | 0.077 | 0.076 | 0.065 | 0.083 | 0.073 | 0.078 | 0.078 | 0.054 | 0.112 | 0.064 | 0.088 | 0.13 |
| 44 | 0.203 | 0.075 | 0.177 | 0.045 | 0.037 | 0.039 | 0.088 | 0.046 | 0.08 | 0.053 | 0.033 | 0.083 | 0.041 | 0.13 |
| 45 | 0.031 | 0.011 | 0.017 | 0.013 | 0.023 | 0.025 | 0.049 | 0.056 | 0.215 | 0.089 | 0.181 | 0.169 | 0.121 | 0.13 |
| 46 | 0.082 | 0.009 | 0.048 | 0.078 | 0.012 | 0.013 | 0.193 | 0.069 | 0.08 | 0.037 | 0.155 | 0.112 | 0.112 | 0.14 |
| 47 | 0.165 | 0.008 | 0.019 | 0.014 | 0.013 | 0.039 | 0.145 | 0.133 | 0.062 | 0.06 | 0.09 | 0.169 | 0.083 | 0.15 |
| 48 | 0.028 | 0.02 | 0.182 | 0.199 | 0.022 | 0.048 | 0.055 | 0.072 | 0.036 | 0.085 | 0.03 | 0.187 | 0.036 | 0.15 |
| 49 | 0.089 | 0.009 | 0.046 | 0.077 | 0.011 | 0.013 | 0.188 | 0.068 | 0.076 | 0.042 | 0.156 | 0.107 | 0.118 | 0.15 |
| 50 | 0.02 | 0.015 | 0.082 | 0.051 | 0.018 | 0.027 | 0.189 | 0.081 | 0.111 | 0.07 | 0.119 | 0.122 | 0.095 | 0.16 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 0.254 | 0.038 | 0.028 | 0.037 | 0.036 | 0.046 | 0.044 | 0.08 | 0.117 | 0.078 | 0.061 | 0.083 | 0.098 | 0.17 |
| 52 | 0.081 | 0.053 | 0.052 | 0.086 | 0.088 | 0.053 | 0.066 | 0.066 | 0.08 | 0.07 | 0.096 | 0.07 | 0.139 | 0.19 |
| 53 | 0.045 | 0.087 | 0.097 | 0.070 | 0.071 | 0.084 | 0.073 | 0.078 | 0.077 | 0.054 | 0.112 | 0.064 | 0.088 | 0.2 |
| 54 | 0.183 | 0.066 | 0.032 | 0.056 | 0.027 | 0.075 | 0.079 | 0.069 | 0.105 | 0.072 | 0.07 | 0.121 | 0.045 | 0.21 |
| 55 | 0.031 | 0.01 | 0.018 | 0.013 | 0.023 | 0.045 | 0.049 | 0.036 | 0.215 | 0.089 | 0.182 | 0.169 | 0.12 | 0.22 |
| 56 | 0.034 | 0.032 | 0.05 | 0.033 | 0.054 | 0.059 | 0.008 | 0.143 | 0.179 | 0.171 | 0.017 | 0.2 | 0.02 | 0.22 |
| 57 | 0.063 | 0.087 | 0.077 | 0.076 | 0.065 | 0.085 | 0.070 | 0.081 | 0.078 | 0.054 | 0.111 | 0.064 | 0.089 | 0.23 |
| 58 | 0.028 | 0.02 | 0.166 | 0.199 | 0.038 | 0.048 | 0.055 | 0.080 | 0.034 | 0.087 | 0.03 | 0.187 | 0.028 | 0.23 |
| 59 | 0.004 | 0.037 | 0.017 | 0.017 | 0.07 | 0.064 | 0.18 | 0.097 | 0.133 | 0.108 | 0.08 | 0.107 | 0.086 | 0.23 |
| 60 | 0.073 | 0.066 | 0.032 | 0.056 | 0.137 | 0.065 | 0.089 | 0.070 | 0.104 | 0.072 | 0.07 | 0.111 | 0.055 | 0.24 |
| 61 | 0.062 | 0.09 | 0.077 | 0.076 | 0.064 | 0.091 | 0.074 | 0.078 | 0.07 | 0.066 | 0.1 | 0.084 | 0.068 | 0.25 |
| 62 | 0.037 | 0.029 | 0.042 | 0.047 | 0.057 | 0.052 | 0.178 | 0.063 | 0.088 | 0.07 | 0.16 | 0.112 | 0.065 | 0.25 |
| 63 | 0.038 | 0.01 | 0.182 | 0.199 | 0.022 | 0.058 | 0.052 | 0.062 | 0.036 | 0.088 | 0.03 | 0.187 | 0.036 | 0.26 |
| 64 | 0.034 | 0.023 | 0.026 | 0.045 | 0.051 | 0.05 | 0.051 | 0.08 | 0.083 | 0.077 | 0.122 | 0.169 | 0.189 | 0.26 |
| 65 | 0.103 | 0.046 | 0.038 | 0.05 | 0.127 | 0.065 | 0.089 | 0.072 | 0.102 | 0.069 | 0.073 | 0.126 | 0.04 | 0.26 |
| 66 | 0.065 | 0.077 | 0.087 | 0.076 | 0.085 | 0.083 | 0.053 | 0.078 | 0.078 | 0.044 | 0.122 | 0.065 | 0.087 | 0.26 |
| 67 | 0.019 | 0.027 | 0.017 | 0.017 | 0.07 | 0.066 | 0.18 | 0.097 | 0.131 | 0.103 | 0.081 | 0.106 | 0.086 | 0.27 |
| 68 | 0.082 | 0.082 | 0.043 | 0.063 | 0.032 | 0.021 | 0.186 | 0.043 | 0.072 | 0.043 | 0.126 | 0.083 | 0.124 | 0.29 |
| 69 | 0.062 | 0.129 | 0.123 | 0.108 | 0.102 | 0.1 | 0.084 | 0.073 | 0.067 | 0.046 | 0.041 | 0.037 | 0.028 | 0.3 |
| 70 | 0.008 | 0.048 | 0.026 | 0.032 | 0.077 | 0.05 | 0.129 | 0.071 | 0.112 | 0.069 | 0.123 | 0.13 | 0.125 | 0.3 |
| 71 | 0.009 | 0.01 | 0.025 | 0.017 | 0.021 | 0.034 | 0.066 | 0.062 | 0.089 | 0.122 | 0.164 | 0.211 | 0.17 | 0.3 |
| 72 | 0.032 | 0.019 | 0.192 | 0.045 | 0.039 | 0.051 | 0.035 | 0.074 | 0.131 | 0.099 | 0.065 | 0.116 | 0.102 | 0.3 |
| 73 | 0.032 | 0.019 | 0.058 | 0.029 | 0.156 | 0.151 | 0.048 | 0.095 | 0.119 | 0.095 | 0.029 | 0.115 | 0.054 | 0.3 |
| 74 | 0.014 | 0.067 | 0.013 | 0.014 | 0.048 | 0.105 | 0.253 | 0.084 | 0.051 | 0.017 | 0.168 | 0.054 | 0.112 | 0.36 |
| 75 | 0.124 | 0.013 | 0.11 | 0.088 | 0.028 | 0.081 | 0.044 | 0.043 | 0.109 | 0.104 | 0.099 | 0.073 | 0.084 | 0.38 |
| 76 | 0.112 | 0.088 | 0.074 | 0.09 | 0.073 | 0.081 | 0.125 | 0.042 | 0.056 | 0.045 | 0.082 | 0.083 | 0.049 | 0.4 |
| 77 | 0.083 | 0.066 | 0.032 | 0.056 | 0.127 | 0.065 | 0.089 | 0.072 | 0.102 | 0.072 | 0.07 | 0.121 | 0.045 | 0.45 |
| 78 | 0.229 | 0.145 | 0.14 | 0.133 | 0.136 | 0.059 | 0.041 | 0.039 | 0.018 | 0.018 | 0.015 | 0.013 | 0.014 | 0.45 |
| 79 | 0.047 | 0.01 | 0.14 | 0.02 | 0.015 | 0.027 | 0.185 | 0.136 | 0.041 | 0.038 | 0.262 | 0.035 | 0.044 | 0.45 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 0.047 | 0.032 | 0.046 | 0.103 | 0.078 | 0.02 | 0.128 | 0.06 | 0.118 | 0.059 | 0.051 | 0.107 | 0.151 | 0.5 |
| 81 | 0.105 | 0.109 | 0.055 | 0.092 | 0.046 | 0.042 | 0.06 | 0.074 | 0.044 | 0.081 | 0.092 | 0.077 | 0.123 | 0.55 |
| 82 | 0.074 | 0.05 | 0.06 | 0.056 | 0.06 | 0.066 | 0.158 | 0.071 | 0.16 | 0.046 | 0.067 | 0.107 | 0.025 | 0.59 |

## Appendix XIII

Data for Regression Analysis

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Data from TaiKoo Shing

| | WTS | HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 1 | 2 | 3 | 1 | 1 | 1 | 5 | 2 | 4 | 1 | 4 | 4 | 3 |
| 2 | 4 | 4 | 2 | 2 | 1 | 1 | 1 | 5 | 2 | 3 | 1 | 5 | 5 | 4 |
| 3 | 5 | 4 | 2 | 3 | 1 | 1 | 1 | 4 | 2 | 4 | 1 | 5 | 4 | 4 |
| 4 | 5 | 5 | 2 | 1 | 1 | 1 | 1 | 5 | 1 | 4 | 1 | 4 | 3 | 4 |
| 5 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 4 | 1 | 3 | 1 | 3 | 2 | 2 |
| 6 | 3 | 4 | 4 | 2 | 3 | 1 | 1 | 4 | 2 | 4 | 2 | 4 | 3 | 3 |
| 7 | 4 | 4 | 2 | 1 | 2 | 1 | 1 | 5 | 1 | 4 | 1 | 5 | 4 | 3 |
| 8 | 3 | 3 | 4 | 2 | 4 | 1 | 1 | 4 | 2 | 4 | 1 | 4 | 4 | 2 |
| 9 | 4 | 3 | 3 | 3 | 2 | 1 | 1 | 4 | 3 | 4 | 2 | 5 | 3 | 2 |
| 10 | 3 | 5 | 2 | 2 | 2 | 1 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 11 | 3 | 4 | 3 | 2 | 1 | 2 | 1 | 5 | 3 | 4 | 2 | 4 | 3 | 3 |
| 12 | 4 | 3 | 4 | 2 | 2 | 1 | 1 | 5 | 3 | 4 | 3 | 4 | 4 | 4 |
| 13 | 4 | 3 | 5 | 2 | 5 | 1 | 1 | 4 | 2 | 4 | 1 | 2 | 4 | 4 |
| 14 | 3 | 3 | 4 | 2 | 3 | 1 | 1 | 5 | 2 | 4 | 1 | 5 | 3 | 2 |
| 15 | 4 | 3 | 4 | 1 | 4 | 1 | 1 | 4 | 2 | 4 | 1 | 5 | 4 | 3 |
| 16 | 5 | 2 | 5 | 1 | 6 | 1 | 1 | 5 | 2 | 4 | 1 | 4 | 5 | 3 |
| 17 | 3 | 4 | 1 | 2 | 4 | 1 | 1 | 4 | 3 | 5 | 1 | 3 | 4 | 3 |
| 18 | 3 | 3 | 1 | 2 | 5 | 2 | 1 | 5 | 3 | 4 | 2 | 3 | 3 | 1 |
| 19 | 2 | 4 | 1 | 1 | 5 | 2 | 1 | 4 | 2 | 4 | 1 | 3 | 3 | 3 |
| 20 | 3 | 4 | 2 | 1 | 1 | 1 | 1 | 4 | 1 | 4 | 1 | 2 | 3 | 4 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 3 | 2 | 3 | 2 | 3 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 22 | 4 | 3 | 1 | 3 | 6 | 1 | 1 | 5 | 3 | 4 | 2 | 5 | 4 | 3 |
| 23 | 4 | 4 | 1 | 2 | 5 | 1 | 1 | 5 | 3 | 5 | 3 | 3 | 2 | 2 |
| 24 | 4 | 4 | 5 | 2 | 5 | 1 | 1 | 5 | 3 | 5 | 3 | 3 | 4 | 2 |
| 25 | 3 | 1 | 5 | 1 | 5 | 1 | 1 | 4 | 3 | 4 | 3 | 3 | 4 | 3 |
| 26 | 3 | 4 | 2 | 2 | 2 | 2 | 1 | 5 | 3 | 4 | 2 | 4 | 3 | 4 |
| 27 | 3 | 4 | 2 | 2 | 3 | 1 | 1 | 4 | 2 | 4 | 1 | 3 | 3 | 3 |
| 28 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 4 | 1 | 3 | 1 | 3 | 2 | 2 |
| 29 | 3 | 4 | 5 | 2 | 2 | 1 | 1 | 5 | 2 | 4 | 1 | 4 | 4 | 3 |
| 30 | 3 | 4 | 5 | 2 | 6 | 1 | 1 | 4 | 3 | 5 | 5 | 3 | 5 | 3 |
| 31 | 4 | 4 | 4 | 2 | 1 | 1 | 1 | 4 | 1 | 4 | 1 | 3 | 3 | 2 |
| 32 | 4 | 3 | 4 | 1 | 1 | 1 | 1 | 5 | 3 | 4 | 2 | 5 | 4 | 2 |
| 33 | 2 | 4 | 4 | 2 | 4 | 1 | 1 | 4 | 1 | 4 | 1 | 5 | 4 | 4 |
| 34 | 4 | 4 | 3 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 1 | 4 | 4 | 3 |
| 35 | 3 | 2 | 5 | 2 | 5 | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 4 | 3 |
| 36 | 4 | 3 | 3 | 2 | 3 | 1 | 1 | 4 | 3 | 5 | 2 | 4 | 3 | 3 |
| 37 | 5 | 3 | 5 | 1 | 5 | 3 | 2 | 4 | 3 | 4 | 3 | 4 | 5 | 3 |
| 38 | 4 | 3 | 4 | 2 | 3 | 1 | 1 | 4 | 3 | 4 | 2 | 4 | 4 | 2 |
| 39 | 5 | 4 | 4 | 2 | 4 | 1 | 1 | 4 | 3 | 4 | 1 | 4 | 4 | 3 |
| 40 | 3 | 3 | 3 | 1 | 2 | 1 | 1 | 5 | 1 | 4 | 1 | 4 | 3 | 4 |
| 41 | 3 | 4 | 1 | 2 | 4 | 1 | 1 | 4 | 3 | 5 | 1 | 4 | 3 | 4 |
| 42 | 4 | 2 | 4 | 2 | 3 | 2 | 1 | 4 | 1 | 4 | 2 | 4 | 2 | 3 |
| 43 | 4 | 4 | 4 | 2 | 4 | 1 | 1 | 4 | 3 | 4 | 2 | 4 | 3 | 3 |
| 44 | 3 | 3 | 5 | 2 | 6 | 3 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 2 |
| 45 | 5 | 3 | 2 | 2 | 1 | 1 | 1 | 5 | 3 | 5 | 1 | 4 | 4 | 4 |
| 46 | 3 | 4 | 5 | 3 | 4 | 2 | 1 | 3 | 3 | 3 | 4 | 3 | 4 | 2 |
| 47 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 5 | 1 | 2 | 1 | 3 | 4 | 2 |
| 48 | 3 | 4 | 3 | 1 | 1 | 1 | 1 | 4 | 1 | 3 | 3 | 3 | 3 | 3 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 4 | 3 | 3 | 2 | 4 | 1 | 1 | 5 | 3 | 4 | 1 | 3 | 3 | 4 |
| 50 | 4 | 5 | 5 | 1 | 6 | 1 | 1 | 4 | 3 | 5 | 2 | 3 | 5 | 3 |
| 51 | 4 | 4 | 1 | 2 | 5 | 2 | 1 | 5 | 3 | 4 | 3 | 3 | 3 | 3 |
| 52 | 3 | 2 | 1 | 2 | 5 | 2 | 1 | 4 | 1 | 4 | 1 | 3 | 4 | 4 |
| 53 | 4 | 4 | 2 | 2 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 4 | 4 | 1 |
| 54 | 4 | 3 | 2 | 2 | 4 | 1 | 1 | 5 | 3 | 4 | 3 | 4 | 4 | 4 |
| 55 | 3 | 3 | 1 | 3 | 6 | 3 | 1 | 4 | 1 | 4 | 1 | 4 | 2 | 3 |
| 56 | 3 | 4 | 1 | 2 | 6 | 1 | 1 | 4 | 3 | 3 | 1 | 3 | 3 | 3 |
| 57 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 1 | 5 | 4 | 2 |
| 58 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 4 | 3 | 4 | 1 | 3 | 2 | 2 |
| 59 | 2 | 3 | 1 | 2 | 5 | 2 | 1 | 4 | 1 | 4 | 1 | 4 | 4 | 2 |
| 60 | 4 | 3 | 1 | 1 | 4 | 3 | 2 | 5 | 1 | 3 | 1 | 4 | 3 | 2 |
| 61 | 3 | 4 | 5 | 2 | 5 | 1 | 1 | 4 | 1 | 4 | 2 | 4 | 3 | 3 |
| 62 | 3 | 4 | 4 | 2 | 6 | 3 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 2 |
| 63 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 1 | 4 | 3 | 3 |
| 64 | 4 | 1 | 1 | 1 | 5 | 1 | 1 | 5 | 2 | 4 | 1 | 3 | 2 | 4 |
| 65 | 4 | 2 | 5 | 1 | 4 | 4 | 2 | 3 | 6 | 3 | 3 | 3 | 4 | 2 |
| 66 | 3 | 3 | 1 | 2 | 5 | 3 | 1 | 4 | 3 | 4 | 3 | 3 | 4 | 2 |
| 67 | 4 | 2 | 2 | 2 | 4 | 1 | 1 | 5 | 2 | 5 | 1 | 4 | 3 | 4 |
| 68 | 3 | 3 | 2 | 3 | 3 | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 4 | 2 |
| 69 | 3 | 2 | 1 | 2 | 5 | 3 | 1 | 4 | 2 | 5 | 1 | 2 | 3 | 2 |
| 70 | 3 | 2 | 1 | 1 | 5 | 1 | 1 | 3 | 3 | 3 | 1 | 2 | 3 | 4 |
| 71 | 3 | 1 | 2 | 1 | 1 | 2 | 1 | 4 | 3 | 4 | 2 | 4 | 2 | 4 |
| 72 | 3 | 4 | 5 | 2 | 5 | 1 | 1 | 4 | 3 | 5 | 1 | 3 | 4 | 4 |
| 73 | 4 | 3 | 2 | 1 | 3 | 1 | 1 | 4 | 3 | 4 | 1 | 3 | 2 | 2 |
| 74 | 3 | 3 | 4 | 2 | 6 | 1 | 1 | 4 | 3 | 3 | 1 | 2 | 2 | 2 |
| 75 | 3 | 3 | 5 | 4 | 4 | 3 | 1 | 4 | 3 | 4 | 3 | 4 | 4 | 3 |
| 76 | 3 | 3 | 1 | 3 | 5 | 1 | 1 | 4 | 3 | 4 | 2 | 3 | 4 | 2 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 4 | 1 | 5 | 3 | 3 | 4 | 3 |
| 78 | 3 | 3 | 1 | 3 | 4 | 2 | 1 | 4 | 1 | 1 | 1 | 3 | 2 | 2 |
| 79 | 4 | 4 | 5 | 2 | 3 | 1 | 3 | 4 | 3 | 5 | 1 | 4 | 4 | 1 |
| 80 | 3 | 3 | 1 | 2 | 6 | 1 | 1 | 4 | 1 | 3 | 1 | 3 | 2 | 4 |
| 81 | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 4 | 3 | 4 | 1 | 4 | 1 | 2 |
| 82 | 4 | 4 | 2 | 3 | 1 | 2 | 1 | 3 | 3 | 3 | 5 | 4 | 1 | 3 |
| 83 | 4 | 3 | 1 | 2 | 6 | 1 | 1 | 4 | 1 | 4 | 1 | 4 | 4 | 4 |
| 84 | 4 | 4 | 5 | 1 | 1 | 3 | 2 | 4 | 3 | 3 | 3 | 4 | 3 | 3 |
| 85 | 3 | 4 | 2 | 1 | 1 | 2 | 1 | 4 | 3 | 4 | 1 | 4 | 4 | 2 |
| 86 | 2 | 2 | 2 | 3 | 2 | 1 | 1 | 4 | 1 | 4 | 1 | 3 | 3 | 3 |
| 87 | 4 | 4 | 5 | 1 | 4 | 3 | 2 | 4 | 3 | 3 | 2 | 2 | 2 | 2 |
| 88 | 4 | 3 | 3 | 2 | 1 | 1 | 1 | 4 | 3 | 4 | 1 | 3 | 3 | 2 |
| 89 | 4 | 2 | 2 | 2 | 1 | 1 | 1 | 4 | 3 | 3 | 1 | 3 | 2 | 2 |
| 90 | 4 | 2 | 5 | 4 | 4 | 5 | 2 | 5 | 3 | 4 | 4 | 3 | 5 | 3 |

Data from Whampoa Garden

| | WTS | HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
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| 1 | 5 | 2 | 5 | 4 | 6 | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 5 | 3 |
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| 10 | 3 | 3 | 5 | 2 | 2 | 1 | 2 | 4 | 3 | 3 | 1 | 5 | 3 | 3 |
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| 20 | 4 | 1 | 5 | 4 | 5 | 1 | 1 | 4 | 3 | 1 | 1 | 2 | 4 | 3 |
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| 24 | 2 | 2 | 5 | 1 | 4 | 2 | 1 | 5 | 6 | 5 | 4 | 3 | 4 | 4 |
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| 26 | 2 | 1 | 4 | 2 | 2 | 1 | 2 | 5 | 2 | 1 | 1 | 1 | 5 | 4 |
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| 36 | 4 | 3 | 4 | 2 | 4 | 4 | 2 | 5 | 3 | 1 | 1 | 2 | 2 | 2 |
| 37 | 3 | 1 | 1 | 3 | 6 | 3 | 3 | 2 | 5 | 4 | 3 | 1 | 1 | 1 |

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| 38 | 3 | 2 | 4 | 1 | 1 | 1 | 1 | 5 | 3 | 1 | 1 | 5 | 5 | 3 |
| 39 | 4 | 2 | 4 | 2 | 2 | 1 | 1 | 4 | 3 | 2 | 1 | 5 | 4 | 4 |
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| 45 | 1 | 3 | 5 | 3 | 4 | 1 | 1 | 3 | 2 | 1 | 1 | 5 | 2 | 4 |
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| 47 | 5 | 3 | 5 | 2 | 5 | 1 | 2 | 5 | 3 | 2 | 1 | 5 | 5 | 5 |
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| 54 | 5 | 3 | 4 | 4 | 4 | 1 | 1 | 5 | 3 | 1 | 1 | 1 | 3 | 1 |
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| 56 | 1 | 2 | 2 | 2 | 4 | 1 | 1 | 5 | 1 | 1 | 1 | 5 | 4 | 3 |
| 57 | 3 | 4 | 4 | 1 | 1 | 1 | 1 | 5 | 3 | 1 | 1 | 4 | 3 | 3 |
| 58 | 3 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 4 | 3 | 1 |
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| 61 | 2 | 3 | 3 | 2 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 4 | 1 | 1 |
| 62 | 3 | 2 | 4 | 1 | 1 | 1 | 1 | 5 | 3 | 3 | 1 | 3 | 3 | 3 |
| 63 | 3 | 4 | 4 | 1 | 4 | 1 | 2 | 5 | 5 | 5 | 5 | 5 | 4 | 4 |
| 64 | 3 | 1 | 5 | 2 | 2 | 1 | 2 | 5 | 2 | 4 | 1 | 1 | 5 | 2 |
| 65 | 3 | 1 | 5 | 2 | 1 | 1 | 2 | 4 | 3 | 1 | 1 | 4 | 4 | 3 |

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| 66 | 5 | 2 | 5 | 2 | 4 | 1 | 2 | 5 | 3 | 2 | 1 | 5 | 5 | 5 |
| 67 | 3 | 4 | 4 | 1 | 4 | 1 | 2 | 5 | 4 | 1 | 2 | 5 | 4 | 5 |
| 68 | 5 | 1 | 1 | 1 | 6 | 1 | 1 | 5 | 1 | 3 | 1 | 4 | 3 | 5 |
| 69 | 3 | 4 | 4 | 3 | 4 | 1 | 1 | 4 | 2 | 4 | 1 | 4 | 2 | 3 |
| 70 | 5 | 3 | 4 | 2 | 1 | 1 | 1 | 4 | 4 | 4 | 1 | 5 | 5 | 3 |
| 71 | 5 | 3 | 4 | 2 | 4 | 1 | 1 | 5 | 3 | 4 | 1 | 4 | 3 | 3 |
| 72 | 5 | 4 | 2 | 2 | 1 | 1 | 1 | 5 | 1 | 3 | 1 | 5 | 4 | 5 |
| 73 | 2 | 5 | 5 | 2 | 6 | 1 | 1 | 5 | 3 | 5 | 1 | 3 | 5 | 4 |
| 74 | 3 | 1 | 5 | 4 | 6 | 1 | 1 | 3 | 2 | 3 | 1 | 4 | 5 | 3 |
| 75 | 3 | 4 | 2 | 2 | 2 | 1 | 1 | 5 | 4 | 4 | 1 | 4 | 4 | 4 |
| 76 | 4 | 2 | 3 | 1 | 2 | 1 | 1 | 4 | 5 | 3 | 3 | 4 | 3 | 3 |
| 77 | 3 | 2 | 4 | 2 | 1 | 1 | 1 | 5 | 2 | 4 | 2 | 5 | 3 | 2 |
| 78 | 3 | 5 | 5 | 2 | 6 | 1 | 2 | 5 | 3 | 1 | 3 | 3 | 2 | 3 |
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| 80 | 5 | 5 | 4 | 1 | 4 | 5 | 2 | 5 | 4 | 1 | 5 | 5 | 4 | 5 |
| 81 | 4 | 3 | 5 | 2 | 1 | 1 | 1 | 4 | 3 | 3 | 1 | 5 | 4 | 3 |
| 82 | 5 | 4 | 4 | 1 | 4 | 1 | 2 | 5 | 4 | 4 | 2 | 5 | 5 | 2 |
| 83 | 4 | 5 | 1 | 3 | 4 | 3 | 1 | 4 | 5 | 4 | 3 | 5 | 3 | 4 |
| 84 | 3 | 2 | 4 | 3 | 4 | 2 | 2 | 5 | 3 | 4 | 2 | 4 | 5 | 4 |
| 85 | 4 | 5 | 4 | 1 | 2 | 2 | 2 | 4 | 4 | 2 | 3 | 5 | 4 | 3 |
| 86 | 5 | 4 | 5 | 4 | 5 | 1 | 1 | 4 | 3 | 1 | 2 | 4 | 4 | 3 |
| 87 | 2 | 4 | 4 | 1 | 1 | 1 | 1 | 5 | 2 | 1 | 1 | 4 | 4 | 2 |
| 88 | 4 | 3 | 4 | 3 | 3 | 1 | 1 | 4 | 3 | 2 | 2 | 5 | 4 | 4 |
| 89 | 4 | 4 | 4 | 1 | 1 | 1 | 2 | 4 | 3 | 3 | 1 | 4 | 4 | 4 |
| 90 | 4 | 2 | 4 | 4 | 6 | 1 | 2 | 5 | 4 | 5 | 3 | 5 | 5 | 4 |

Data from City One Shatin

| | WTS | HOUSE | AGE | INCOM | EDU | VP | CAP | SAFE | SN | TRUST | IS | ENV | SOB | ETC |
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| 1 | 5 | 4 | 3 | 2 | 2 | 1 | 1 | 5 | 1 | 2 | 1 | 4 | 2 | 2 |
| 2 | 3 | 1 | 4 | 1 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 4 | 4 | 4 |
| 3 | 3 | 1 | 3 | 1 | 2 | 1 | 2 | 5 | 2 | 1 | 1 | 1 | 3 | 4 |
| 4 | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 4 | 5 | 3 | 3 | 4 | 3 | 2 |
| 5 | 2 | 4 | 4 | 3 | 1 | 1 | 1 | 5 | 3 | 1 | 1 | 4 | 5 | 1 |
| 6 | 2 | 1 | 4 | 1 | 4 | 1 | 1 | 4 | 3 | 1 | 1 | 1 | 2 | 3 |
| 7 | 3 | 3 | 4 | 2 | 4 | 2 | 1 | 4 | 1 | 3 | 1 | 4 | 1 | 3 |
| 8 | 2 | 1 | 4 | 2 | 3 | 2 | 3 | 3 | 4 | 1 | 2 | 3 | 1 | 2 |
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| 11 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 1 | 4 | 1 | 1 |
| 12 | 2 | 5 | 5 | 3 | 5 | 5 | 4 | 5 | 3 | 4 | 2 | 1 | 5 | 3 |
| 13 | 3 | 1 | 2 | 1 | 2 | 3 | 1 | 5 | 3 | 3 | 2 | 4 | 3 | 5 |
| 14 | 4 | 4 | 4 | 1 | 4 | 2 | 3 | 5 | 4 | 1 | 1 | 5 | 3 | 2 |
| 15 | 1 | 3 | 5 | 4 | 5 | 1 | 1 | 4 | 5 | 3 | 1 | 4 | 1 | 1 |
| 16 | 2 | 1 | 4 | 1 | 2 | 1 | 1 | 5 | 1 | 1 | 1 | 3 | 2 | 1 |
| 17 | 3 | 3 | 4 | 1 | 1 | 3 | 2 | 4 | 2 | 2 | 1 | 3 | 3 | 2 |
| 18 | 3 | 4 | 4 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 4 | 4 | 5 |
| 19 | 3 | 4 | 4 | 4 | 4 | 1 | 2 | 3 | 3 | 4 | 2 | 3 | 4 | 2 |
| 20 | 4 | 4 | 4 | 1 | 4 | 1 | 1 | 4 | 3 | 4 | 2 | 5 | 2 | 4 |
| 21 | 3 | 1 | 2 | 2 | 1 | 4 | 1 | 5 | 2 | 2 | 1 | 4 | 1 | 4 |
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| 23 | 3 | 3 | 1 | 3 | 5 | 2 | 3 | 3 | 5 | 4 | 3 | 3 | 3 | 4 |
| 24 | 4 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 5 | 4 | 4 |
| 25 | 4 | 4 | 2 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 1 | 5 | 4 | 5 |

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| 26 | 3 | 1 | 4 | 3 | 4 | 2 | 2 | 4 | 3 | 1 | 1 | 2 | 5 | 3 |
| 27 | 5 | 3 | 1 | 2 | 3 | 1 | 1 | 4 | 2 | 2 | 1 | 1 | 4 | 5 |
| 28 | 3 | 1 | 4 | 1 | 1 | 1 | 2 | 5 | 2 | 4 | 1 | 5 | 5 | 2 |
| 29 | 1 | 5 | 4 | 3 | 4 | 1 | 1 | 5 | 1 | 1 | 1 | 5 | 1 | 5 |
| 30 | 2 | 3 | 5 | 4 | 5 | 1 | 1 | 5 | 3 | 1 | 1 | 4 | 4 | 4 |
| 31 | 3 | 4 | 3 | 3 | 4 | 1 | 1 | 4 | 2 | 4 | 1 | 4 | 4 | 3 |
| 32 | 5 | 1 | 5 | 4 | 5 | 1 | 1 | 5 | 3 | 4 | 3 | 4 | 5 | 5 |
| 33 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 4 | 3 | 4 |
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| 36 | 1 | 3 | 4 | 1 | 4 | 1 | 2 | 5 | 5 | 4 | 3 | 3 | 3 | 4 |
| 37 | 5 | 2 | 1 | 2 | 2 | 1 | 1 | 5 | 3 | 3 | 5 | 2 | 3 | 5 |
| 38 | 4 | 1 | 4 | 3 | 5 | 1 | 1 | 5 | 3 | 5 | 1 | 4 | 4 | 3 |
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| 41 | 1 | 4 | 5 | 3 | 4 | 1 | 2 | 5 | 4 | 1 | 2 | 1 | 1 | 5 |
| 42 | 2 | 1 | 4 | 3 | 4 | 3 | 2 | 4 | 3 | 5 | 1 | 4 | 3 | 4 |
| 43 | 4 | 4 | 4 | 3 | 6 | 1 | 1 | 4 | 3 | 1 | 1 | 5 | 3 | 2 |
| 44 | 3 | 4 | 4 | 4 | 4 | 1 | 1 | 4 | 1 | 2 | 1 | 4 | 4 | 4 |
| 45 | 5 | 5 | 4 | 4 | 3 | 1 | 2 | 4 | 5 | 1 | 2 | 4 | 5 | 5 |
| 46 | 5 | 5 | 4 | 2 | 6 | 2 | 2 | 3 | 2 | 5 | 1 | 5 | 5 | 5 |
| 47 | 2 | 1 | 4 | 1 | 4 | 1 | 1 | 5 | 2 | 5 | 1 | 4 | 2 | 3 |
| 48 | 3 | 5 | 4 | 2 | 1 | 2 | 2 | 5 | 3 | 4 | 2 | 4 | 4 | 4 |
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| 52 |  | 4 | 5 | 2 | 6 | 1 | 3 | 4 | 3 | 1 | 1 | 5 | 3 | 2 |
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| 54 | 4 | 3 | 4 | 2 | 4 | 3 | 2 | 5 | 3 | 1 | 1 | 4 | 4 | 4 |
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| 57 | 5 | 4 | 4 | 2 | 1 | 1 | 2 | 4 | 3 | 1 | 2 | 1 | 4 | 5 |
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| 61 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 5 | 2 | 1 | 1 | 4 | 3 | 4 |
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| 66 | 3 | 3 | 4 | 4 | 6 | 1 | 1 | 3 | 2 | 3 | 3 | 3 | 4 | 4 |
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| 68 | 4 | 4 | 4 | 1 | 4 | 2 | 2 | 4 | 2 | 3 | 2 | 3 | 4 | 3 |
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| 73 | 3 | 3 | 5 | 4 | 5 | 1 | 1 | 4 | 2 | 1 | 1 | 5 | 4 | 4 |
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| 82 | 4 | 3 | 1 | 4 | 5 | 3 | 2 | 5 | 3 | 1 | 2 | 5 | 4 | 4 |
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| 84 | 5 | 3 | 1 | 4 | 5 | 1 | 1 | 4 | 2 | 3 | 2 | 3 | 3 | 4 |
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| 86 | 3 | 3 | 3 | 4 | 4 | 1 | 1 | 3 | 3 | 2 | 1 | 3 | 3 | 3 |
| 87 | 4 | 4 | 4 | 2 | 1 | 2 | 2 | 4 | 5 | 4 | 3 | 5 | 4 | 3 |
| 88 | 3 | 4 | 1 | 4 | 5 | 1 | 1 | 2 | 4 | 3 | 3 | 4 | 4 | 5 |
| 89 | 4 | 3 | 4 | 2 | 6 | 3 | 2 | 5 | 5 | 5 | 3 | 5 | 4 | 4 |
| 90 | 1 | 3 | 4 | 2 | 3 | 2 | 1 | 4 | 3 | 2 | 1 | 3 | 3 | 1 |