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**RESIDENTS' PERCEPTIONS OF
NON-CASINO GAMING IN URBAN
COMMUNITIES: A COMPARATIVE
STUDY BETWEEN HONG KONG
AND GUANGZHOU**

LUO, JIAQI

Ph.D

The Hong Kong Polytechnic University

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**THE HONG KONG POLYTECHNIC UNIVERSITY
SCHOOL OF HOTEL AND TOURISM MANAGEMENT**

**SUN YAT-SEN UNIVERSITY
SCHOOL OF TOURISM MANAGEMENT**

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AND GUANGZHOU**

Luo, Jiaqi

A thesis submitted in partial fulfilment of the requirements for the degree
of

Doctor of Philosophy

May 2014

CERTIFICATE OF ORIGINALITY

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_____ (Signed)

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Abstract

Abstract of thesis entitled “Residents’ Perceptions of Non-casino Gaming in Urban Communities: A Comparative Study between Hong Kong and Guangzhou”

Non-casino gaming (e.g., horse racing, Mark six lotteries, football betting, Sports Lottery, Welfare Lottery) has grown considerably in Hong Kong and Guangzhou in recent years. Residents are the primary participants of non-casino gaming, but the industry also serves as a tourist attraction.

By conducting empirical surveys in Hong Kong SAR and Guangzhou, this study aims to examine residents’ perceptions of the impacts of non-casino gaming on urban communities. Additionally, it compares community perceptions of non-casino gaming in two different jurisdictions. More specifically, the objectives of this study are as follows: 1) to understand residents’ overall attitudes about non-casino gaming in their communities and the major perceived positive and negative influences; 2) to examine the underlying dimensions of residents’ perceptions about non-casino gaming in Hong Kong and Guangzhou; 3) to compare the similarities and differences in residents’ perceptions between the two regions; and 4) to develop an analytic framework to describe and explain the causality of factors affecting residents’ attitudes.

A literature review and interviews are conducted to develop measurement items. The researcher used surveys mainly to collect data for this study, and subsequently analyzed these data through structural equation modelling. Pilot tests were conducted with 159 respondents in Hong Kong and 191 respondents in Guangzhou prior to the main survey, which yielded 626 questionnaires in Hong Kong and 694 questionnaires in Guangzhou.

Research findings were as follows. First, generally speaking, residents held conservative attitudes toward non-casino gaming. Hong Kong respondents showed lower support level than their Guangzhou counterparts did. In Hong Kong, the group most supportive of non-casino gaming had the following characteristics: male, middle-aged or older, married, and had completed the tertiary education, whereas the individuals who were most supportive in Guangzhou were middle-aged, married, and with comparatively lower-educational levels.

Second, residents' support level of non-casino gaming was determined by perceived positive impacts, perceived negative impacts, power, gaming behavior, and community attachment. The perceived positive impacts included measures that fell into social domains such as availability of entertainment and recreation, social opportunities, public infrastructure improvements, increased attractiveness of a city, and educational funding brought by gaming. Furthermore, the perceptions of negative impacts in Hong Kong included environmental indicators, such as noise level, quantity of litter, decrease of cleanliness of the community, and traffic congestion. Perceived negative impacts of Guangzhou consisted of references to social indicators such as increase of loan sharking, crime, and gambling addicts.

Third, perceived positive impacts was the most important factor influencing support level for both cities. Perceived negative impacts, although negatively related to support level in Hong Kong, had no significant effects on support level in Guangzhou. Residents who perceived themselves as having greater power also felt stronger positive and negative impacts simultaneously, and consequently they were supportive of further development. Gaming behavior predicted residents' perceived impacts and their levels

of support. There are direct positive relationships between residents' community attachment and perceived positive impacts, in which community attachment is positively related to support level in Hong Kong and negatively related to perceived negative effects in Guangzhou.

Theoretically speaking, this study explored residents' perceptions of the Chinese gaming industry by developing gaming-impact assessment models in non-casino gaming contexts in multiple study sites. It serves as an extension of the existing research and presents essential findings verifying the effects of power, community attachment, and gaming behavior on the social exchange model. From a practical perspective, the research findings may benefit the governments of both Hong Kong and mainland China in various aspects of gaming planning and strategizing.

Keywords: non-casino gaming, residents' perception, urban community, social exchange theory, comparative study, structural equation model.

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“If I have seen further it is by standing on the shoulders of Giants”

--Isaac Newton

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CHAPTER 1. INTRODUCTION

1.1 Chapter Introduction

This research examines residents' perceptions of the impacts of non-casino gaming on urban communities by comparing residents' perceptions in two different jurisdictional locations. Researchers have often bundled gaming and tourism together in one category because of their inherent supplementary natures (Loi, 2008). Gaming is always an important topic in tourism and hospitality research, because many scholars who conducted tourism impact studies in the 1970s applied their expertise in the assessment of gaming development since the 1990s (Hsu, 2000), and this trend has continued to the present day. The recent and ongoing gaming activities have resulted in a significant future market potential on gaming tourism in China. Because the image of gaming sometimes has negative connotations, the incorporation of tourism and leisure into gaming helps dilute this negative image. The current research serves as a preliminary exploration of gaming impacts in present-day China and provides insights into the tourism and hospitality management in the future.

This chapter outlines the foundations for the thesis's investigations and introduces

the research. Non-casino gaming in Hong Kong (e.g., horse-racing, mark-six lottery, football betting) and Guangzhou (e.g., Welfare Lottery and Sports Lottery) has been important leisure activities in the past and continues to be so in the present. In addition, this chapter illustrates the theoretical background of gaming studies and thoroughly elaborates on the main purpose, objectives, and research questions of this research. Major terms are clarified at the end of the chapter.

1.2 Non-casino Gaming in Hong Kong and Mainland China

1.2.1 Non-casino Gaming in Hong Kong

In China and many other countries, gaming development closely associated with efforts to increase tourism and with a wide range of leisure and entertainment activities. Although gaming is still controversial in many countries, the gaming industry is expanding at a rapid pace and gambling opportunities are expanding (Lee, Bernhard, & Yoon, 2006). In recent decades, its popularity as a leisure activity has attracted local residents as well as tourists (Nichols, Giacomassi, & Stitt, 2002). Gaming may serve several functions along a continuum of economic development, including as part of the tourist sector, as an import substitution activity, or as a local service.

Because of this, the importance of the gambling industry has increased in the leisure

and tourism industry in this century. Currently, legalized gaming, such as horse racing, sports betting, and lotteries, has been introduced into most countries or areas in the Asia-Pacific region, including Hong Kong and many other cities in mainland China. The extent and types of effects of gaming development are dependent, to a large degree, on the local and tourist market mix.

In the Hong Kong Special Administrative Region, gambling activities expressly authorized by the government under the Betting Duty are legal. At present, such authorized outlets include horse racing, organized by the Hong Kong Jockey Club, the Mark Six Lottery, authorized football betting, and gaming activities authorized under the Gambling Ordinance (Cap. 148) (e.g., mahjong).

The British brought horse racing to Hong Kong in 1841 and turned it into a professional sport in time. The Hong Kong Jockey Club (HKJC) progressed from an amateur to a professional horse racing organization in 1971. In 1973, the government authorized the Hong Kong Jockey Club to operate off-course betting branches to tackle illegal gambling head on. Since then, the Mark Six lottery and regulated football betting have also been introduced to combat illegal gambling. To cope with the growing needs for horse racing, the second racecourse was opened in 1978 at Sha Tin. With successive redevelopment and expansion of the two racecourses and advanced features and

facilities for the long-term development of the sport, the Hong Kong racecourses are regarded as some of the world ideal racecourses. According to the International Federation of Horse racing Authorities, in 2010, the betting turnover in Hong Kong ranked fifth among all the countries in which a developed horse racing system exists. At present, although the policy of Hong Kong is to restrict gambling opportunities to a limited number of authorized and regulated outlets, the number of Mark Six draws and horse race days has increased substantially over the past three decades (Wong, 2009).

The HKJC “not-for-profit” business model is unique and has profound influence to the Hong Kong community. The Club provides a variety of excellent sporting entertainment to the community, while contributing in the form of duties, taxes, and charitable donations. The HKJC claims to be the single largest taxpayer in Hong Kong and ranks among the world’s top charity benefactors, accounting for total tax payments (comprising betting duties, lottery duties, and profits taxes) of HK\$17.22 billion in the 2012/13 financial year. Total contributions made by The HKJC and HKJC Charities Trust to the Hong Kong community reached HK\$1.52 billion for the 2012/13 financial year (The Hong Kong Jockey Club, 2013). Its operations sustained employment for more than 24,000 people directly, and tens of thousands more indirectly (The Hong Kong Jockey Club, 2013). Apart from economic advantages it provides, the

government considers that it has an obligation to meet public demand for gambling.

Legal gaming opportunities are provided as alternatives to illegal gambling.

1.2.2 Non-casino Gaming in Mainland China

The last decade witnessed the rocketing of Chinese economy and a gradual opening up of the gambling market. Today, the lottery is a consistent revenue earner for the government and has helped increase employment (Huang, 2012).

Since the establishment of China's first Welfare Lottery in 1987, it has been nearly 30 years. During this period, the gambling market grown remarkably. There are two lottery administrative institutions in China, the China Welfare Lottery Distribution Center founded in 1987 and the China Sports Lottery Administration Center founded in 1994. The Chinese lottery originated in the 1980s under the name China Social Welfare Donation Vouchers, later renamed the China Welfare Lottery (Ye, Gao, Wang, & Luo, 2012). The Sports Lottery in China raises money for some sports events such as the Asian Games and National Games. In 1994, a nationwide lottery-selling network was established and the Sports Lottery was standardized, managed by the China Sports Lottery Administration Center in charge of distribution, printing, and ticket allocations.

In the early 1990s, draw games and scratch cards were the only gambling options.

Today, almost all mainstream gambling types, such as lotto, sports betting, numbers game, and high frequency lotteries (e.g., Keno and Video Lottery Terminals) are available (Li, Zhang, Mao, & Min, 2012). For example, the sports-related lotteries include both traditional formats and sports-themed lotteries, such as scratch-and-win lotteries, Seven Stars, sports lotto, football lottery, and basketball lottery (Huang, 2012).

Today, Sports Lottery and Welfare Lottery provide major sources of funds for building financing social welfare programs and community sports facilities in the country. Known as the “smile tax,” the lottery industry strongly supports sports facilities and other public welfare undertakings on the principle of “taking from people and giving to people” (Liu & Wang, 2011).

With the establishment of China Social Welfare Fundraising Committee, the Welfare Lottery in mainland China aimed to resolve the gap between the need to develop social welfare services and the lack of finance and insufficient investments in social welfare undertakings. Most of the money earned from the lottery goes to social welfare programs for laid off workers, disabled people, and retirees.

Mainland China has formulated an integrated system of issuance and sales of lotteries around the country. The lottery is administered at central, provincial and

municipal levels (Figure 1.1). The State Council authorizes the issuance of the Welfare and Sports Lotteries. The Ministry of Finance of the State Council is responsible for the supervision and administration of all lotteries nationwide. The China's Ministry of Civil Affairs and State General Administration of Sports of the State Council established organizations for both lotteries. China Welfare Lottery Issuance and Administration Center and China Sports Lottery Administration Center are responsible for the issuance and sales of Welfare and Sports Lotteries nationwide respectively.

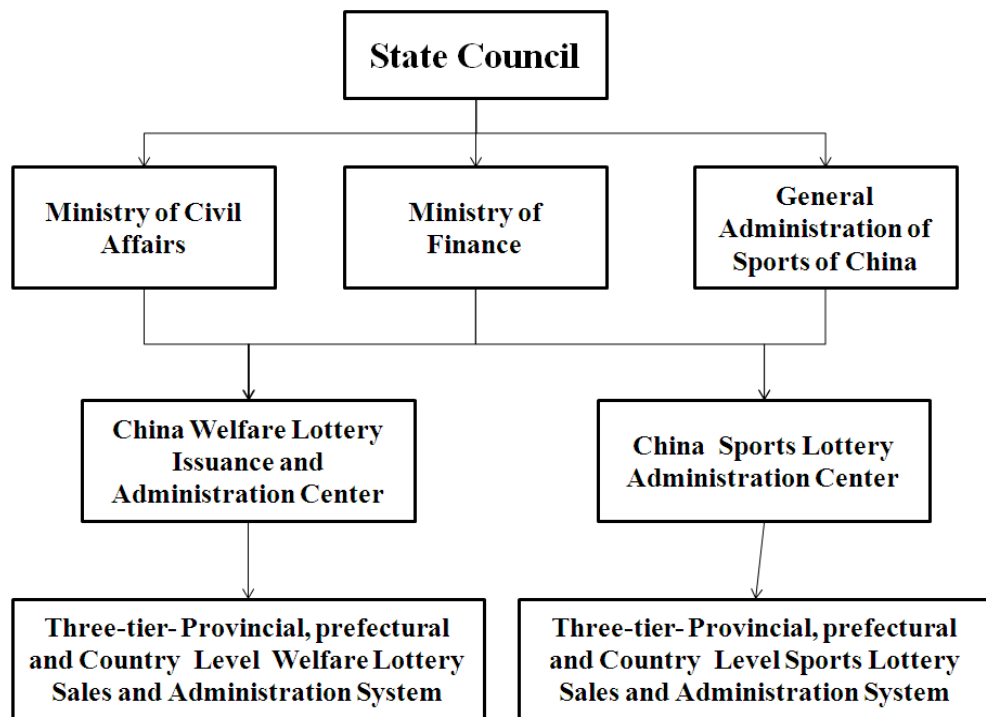


Figure 1. 1 Levels of Lottery Delivery System in Mainland China

Source: The State Council of People's Republic of China, The Lottery Regulation, 2009

In mainland China, the relaxing of policies that banned most types of gambling has led to a rise in gambling tourism and the spread of illegal gaming, which includes online betting, underground casinos, and private lotteries (Huang, 2012). Today, the focus of the Chinese lottery authority is mainly on the sales of different lottery games; however, scant attention is paid to the perspective of the lottery gambler (Yuan, 2014).

At present, lottery industries provide nearly 300,000 jobs, while they directly provided as much as CNY 1.13 billion, 1.29 billion, and 1.48 billion in tax income for the years 2006, 2007, and 2008, respectively (Li et al., 2012). Income from the Sport and Welfare Lotteries has a broad influence on various areas of the society (e.g., public welfare, sanitation, education, and sport programs). For instance, over CNY 2.5 billion generated from Sports Lottery sales were invested in the Beijing Olympic Games between 2001 and 2008. Since its inception in 1987, aggregate sales of the Welfare Lottery amounted to CNY 787.6 billion, accumulating over CNY 253 billion for public welfare funds up to 2012 (Chinese Ministry of Civil Affairs, 2013).

In 2012, the sales figure of lotteries in Guangdong Province rated second among all the provinces in China (Ministry of Finance of the People's Republic of China, 2013). Guangzhou, where is capital city of Guangdong Province and the third largest Chinese city, was selected as the study site. The selected case with representativeness of

Guangdong Province can reflect characteristics and problems identified in the underlying theoretical conceptual framework (Yin, 2003), therefore, it's appropriate to generalize the finding to other cities in mainland China.

1.3 Gaming as Leisure Activity in Hong Kong and Guangzhou

1.3.1 Hong Kong Residents' Participation in Horse Racing, Mark Six Lottery and Football Betting

Non-casino gambling is one of the most important and popular forms of leisure activities in Hong Kong. As technology develops, customers can wager using mobile phones, the Internet, and television. Even without liberalizing other forms of gambling, opportunities for the citizens of Hong Kong to participate in legal gambling have increased significantly (Wong, 2009).

Local academic institutes have conducted research on gambling-related issues. Several surveys evaluated the impact of gambling participation, and the prevalence of problem and pathological gambling in Hong Kong. The results showed that it is a common practice for Hong Kong people to take part in gambling activities.

Table 1. 1 Trend of Hong Kong People Involved in Gambling

	2001	2005	2008	2011
Total population percentage involved in gambling	77.8%	80.4%	71.3%	62%
Sample number	2004	2093	2088	2024

Source: Ho, Chung, Hui, & Wong, 2011

Although the percentage decreased when compared with the results from 2001 to 2011, a report in 2011 showed 62.3% (1,261) of the respondents took part in gambling activities in the previous year (Table 1.1).

Table 1. 2 Hong Kong People Involved in Gambling Based on Types of Gaming

Gambling items	Percentage of respondents	Monthly Spending (HKD)
Mark six lottery	56.0	129.3
Social gaming(e.g. playing mahjong or poker with friends or relatives)	33.0	298.6
Horse racing	12.9	943.8
Macau casinos	11.9	1409.0
Football betting	6.6	618.0
Mahjong House	0.5	2654.1
Casino ships departing from Hong Kong	0.6	2253.0
Sample number	2024	

Source: Ho, Chung, Hui, & Wong, 2011

Research data indicated the Mark Six lottery was the most popular gambling activity among Hong Kong people (56.0%), followed by social gambling (e.g., playing mahjong or poker with friends or relatives) (33.0%), horse racing (12.9%), Macau casinos

(11.9%), and football betting (6.6%) (Table 1.2). The average monthly expenditure on horse racing was 943.8HKD, lower than the amounts spent betting in Macau casinos and higher than the Mark Six lottery. The prevalence rates of possible problem and possible pathological gamblers were 1.9% and 1.4%, respectively.

One third of the public indicated that their first participation in gambling activities took place before the age of 18. Gambling is an acceptable form of social activity throughout the community, and it usually happens with friends, family, or colleagues. In fact, social gambling is a form of entertainment, often occurring during festive seasons (e.g., Chinese New Year) and family gatherings.

Statistical analysis revealed that those who took part in horse racing mainly involved middle-aged males, 40 or older, employed, and with a middle level education or below. Foo (1984) indicated that gambling in Hong Kong, as a leisure activity, played a positive role in complementing to the capitalist mode of production. To those in the working class, it allows the opportunity for them to demonstrate self-reliance, independence, and decision-making capabilities less assessable in other areas of their daily lives, particularly at work. However, betting attracts not only the working class. To rich men, the racecourse serves as a venue for displaying their wealth, a chance to spend money lavishly (Foo, 1984). Betting is capable of simultaneously catering the

patronage of different “socio-economic cross-sections of the city” (Herman, 1976, p. 23).

1.3.2 Guangzhou Residents’ Participation in the Sports Lottery and Welfare Lottery

China has one of the longest histories of gambling in the world and an exceptionally rich gambling culture. Gaming is deep-rooted in the culture in China; some kinds of small-scale gaming have long been tolerated in society as forms of entertainment, relaxation, leisure, or social activities (Price, 1972). Although gaming has been illegal throughout most of Chinese history, lotteries were tolerated, especially in times of inadequate public funding or for financing large construction projects (Beckert & Lutter, 2012).

In 2011, China’s legal lottery market ranks only behind the U.S. lottery market in profits (Li, Zhang, Mao, & Min, 2012). In mainland China, according to data published by the PRC’s Ministry of Finance, total lottery sales revenue has grown rapidly in recent years and reached 309.32 billion Yuan in 2013 (Table 1.3).

Table 1. 3 Lottery Sales in Mainland China

	Category	2012(CNY /Billion)	2013(CNY /Billion)	Growth rate (%)
Classified by administrator	Welfare Lottery	151.03	176.53	16.88
	Sports Lottery	110.49	134.78	21.98
Classified by	Lotto	174.04	211.35	21.44

types of games	Instant scratch card	38.22	35.19	-7.93
	Video Lottery Terminal	22.42	28.94	29.08
<hr/>				
	Single Match Game	26.83	33.84	26.13
	Total	261.52	309.32	18.28

Source: Ministry of Finance of People's Republic of China, 2013

A number of highly distinctive features characterizes the Chinese lottery industry as a whole. First, it is relatively cheap to play: a single game usually costs about 2 Yuan. Second, there are quite a few varieties of lotteries to play compared with Western countries (Zeng & Zhang, 2007). Third, Chinese lotteries have a large number of customers because of their long history and elevated status in the market (Ye, Gao, Wang, & Luo, 2012). In 2012, the lottery gamblers in China was over 100 million (Yuan, 2014).

Although gambling is becoming a popular leisure activity, up to now only a few legal lottery games existed, while other types of gambling such as casino, horse racing remain banned in mainland China. Along with legal lotteries, illegal gambling has proliferated in mainland China, which involves online betting, underground casinos, and private lotteries, resulted in a significant increase in the rates of problem gambling (Tse, 2010). The Individual Visit Scheme began in 2003 allowed travelers from Mainland China to visit Macau on their own, rather than in a tour group. These policy changes also have led a rise in gaming tourism.

1.4 Gaming Studies

Modern gaming research, whether on the psychology or economics of gaming, traces its roots back to the first National (later International) Conference on Gaming and Risk-Taking held in Las Vegas in 1974 (Philander & Walker, 2012). At the beginning, research on gamblers' attitudes, characteristics, and gaming behavior based on psychology and sociology was of little interest to researchers, but this has become a popular topic of researchers since 1999 (Kwon & Back, 2009). Researchers seeking to identify patterns of impacts and factors influencing the magnitude and directions of gaming can learn from the tourism literature. The goal of such research is to promote participation, a sense of belonging, and the feeling that the participant is welcome and respected.

Gaming facilities can have an immediate and lasting impact on local economic development, transportation and land use (Harihill, 2004). Scholars within their particular discipline have undertaken gambling research with different perspectives, so a variety of gambling studies have been performed to understand the following subjects: 1) regulations and taxation, 2) management and marketing, 3) gambling effects on the community and residents' perceptions, 4) gambling behaviors, 5) video and Internet gambling, and 6) others.

Gambling research in management and marketing covered various managerial matters: gambling promotion, business relations, and gambling technology (Loroz, 2004). A number of articles regarding gaming behaviors and problem gambling supported the increased research interest in identifying customer behavior and examining casinos' impact on communities (Chen & Hsu, 2001; Lee & Back, 2006; Kang et al., 2007; Vong, 2008; Lee et al., 2010; Tam et al., 2012). There has been continuous interest since the casino industry came to the research forefront to examine the impact the gaming industry has on the community. The negative impact appeared in different ways, such as an increase in the crime rate and the devastation of tribal culture. With regard to gambling impacts on the community and residents' perceptions, although early phase of research focused mainly on the impact of Native American gambling on communities (Thin & Hsu, 1994), the scope of research has recently been broadened to include other states in the United States and other countries and regions such as South Korea, Macau, and South Africa (Back, 2005; Vong, 2008).

Several theories, namely, social exchange theory, life-cycle theory, social disruption theory, growth machine theory, and community attachment (Carmichael, 1996; Perdue, 1999; Vong, 2005; Vong, 2008; Lee, Kang & Reisinger, 2010; Harrill, 2011), have been adopted to explain residents' attitudes toward the impact of gaming.

The theoretical foundation of the major stream of gaming impact research has focused on the social exchange theory. The findings are robust and residents supported gaming if stronger positive impacts were perceived by them. Destination life-cycle theory and social disruption theory were used to explain the change of residents' attitudes toward gaming in some studies (Carmichael, 1996; Perdue, 1999; Vong, 2005). The growth machine theory was referred to in research of cities such as Macau with urban areas connected to a rapidly intensifying industry (gaming and tourism development). Researchers (Vong, 2008; Harrill, 2004) explained local economic growth and development through political coalitions and land use allocations as the results of gaming industry. According to community attachment theory, residents with high level of community attachment view the benefits of gaming more positively and more support tourism than others.

As such, social exchange theory has provided a conceptual base for the examination of impacts and support for gaming development (Kang, Lee, Yoon, & Long, 2008; Lee & Back, 2006; Lee, Kim & Kang, 2003; Perdue, 1999; Vong, 2008). The popularity of social exchange theory can be attributed to the fact that the theory recognizes the heterogeneous nature of a host community (Nunkoo & Ramkissoon, 2012). Past research has provided empirical support for social exchange theory at both the

individual and community levels. At the individual level, social exchange theory has offered an explanation for the robust finding that those employed in the casino who receive more direct benefits from the gaming industry have more positive attitudes toward gaming development (Caneday & Zeiger, 1991). At the community level, costs and benefits in economic, environmental, and sociocultural domains have been identified as significant influences on attitudes toward gaming development (Kang et al., 2008; Kim & Kang, 2003; Lee & Back, 2006; Vong, 2008).

Emerson (1976) indicated social exchange is a frame of reference that takes the movement of valued things (resources) through social process as its focus. The essential assumption of social exchange is that human relationships are similar to economic transactions. In Hong Kong, people's attitudes toward non-casino gaming are now in a balanced relation (Wong, 2011). Whereas in mainland China, the first lottery ticket was issued in 1987 for collecting money for charity affairs. The word "issue" was used instead of "sell" because the approving authorities regarded the charity lotteries not strictly gambling, and the winnings that people received not prizes, but rather only an incentive for their donation (Zeng & Zhang, 2007). Hong Kong and Guangzhou differ socio-economically and geographically. The degree of existing gaming development in each city also varies considerably. The framework of social exchange is broad enough

to be a model to examine residents' perceptions about non-casino gaming and appropriate for predicting their attitudes. Thus, the theoretical perspective developed for this study is based upon the social exchange theory.

1.5 Research Purpose and Objectives

The increasing popularity and rapid expansion of non-casino gambling as a leisure activity has generated a need for impact assessment. Although studies on the topic have become numerous (Kwon & Back, 2009), all the models to analyze gaming impact and scales to evaluate gaming community residents' attitudes have been developed in the context of casino gaming. Given the growing popularity of non-casino gaming, the influence of different forms of minor (compare to casino gaming) negative effects of gaming (lottery, horse racing, etc.) has not been assessed under a theoretical framework. Casino gaming, as compared to prevalent forms of non-casino gambling, may be performed less frequently but involve greater expenditures per gambling occasion (Franco, Maciejewski, & Potenza, 2011). Certain forms of gaming or their availability may be differentially associated with gaming problems. Understanding the impacts of non-casino gaming in a community becomes important, particularly as gaming research and policy efforts begin to focus on public health considerations such as economic and

legal issues as well as responsible gambling efforts.

Most of previous studies have been conducted in regions where gaming is identified as a major force in the tourism industry and researchers considered gaming as economic catalyst. Gaming is an effective part of tourism attraction and attracts visitors from outside, which means the participants are tourists from other places. However, gaming can also offer entertainment for local residents and satisfy the gambling demands of local inhabitants. The social impacts of developing non-casino gaming could be minor and lotteries soften the public's attitude regarding the risks associated with gambling (Eadington, 1999). Demand for gambling always exists. It would not be practicable to prohibit gambling altogether; doing so would only result in widespread illegal gambling (Gambling Ordinance, Cap. 148). Developing a framework to analyze the non-casino gaming can provide more information about how the gaming industry can meet the demand for gambling from the public and attract tourists in a balanced way.

Some of the gaming studies were conducted in rural areas with small population and narrow geographic scope. It is uncertain that previous models and theories are valid when applied in metropolises. Studies conducted with urban populations have found differences in demographics and perceived impacts (Hritz & Ross, 2010). Impacts are unique to individual communities because of their history, economic structure,

population composition, preexisting infrastructure, and tourism/gaming development patterns (Hsu, 2000). Urban communities are unique in that gaming is not necessarily a major driver of the local economy.

Moreover, although previous gaming impact-analysis has been comprehensive, most of the above studies group gaming impacts into positive or negative perceptions without distinguishing other factors that may affect residents' attitude (Chen, 2001; Lee & Back, 2006). While the literature on social exchange theory, life cycle, community attachment, and predictors of attitudes toward gaming development provide critical knowledge and assessment models, there remains divergent evidence that many models are under-specified. Residents' gaming behavior affect their perception of the industry when the local market emerged (Shoemaker & Zemke, 2005). The influence of community characteristics and residents' gaming behavior are rich areas for exploring current knowledge, which lead to research gaps.

The current study addresses the gaps mentioned above. The purpose of this study is to examine residents' perceptions of the impacts of non-casino gaming on urban communities and to compare their perceptions of gaming in different jurisdictional locations. The Hong Kong Special Administrative Region and Guangzhou are the case study cities for this research. It is of great significance to compare the influence of

different types of non-casino in similar cultures because such studies are more effective in pinpointing the subtle differences between the influences of similar cultural contexts on gaming. So far, few studies have been done in this domain. Moreover, the development of a set of variables and indicators under the key constructs also serve as a valuable tool for assessing residents' attitudes toward non-casino gaming communities.

Operationally, the research objectives are as follows:

1) To understand residents' overall attitudes toward non-casino gaming in their communities and the underlying dimensions of residents' perceptions about non-casino gaming in Hong Kong and Guangzhou.

2) To examine the characteristic of the residents with different attitudes toward the non-casino gaming.

3) To compare the similarities and differences between two different cities in terms of residents' perception of non-casino gaming.

4) To develop an analytic framework to describe and explain the causality among factors affecting residents attitudes.

1.6 Research Questions

Specifically, this study endeavors to answer the following research questions:

- 1) To what extent do the residents support non-casino gaming development in their community?
- 2) What are the major factors affecting residents' levels of support of non-casino gaming in Hong Kong and Guangzhou?
- 3) What are the demographic characteristics of residents with different support level for non-casino gaming? Are there significant differences between residents in perceived positive impacts and perceived negative impacts by different degrees of community attachment, gaming behavior, and power?
- 4) What are the similarities and differences when comparing different forms of non-casino gaming in Hong Kong and Guangzhou?
- 5) Are the residents more likely to support and have favorable perceptions of non-casino gaming when they believe the perceived positive impacts exceed the perceived negative impacts? What is the underlying relationship among perceived positive impacts, perceived negative impacts, power, community attachment and support level by residents?

1.7 Definition of Terms

Community

This study was conducted on the urban communities of Hong Kong and Guangzhou. The researcher assessed residents' reaction to non-casino gaming at the local level. The author adapted the definition of community as following "a group of people living in the same area under the same local government and laws. These people are bound together by a common environment and are held together by psychological as well as economic, social, and cultural bonds. Because of their common interests, needs, and concerns, they create for their own use institutions of a governmental, educational, economic, recreation, and religious nature. The population identifies itself with the community which may take the form of city" (Meyer, Brightbill, & Sessoms, 1969, p. 185). However, community cannot only be defined in geographical or political terms. In any given city or region, there may be several intermingled communities with different goals and opinions, particularly in large metropolitan areas such as Hong Kong and Guangzhou.

Additionally, the cities may provide open space for recreation; therefore, community is the place where people live that their individual recreation interests and needs are

best determined and served (Meyer et al., 1969).

Gambling and Gaming

The word “gambling” elicits many different interpretations and meanings contingent on cultural and historical contexts. One of the most widely used definitions of gambling was developed by Devereux (1979, as cited in Scull & Woolcock, 2003), i.e., “gambling is the betting or wagering of valuables on events of uncertain outcome” (p. 30). Thompson (1997) defined gambling as an activity in which a person subjects something of value—usually money—to a risk involving a large element of chance in the hopes of winning something of greater value, usually more money.

Gaming is the wagering of one’s discretionary or recreational income and does not jeopardize a person’s economic status or well-being (Geyer, 1993). Clark (1987) defined gaming as one of the human activities relative to wagering and is employed as a business and academic term. Tribe (2005) indicated that betting and gaming is a kind of “recreation away from home,” and therefore gaming is pursuit undertaken in leisure time. Lee et al. (2006) noted that gaming has transformed into a mainstream activity, and many see it as fundamentally similar to many other recreational options.

Gambling behavior itself can be explained in psychology, which attempts to link

behavior to rewards or punishments (more technically, to positive or negative reinforcements). Therefore, gambling is somewhat “sinful” because it can put a person’s livelihood at risk. For many people, gambling may simply mean inadvisable risk-taking, with either one’s money or one’s wellbeing, and this conceit may not be closely linked to the values of recreation.

Note the contrast between “gambling” and “gaming” found in the dictionaries. “Gambling” is more context-independent than “gaming” is (Yoong et al., 2013). The word gaming is a context-sensitive word that can take numerous meanings and shapes in different contexts, while it is an artificial way to improve the somewhat disreputable image of gambling. In this research, the term “gaming” is used instead of gambling to reflect the recreational component of the industry (Loi & Pearce, 2010).

Non-Casino Gaming

Gambling occurs in many forms, most commonly pari-mutuels (horse and dog tracks, off-track-betting parlors, Jai Alai), lotteries, casinos (slot machines, table games), bookmaking (sports books and horse books), card rooms, bingo, and the stock market. The types of gaming can be classified according the venue, and non-casino gaming is defined as certain forms of gaming do not rely on the establishment of casino. It

includes other popular forms of gambling, such as lotteries, wagering on racing, charitable gambling, and non-casino located gaming devices (Eadington, 1999).

1.8 Thesis Outline

The current study comprises seven principal chapters, namely, the introduction, literature review, research methodology, results of effects of residents' characteristics, results of structural models of residents' perception in two cities, discussions and implications, and conclusions. Chapter one starts with some relevant background information on the non-casino gaming industry within which the investigation was conducted. Subsequently, an in-depth examination is made of research gaps and purposes and of the specific objectives and research questions of the current study. Chapter two contains a comprehensive review of the existing literature with regard to the research context and the main constructs under investigation. Each construct is carefully scrutinized on the basis of prior studies to provide solid theoretical support for the study. Chapter three provides details of the methodology guiding the entire research procedure. This chapter also describes the research design, sampling technique, methods for data collection and analysis, and process of measurement development. In chapters four and five, the author explicitly compares the differences and similarities

of the two cities by analyzing data on the main survey. Chapter six discusses the findings regarding to the research objectives and considers their contributions for theory and practice, while Chapter seven summarizes the thesis and revisits the research objectives. The chapter further draws attention to limitations of the study and suggests directions for future research.

CHAPTER 2. LITERATURE REVIEW

2.1 Chapter Introduction

Building a theoretical foundation is achieved in chapter two with a review of related literature. This chapter summarizes the major works on social exchange studies, gaming impacts study, non-casino gaming studies and gambling research about Hong Kong and Guangzhou. Then, major factors affecting residents' support level of non-casino gaming are introduced, and several hypotheses for this study formulated. The methods adopted in the previous gaming impacts research are also summarized. Finally, the proposed conceptual model is presented based on the literature foundation.

2.2 Overview of the Study Context

2.2.1 Social Exchange Theory

The exchange theory is a frame of reference that takes the movement of valued things (resources) through social process as its focus (Emerson, 1976). Largely, human behavior is guided by considerations of exchange (Nunkoo & Ramkissoon, 2011). By focusing on the costs and rewards accruing to each individual in the exchange process, it is a subset of the rational choice model predicated on a “paradigm of rational action

borrowed from economics” (Coleman, 1986, p. 10). Social exchange theory offers an advantage in that it encourages a diversity of methods and evidence of different kinds such as the social-metric analysis of interpersonal choice, attitude scales in actual situations of behavior and relationships (Chadwick-Jones, 1976).

Scope conditions in sociology are universal statements that define the circumstances in which a theory is applicable (Cohen, 1989). The scope condition for the exchange frame of reference has been most simply defined by Blau (1964): “Social exchange as here conceived is limited to actions that are contingent on rewarding reactions from others” (p.19). Homans (1961) defined social exchange as the exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two persons.

Social exchange theory posits that all human relationships are formed by the use of a subjective cost-benefit analysis and the comparison of alternatives (Homans, 1974). At its most basic level, gambling is an economic exchange in which the gambler faces the choice between a certain loss (the bet) against an uncertain gain (the potential prize) (Rogers, 1998).

Starting with the early theoretical work of both Blau (1964) and Emerson (1976),

exchange research has focused on the connection between social structure and the use of power. Blau (1964) followed the definition of Weber and defined power as “the ability of persons or groups to impose their will on others despite resistance” (p. 115). Blau (1964) believed that inequality and power distributions were emergent properties of ongoing relations of social exchange. Inequalities, he argued, can result from exchange because some actors control more highly valued resources than others do. Social exchange theory has traditionally been applied to situations in which behavioral experiences have been repeated. Many of the basic theoretical concepts of social exchange are apt for predicting individual decision making relative to future action options (Napier & Bryant, 1980).

Ultimately, the individual makes action decisions in the context of benefits derived from each alternative. Thus, the individual’s estimation of the probability of receiving profits from a specific action option is extremely important in the decision-making process. Regardless of whether an action is group-based or individualistic, the rewards a person expects to receive from the action are compared to the costs the person must internalize to receive the rewards.

The researcher should examine basic concepts with the explicit understanding that most of them are analytic tools within exchange relations. The vocabulary of social

exchange theory includes the following: reward, reinforcement, cost, value, utility, resource, comparison level, transaction, profit, outcome (Emerson, 1976). They are unconsolidated blend of the technical vocabularies of research disciplines, notably psychology and economics. Despite the redundancy, the basic conceptions are few in number and their meaning fairly stable (Emerson, 1976).

Reward is the most common term (Emerson, 1976). Many types of rewards are acknowledged in social exchange theory. Among the most highly valued rewards a person may receive are symbolic rewards, such as recognition for contributions made to collective problem solving or feelings of personal gratification for accomplishing an objective (Napier & Bryant, 1980). Cost is the form of aversive stimuli encountered in a social transaction (e.g., painful or boring “work” performed) or the form of rewards foregone (Emerson, 1976). Certain types of benefits are likely to be exchanged in different ways. The less particularistic and the more concrete a benefit is, the more likely it is to be exchanged in a short-term manner. In contrast, benefits that are highly particularistic and symbolic are exchanged in a more open-ended manner.

Much of the research undertaken in the numerous studies examined here used social exchange theory; this theory has been a useful tool to explore social impacts (Deery & Fredline, 2012). In 1980, Napier and Bryant applied social exchange theory to ascertain

the attitudes of local residents toward outdoor recreation development. Their findings indicated that social exchange theory has significant potential for predicting attitudes toward future outdoor recreation development. The proposals for outdoor recreation development are strongly supported by individuals who have the highest potential of benefiting from the projects.

In tourism research, Perdue (1990) discussed the use of social exchange theory in the context of residents' perception of tourism impacts. Using exchange logic, Perdue, Long and Allen (1990) examined residents' perception of tourism and found that support for additional tourism development has a positive relationship with the perceived positive impacts of tourism, and negative relationship with the negative impacts. Ap (1992) indicated that power was the central variable of exchange and provides the basis for determining the form of the exchange relation. Power has been defined as the ability of one actor to influence the outcome of another actor's behavior or experience. Therefore, it is derived from having and controlling resources that another actor needs and values. Power is determined by access to resources (e.g., economic), position held in a community (e.g., officer), and skills (Latkova & Vogt, 2012). Ap further pointed out that the average of two actors' power or dependence on each other is cohesion, and greater cohesion is related to greater satisfaction with the

consequences of the exchange (that is, perceptions of impacts). Even the mere influence of power is important, the previous gaming impact researches, which adopted the social exchange framework, had neglected the consideration of it.

Nunkoo and Ramkissoon (2011) developed and tested a theoretical model to explore the relationships between dimensions of community satisfactions and attitudes to tourism and consequent support for the industry. The study concluded that satisfaction with an individual's neighborhood and community services are important in determining a community's attitude toward tourism and can therefore have important implications for tourism policy and planning in the region. Vargas-Sánchez, Porrás and Plaza-Mejía (2011) focused on a universal model based on the social exchange theory and tried to explain residents' attitudes toward tourism development. The results showed that the perception that the positive impacts outweigh the negative ones is the most powerful predictor of the residents' attitude.

Various studies (Yoon, Gursoy, & Chen, 2001; Dyer, Gursoy, Sharma, & Carter, 2007; Vargas-Sánchez et al., 2011) have approached the topic of residents' attitudes toward tourism development using structural equation models and utilized the social exchange theory as their theoretical basis. These studies have been carried out since the end of the 1990s and have taken particular areas or enclaves of diverse countries in

different continents, as their geographical areas of study. Each model tested the structural relationships between a different set of variables. However making improvements in successive studies should incorporate or eliminate certain variables. The different models proposed were applied in places that differed widely, both geographically and socio-economically. This also has suggested that the residents' attitudes variables included in the study should not be generated just from review of the literature. Supplementary methods should be used to clarify if items were appropriate for evaluating residents' attitudes toward non-casino gaming.

Many studies concluded that social exchange theory was valid in explaining the relationships among residents' perceived impacts, benefits, and support of gaming development. The theory postulates that the more dependent persons or communities are on gaming development, the more positive their attitudes will be toward tourism development. The theory found support in studies that demonstrated a positive relationship between personal benefits, positive perception of quality of life, and support for gaming (Lee, 2003). Back's (2005) study in Korea confirmed social exchange theory with the results that residents supported casino development when they perceived increasing coherent community spirits, quality of life, and employment opportunities. In addition, support level dropped when they were concerned about

gambling addicts, destruction of family, and other types of social cost. Vong (2008) explored the influence of personal factors on gaming impact perceptions in Macau. Her findings supported that the theory of social exchange is at play in the shaping of perceptions of gaming impact among Macau residents. There are certain privileged groups of workforce enjoy personal benefits from gaming development and therefore have developed either more positive perceptions about or higher tolerance for the various impacts of gaming development.

In summary, it appears that residents may be supportive if they believe that the benefits of the development of gaming outweigh the costs, which validates the social exchange theory. The social exchange theory is methodologically easy to apply because residents can evaluate the gaming impact in terms of perceived benefits or costs. When the researchers construct the model to examine the structural relationships among perceived impact, benefit, and support for gaming development, they neglected the residents' attitudes toward gaming and their gaming behavior. Moreover, even power relation between stakeholders in the gaming industry is considered an important component of the social exchange theory. The core ideas of power that comprise the social exchange theory have not yet to be adequately integrated in a single framework in research on community responses to gaming.

2.2.2 Impacts Assessment in Recreation and Tourism Studies

Recreation and leisure studies offer a number of intriguing parallels with tourism. Both have diverse origins, are inherently interdisciplinary, and combine traditional descriptive and applied research with innovative scholarship devoted to developing and testing concepts and theories (Smith & Godbey, 1991). Tourism, per the definition of the United Nations World Tourism Organization, is the activities of person traveling to and staying in places outside their usual environment for no more than one year for leisure, business, and other purposes. When people take part in gaming, some travel behavior may occur simultaneously. Often the economic dimension that has been the driving impetus behind permitting most forms of gambling.

Social impact assessment, a major component of overall impact analysis, is essential for understanding the comprehensive impacts of any social development. Commonly, the objective of social impact assessment is to ensure that the development (or planned events) maximize the benefits and minimize the costs of those developments, especially costs borne by the community (Vanclay, 2002).

In its broadest sense, social impact assessment refers to assessing the social consequences that are likely to be experienced by various social groups because of some action (Freudenburg, 1986). Vanclay (2002) defined assessment as the process of

analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions to bring about a more sustainable and equitable biophysical and human environment. Teo (1994) defined the cultural and social impacts of tourism as “the ways in which tourism is contributing to changes in the value system, moral and their conduct, individual behavior, family relationship, collective lifestyle, creative expressions, traditional ceremonies and community organization” (p.167).

Researchers have investigated residents’ perceptions of tourism-related impacts, such as event effects, casino gaming effects on host community and have defined attitudes as an enduring predisposition toward a particular aspect of one’s environment (Carmichael, 1996). Kang et al. (2008) defined residents’ attitudes toward legal gambling as the community residents’ evaluation of gambling as a tourism development choice by their community. Vong’s (2005) Gaming Impact Perception Matrix (GIPM) which was tested in Macao classified residents’ attitudes towards tourism development with specific reference to gaming.

Many studies have attempted to investigate resident opinions, but most have used different instruments, sampling techniques, and statistical analyses, making

comparisons difficult. Most social impact specialists stress that it is impossible to detail all dimensions of social impact. Further, most of the changes are seen as situation-specific and are therefore dependent on the social, cultural, political, economic, and historical contexts of the community in question (Vanclay, 2002). Vanclay (2002) also identified the following issues as important in the assessment of social impact: people's way of life, their culture, their community, their political systems, their environment, their health and well-being, their personal and property rights, and so on.

Many prior studies regarding the perceived impacts of community adapting casino gaming as a form of tourism development have reported both positive and negative attitudes among residents about casino development (Caneday & Zeiger, 1991; Eadington, 1986; Hsu, 1998; Pizam & Pokela, 1985; Stokowski, 1996). Similarities and differences were found in the literature with regard to residents' perceptions of the impacts of casino gaming. Results differed depending on a variety of variables, such as type of community, geographic location, composition of residents, economic structure, and so on (Ham, 1998).

There have been a number of studies aimed at developing a tourism impact scale, most notably Lankford and Howard (1994) and Ap and Crompton (1998). To help develop standardized instrumentation in studies assessing residents' attitudes toward

tourism, Lankford and Howard (1994) developed the Tourism Impact Attitude Scale (TIAS). This 27-item, two-dimensional scale examined the attitudes of residents to perceived tourism impacts and to the changes in their community from tourism development. The first factor was “concern for local tourism development,” which consisted of items that addressed the level and extent of promotion of local and regional tourism, its perceived impacts and government’s role in planning, and controlling its impacts. The second factor was “personal and community benefits” and addressed issues such as community infrastructure and public service, personal leisure opportunities, and jobs and the economic role of tourism at a personal and community level.

Ap and Crompton (1998) developed a tourism impact scale that comprised seven factors: economic, social and cultural, environmental, services, taxes, crowding and congestion, and community attitudes. The standard scales developed by Lankford and Howard (1994) and Ap and Crompton (1998) provided researchers and tourism planners with a tool for measuring resident attitudes toward tourists in different contexts and on different occasions, thus providing a basis for adequate comparative analysis. They are measuring instrument to monitor the physical, social, cultural or ecological environments of the tourism community’s and the host population’s acceptance of

visitors. Lankford (2001) also indicated that a taxonomic framework would be extremely difficult to identify because of the variation in communities, levels of development, land use, competing industries, sociodemographics of resident and tourist populations. At the same time, the measurement tool should be broad enough to provide information for long-term and effective planning (Harill, 2004).

Chen (2001) investigated residents' perceptions of tourism impacts in an urban area where the tourism industry is highly developed. The results indicated that the economic benefits factor had the strongest effect on total impact, followed by social costs, cultural enrichment, and environmental deterioration. Benefit-related attributes strongly affected supporters' attitudes toward future tourism development, whereas cost-related attributes heavily influenced those of moderators and opponents. Chen also concluded that because an urban population is likely to be more demographically heterogeneous, especially with regard to income and ethnicity, the differences in residents' attitudes toward tourism were significant among various demographic groups.

2.2.3 Gaming Impacts Research

Because of the rapid development of the gaming industry, research about residents' perceptions of gaming impacts has been documented for almost 30 years. Productive Commission, the first and only Australian national enquiry into gambling compiled the

following list of impacts of gambling: impacts within the industry, impacts on other industries, impacts on gamblers, impacts for problem gambling, impact on the community, impact on people's interests and activities (Hing, 2005). Gaming impact-assessment researchers are experiencing a stage of exploration similar to that of the general tourism scholars in the 1970s and 1980s. During such an inquiry period, researchers try to identify patterns of impact and factors influencing the residents' perception. Since the mid-1990s, more scholars began to introduce theories to assess the impact brought by the development of gaming industry. The theories applied in previous gaming impact-assessment research can be summarized in Table 2.1.

Table 2. 1 Theories Applied in Researches of Residents' Attitudes toward Gaming Development

Theories	General Conclusion	Sources
Social exchange theory	Residents who perceived they personally benefit from the casino development were likely to perceive economic and social impacts more positively, and more support the casino development.	Perdue, Long, & Kang 1999; Lee, Kim & Kang, 2003; Lee & Back, 2006; Kang et al., 2008; Vong, 2008
Destination life cycle	Community will improve during the initial phases of tourism development, but reach "carrying capacity". Residents express positive attitudes at an initial stage of tourism development followed by negative attitudes after the community reaches a certain level of acceptable change.	Carmichael et al., 1996; Vong, 2005
Social disruption	Communities initially enter into a period of generalized crisis, resulting from the transitional stress of sudden, dramatic increases in demand for public services and	Perdue et al., 1999

community infrastructure. Over time, the community is able to adapt to this stress by increasing public services and improving community infrastructure.

Growth machine theory	Cities where developing gaming industry, such as Macau, are destined to become growth machine depend on tourism, entertainment and event. As a result, resident attitudes go beyond the standard model of balancing revenue generation and socio-cultural impacts and that resident attitudes may actually focus on broad issues and economic rationale and direction of gaming-led development as policy.	Harrill, 2011
Community attachment	The differences in community attachment influenced residents' perceptions of benefits, and support for gaming development. Highly community-attached individuals view the benefits of gaming more positively and show a stronger support for tourism in their communities than less attached individuals.	Lee,Kang&Reisinger,2010

Early literature proposed two polarized views to explain gambling effects. The first supports the “economic boosterism” model, which suggests that gambling stimulates the local economy overshadowing the negative effects. The second hypothesis stated that gambling brings social disruption. It produces an extensive negative change in the social fabric of the community in terms of crime, bankruptcy, and social pathologies (Stokowski, 1996).

Recent studies on residents' attitudes toward the gaming industry found residents mostly exhibit mixed emotions toward the industry (Carmichael et al., 1996; Eadington, 1986; Hsu, 1998; Kang et al., 1996; Long, 1996; Perdue, 1999; Pizam & Pokela, 1985;

Vong, 2004, 2005, 2008). The increasing use of gaming development as an economic revival tool and catalyst in the past few decades has induced a stream of studies about this industry, its economic and social impact on the community, resident attitudes toward gambling, and perceptions of gaming impacts (Vong, 2008).

Residents' perceptions of casino development can be divided into economic, environmental and social impacts (Lee, 2001). Generally, gaming impacts were discussed in terms of benefits and costs. The literature accounts of the various costs and benefits associated with gaming development. Economic benefits included increased investment and tax revenues and improved standard of living; economic costs included casino revenue leakage, increased tax burden, and higher living cost. Social benefits included increased pride among residents and the preservation of local customs and social costs such as crime, drugs, prostitution, loan sharking, underworld dealings, corruption, traffic congestion, and compulsive gambling disorders, changes in individual value systems and lifestyles, and changes in community organization. Environmental benefits came in the form of improved infrastructure and enhanced educational and recreational facilities; environmental costs included traffic congestion, pollution, and crowds of visitors. Personal benefits included increased job opportunities and income; the potential costs were addiction to gambling, substance abuse, and the

occurrence of family problems (Carmichael & Peppard, 1998; Eadington, 1996; Lee, Kim, & Kang, 2003; Pizam & Pokela, 1985).

One of the earliest studies to examine the perception of casino gambling was Pizam and Pokela (1985), which studied the perceived impact of a casino on two small towns. As an exploratory study, in-depth interviews and focus groups were conducted with local residents and political figures to develop the instrument. They found economic impacts on communities in the following areas: overall tax revenue cost of public services, number of jobs for local residents, standard of living, cost of land and housing, and overall cost of living. In addition, social impacts of a hotel casino consisted of the impact on the overall character of the town, the quality of public services such as police and fire protection, the amount of traffic, the availability of entertainment and recreational activities, and the crime rate, including crimes involving drugs, prostitution, theft, violent crime, and organized crime. The study highlighted the fact that casinos were seen as a welcome relief for economic problems and as a catalyst to the areas' sagging tourist industries, and they were also perceived as having a variety of negative effects. The authors found little agreement on the positive impacts of casinos, whereas there was much agreement on the negative impacts of casinos, including a change in the image of the community and an introduction to crime. Eadington (1986) observed

the impacts of gambling in Deadwood, South Dakota, and drew three conclusions that, when gambling comes to community, follow: 1) economic benefits, social problems, and a changed image of the community within its region and state undeniably alter both the character and reputation of the community; 2) individual attitudes toward gaming depend largely on whether those changes are going to improve or deteriorate one's present quality of life in that community; and 3) economic activity tends to be concentrated in the geographic vicinity of the gambling district when gambling is legalized.

Whereas Pizam and Pokela (1985) examined the impact of potential casinos, recent studies have examined the perceived impact of casinos that actually exist in communities. Long (1996) studied the perceived impact of casino gambling on four small, rural communities in Colorado and South Dakota and compared the results to a control community. He concluded that the most difficult and least resolved issues relative to the introduction of gambling in communities relate to social consequences. Thus, planning is important at the every stage of development. In addition, such planning should start at the early conceptual stages. Roehl (1999) examined perceived quality of life for residents in Nevada. The quality of life was positively correlated with employment in a casino and casino patronage. In contrast, residents who perceived a

higher level of social impacts associated with the casino appeared to give lower scores on the quality of life scale. The results of this study suggested that there were similarities between the perceived impact of legalized gambling and the types of impacts from the tourism. Legalized gambling may be similar to other forms of mass tourism. The lessons learned from 45 years of worldwide mass tourism may be applicable in helping areas prepare for and cope with legalized gambling.

Vong (2005) explored residents' perceptions of the impact of gaming development in Macau after the introduction of new casino operators after 70-year-old monopoly system for gaming sectors. The study gave insight into residents' perceived costs and benefits regarding various dimensions. The researcher associated Butler's six stages to resident perceptions of gaming impact using the Gaming Impact Perception Matrix (GIPM). Based on cost-benefit perceptions of gaming industry in different stages, a perception typology was created. Vong found that based on subjective evaluations of benefits and costs brought about by gaming development, resident perceptions would be in a constant state of flux, being optimistic, neutral, or skeptical, along with the cycle.

Kang, Lee, Yoon, and Long (2008) assessed the impacts of casino gaming in Colorado. Results of their study suggested that as gaming development has evolved, residents' perceived positive gaming impacts significantly influenced residents'

perceived benefits and these positive benefits also positively affected residents' support level. Results of their study concluded that social exchange theory was valid in explaining the relationships among residents' perceived impacts, benefits, and support of gaming development.

Several studies focused specifically on the social impacts of riverboat casinos. Many of them chose Illinois as study site, where there were many opportunities for residents and guests to gamble. Pari-mutuel wagering is the oldest form of legalized gambling in Illinois, having been allowed and heavily regulated since the 1920s. The horse racing industry then lobbied the legislature to loosen their regulatory grip on the tracks, arguing that new sources of revenue were needed to ensure the continued success of their enterprise. Then the competition for the share of the gambler's wager was further fragmented by the availability of riverboat casinos, which appeared to be quite lucrative for the operators (Wicks & Norman, 1996). The Minnesota Gaming Commission identified 80% of the patrons to the Native American Casinos to be local. A study conducted by Thompson (1997) indicated that 83% of the Illinois riverboat patrons were local residents. Thin and Hsu (1994) studied the opinions of Illinois and Iowa residents on legalized riverboat casinos in their communities and the perceptions of the impacts of riverboat casinos. Residents agreed that the presence of riverboat

casinos was good for the community. All community quality attributes were perceived as either improved or unchanged because of the riverboat casino operations.

Wicks and Norman (1996) measured residents' attitudes toward a proposed casino development in Decatur, Illinois. Results indicated that residents did not favor the development of a riverboat casino in their city. They suggested that casino tourism should receive the same thorough planning as other economic development initiatives. Chen (2001) developed and validated an instrument to evaluate residents' perceptions of the impacts of gaming. Five constructs: free of crimes, economic effects, community image, community activities, and public services showed reliability and were further used as a base for building gaming development theories.

Another stream of studies examined the economics of gaming. Economic impact studies have tended to disregard the costs and emphasize the benefits that accrue to a destination area. Many of the benefits including increased employment and income, are comparatively easy to measure because they are tangible.

Lee (2011) used an input-output model to estimate the economic impact of the casino industry in Korea. Lee evaluated economic impacts of the Korean casino industry by multiplying the total casino receipts by the corresponding casino multipliers

in terms of output, employment, value added, income, indirect tax, and imports. The casino industry had a greater propensity for generating foreign exchange earnings than does the export industry. The findings suggest that developers should promote casinos as one of Korea's strategic export industries.

Smeral (1998) studied 12 casinos in Austria and found the expenditures of casino visitors for gaming and other goods and services created an effective demand. The above-average tax receipts increased the volume for redistribution. In addition, the expenditures of casino visitors induced a value chain and casinos improve the competitiveness of regions and attract additional demand.

The preponderance of evidence on the economic impacts of casino gambling suggested that output, employment, and income benefits accrue to the local communities (Chhabra, 2007). Therefore, total economic benefits were computed by summing up total impacts of gambling visitor expenditures, consumer surplus, tax and charitable contributions, and changes in transactional constraints.

The necessity of changes in residents' attitudes and perceptions over the various development phases of a tourist site has been strongly emphasized, as the gaming industry has evolved into the maturity stage of its life cycle (Carmichael, 1996).

Results of Hsu's (2000) research showed that support had declined over a 5-year period in Iowa because of an undesirable lag in the realization of benefits to the community. Negative impacts such as increasing crime rate and deterioration of community amenities and activities had set in, affecting residents' perceptions of the impact of riverboat casino gaming and community quality of life.

Lee (2003) conducted a longitudinal study, which sought to explore the changing attitudes of residents toward casino development in South Korea over 4 year. Before and after development of casino, residents had significantly different perceptions about it, but such perceptions kept the same 2 years after it opened. Residents consistently indicated the casino's positive economic impact was the most significant factor in predicting perceived benefit. Also, the benefit factor was found to be the most important factor in affecting residents' support level.

Vong (2008) examined the attitudes of Macau's resident changed in 2002 to 2007 years. The author found that in 2007 residents had developed a more conservative attitude about gaming. Three factors, the perceived impact on environment, economy, as well as cost of living, influenced overall gambling attitude.

To understand the differences in development attitudes among residents and elites,

growth machine theory has been particularly useful (Harrill, 2004). Because powerful political interests within and outside communities instigate many gambling initiatives, tourism researchers used growth machine theories and urban regime in developing a better conceptual understanding of the influence of this industry on resident attitudes toward tourism development. Harrill et al. (2011) explored resident attitudes toward gaming and tourism development in Macao within the context of growth machine theory. This study explained local economic growth and development through political coalitions and land use allocations, rather than local support as defined through socio-psychological exchanges or attachments. The study concluded that residents play an important role in destination branding and marketing.

The variables found in previous literatures can be summarized in the figure below.

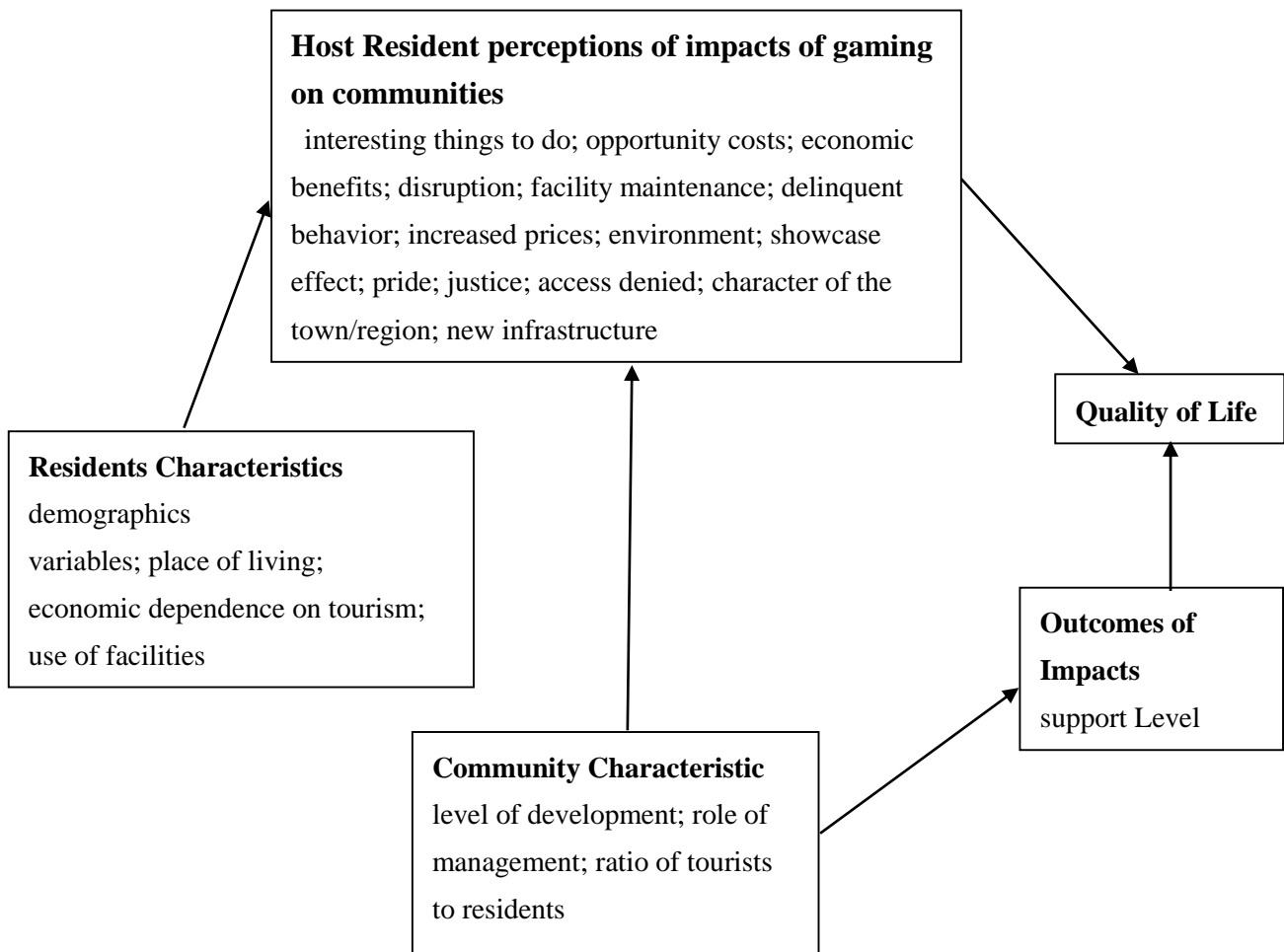


Figure 2. 1 Key Variables Found in Gaming Impacts Research

To summarize, academic concerns are about the gamblers themselves rather than the community at large. Over the years, with this special gaming activity has evolved dramatically in Hong Kong, it is necessary to explore the widespread impact in the society for deeper understanding of what the benefits to the community are.

2.3 Variables Affecting Residents' Perception towards Non-Casino Gaming

2.3.1 Socio-demographic Variables

Many studies have examined socio-demographic variables in relation to attitudes about gaming development. However, their findings have been contradictory. Fredline, Jago and Deery (2003) stated that personal characteristics affect resident perceptions, with those having similar characteristic being more similar disposed to changes in a given society. Pizam and Poleka (1985) found that support for casino legalization came more from the unemployed and from renters because of the perceived economic benefits that they would receive and from single or divorced individuals, males, and the younger age groups because of the lifestyle changes that they perceive would come about. On the other hand, opposition to the casino concept came from females, who in general were not as interested in gambling as men and who anticipated problem gambling among the male citizenry (pathological gambling seems to be a predominantly male problem), and from the elderly, who were more likely to feel threatened than the population at large by the negative side-effects. Home ownership status was associated with eight impact variables and the overall attitude toward legalizing a casino. Those who rented their homes were more positive toward the

impacts of a hotel-casino than those who owned their homes.

Caneday and Zeiger (1991) tested various demographic variables (age, gender, marital status, education, and annual income) to assess the correlation between those variables and the development of attitudes in Deadwood; only three significant relationships were established. Employment factors affect the development of attitudes in Deadwood.

Stitt and Giacopassi (2002) found that those with less education were less likely to indicate a perceived increase in the level of crime. Spears and Boger (2003) investigated residents' perceptions of Native American Gambling. They found that among sociodemographic characteristics, gender, age, income and employment status were strongly related to the perceived impacts of residents. Respondents who were female, relatively older, unemployed, highly educated, and had higher household incomes, perceived more of the negative impacts of gaming development.

Ham, Brown and Jang (2004) conducted a survey of Kentucky residents focusing on the current introduction of a land-based casino there. The result of their study showed that respondents' education, employment status, and religion, were statistically significantly differentiating variables for residents' inclination to support or oppose

casino gaming. No significant differences were found for age, gender, marital status, years lived in the community, household size, and annual household income. The results of the logistic regression indicated that respondents with a college education, employed people, and Catholics were more likely to be casino gaming proponents.

In Macau, Vong (2004) found that female respondents agreed significantly more than males with the statement, "I am morally against gambling." In addition, respondents who had completed a high school or university education felt more strongly than those with primary education that gambling had no use. Professionals did not agree that gambling was a way of getting rich, and this significantly differed from the view of those who were self-employed. Women and older people are generally considered more sensitive to social problems. Young residents with a college education were neutral or skeptical about the environmental impact brought about by gaming development.

Harrill et al. (2011) provided a very detailed socio-demographic profile of gaming supporters of Macau. People who supported gaming were middle-aged, married males and typically without advanced education. Their study showed that women, educated persons and professionals might form the core of gaming opponents. Large portions of the supporters were married, suggesting that attitudes toward gaming may not be related to whether one is single or married.

Tam, Tsai and Chen (2012) investigated the perceptions of residents about developing casino gaming in Hong Kong and compared differences in perceptions among respondents of different demographics. Their survey showed that in Hong Kong, men more than women believed that worsening living standards would be an issue if Hong Kong legalized casino gaming. Regarding the income level, lower income residents were sensitive to the possible negative social impacts. Regarding education levels, respondents with secondary or high school education perceived more potential economic benefits than those with a university or higher degree. Government officials and developers should continue to respond to the precarious balance between quality of life, gaming, and tourism development. Even some past research showed that sociodemographics are not usually significant in explaining variations in resident perceptions; the evidence was not conclusive (Carmichael, 1996).

When personal benefits was considered as controlling variable, Perdue et al. (1999) found that the characteristics of respondents didn't influence the perceived impact of gambling. Race and class may not be good predictors of support for gambling, no meaningful differences between the races when questioned about the casino's economic impact or the potential for negative social consequences (Wicks & Norman, 1996).

Previous discussions suggested that personal factors influenced resident attitudes

toward gaming. One of the weaknesses was that the social exchange theory is based off a rewards concept, and in some cultures, participants may seek a different reward.

2.3.2 Dependent Variable: Support Level for Non-casino Gaming

Residents' support for gaming development has been examined as the ultimate dependent variable of the study. This study, underpinned by social exchange theory, suggested that if residents express support for development it is considered as an opening to enter into an exchange (Ap, 1992). Scholars have found that local community residents are likely to support certain kind of industry development if they perceive that the industry results in more benefits than costs (Gursoy & Rutherford, 2004).

Pizam and Pokela (1986) adapted the earliest survey about residents' attitudes toward gaming in Hull and Adams, two towns in northeastern United States. The results showed that support for the hotel-casino projects was not strong. Nearly one-half of the respondents strongly opposed or opposed legalizing a hotel-casino. They indicated that six variables significantly predicted respondents' attitude toward legalizing a hotel-casino, namely, perceived impact of the hotel-casino on crimes involving drugs and prostitution; perceived effectiveness of the state government at regulating casino

gambling; perceived impact of the hotel-casino on the character of the town; perceived impact of the hotel-casino on the overall standard of living; the respondent's age and perceived impact of the hotel-casino on jobs for local residents. Thin and Hsu (1994) studied the opinions of Illinois and Iowa residents on legalized riverboat casinos in their communities and the perceptions of the impacts of riverboat casinos. Residents agreed that the presence of riverboat casinos was good for the community. Wicks and Norman (1996) measured residents' attitudes toward a proposed casino development in Decatur, Illinois. Results indicated that overall residents did not favor the development of riverboat casinos in their cities.

Long (1995) considered that because of the current economic conditions and a change in consumer behaviors that indicated more acceptance of gaming, support for gaming was on the increase. Further, Long (1996) assessed the early impacts of casino gaming in four communities of the United States. The residents of the four gambling communities did not indicate a strong anti-gambling sentiment. When asked whether their town had made the right choice to develop gambling, whether their town would have had a future without gambling, whether gambling had made their town a better place to live, and whether gambling was a pleasure to have in their town, Deadwood residents were neutral, while Colorado residents were less positive. In addition,

residents of both Deadwood and the Colorado towns disagreed strongly with the statements that gambling was inappropriate for their community and that they were embarrassed they lived in a gambling community.

To assess the overall attitude of residents, some scholars used the question directly to ask the resident how much they “agree[d] with the legalization of gaming” (Hsu, 2000; Pizam & Pokela, 1986; Stitt & Giacopassi, 2002). These studies were conducted at the early stage of gaming impacts studies.

Later on, some other researchers tried to use multiple measurement items instead to ask directly about the supportive/opposed level. Kang et al. (2008) consider dimensionality as an empirical question, and several representative items should be chosen for expected dimension to tap attitudes specifically directed toward gambling rather than general attitudes. A scale was developed to measure resident attitudes about casino gaming as a tourism development strategy. This included “I boast about living in a gambling community,” “I am embarrassed that I live in a gambling community,” “Having gambling in this town is a pleasure,” “This town made the right choice to develop gambling,” and “Gambling has made this town a better place to live.”

Carmichael (1996) explored whether overall attitudes toward casino development

might be explained by respondent perceptions of the specific effects of the casino development. They used four overall assessment variables and the two variables about residents' attitudes toward future expansion plans of casinos. First, they asked if the residents felt the place have been a less desirable place to live and if it would be better that the casino had never been built. The residents' attitudes toward these two statements were neutral. Second, they asked if the benefits of the casino outweighed the costs to the region and to the town, and nearly half of the residents supported the statement. Third, the future expansion plans included further casino expansion and the construction of theme park. The survey showed that perception of positive economic effects of the existing casinos made respondents more likely to support expansion, and those who did not perceive either negative environmental effects or adverse effects on their town would also supported expansion of the casino.

In Lee and Back's (2003) survey in Korea, the support factor was composed of five items: "I believe the future of our city is bright due to the casino industry," "I am proud that I live in this city," "the casino industry makes this city a better place to live," "I support development of the casino," and "the development of casino is the right choice for this city."

Kang et al. (2008) adapted three items to measure residents' support levels toward

limit-stake casino gaming in Colorado. The items included if they will enhance the development of community, willing to provide financial support for the development and actively involved in community issues. The residents expressed that they would like to enhance community development and would be actively involved in community activities, but they indicated they would not provide financial support for community development.

Tam, Tsai and Chen (2013) assessed Hong Kong residents' attitudes toward the development of casino gaming and compared with the attitudes of tourists.

An alternative dependent variable to "support for non-casino gaming development" is "quality of life." Quality of life represents the commodity bundle of attributes such as social characteristics, infrastructure, cost of living, income, recreational opportunities, and environmental amenities that characterize an area (Powers, 1980). Quality of life refers to one's satisfaction with life and feelings of contentment or fulfillment with one's experience in the world. It is how people view, or what they feel about, their lives. Different people may perceive similar situations and circumstances differently (Andereck & Nyaupane, 2011).

Research about residents' perceptions of quality-of-life in gaming communities has

been conducted in a variety of tourism settings, including rural and urban places, communities with either large or small populations, American and international contexts, and places with different types of casino developments and gaming opportunities (Stokoeski & Park, 2012).

Caneday and Zeiger (1991) concluded that residents' attitudes toward gaming depend largely on whether those changes are going to improve or deteriorate their present quality of life in that community. Roehl's (1999) study about Nevada's residents indicated that residents' perception of casinos' impact on quality of life depended on their perceptions of how casinos affect the mix of place characteristics. If economic benefits to the community and personal benefits were perceived as high and social costs associated with casinos perceived to be low, then quality of life was perceived to be higher. On the other hand, if respondents believed that casinos were associated with relatively more social costs and relatively fewer benefits (both economic and personal), then they perceived quality of life to be lower.

Purdue (1999) compared the social disruption theories and tourism development cycle for assessing the impact of gaming tourism on resident quality of life in communities. Purdue found that in gaming communities, those residents who were happy with and perceived that they benefited from gaming tended to be more positive

when assess local quality of life. Results supported the social disruption theory. Thus, quality of life was initially in decline and then improved with community and resident adaptation to the new situation. They further indicated that a key variable which could be incorporated into the gaming impact literature is rate of growth.

Quality-of-life studies are typically concerned with the way these factors effect individual or family life satisfaction, including satisfaction with community, neighborhood, and personal satisfaction (Allen, 1990). The development of gaming affects individuals positively and negatively in regard to their overall quality of living. Existing research about residents' perceptions of gaming impacts and specific measurable indicators (notably, economic well-being and crime impacts) provide a basis for understanding residents' quality-of-life in gaming communities,

Some studies assessed residents' attitudes over time to identify the change and trend. In Hsu's (2000) longitudinal study on legalized gambling and riverboat casinos, results indicated that respondents' support declined over the 5-year period. Lee and Back (2006) explored that attitudes of residents toward casino development change over a 4-year period. Support level significantly dropped after the casino opened. However, their support level did not change significantly from the time the casino opened to the present day. Vong (2008) studied changes in residents' gambling attitudes and perceived

impacts at the fifth anniversary of Macao's Gaming Deregulation. Her study showed that the residents had a more conservative in 2007. Lee and Kang (2010) compared the overall attitudes between Gangwon in Korea and Colorado in the United States. Gangwon respondents showed stronger support for casino development than Colorado.

A majority of the items appeared to focus directly on resident evaluations of gaming as a community development strategy. At the more empirical level, previous studies suggested that both personal factors and perceived negative and positive impacts influenced residents' attitudes toward gaming industry development (Carmichael, 1996). Based on previous research, at least three different subgroups could be said to exist within the community, namely, those who have largely negative perceptions of the impacts of the gaming activities on, those who are predominantly positive, and those who are largely unconcerned and perceived little or no impacts of the gaming activities. Moreover, attitudes toward gaming were significantly related to personal variables, perceived gaming impacts, and attitudes toward the developers (Carmichael, 2000).

2.3.3 Independent Variables

There are two important categories to consider when discussing the constructs used in this study. The first category contains the effects, which are perceived positive

impacts of non-casino gaming and perceived negative impacts of non-casino gaming.

The second category contains those variables that influence residents' perceptions of the impacts of non-casino gaming: community attachment, gaming behavior, and power.

2.3.3.1 Perceived Positive Impacts of Non-casino Gaming

In modern society, the gambling industry tends to be larger and more popular because it can contribute to revitalizing a local economy, satisfying tourists, and increasing employment and tax revenues (Lee, Kang, & Regisinger, 2010). In previous studies on resident perceptions of tourism and gaming development, most of the perceived-impact variables fell into three domains: social, economic, and environmental. Positive social and positive economic impacts were more powerful predictors of residents' support than any other variables (Lee, Kang, & Regisinger, 2010). When managed properly, gambling may help generate revenues to advance the economic and social development of a community. It is an effective mean to boost consumer spending and generate tax incomes, which may also help promote other related industries, such as printing, communication and advertisement, transportation, manufacture, and financing and banking(Li, 2012).

Traditionally, gaming business public relations programs have focused on the economic impact issues of tax revenues and job creation (Perdue et al., 1999). Within

communities where developed gaming tourism, the economic effects have been easily evaluated by using objective and direct indicators, such as adjusted gross revenues, total bets, gaming taxes and sales tax revenues, as measurement tools (Kang et al., 2008). Gaming has created wealth through real estate transactions, construction and general investment. It has also created jobs, purchasing power, and new business and career opportunities (Long, 1996). Among the positive results of the casino industry, the most obvious benefits to the society are the creation of new jobs and improvements in the prospects of local businesses (Carmichael, 1996). Kang has adapted perceived positive economic factors as follows: the standard living, employment opportunities, local tax revenues, quality of life, income increases, public infrastructures, educational funding, external investments, and volume of businesses. Vong's (2005) research in Macau also found that economic benefits items got the highest score among all the measurement items, which included the following: increase tourist spending, increase employment opportunities, and increase tax revenues. Table 2.2 shows perceived positive economic items exist in the previous literature.

Table 2. 2 Residents' Perceived Positive Economic Impacts towards Gaming

Items	Researches
Investment and business	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010
Employment opportunity	Pizam & Pokela, 1985; Hsu,1998; Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010;Tam et al., 2012
Tourist spending	Lee & Back, 2003; Lee et al., 2010
Tax revenue	Pizam & Pokela, 1985; Carmichael et al., 1996; Hsu,1998; Lee & Back, 2003; Lee et al., 2010; Tam et al., 2012
Public utilities/infrastructure	Lee & Back, 2003; Vong,2008
Standard of living	Pizam & Pokela, 1985; Lee & Back, 2003
Tourists visits	Tam et al., 2012
Personal income	Vong, 2008; Lee et al., 2010
Variety of shopping opportunities	Spears & Boger, 2003
Overall economy	Vong,2008

Many of the positive economic impact are easy to measure. Residents largely perceived the economic impacts as positive. However, some host communities perceived that casino development might cause more negative change (Carmichael, 1996). In addition, economic development did not always translate into increased personal income and purchasing power (Vong, 2008). For example, “tax revenue generation” was the only item receiving a higher rating in Hsu’s research in 1998.

Along with the positive economic impacts, positive social impacts were also fully investigated in the previous researches. Measurement items can be summarized as follows.

Table 2. 3 Residents' Perceived Positive Social Impacts towards Gaming

Items	Researches
Quality of life	Lee & Back, 2003; Spears & Boger, 2003; Lee & Back,2006; Vong,2008
Quality of security	Vong,2008
Community spirit	Lee & Back, 2003; Lee & Back,2006
Educational environment, including funding	Lee & Back, 2003; Lee et al., 2010
Pride of local residents	Lee & Back, 2003
Quality of public service	Pizam & Pokela, 1985; Chen & Hsu, 2001; Vong,2008
Quality of fire protection	Spears & Boger, 2003
Quality of service	Chen & Hsu, 2001
Increase safety	Harrill, 2011
Variety of restaurants	Spears & Boger, 2003; Vong,2008
Appearance of the community	Hsu,1998; Chen & Hsu, 2001
Image of community	Spears & Boger, 2003; Vong,2008
Opportunity to meet people	Vong,2008
Social opportunities	Spears & Boger, 2003
Cleanliness of the community	Chen & Hsu, 2001
Reputation of the community	Hsu,2000; Chen & Hsu, 2001
Welfare of the community	Tam et al., 2012
Availability of cultural activities	Chen & Hsu, 2001
Increase city attractiveness	Tam et al., 2012
Availability of housing	Hsu, 2000
Traditional and cultural preservation	Lee et al., 2010
Residents' pride	Lee et al., 2010
Availability of entertainment and recreation	Pizam & Pokela, 1985; Hsu,1998; Chen & Hsu, 2001; Tam et al., 2012; Vong,2008
Courtesy of residents	Hsu, 2000
Friendliness of residents	Hsu, 2000
Meeting interesting people	Spears & Boger, 2003

Respondents perceived positive social impacts were significant in affecting the

support level both before and after casino development (Lee & Back, 2003). Some studies also showed that residents' support for gaming development had a strong partial correlation with their perceptions of recreation opportunities, cultural opportunities, historical preservation, and public services (Hsu, 2000; Perdue et al., 1995). Consolidation of community spirit, improvement of educational environment, and pride of local residents were generated as the most significant factors influencing the attitudes of residents from several previous researches (Lee et al., 2003; Lee, 2006; Vong, 2005).

Table 2. 4 Summary of Residents' Perceived Positive Environmental Impacts in Community Developing Gaming

Items	Researches
Preservation of historic sites	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010; Harrill, 2011
Preservation of natural beauty	Lee & Back, 2003; Lee & Back,2006
Free of crowds in the public places	Hsu, 2000

Environmental impact items are comparatively less influential than positive social and economic impacts. Obviously, most of the environmental items are perceived to be negative; therefore, positive environmental items are only related to historic sites and natural beauty preservation.

In some studies, researchers assessed the positive impacts by the term of benefits on the personal and community levels. Kang et al. (2008) assessed the perceived benefits of casino, respondents agreed that the development of casinos benefited local residents

positively. In a 4-year longitudinal study by Lee and Back (2003), the benefit factor comprised four items: “casino development provides benefits to myself,” “casino development provides benefits to local community,” “casino provides various job opportunities,” and “casino provides casino related job opportunities” (Lee & Kang, 2010).

Based on the conceptual and empirical discussions from the literature, the following hypothesis is proposed:

H₁: A positive relationship exists between residents’ perceived positive impacts and the support level for non-casino gaming.

2.3.3.2 Perceived Negative Impacts of Non-casino Gaming

Despite the positive aspects of gaming, there are evident negative impacts associated with this industry, of which problem gambling is a major issue and can have drastic impact on a community if not managed properly. Many of the negative impacts, such as crime, political corruption, pollution and congestion, are relatively difficult to measure in market and intangible. For example, loss of life, suffering and bereavement, low quality of life, stress to crime victims, and presence of gamblers are some example of intangible impacts (Chhabra, 2007). Therefore, they can only be measured by investigating residents’ perceptions.

Table 2. 5 Residents' Perceived Negative Social Impacts towards Gaming

Items	Researches
Gambling addicts /Problem Gaming	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010; Tam et al., 2012
Bankruptcy	Lee & Back, 2003; Lee & Back,2006; Kang et al., 2007; Lee et al., 2010
Destruction of family	Lee & Back, 2003; Lee & Back,2006; Kang et al., 2007; Lee et al., 2010
Divorce	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010
Prostitution	Pizam & Pokela, 1985; Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010
theft	Pizam & Pokela, 1985
Increase of loan sharking	Lee et al., 2010; Tam et al., 2012
Violent crime	Pizam & Pokela, 1985; Hsu,1998; Chen & Hsu, 2001
Gang Activities	Hsu,1998; Chen & Hsu, 2001; Tam et al., 2012
Speculative	Lee et al., 2010
Organized crime	Pizam & Pokela, 1985; Hsu,1998;Chen & Hsu, 2001
Crime	Carmichael, 1996; Spears & Boger, 2003; Lee & Back, 2003; Lee & Back,2006
Alcoholism	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010
drugs	Pizam & Pokela, 1985; Hsu,1998; Chen & Hsu, 2001; Spears & Boger, 2003; Lee et al., 2010; Tam et al., 2012
Other individual crime	Chen & Hsu, 2001
Indirect gamble cost	Lee et al., 2010
Political corruption	Lee & Back, 2003; Lee et al., 2010
People move out	Kang, Long & Perdue, 1996
Outside control of government	Pizam & Pokela, 1985
Worsen the social stability	Tam et al., 2012
Affect the public health	Tam et al., 2012

Pizam and Pokela (1985) conducted an early study of residents' perceived impact on the proposed development of casino hotels in Massachusetts. The study demonstrated that residents perceived negative impacts resulting from the establishment of casinos in the community. These included drug availability, prostitution, organized crime, theft, and violent crimes, as well as a change of the image of the community. The consensus

for the community was a less than supportive view. Caneday and Zeiger (1991) noted that residents in Deadwood, South Dakota, perceived a negative change in the community through various social and economic impacts from the development of gaming.

Crime rates are always closely related to the negative impact of gaming. The common perception is that a legalized gambling environment increases criminal activities in its vicinity. Public concern about gaming often arises from fears about the connections between gambling behavior and gaming operations and organized crime and corruption (Stokowski, 2012). Giacomassi and Stitt (1993) reported similar concerns about crime from the residents' perspectives after the introduction of gaming in Biloxi, Mississippi. Stokowski (1996) employed a longitudinal approach to evaluate the relationships between crime and gaming in Colorado's rural gaming towns, tracing changes in reported crime levels prior to the gaming development, during the construction period, and after gaming's establishment. Her research showed that gaming development led to increases in specific types of crimes. Gaming counties had notable increases in property crimes but not violent crimes. Total arrests also increased over the course of the development. These included arrests for simple assaults, disorderly conduct, forgery and fraud, and narcotics and liquor violations. However,

crime increases were not proportional to increases in the numbers of gamblers, though increases in crime affected resident’s perceptions of safety. Hsu (2000) found that local crime rates grew in Iowa and Illinois; “free of crime” was found to be valid predictors of residents’ support for legalized gaming.

Lee and Back (2003) found that residents held stronger perceptions of some types of negative social impacts, such as gambling addiction, encouraging speculative gambling spirits, increasing bankruptcy rates, and destructive effects on the family. The negative social impacts were worse for the residents who were receiving social assistance who were underage (Vong, 2004). There has been a phenomenal rise in property prices and general cost of living in Macau. The residents also perceived negative impacts on the cost of living. Measurement items of perceived negative economic impacts in the literature are listed as below.

Table 2. 6 Residents' Perceived Negative Economic Impacts towards Gaming

Items	Researches
Costs of living	Pizam & Pokela, 1985; Hsu,1998; Chen & Hsu, 2001; Lee & Back,2006; Lee & Back, 2003; Lee et al., 2010
Tax burden	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010
Leakage of casino revenue	Kang et al., 1996; Lee & Back, 2003; Harrill, 2011
Traditional tourists no longer come	Kang et al., 1996; Harrill, 2011
Cost of public service	Pizam & Pokela, 1985; Chen & Hsu, 2001
Cost of land /housing/Property price	Pizam & Pokela, 1985; Chen & Hsu, 2001; Vong,2008

After casino development factors, residents perceived that environmental concerns such as crowding, traffic problems, and noise levels were not as bad as they had been thought of earlier. Their scores were also lower regarding negative economic impact factors, indicating that they did not experience those economic problems as much as they had expected to (Lee, 2003). Carmichael (1996) also showed that a majority of respondents in Foxwoods believed that traffic had worsened, that the historic value of their towns had eroded, and that their towns had become less desirable places in which to live after casino development. These results are consistent with previous studies on the impact of casinos (Pizam & Pokela, 1986; Stokowski, 1996).

Table 2. 7 Residents' Perceived Negative Environmental towards Gaming

Items	Researches
Traffic congestion	Pizam & Pokela, 1985; Carmichael, 1996; Hsu,1998; Lee & Back,2006; Lee & Back, 2003; Spears & Boger, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012
Quantity of litter	Spears & Boger, 2003; Lee & Back,2006; Lee & Back, 2003; Vong,2008; Lee et al., 2010
Noise level	Spears & Boger, 2003; Lee & Back, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012
Water pollution	Spears & Boger, 2003; Lee & Back, 2003; Vong,2008; Lee et al., 2010
Air pollution	Spears & Boger, 2003; Vong,2008
Destruction of natural	Lee & Back, 2003
Historic value	Carmichael et al., 1996
City overcrowded	Spears & Boger, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012

Environmental problems (including worsening traffic congestion, air pollution, and crowding in the city made residents develop negative sentiments or even resentment for gaming development. In Macao's case (Vong, 2008), environmental deterioration caused by a rapidly growing tourism and gaming industry became the focus of local media. These factors made residents' attitude become more conservative. In Colorado's case (Kang et al., 2008), the rapid increased traffic volume on rural roads leading to communities disrupted residents' life. In all the negative environmental impacts, a sharp increase of traffic was a problem in small communities developed gaming.

Based on prior discussions, the following hypothesis is therefore proposed:

H₂: A negative relationship exists between residents' perceived negative impacts and their support level for non-casino gaming.

2.3.3.3 Community Attachment

Several studies have investigated the effect of community attachment on gaming impacts as perceived by residents and residents' support for tourism development. Community attachment studies have evolved from the examination of place attachment. Place attachment posits that people connect with places emotionally and symbolically, often referred to as a sense of belonging (Tuan, 1977). Earlier scholars used it to identify

key attributes necessary to support specific recreation activities and study settings including recreation areas and natural areas. As the definition of Theodori (2001), community attachment is a type of place attachment not strictly defined by geographical boundaries and thus involves the social and personal aspects of community. McCool and Martin (1994) defined community attachment as the “extent and pattern of social participation and integration into community life, and sentiment or affect toward the community” (p.30). McCool and Martin (1994) found that attachment might influence the costs and benefits of tourism. The more attached citizens were to their community, the more likely they perceived the benefits of tourism positively and were thus inclined to minimize the negative impacts. Gursoy, Jurowski, and Uysal (2002) argued the more attached people were to their community, the more likely they were to perceive that the local economy needed assistance. This may have interpretation of their perception toward the costs and benefits. If people feel that new investments are needed in their regions, they are likely to evaluate the benefits more positively and minimize the negative impacts. As a result, residents who express a high level of attachment to their communities are more likely to regard tourism as both economically and socially beneficial (Gursoy & Rutherford, 2004).

The systemic model based on length of residence is appropriate for the study of

community attachment in mass society (Kasarda & Janowitz, 1974). In addition, community attachment can be measured by age, income, birthplace, ethnic heritage, and level of tourism development (McCool & Martin, 1994; Um & Crompton, 1987). Kasarda and Janowitz (1974) divided community attachment into three indicators: sense of community, interest in community, and hesitancy to leave. These indicators were influenced by numbers of relatives, number of friends, organization memberships, and informal social activities.

Lee (2001) examined residents of the Kangwon Land Casino communities in Korea and concluded that residents' community attachments were important precursors indicative of their perceptions of benefits and support for tourism development. Some socio-demographic characteristics, such as length of residence, education, and income were significantly related to residents' community attachment. Furthermore, Lee & Kang (2010) compared residents' community attachment in two rural gaming communities in United States and South Korea. Their findings supported the notion that the differences in community attachment influenced residents' support for gaming development and perceptions of benefits. Residents who had strong community attachment were more likely to perceive positive social impacts of casino development and were less likely to perceive negative social impacts. In addition, the community

attachment level influenced perceived benefits and support. The higher the community attachment level, the stronger support for gaming development among residents and the perceived benefits (Lee & Kang, 2010).

However, contradictory findings regarding the influence of community attachment on support and impact perceptions have been reported. Even Davis, Allen and Cosenza (1988) found that attached residents are likely to form positive perceptions of the economic and social impacts as well as support level, while Lankford and Howard (1994) were unable to find a clear connection between attachment and support level. Gursoy et al (2002) argued the more attached the people to their community, the more likely they evaluate the benefits more positively and minimize the negative impacts. Deccio and Baloglu (2002) found community attachment had no significant impact on perceived opportunities and support. In the face of such conflicting results, the following hypotheses are developed:

H_{3a}: Residents' perceived positive impacts of non-casino gaming are positively related to their level of community attachment.

H_{3b}: Residents' perceived negative impacts of non-casino gaming are negatively related to their level of community attachment.

2.3.3.4 Gaming Behavior

In Western literature, gambling frequency and problem gambling has been consistently increased with more favorable general attitudes toward gambling (Wu, 2013). One variable that has been shown to aid in the understanding of residents' attitudes in gaming activities is if they participate in it and invest in it. The rapid growth of gambling among Chinese has led to increased scholarly interest in investigations of Chinese gambling behavior (Liu & Li, 2011).

In many regions that have developed gaming industries, gaming opportunities are offered to both residents and tourists. Previous research indicated that local residents' gambling behavior affected their attitudes toward gaming developing to some degree. The research topic included accounting for attitudes and motivations as well as behaviors of individuals when it came to gambling. The gambling behavior of local residents was also explored, linking local residents' gambling behaviors to their relationships with visiting friends and family.

Hsu (2000) indicated that the more often the respondents visited the casino, the more positive their perceptions were concerning the effects of the casino. Casino customers, frequent customers in particular, saw the impact of the casino more favorably for a number of reasons. Vong conducted a survey of Macao residents' gambling attitudes

and behaviors in 2002 and 2007. The results of the surveys indicated that players generally had more positive attitudes toward gambling than non-players.

The study of the early effects of casino gaming on eight communities in the United States with riverboat gambling conducted by Stitt and Giacomassi (2002) concluded that those that gamble are more likely to view casinos in a positive light. In addition, gamblers tended to indicate no change of quality of life and increase in crime. They explained the potential reasons for this including the fact that most gamblers gain satisfaction or utility from gambling. Beyond this, familiarity with casinos may break down well-entrenched stereotypes about casinos and crime.

Based on the above discussion, a set of hypotheses related to gaming behavior are formulated:

H_{4a}: Residents' gaming behavior negatively influences their perceived negative impacts of non-casino gaming.

H_{4b}: Residents' gaming behavior positively influences their support level for non-casino gaming.

H_{4c}: Residents' gaming behavior positively influences their perceived positive impacts of non-casino gaming.

2.3.3.5 Power

Power plays an important role in any exchange, nevertheless, the influence of power has not been considered in previous gaming impact studies. Power relation between stakeholders in the tourism industry is considered an important component of the social exchange (Ap, 1992). Ap (1992) suggested that the inclusion of power is necessary because power determines the exchange partner's ability to take advantage of the outcome of the exchange. Power is manifested in all social relations, be they linguistic, institutional, religious or economic, and is present in institutions of all kinds, from those that have economic and political significance to non-political ones (Foucault, 1980).

Emerson (1962) pointed that power is potential influence and the ability of one actor to control or influence another actor's conduct. Accordingly, power is thus often latent and will only occasionally be activated as it "will not be, of necessity, observable in every interactive episode" (Emerson, 1962, p. 32). Dahl (1957) pointed to power as the extent to which one actor can get another to do something he would otherwise not do. Emerson's (1962) and Dahl's (1957) idea that power is imbedded in relationships is also echoed in contemporary tourism literature (Nunkoo and Ramkissoon, 2011; Nunkoo et al., 2012). In the context of understanding residents' attitudes toward gaming, power is the residents' ability to secure personal returns from having gaming in their

community.

In an exchange situation, individual power comes from control over the resources that the partner needs and from control over the returns obtained from the exchange (Kayat, 2002). The resources owned by residents are important sources of power because they dictate residents' abilities to influence the development of gaming to satisfy their needs. A resource is anything, such as property, money, skills, competence, or knowledge (Kayat, 2002). This relational conception of power has two central features that has helped to generate the large body of social exchange research that exists today. First, power is treated explicitly as relational not simply the property of a given actor. Second, power is potential power, derived from the resource connections among actors that may or may not be used (Cook & Rice, 2003).

In Nunkoo and Ramkissoon (2011), the concept of power was an important construct influencing overall satisfaction within a community. Powerful residents were more satisfied with their community than less powerful ones.

To evaluate power owned by the residents, Kayat (2002) introduced five determinants. Residents had power if they indicated they had the following resources: ownership of land, access to capital (accumulated stock of wealth, for example, money

or property, used by a person in business), knowledge level (resulting from education and experience), youth (40 years old or younger), and leadership position in the community.

Based on this discussion, the following hypotheses are developed:

H_{5a}: A negative relationship exists between residents' power and the perceived negative impacts of non-casino gaming.

H_{5b}: A positive relationship exists between residents' power and the perceived positive impact of the non-casino gaming.

2.4 Proposed Conceptual Model

Based on the review and discussion of the previous literature, a summary of the research purpose and research questions are presented in the following table.

Table 2. 8 Summary of the Research Objectives and Research Questions

Research Objective One: Assessment

Research Questions:

- 1) To what extent do the residents support non-casino gaming development in their community?
 - 2) What are the major factors affecting residents' levels of support of non-casino gaming in Hong Kong and Guangzhou?
-

Research Objective Two: Identification of community sub-groups

Research Question:

- 3) What are the demographic characteristics of residents with different support level for non-casino gaming? Are there significant differences between residents in perceived positive impacts and perceived negative impacts by different degrees of community attachment, gaming behavior, and power?
-

Research Objective Three: Comparison

Research Question:

- 4) What are the similarities and differences when comparing different forms of non-casino gaming in Hong Kong and Guangzhou?
-

Research Objective Four: Identification of structure relationship

Research Question:

- 5) Are the residents more likely to support and have favorable perceptions of non-casino gaming when they believe the perceived positive impacts exceed the perceived negative impacts? What is the underlying relationship among perceived positive impacts, perceived negative impacts, power, community attachment and support level by residents?
-

The major purpose of this research is to examine the impact of non-casino gaming in urban areas with residents as major participants and to develop an analytic and monitoring framework for non-casino gaming. Based on knowledge of the theory and

empirical research, the researcher developed the conceptual model of non-casino gaming impact. This model is the orientation to look at the social world. It provides collections of assumptions, concepts, and forms of explanation (Neuman, 2000).

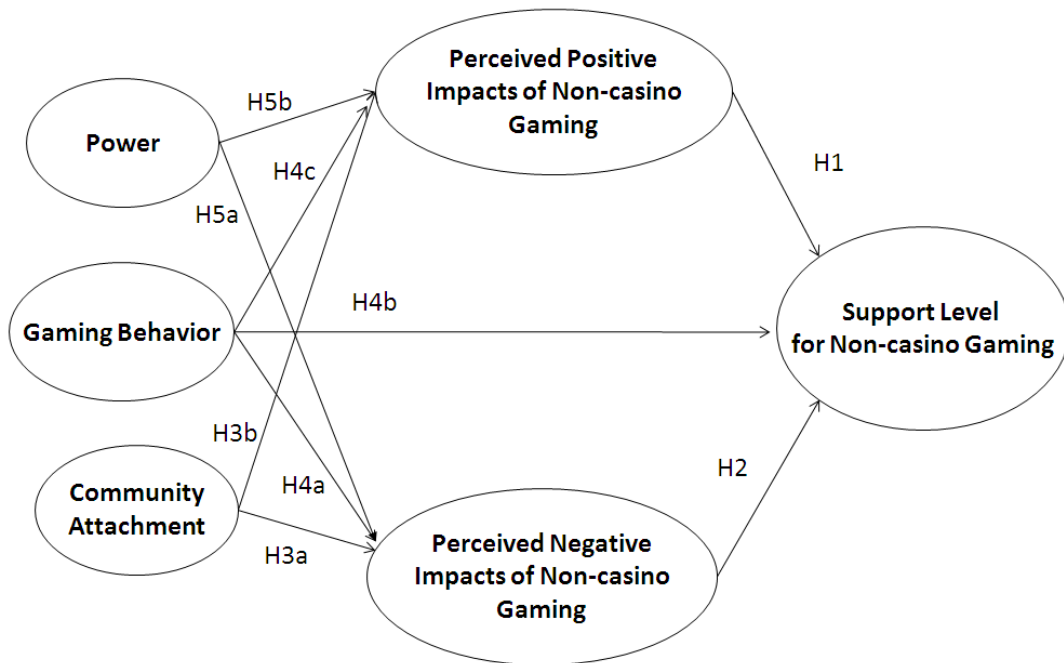


Figure 2. 2 Proposed Non-casino Gaming Impacts Model

The researcher hypothesizes on the relations between the constructs and then tests the hypothesized structure statistically. The hypotheses are summarized below:

H₁: A positive relationship exists between residents' perceived positive impacts and their support level for non-casino gaming.

H₂: A negative relationship exists between residents' perceived negative impacts

and their support level for non-casino gaming.

H_{3a}: Residents' perceived positive impacts of non-casino gaming is positively related to their level of community attachment.

H_{3b}: Residents' perceived negative impacts of non-casino gaming is negatively related to their level of community attachment.

H_{4a}: Residents' gaming behavior negatively influences their perceived negative impacts of non-casino gaming.

H_{4b}: Residents' gaming behavior positively influences their support levels for non-casino gaming.

H_{4c}: Residents' gaming behavior positively influences their perceived positive impacts of non-casino gaming.

H_{5a}: A negative relationship exists between residents' power and the perceived negative impact of the non-casino gaming.

H_{5b}: A positive relationship exists between residents' power and the perceived positive impact of the non-casino gaming.

In this model, there are six latent constructs (also termed latent variables), which cannot be observed directly. The proposed model serviced as the framework for follow-up analysis base on the empirical data collected from two cities.

Exogenous latent variables are synonymous with independent variables; they “cause” fluctuations in the values of other latent variables in the model (Byrne, 2010).

In addition, no other construct in the model explains them. In the proposed model, power, gaming behavior, and community attachment are exogenous variables.

Endogenous latent variables are influenced by the exogenous variables. These variables are theoretically determined by factors within the model (Hair, Black, Babin, & Anderson, 2010). The endogenous latent variables in this study are residents' support levels for non-casino gaming, perceived positive impacts of non-casino gaming, and perceived negative impacts of non-casino gaming.

The researcher cannot measure exogenous and endogenous variables directly. The researcher will further develop the exogenous and endogenous latent variables linking to several observed variables that are direct measurements. More details about the observed variables or measureable indicators are introduced in the chapter three.

The support level variable comprises the items intended to assess to what extent the residents support the development of non-casino gaming and additional gaming development. The construct of perceived positive impacts was made up of the most important beneficial impacts related to non-casino gaming. The negative impacts variable was made up of items that residents perceived negative effects because the development of non-casino gaming.

Moreover, the gaming behavior of residents is considered as the factor influencing the attitudes of residents and their perceptions. Two community characteristic variables were included for a more comprehensive model of residents' perceptions of gaming development: community attachment and power. Community attachment generally includes length of time living in community, which can be combined with the social-demographic characteristic. Lastly, residents' characteristics included gender, age, annual income, education, and length of residency or ownership and are analyzed to see how they affect the perceptions of residents.

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Chapter Introduction

Research methodology covers all aspects of data collection and interpretation. It includes the research design, the research instrument and the analysis of data (Poynter, 1993). In this chapter, the research design of the study, which drives the direction, structure and process of research, is laid out. Procedures in relation to sampling and data collection for the pilot test and main survey are described, followed by an introduction to the method of data analysis. Next, the initial research instrument was developed by combining the literature review and the results of qualitative research. Finally, pilot tests evaluated the research instrument on a small sample selected from each city. The research instrument was modified according to the results of pilot test.

3.2 Research Design

Research is supposed to involve a methodical process that begins with a desired end-product and then follows a logical process of starting from nothing and working toward that goal (Finn, Elliott, & Walton, 2000). A suitable research method should be a logical, structured sequence for achieving the desired results of the research program. “It is not

the research project itself, but is more akin to a flight plan that a pilot will lodge to indicate how he/ she will fly from point A to point B” (Neuman, 2000, p.53).

3.2.1 Methods Adopted in Previous Research

There is little doubt that the dominant paradigm prevailing in research of residents’ attitude in the gaming community is positivism. By far, the most popular recent explanation for gaming has been cognitive-based, which includes aspects such as perception, reasoning, and decision-making (Lam, 2007). According to Herman (1976), most gambling research has been conducted in three ways: (1) using written self-reporting surveys, (2) using experiments in which solicited subjects play gambling games in simulated gambling situations, and (3) using experiments in which solicited subjects play games in actual gambling situations. In the vast majority of research, quantitative research method were used accompanied by qualitative method in order to refine the measuring instruments. Face-to-face or telephone surveys have been commonly employed to access the perceptions and attitudes of residents. It seems that the survey was determined to be the most effective and efficient method of reaching the dispersed population in the community. The table below (Table 3.1) lists the methodologies of some dominate studies on measuring gaming impact. Therefore, quantitative methods, which are ideally suited for measuring attitudes to non-casino

gaming from a large sample, was utilized as the study method.

Table 3. 1 Methodology of Dominate Studies on Gaming Impact

Study	Methodology	Measurement	Theory Applied
Pizam & Pokela (1985)	telephone interview	political impact, economic impact, social impact	N/A
Kang et al. (1996)	hand-delivered questionnaire	items including evaluation/benefits/impacts	N/A
Carmichael (1996)	telephone interview	crime, traffic, less desirable, historic, tax bases, add income, unemployment, town benefit, region benefit, never built, expansion, theme park	N/A
Hsu(2000)	mailed questionnaires	perceived impacts including community amenities and activities, public services , cost of living, free of crime and hospitality	N/A
Lee, Kim& Kang(2003)	Direct face-to- face survey	items of residents' perceptions, representing economic, socio-cultural, and environmental impacts	Social exchange theory
Vong (2005)	Direct face-to- face interview	economic, social, and environmental impact dimensions	N/A
Lee& Back(2006)	self- administered questionnaire	Negative social, negative environmental, negative economic, positive social, positive environmental, positive economic	Social exchange theory; Social carrying capacity theory
Kang et al. (2008)	self- administered mail survey	perceptions of the impacts of casino gaming, perceived benefits of casino development, and the level of support by residents for community development.	Social exchange theory
Vong(2008)	telephone interview	residents' attitudes toward gambling, gambling behavior, Perceived Gaming Impacts(Environment/ Public Service/ Recreation and Entertainment/ Economic Improvement/ Cost of Living)	N/A

Tam , Tsai & Chen(2013)	Direct face-to-face interview	economic stimulation, living standard, social issues, gambling addiction	N/A
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3.2.2 Rationale for Choosing Structural Equation Modelling

Based on the research purposes, objectives, and questions, it is necessary to analyze the associations between and among a number of dependent and independent variables in this study. However, univariate and bivariate statistical techniques are limited in examining relationships among different constructs simultaneously, leaving some interactions unexplained (Crowley & Fan, 1997). As such, the need for a more sophisticated and rigorous statistical technique capable of testing several relationships concurrently becomes evident (Nunkoo & Ramkissoon, 2012). Structural equation modelling (SEM) has been the preferred method for assessing the proposed model because of its merits over other popular techniques such as regression.

SEM has been widely used in a number of disciplines, including psychology, sociology, economics, cross-cultural research, management, environmental studies, and marketing (Reisinger & Mavondo, 2006). It allows researchers to study real-life phenomenon and “provides a useful forum for sense-making and in so doing link philosophy of science to theoretical and empirical research” (Bagozzi & Yi 2012, p. 12). During the last decade, SEM has been used in a number of tourism studies because

many tourism, marketing, psychological or cultural concepts are latent constructs measured by multiple observed variables (e.g., tourist satisfaction, perceptions, attitudes, values, loyalty) (Reisinger & Mavondo, 2006).

The strength of SEM lies in the assessment of latent (unobservable) variables at the observation level (measurement model) and testing hypothesized relationships between latent variables at the theoretical level (structural model) (Hair et al., 2010). SEM is well suited for model testing because the researcher can specify causal models that correspond to a theoretical perspective. This research employed SEM to specify and estimate the causal relationships among the variables in the proposed models involving a number of dependent and independent variables simultaneously, through which the researcher can test the plausibility of the models on observed data (Martens, 2005).

SEM outperforms ANOVA and multiple regression techniques in its ability to offer a straightforward method for uncovering latent variables at a higher level of abstraction (Kline, 2011). Latent variables, which are hypothetical constructs that cannot be directly measured or observed in a structural equation model, include exogenous (independent) and endogenous (dependent) variables. The former type of variables have unknown causes that are not displayed in the model but are determined by factors outside the model, whereas the latter type of variables have explicit causes within the model (Byrne,

2010). Exogenous variables in the model used in this study are as follows: power, community attachment, and gaming behavior. Endogenous variables are as follows: perceived positive impacts, perceived negative impacts, and support level for non-casino gaming.

Even there are now several programs can be chosen, AMOS(Analysis of Moment Structures) was the most suitable software for this research, for the following reasons: First, it enables analyses of multiple groups and comparison of the two datasets collected from Hong Kong and Guangzhou. Second, it provides the graphic interface in terms of its model building, model specification, and model execution capabilities. Third, AMOS graphic interface has extensive capabilities for the conduction of post hoc analyses and helps the author substantiate the best-fitting model by theory and empirical research (Byrne, 2010). Thus, the fit of the measurement model and the structural model were tested using the AMOS 20.0. The maximum likelihood (ML) method of estimation in combination with the two-stage process was used to analyze the data.

3.2.3 Research Procedure

This study is quantitative in nature because the researcher collected data from large samples and expressed research findings in numerical and objective values (Cooper &

Schindler, 2006). In this sense, it uses a deductive approach and seeks to establish facts, make predictions, and test hypotheses. The main body of the study is surveys administered in Hong Kong and Guangzhou. Surveys are appropriated for research questions about behavior, attitudes, opinions, and characteristics (Neuman, 2000). In addition, survey research is the best method for the social researcher who is interested in collecting original data for describing a population too large to observe directly (Babbie, 2004). However, questionnaires for quantitative research in the sciences are designed with the intention of being operational definitions of concepts and instruments that reflect the strengths of attitudes, perceptions, views, and opinions (Black, 1999). The researcher attempts to employ a combination of both qualitative and quantitative approaches as the tactical tools to achieve the research goals. Therefore, qualitative research was conducted in this research as a starting-point to facilitate the quantitative research (Black, 1999).

The study took place in two locations, including the administration of a survey in the Hong Kong Special Administrative Region and another comparative survey in Guangzhou, in mainland China. Each part followed the sequence of literature review, measurement of items modified with interviews and pilot tests, main survey, and data analysis (see Figure 3.1). The comparative design was borrowed from the strategies

suggested by Bryman (2001) and entailed the study using identical methods of two contrast cases. It embodies the logic of comparison in that it implies that social phenomena can be better understood when they are compared in relation to two meaningfully contrasting cases or situations (Bryman, 2001).

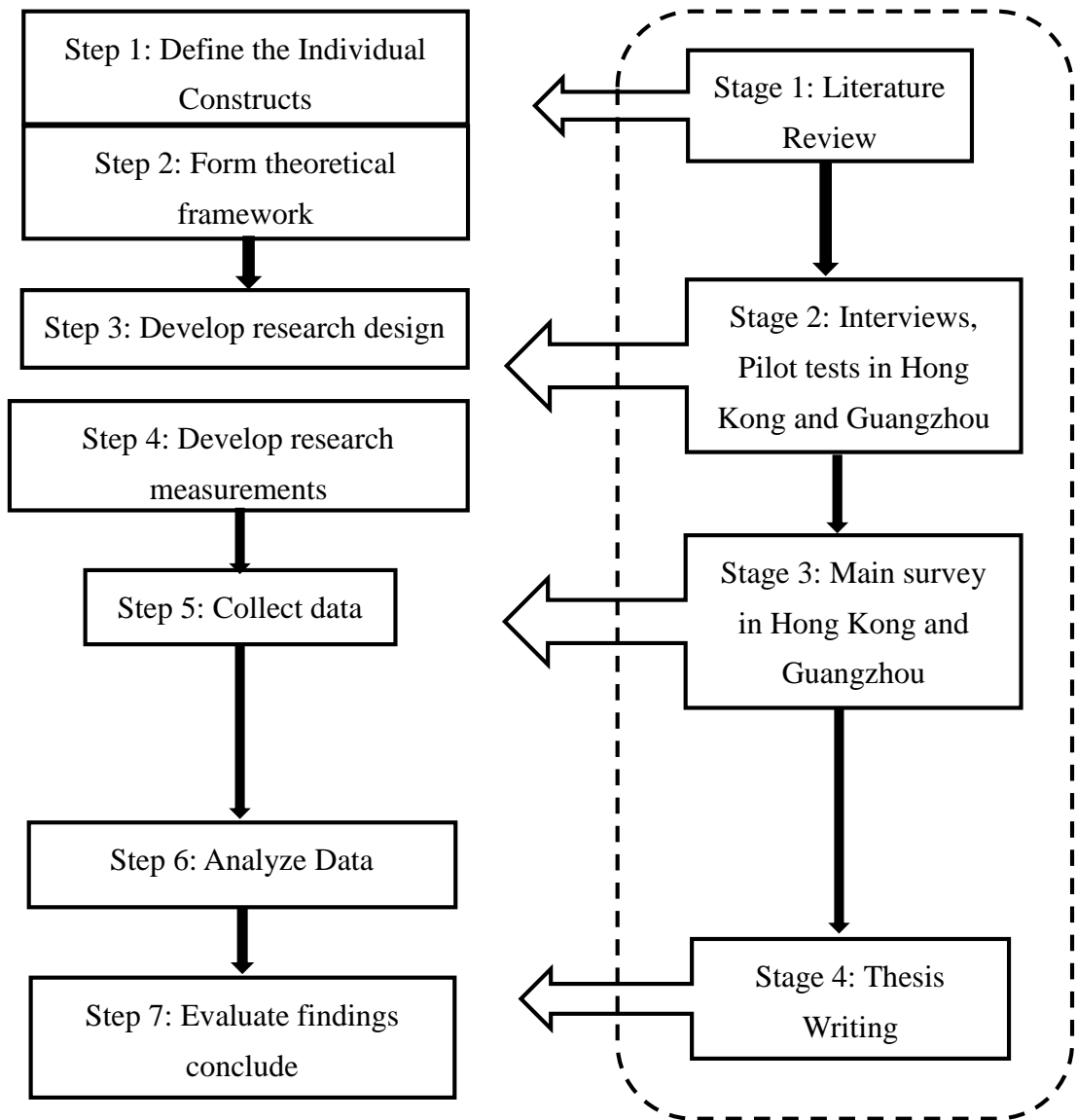


Figure 3. 1 Research Procedure

3.3 Data Collection

3.3.1 Interviews

While a number of gaming impacts studies have been published, they were not conducted in Chinese or in non-casino contexts. Instruments developed in other cultural settings were not suitable for this research because of cultural differences between the Chinese and non-Chinese (Tsai et al., 2010). To drive measurement items fit for the Hong Kong context and reduce the irrelevant impact items, interviews were conducted. The interviews were semi-structured. Semi-structured interviews combine the flexibility of unstructured interviews with the comparability of key questions. Interviews of a semi-structural nature will have specified questions but will allow more probing to seek clarification and elaboration. In interviews, the researcher responds in a flexible way to the interviewees and allows them to express ideas in their own words (Finn et al., 2000).

In semi-structured interviews, a checklist includes all items related to the perceived impacts draw from the literature was given to the interviewees. Residents will be required to choose the most important ones based on personal judgment. The interview participants were recruited via convenience sampling.

For additional input on perceived impact items according to the special context of this study, this checklist was supplemented by asking the following open-ended question:

- What other impacts do you think non-casino gaming (e.g., horse racing, Mark Six Lottery, football betting) has on your community that affect your life?

Semi-structured interviews examine the relevance between each item and the perceptions of Hong Kong residents were conducted by the researcher during June of 2012. Interview guidelines were handed out to the residents of different gender, age, education and occupation. When the residents chose the items in the check list, the researcher also asked them the open-ended questions and conversations were recorded with the respondents' permission.

On June 17 and 18, 2012, the researcher interviewed 12 residents at Grand Central Plaza, Sha Tin District, New Territories. On June 22 and 23, 2012, the researcher interviewed 11 residents at Central Street, Central and Western District, Hong Kong Island. In each interview, the researcher first asked the participants to read the checklists to choose the items they agreed with. The residents were required to identify the major positive and negative impacts or benefits they perceived. Then, the researcher talked

with them openly to understand their gaming behavior and other information about the typical non-casino gaming in Hong Kong.

The occupations of some respondents were from the low-income group, such as factory worker and salesman, while the others were middle-class occupations, such as doctor, engineer, and small business owner. Most of the participants appeared to have lived in different geographic areas. The interviewee's places of residence were distributed in other districts of Hong Kong, distributed at Sha Tin, Kowloon City, Southern, Central, Western, Islands, Yuen Long and Tai Po. The interviewees' profiles are shown in Table 3.2.

Table 3. 2 Social-demographic Characteristics of Respondents in Semi-structural Interviews

Social-demographic items	The respondents characteristics
Age	25 to 72
Gender	12 (Male) vs 11(Female)
Occupation	housewife, doctor, nurse, clerk, secretary, engineer, factory worker, salesman, small business owner, retired
Place of residence	Sha Tin, Kowloon City, Southern, Central and Western, Islands, Yuen Long, Tai Po
Length of residence	All of the interviewees lived in Hong Kong more than ten years.

3.3.2 Pilot Test

The pilot study was necessary because it represented a part of the instrument

development process (by helping to validate the content of the instrument). The most important reason to conduct it was to examine the suitability of the research methods and instruments and check the response of the respondents pertaining to the overall research design to ascertain possible inadequacies, ambiguities, and problems regarding the various aspects of the research for correction prior to proceeding with the main survey in two cities. Hence, pilot studies were conducted in both Hong Kong and Guangzhou prior to the main survey to ensure that the items had been adapted appropriately to the study's context. After the qualitative stage, the researcher used the initial instruments and designed questionnaires to pre-test the attitude of Hong Kong and Guangzhou residents. The standardized survey design was selected for capturing the domains of the theoretical constructs in a reliable way (DeVellis, 1991).

The relationship between statistical techniques and questionnaire design is important (Nykiel, 2007). The questionnaires of this research are structured. All the questions used in the questionnaires are closed-ended questions. Respondents chose their answers from a predetermined number of responses (scale point). This question format reduces the amount of thinking and effort required by respondents (Hair et al., 2010). In Hong Kong, traditional Chinese and English questionnaires were utilized because of residents' language preferences, whereas only simplified Chinese questionnaires were utilized in

Guangzhou because Chinese is the first language for nearly all the local residents. The questionnaire for Hong Kong was first developed in English and then translated into Chinese, adopting a back-to-back translation procedure (Chapman & Carter, 1979). Next, the questionnaire of Guangzhou kept the same wording and structure as the version in Hong Kong. To fit the context of the Guangzhou questionnaire, some changes were made as follows: 1) “Guangzhou” was used to replace “Hong Kong”; 2) “Sports Lottery and Welfare Lottery” was used to instead of “Mark Six lottery, horse racing and football betting”; and 3) in the part of social demographic characteristics, the classification of occupation, educational level, and monthly household income were adjusted according to facts in Guangzhou.

Apart from categorical questions on respondents’ profiles, the perceived positive impacts, perceived negative impacts, community attachment, support level and power were measured in a 7-point Likert Scale that ranged from 1 = totally disagree to 7 = totally agree. Screening questions were asked concerning whether the person had been living in Hong Kong for more than one year and whether she or he was over 18 years old. One year was set as criteria for the respondents because the author considered both the residentship (usually half a year) and touristhood (of which UNWTO’s definition goes by a duration of 24 hours to less than one year). More importantly, one year is

reasonably long enough for one to have the feeling or sense of a resident in the place he stay. Therefore, only those who had been living in the cities for more than one year and were over 18 years old were eligible to continue to complete the questionnaires. The pilot test questionnaires can be checked as appendices.

Because the number of questionnaires in the pilot tests were comparatively easier to collect, they were handed out by the author in several dense residential areas (Table 3.3). Face-to-face interview was adopted; that is, the author gave the questionnaires to the local residents directly and persuaded them to complete the questionnaire.

Table 3. 3 Location and Time of Questionnaires Delivery (Pilot Test)

City	Stage of the research	Date	Location
Hong Kong	Pilot study	15 October - 7 November, 2012	Whampoa Garden (in Hung Hom), Causeway Bay (Victoria Park), Sha Tin Metro Station
Guangzhou	Pilot study	30 May - 12 June, 2013	Riverside Road, Guangzhou People’s Park, Sport Center Metro Station

Souvenirs were given to all respondents in the pilot study who completed the questionnaires. In total, the data collection process resulted in 159 usable responses in Hong Kong, while 191 complete responses were obtained in Guangzhou. The collected data in both cities during the pilot test was over 100 and met the requirement of the minimum necessary sample size for conducting exploratory factor analysis (EFA)

(Gorsuch, 1983) for construction of the scales.

3.3.3 Main survey

In collecting the empirical data for ultimate analysis, the face-to-face survey was adopted in main survey for both cities because it allowed for developing social relationships and trust of interviewees and also guaranteed versatility, a high degree of sample control, and allowed for the large amount of data collected (Lee et al., 2010). Local undergraduate university students were recruited to work as survey helpers. In Hong Kong, 23 students from Hong Kong Polytechnic University and 6 students from Community College of City University helped the author to distribute the questionnaires. In Guangzhou, 14 students from Guangdong University of Technology and 6 students from Sun Yat-sen University served as interviewers to hand out the questionnaires. Before the questionnaire delivery, the researcher gave student helpers a 3-hour intensive briefing, which covered work attitude, ethics, requirements, questionnaire-related issues, survey procedures, survey techniques, and tips.

Data collection from the main survey was conducted at major residential and commercial districts in Hong Kong and Guangzhou. Because the target population comprised residents who have lived in the city more than one year and were over 18

years old, areas with a high proportion local residents were chosen because of the easy accessibility of target groups. The trained student helpers went to the specified locations and persuaded the residents to complete the questionnaires, and respondents received a gift after completion of the questionnaires. The author selected different locations for questionnaires delivery and therefore the student helpers could invite a wide variety of residents to take part in the survey. It is proven that these areas are the suitable sites for data collection. Table 3.4 illustrates where questionnaires were handed out and the date of delivery during the stage of the main survey.

Table 3. 4 Location and Time of Questionnaires Delivery (Main survey)

City	Stage of the research	Date	Location
Hong Kong	Main Survey	21 November – 23 December, 2012	Aberdeen, Causeway Bay, Happy Valley, Chai Wan, Western District, Yuen Long, Lantau Island, Mong Kok, Sham Shui Po, Ma On Shan, Tuen Mun
Guangzhou	Main Survey	5 July – 17 July, 2013	Shameen Residential District, Tianhe Park, Xingangxi Road, Riverside Road, Guangzhou People’s Park, Sport Center Metro Station in Guanzhou, Tianhe Park, Beijing Road Pedestrian Street

3.3.4 Sampling

The sample size of a study is defined through logical estimates in some cases, and in others, through statistical computation. Among other things, the researcher

considered the paradigm that guides the research, the nature of the study, the target population, the time and resources available, the purpose of the study, and the type of data required (Sarantakos, 2005). Population refers to the entire set of individuals or other entities to which study findings are to be generalized (Chambliss & Schutt, 2003). It is the entire group of people or things of interest that the researcher wishes to investigate. The population of this study is all the adult residents living in Hong Kong and Guangzhou for more than one year. According to the government of the Hong Kong's Special Administrative Region, the adult population in Hong Kong was 5.824 million in 2011. The adult population of Guangzhou was 10.4 million as reported by the Guangzhou population census in 2010.

Rather than surveying an entire population, it is appropriate to select a specific population to be more practical and cost and time effective. A sampling population is defined as "a collection of elements about which we wish to make an inference" (Scheaffer, Mendenhall, & Ott, 1996, p.42). By studying a sample, a researcher should be able to draw conclusions that are generalizable to the population of interest, if the sample is scientifically selected (Sekaran, 2003). Kerlinger (1986) indicated that a representative sample should have approximately the characteristics of the population relevant to the research in question. In estimating the sample size, a wise rule suggested

by Sarantakos (2005) is that the sample must be “as large as necessary, and as small as possible” (p. 170).

Commonly acknowledged factors that determine the sample size are as follows: the degree of precision desired, the level of confidence or error that can be tolerated, the type of information desired, the number of sub-groups, and the type of statistical analysis used on the variability of the population, and cost and time considerations (Kathwohl, 1993). Estimation methods, distributional properties of measures, desired power, and model complexities should be considered when determining sample size (Nunkoo et al., 2013). For factor analysis, a sample of 300 cases is a good sample size, providing a stable factor solution (Field, 2011). For the purpose of SEM, no single criterion indicates the necessary sample size but a larger sample is preferred (Hair et al., 2010). SEM usually requires large sample sizes, although it is difficult to determine how large a sample is needed. The model complexity and the estimation methods are two factors affecting sample size requirements. Models that are more complex require larger samples for the results to be stable because they contain more estimated parameters. Kline (2005) recommended that a desirable ratio of the number of cases to the number of free parameters is 20:1. Some researchers recommended that the ratio of independent variables, or predictors, to sample size in multiple regressions should be at

least 1:15, whereas others recommended 1:30 subjects per independent variables when dealing with the shrinkage of R (Pedhazur, 1997). Hairs (2010) indicated that for models with large numbers of constructs, some with lower communalities and that have fewer than three measured items, the minimum sample size is 500. Taking all these elements into consideration, the sample size for each city of 500 is secure and ideal.

Five to ten percent of the sample size is adequate for a pilot study. The study targeted 20% (approximately 100 questionnaires will be collected) of total sample size for pilot studies in Hong Kong and Guangzhou. Convenience sampling was used in the pilot test.

Because of the effectiveness of the organization of the study, convenient sampling was adopted in the pilot test. The author accepts that a limitation and the major weakness in this approach is that the sample may not represent the traits of general population. Hence, the convenient sampling method was not used during the main survey.

Quota sampling technique was utilized in the main survey because of time and financial constraints (Sekaran, 2003). Although the quota-sampling method is not as rigorous as probability sampling, it is the most cost-effective means of obtaining a representative sample of residents of Hong Kong and Guangzhou. In quota sampling,

the population is segmented into mutually exclusive sub-groups based on the specified proportion of age and gender in the population. By conducting quota sampling, the researcher selected individuals to fill a quota by characteristics proportional to the population in different categories, such as gender, age, and occupation (Black, 1999). The researcher decided to use gender and age as the criteria so that the sample reflected the population composition (Table 3.5 and Table 3.6). The quotas were set according to demographic characteristics of the resident profiles published by government census in two cities. For example, interviewers delivered the questionnaires to 46.7% of males and 53.3% of females of the total sample in Hong Kong. Therefore, the assembled sample has the same proportions of individuals as the entire population with respect to gender and age.

Table 3. 5 Quota Sampling Matrix Based on Gender and Age (Hong Kong)

		Proportion of the population	Sampling quota
Gender	Male	46.7%	234
	Female	53.3%	266
Age	20-44	45.8%	229
	45-64	38%	190
	64+	16.1%	81

(Hong Kong Population Census 2011, retrieved from: <http://www.census2011.gov.hk/en/index.html>)

Table 3. 6 Quota Sampling Matrix Based on Gender and Age (Guangzhou)

		Proportion of the population	Sampling quota
Gender	Male	52.26%	261

	Female	47.74%	239
Age	18-64	92.56%	463
	65+	7.44%	37

(Guangzhou Population Census in 2010, retrieved from:
http://www.gzstats.gov.cn/tjgb/glpccb/201105/t20110517_25227.htm)

3.4 Method of Data Analysis

Data was analyzed using SPSS 20.0 and AMOS Graphics 20.0, and the research used a variety of statistical techniques to analyze the data, which were summarized as the following Table 3.7. The descriptive statistics were examined to help the researcher get the information about the level of support in both cities. By using the reliability test and exploratory factor analysis (EFA) on the data from the pilot study and main survey, the underlying factor structure of the constructs were investigated. ANOVA and MANOVA were performed to investigate whether there were significant differences in residents' evaluations of support levels based on their demographic profiles, as well as the effects of three ultimate independent variables (community attachment, gaming behavior, and power) on perceived impacts. Finally, confirmatory factor analysis (CFA) and SEMs were adopted so that the casual relationship of the factors could be identified. Moreover, the differences and similarities between Hong Kong and Guangzhou were compared through the interpretation of SEM.

Table 3. 7 Data Analysis Method Regarding to Research Questions

Research Questions	Analysis	Results
Question 1.	Descriptive analysis	Understand the extent the residents support non-casino gaming development in their community
Question 2.	Cronbach's alpha EFA	Purified attributes assessing perceived impacts. Exploratory factor Identified underlying major factors affecting residents' levels of support of non-casino gaming in Hong Kong and Guangzhou.
Question 3.	t-test, ANOVA MANOVA	t-test and ANOVA detected the differences in perceived gaming impacts among residents with different demographic traits. MANOVA examined significant differences between residents in their support level, perceived positive impacts, and perceived negative impacts by different degree of community attachment, gaming behavior and power.
Question 4.	CFA	Examined the causal relationships among perceived positive impacts, perceived negative impacts, power, community attachment and support level by residents.
Question 5.	SEM	Compared different forms of non-casino gaming in Hong Kong and Guangzhou.

The two-step approach, in which the measurement and structural models are estimated separately (Anderson & Gerbing, 1988), has been adopted by this research. There is much to be gained in terms of theory testing and construct validity from separate estimation and re-specification of the measurement model prior to simultaneous testing of the measurement and structural models. Consequently, structural model testing adopted the following procedures. First, in the stage of the pilot study, validity and reliability of the measurements were estimated by EFA, and a reliability test in SPSS; second, in the stage of the main survey, individual measurement

models for each latent construct is established with both EFA and CFA techniques. Then, the overall measurement model was tested with all latent constructs specified as correlated with each other. The structural model, as a hybrid of the measurement and path models, was then tested.

3.5 Measurement Items Development

Measurement is the process of determining the amount (or intensity) of information about persons, events, ideas, or objects of interest and their relationship to a problem (Churchill & Brown, 2007). In other words, researchers use the measurement process by assigning either numbers or labels to people's thoughts, feelings, behaviors, and characteristics. Instrument development followed Churchill's (1979) recommended procedures for scale development, namely, to specify a domain of construct, generate a sample of items, collect data, purify the measure, collect data, assess reliability and validity, and develop norms.

The first step of measures developing is defining the construct that is to be measured (Churchill & Brown, 2007). A construct is a variable made up of a set of component responses or behaviors that might be related (Hair, Bush & Ortinau, 2009). Measure items for this study were derived from an extensive review of extant literature relating

to resident perception on tourism impacts and gaming impacts. The selection of measurement items were based on the review of literature for each research construct. For selecting items and considering them, three rules were followed. First, in studies using information-reduction methods, the revised attributes were selected before the statistical procedure—so there are items but not factors or components. Second, if the items are related to the characteristic of casino, they will be changed to make them suitable to the situation of non-casino gaming. Third, when the study listed various similar attributes (like housing price or property price); these were regrouped into one category.

Echtner and Ritchie (1993) suggested that using multiple techniques was more likely to produce a complete list of measurements. Therefore, measurement items were initially generated from both an extensive literature review and interviews in this research. During the literature review, the questionnaire items used in previous studies were recorded and grouped into a “master list.” The comprehensive list of variables involved all the measurement items of community support, perceived positive impacts and perceived negative impacts related to gaming, community attachment, power, and gaming behavior that were concluded from previous research. These would provide the context and become the foundations of the subsequent empirical effort. However,

modification was necessary to adapt to the situation of Hong Kong.

Among the 23 residents, 13 interviewees said that they had participated in gambling activities in the past year. Six respondents stated that they would participate in horse racing, and they were all male with middle ages. The Mark Six lottery is the major activity they participated in. No matter the kind of gambling activities they took part in, the money they spent on gambling was less than HK\$500 monthly.

Most of the residents thought gambling, including horse racing, the Mark Six lottery and football betting, can be considered as an important leisure activity in Hong Kong.

After calculation of the results from the questionnaire, the items were grouped into two categories: the most relevant items and second most relevant items, and they were compiled into a new list.

The interviewees showed a high agreement that horse racing creates more jobs and gives economic benefits to investment and businesses. Interestingly, even tourists are not the major participants of horse racing; the residents still perceived that this venue could attract more visitors and generated tourism income.

To a great extent, investment and business, employment opportunities, tourist spending, tax revenues, public infrastructure, welfare of the community, and increase

of city attractiveness will be suitable for measuring the perceived positive impact of gaming.

Tax revenue ranks first among all the impacts of gaming. The residents also expressed that they feel the job opportunities brought by the Jockey Club was a benefit. Respondents in Hong Kong identified gambling addicts and problem gaming, destruction of family, increase of loan sharking, speculative, organized crime, and youth crime as the disadvantages resulting from non-casino gaming operating within their communities. When asked about the impact of gambling on crime, they agreed that gambling is a catalyst for an increase of certain illegal activities. People who lived around the racecourse felt more environmental impacts.

For many interviewees, non-casino gaming in Hong Kong was the symbol of Hong Kong. They are sentimental about horse racing and the Mark Six lottery because they grew up with them. Community attachment should be considered when investigating the non-casino gaming context to explore if those with stronger attachment have stronger perceptions related to both positive and negative impacts and support levels toward gaming.

According to social exchange theory, power derives from one actor having,

controlling, or influencing resources that another actor needs and values (Wrong, 1979). Broadly defined, power refers to all kinds of influence among persons or groups, including those exercised in exchange transactions (Blau, 1964). Based on the preliminary findings of interview, the power held by the Hong Kong residents was their knowledge of gambling and control of gambling behavior. From the interviews, the researcher found Hong Kong residents think that they know more about commercial gaming than Chinese mainland residents, and many of them have gambling experience in other areas of world where the gaming industry is highly developed. Therefore, they consider themselves as powerful because they are more knowledgeable and rational.

Gaming behavior. Hsu (2000) used “How many times do you visit gaming riverboat per year?” to identify respondents’ riverboat visitation status. In Oh and Hsu’s (2001) research, gambling behavior was measured with two questions. “How often do you visit a casino for gambling?” and “How many times have you visited casinos for gambling during the last two months?” In addition, the level of gaming can be measured by the total amount spent per year on gambling and the percentage of gross household income spent on gambling (Currie, Hodgins, Wang, Wynne, & Chen, 2006).

The questions to measure residents’ gaming behavior are as follows:

- How often did you visit racecourses or off-course betting branches to buy non-casino gaming products (horse racing betting, Marks Six lottery, football betting, etc.) in the past one year?
- How much money did you spend on gambling last year?
- How much money did your family spend on gambling last year?

After the reduction from interviews, the measurement items for perceived positive impact and negative impact are listed in the table below.

Table 3. 8 Measurement Item of Perceived Positive and Negative Impacts of Gaming

Measurement items	Source
Perceived positive impacts of non-casino gaming(11 items)	
Tax revenue	Pizam & Pokela, 1985; Carmichael et al., 1996; Lee & Back, 2003; Lee et al., 2010; Tam et al., 2012; Interviews
Investment and business	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010; Interviews
Employment opportunity	Pizam & Pokela, 1985; Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010;Tam et al., 2012; Interviews
Tourist spending	Lee & Back, 2003; Lee et al., 2010; Interviews
Public infrastructure	Lee & Back, 2003; Vong,2008; Interviews
Welfare of the community	Tam et al., 2012; Interviews
Increase city attractiveness	Tam et al., 2012; Interviews
Social opportunities	Spears & Boger, 2003
Educational funding	Lee & Back, 2003; Lee et al., 2010; Interviews
Pride of local residents	Lee & Back, 2003; Interviews
Availability of entertainment and recreation	Pizam & Pokela, 1985; Chen & Hsu, 2001; Tam et al., 2012; Vong,2008; Interviews

Perceived negative impacts of non-casino gaming(13 items)

Gambling addicts /Problem Gaming	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010; Tam et al., 2012; Interviews
Destruction of family	Lee & Back, 2003; Lee & Back,2006; Kang et al., 2007; Lee et al., 2010; Interviews
Increase of loan sharking	Lee et al., 2010; Tam et al., 2012; Interviews
Speculative	Lee et al., 2010; Interviews
Crime	Carmichael et al., 1996; Spears & Boger, 2003; Lee & Back, 2003; Lee & Back,2006; Interviews
Bankruptcy	Lee & Back, 2003; Lee & Back,2006; Kang et al., 2007; Lee et al., 2010; Interviews
Divorce	Lee & Back, 2003; Lee & Back,2006; Lee et al., 2010; Interviews
Traffic congestion	Pizam & Pokela, 1985; Carmichael et al., 1996; Lee & Back,2006; Lee & Back, 2003; Spears & Boger, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012; Interviews
Quantity of litter	Spears & Boger, 2003; Lee & Back,2006; Lee & Back, 2003; Vong,2008; Lee et al., 2010; Interviews
Noise level	Spears & Boger, 2003; Lee & Back, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012; Interviews
Costs of living	Pizam & Pokela, 1985; Chen & Hsu, 2001; Lee & Back,2006; Lee & Back, 2003; Lee et al., 2010; Interviews
Cleanliness of the community	Hsu, 2000; Interviews
City overcrowded	Spears & Boger, 2003; Vong,2008; Lee et al., 2010; Tam et al., 2012; Interviews

Table 3.9 lists the items used to measure community attachment, support level, and power drawn from the literature.

Table 3. 9 Measurement Items of Community Attachment, Support level and Power

Measurement items	Source
Community attachment(10 items)	
Feel at home in this community	Kasarda & Morris, Janowitz,1974; McCool&Martin ,1994; Guesoy,Jurowski &Uysa.,2002
I would like to live in my community more than in other communities	Lee,Kang&Reisinger, 2010
Knowing what goes in this community	Kasarda & Morris, Janowitz,1974; McCool&Martin ,1994; Guesoy,Jurowski &Uysa.,2002
Sorry or pleased you would be if you move away	Kasarda & Morris, Janowitz,1974; McCool&Martin ,1994; Guesoy,Jurowski &Uysa.,2002
Satisfaction with the community	Kasarda & Morris, Janowitz,1974; McCool&Martin ,1994; Guesoy,Jurowski &Uysa.,2002
My community is an ideal place to live.	Lee et al. ,2010
I would do my best to enhance the development of my community.	Lee et al., 2010
I would be willing to provide financial support for the development of my community.	Lee et al., 2010
I am actively involved in community issues and activities.	Lee et al., 2010
Length of residence	Kasarda & Morris ,Janowitz,1974
Support for non-casino gaming(9 items)	
Gaming is one of the most important industries for a community.	Nunkoo &Ramkissoon,2011
Gaming help my community grow in the right direction.	Nunkoo &Ramkissoon,2011
The future of my community looks bright due to gaming development.	Lee et al. 2010
Continue to play an important economic role.	Nunkoo &Ramkissoon,2011
Happy and proud that there are tourists coming in my community because of gaming.	Nunkoo &Ramkissoon,2011; Lee et al. 2010

Support additional gaming development.	Perdue et al.,1996
The gaming development makes this community a better place to live.	Lee et al., 2010
The gaming development is the right choice for my community	Lee et al. ,2010
I have supported the gaming development in my community	Lee et al., 2010
Power(5 items)	
Personal influence over decisions related to community development	Nunkoo &Ramkissoon,2011; Madrigal, 1993
Extent to which gaming businesses had political influence in the area's decision making process	Nunkoo &Ramkissoon,2011; Madrigal, 1993
Have high education/ knowledge level /experience	Kayat, 2002
Knowledge of gambling	Interviews
Control of gambling behavior	Interviews
Young age	Kayat, 2002

3.6 Measurement Items Validation: Pilot Test

The pilot test was designed and administered, after which measurements were evaluated by employing EFA, purifying the measure, and assessing construct validity. Two procedures, exploratory factor analysis and reliability tests, were conducted to purify and identify the dimensions of the scales. EFA for the pilot test in Hong Kong resulted in the seven-factor structure, while an eight-factor structure was found through the pilot study in Guangzhou.

3.6.1 Pilot Study in Hong Kong

In Hong Kong, approximately one-half of the respondents were female (50.6%).

More than half of all respondents were students (50.9%), followed by professionals (12.6%), service or sales workers (11.9%), likely because questionnaires were handed out around the campus of Hong Kong Polytechnic University. Most of the respondents (52.5%) belonged to the young group from 18 to 25 years old and single (59.7%). Respondents were well educated, with nearly 70% of the respondents having attained (or will have attained) a bachelor's or higher degree. Appendix 1 presents the socio-demographic characteristics of respondents.

An EFA with a varimax rotation was performed on data to determine the dimensions of the measures. Varimax rotation was employed for EFA analysis because rotation improves the interpretability of factors (Field, 2011). The factor loading represents the correlation between an original variable and its factor. Hair et al. (2011) indicated that in a sample size of 150 respondents, factor loadings of 0.45 and above are significant. Therefore, to ensure that each attribute loads only on one factor, the items that had factor loadings lower than 0.45 or were cross-loaded on more than one factor were eliminated.

Three items (increased tax revenue, more investment and business, increase in public infrastructure) from the construct of positive impacts were eliminated. No item was deleted in the variable named negative impacts. Five items (feel at home, know what it

goes, enhance the development, actively involved in community issues and activities, lived for a long time) that formed the construct named community attachment were removed. Three items (high level of education, enough knowledge of gaming, control gaming behavior) were deleted. One item (went to racecourses or off-course betting branches to buy non-casino gaming products in the past one year) from gambling behavior was eliminated. No item was deleted in the variable of support level.

After the EFA, the measures in the perceived negative impacts broke up into two dimensions. One factor contained the items that reflected social impacts and were labeled as perceived negative social impacts. Another factor included the indicators of negative environmental impacts, therefore, this factor was named perceived negative environmental impact. The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis, KMO was 0.868 (“great” according to Field, 2011) and Bartlett’s Test of Sphericity was highly significant ($p < 0.001$), indicating that correlations between items were sufficiently large. Seven factors were extracted with eigenvalues greater than 1 (Field, 2011) and in combination explained 69.692% of the variance.

Table 3. 10 Factors of Residents' Perception (Hong Kong)

Factors/Items	Loading	Eigen-value	Variance Explained	Reliability Alpha
1. Support level for non-casino gaming		12.314	28.637	0.944
The non-casino gaming development is the right choice for Hong Kong.	0.839			
I support additional non-casino gaming development.	0.837			
The non-casino gaming development makes Hong Kong a better place to live.	0.833			
Non-casino gaming help Hong Kong grow in the right direction.	0.832			
The future of Hong Kong looks bright due to non-casino gaming development.	0.813			
I have supported the non-casino gaming development in Hong Kong.	0.786			
I am happy that there are tourists coming to Hong Kong because of non-casino gaming.	0.705			
Non-casino gaming continue to play an important economic role in Hong Kong.	0.700			
Non-casino gaming is one of the most important industries for Hong Kong.	0.638			
2. Perceived positive impacts of the non-casino gaming		6.061	14.095	0.898
Increased city attractiveness	0.761			
More social opportunities	0.748			
More educational funding	0.743			
Increased pride of local residents	0.729			
More entertainment and recreation facilities	0.721			
Increase in public infrastructure	0.687			
Increase of welfare in the community	0.670			
More tourist spending	0.629			
3. Perceived negative social impacts of the non-casino gaming		3.438	7.996	0.920
Increase of loan sharking(usury)	0.893			
Destruction of family	0.876			
Crime	0.814			
Bankruptcy	0.812			
Gambling addicts	0.784			
Divorce	0.728			
Increase of speculative activities	0.676			
4. Perceived negative environmental impacts of the non-casino gaming		2.73	6.349	0.895
Noise level	0.870			
Quantity of litter	0.834			
Decrease of cleanliness of the community	0.814			
An overcrowded city	0.795			
High cost of living	0.772			
Traffic congestion	0.657			
5. Community Attachment		2.163	5.029	0.878
Hong Kong is an ideal place to live.	0.832			
I would like to live in Hong Kong more than other cities.	0.765			
I am satisfied with Hong Kong.	0.753			
I will be sorry if I move away.	0.737			
I would be willing to provide financial support for the development of Hong Kong.	0.609			
6. Gaming Behavior		1.955	4.546	0.843

Gaming spending was part of my annual household spending in the past one year.	0.818			
My family spend some money on gambling in the past one year.	0.812			
I spend some money on gambling in the past one year.	0.742			
Spending on non-casino gaming was part of my annual household spending in the past one year.	0.712			
My family members went to racecourses or off-Course betting branches to buy non-casino products in the past one year.	0.695			
7. Power		1.135	2.639	0.824
I have political influence (e.g. through voting) in the decision making process of gaming development.	0.696			
I can personally influence over decisions related to community development.	0.601			

Table 3.10 reports the reliability of the multi-item scales using the Cronbach's alpha: support level (0.944), perceived positive impacts (0.898), perceived negative social impacts (0.920), perceived negative environmental impacts (0.895), community attachment (0.878), gaming behavior (0.843) and power (0.824). All of the alpha coefficients are above the cut-off point of .7 (Nunnally, 1978), indicating an acceptable level of reliability for each construct.

3.6.2 Pilot Study in Guangzhou

Consistent with the participants in the survey in Hong Kong, respondents were screened to ensure they have lived in Guangzhou more than one year and were 18 years old over. Of the respondents, 51.8% were male; more than 70% were between 18 to 35 years old. Most of them completed vocational school (48.2%) or received a bachelor's degree (28.3%). Many of them were self-employed (19.4%), service or sales workers (18.8%, and students (16.2%); and 79.1% earned a monthly household income below

8,000 RMB. The characteristics of these respondents are summarized in Appendix 2.

The KMO was good (0.863) and Bartlett's Test of Sphericity significant (5704.973, $p < 0.001$), indicating that the correlation between items were sufficiently large for analyses. Eight variables had Eigen-value over Kaiser's criterion of 1 and in combination explained 65.795% of the variance. In support level, two items ("one of the most important industries for GZ" and "I have supported the non-casino gaming development in GZ") were deleted. Four items in the perceived positive impact (employment opportunities, educational funding, increased pride of local residents, and entertainment and recreation facilities) were deleted because of lower factor loading. Three items on power related to gaming knowledge were also deleted because they could not get the same dimension with the other two items in this variable. Four items ("do my best to enhance the development of GZ", "provide financial support for the development of GZ," "involved in community issues and activities, and "I lived in GZ for a long time") were removed. Furthermore, two items related to non-casino gaming behavior ("I bought non-casino gaming products" and "my family members bought non-casino gaming products") were deleted because of lower factor loading than other items in gambling behavior.

Table 3.11 displays the factor loadings after rotation. All the factor loadings were

satisfactory, reporting absolute values ranging from 0.634 to 0.851, which were all greater than the 0.4 minimum required (Field, 2011). Tests for reliability (Cronbach alpha) for each dimension were performed to guarantee the quality of the measurement (Churchill, 1979). The cutting-off point of 0.7 was utilized to judge the strength of the measures. As shown in Table 3.11, Cronbach's alpha of all the constructs was greater than 0.8, which show good reliability of the factors.

Table 3. 11 Factors of Residents' Perception (Guangzhou)

Factors/Items	Loading	Eigen-value	Variance Explained	Reliability Alpha
1.Support Level		7.198	18.943	0.897
The non-casino gaming development is the right choice for Guangzhou	0.810			
The future of Guangzhou looks bright due to non-casino gaming development.	0.802			
I support additional non-casino gaming development.	0.793			
The non-casino gaming development makes Guangzhou a better place to live.	0.759			
I am happy that there are tourists coming to Guangzhou because of non-casino gaming.	0.724			
Non-casino gaming help Guangzhou grow in the right direction.	0.696			
Non-casino gaming continue to play an important economic role in Guangzhou.	0.681			
2.Perceived negative social impacts		5.927	15.598	0.901
Destruction of family	0.857			
Increase of loan sharking(usury)	0.810			
Divorce	0.761			
Gambling addicts	0.759			
Bankruptcy	0.753			
Crime	0.728			
Increase of speculative activities	0.697			
3.Community attachment		2.861	7.528	0.854
I would like to live in Guangzhou more than other cities	0.840			
I will be sorry if I move away.	0.766			
I feel at home in Guangzhou.	0.761			
Guangzhou is an ideal place to live.	0.732			
I am satisfied with Guangzhou.	0.684			
I know what goes on in Guangzhou.	0.646			
4.Perceived negative environmental and economic impacts		2.323	6.113	0.849
Noise level	0.823			

Decrease of cleanliness of the community	0.767			
Quantity of litter	0.726			
An overcrowded city	0.698			
Traffic congestion	0.665			
High cost of living	0.634			
5. Perceived positive social impacts		2.103	5.534	0.845
Increase in public infrastructure	0.837			
Increase of welfare in the community	0.817			
More tourist spending	0.697			
Increased city attractiveness	0.673			
6. Gambling behavior		1.908	5.021	0.895
My family spend some money on gambling.	0.851			
I spend some money on gambling in the past one year.	0.829			
Spending on non-casino gaming was part of my annual household spending in the past one year.	0.729			
Gaming spending was part of my annual household spending in the past one year.	0.669			
7. Power		1.479	3.893	0.843
I can personally influence over decisions related to community development.	0.841			
I have political influence (e.g. through voting) in the decision making process of gaming development.	0.830			
8. Perceived positive economic impacts		1.203	3.166	0.898
Increased tax revenue	0.830			
More investment and business	0.686			

The author proposed that there are six variables in the hypothetical relationship. The result of the pilot test revealed some discrepancies in the variables related to perceived impacts compared to the proposed model. The perceived negative impacts were divided into two latent variables, negative social impacts and negative environmental impacts. In addition, the perceived positive impacts were composed of two underlying

dimensions according to results from the pilot study of Guangzhou: perceived positive social impacts and perceived positive economic impacts.

In summary, pilot tests involved conducting a preliminary assessment of measures to make corrective changes or adjustments before actually collecting data from the target population. Overall, this test as the initial step in quantitative analysis provided an opportunity to detect the unconcerned variables.

The responses to three questions (“I have a high level of education,” “I have enough knowledge of gambling,” “I can control my gambling behavior”) related to power were not satisfactory in the pilot study in both places. Therefore, these three items were deleted in the questionnaires of the main survey. With respect to support level, responded to “I have supported the non-casino gaming development in Hong Kong (GZ)” were discarded because its communality was very low (lower than 0.5) in both pilot studies. Concerning community attachment, “provide financial support for the development of Hong Kong (GZ)” was poorly represented in the factor solution for there was no significant loading, thus, the author decided to delete this item.

However, rather than directly removing these items from the main survey, the author wished to give as much deliberation as possible before making any decisions. Except

for the above items, other items were retained to be tested again in the main survey as these items were among key factors derived from the literature and the interviews. The results of pilot test were therefore reserved for the moment until more supportive evidence could be discovered in the next stages. The indicators would be removed from further analyses if using the main survey data obtained the same result. After a series of qualitative and quantitative exploratory studies, the final instrument was prepared for the main survey.

CHAPTER 4. EFFECTS OF RESIDENTS' CHARACTERISTICS

4.1 Chapter Introduction

After the measurement scales had been developed, the main survey was conducted in Hong Kong and Guangzhou. More than 700 questionnaires were distributed in each city, with the assistance of trained and experienced student helpers. A total of 626 completed questionnaires were returned in Hong Kong and 694 in Guangzhou.

This chapter presents the results systematically, starting with a description of the data screening process and continuing with an account of the respondent profiles, described through a statistical analysis of demographic variables using independent sample t-tests to compare the two cities. Attitudes towards the impacts of gaming and support for the industry among groups of residents with different characteristics are then discussed. The chapter goes on to report the effects of sociodemographic characteristics on levels of support for non-casino gaming before concluding with an analysis of residents' perceptions in terms of community attachment, gaming behavior, and power.

4.2 Data Screening

Data screening is an essential step before any statistical analysis can be performed. As the impact of the results is directly related to the quality of the raw data, any attempt to derive conclusions from a biased, partial, or unchecked dataset is futile (Hair et al., 2010). To ensure that the dataset obtained was appropriate for the analysis, the data were initially screened for entry errors, missing values, multivariate normality, and outliers, using Tabachnick and Fidell's (2007) four-point checklist.

Point one of the checklist requires that the data file must be accurate. To address this, the datasets for both cities were proofread against the printed surveys by an independent research professional. Secondly, the question of missing data must be addressed. Missing data means that valid values for one or more variables are not available for analysis; it is a common issue in multivariate data analysis and structural equation modeling (SEM) is not immune from the effects of such problems. The processing of nonrandom missing data could introduce bias to the statistical results (Hair et al., 2010). In view of this, the dataset was checked for missing data arising from the failure of some respondents to complete the survey in full. Two approaches, namely listwise deletion and mean substitution, were adopted to deal with this. The reason for selecting

these methods was that the percentage of missing values of the datasets was very low, and so any inaccuracies resulting from the use of two relatively simple and conservative methods would be unlikely to result in significant bias. Listwise deletion was therefore adopted as it may be the most efficient approach to resolving a nonrandom pattern of missing data (Hair et al., 2010). Following the suggestions of Hair et al. (2010), cases with more than 15% missing values were candidates for deletion. Cases with missing values for dependent variable(s) are also usually deleted in this process to avoid any artificial increase in their relationships with independent variables. On this basis, 9 cases in Hong Kong and 13 in Guangzhou were discarded. Mean values can be used when there are relatively low levels of missing data and they result in all cases having complete information. The series mean was utilized in dealing with these other cases and the mean value of that variable, as calculated from all valid responses, was inserted for the missing value.

The third stage of the checklist deals with controlling for outliers, or observations with a “unique combination of characteristics identifiable as distinctly different from the other observations” (Hair et al., 2010, p.98). Outliers or extreme responses may affect the outcome of any multivariate analysis by biasing the mean and altering the normal distribution. It is therefore necessary to identify univariate outliers in order to

normalize the data distribution. The computation of the squared Mahalanobis distance (D) for each case is a common approach to detecting multivariate outliers (Byrne, 2010). The D value indicates how unusual a case is within a set of variables compared with the sample centroids (Harrington, 2009). Nine outliers in each of Hong Kong and Guangzhou were identified using this method and deleted from the dataset.

The fourth and final stage is to check for normality. Multivariate normality is one of the critically important assumptions for conducting SEM, and using AMOS in particular. Maximum likelihood estimation (ML), the major estimating tool used in this study, assumes multivariate normality. Accordingly, it is important to examine the criterion for normality before undertaking any analysis. Both univariate and multivariate normality were assessed before statistical testing, following Kline's (2011) suggestion that only variables with skew index absolute values greater than 3 and kurtosis index absolute values greater than 10 should be of concern. The results showed that the variables had an approximately symmetrical distribution (with a skewness value between -0.5 to 0.5) in both city subsamples (see Appendices 3 and 4). Furthermore, the critical ratio values for most variables were less than -2, implying that the population is likely to be moderately skewed negatively. In terms of kurtosis, all the variables had a platykurtic distribution (that is, kurtosis less than 3). None of the

variables demonstrated problematic levels of skewness or kurtosis, and hence the original dataset could be used in the analysis.

After the screening process described above had been completed, the final sample size retained for analysis consisted of 608 cases in Hong Kong and 672 in Guangzhou. All cases were comprehensively examined during the data analysis procedure. Overall, with a sample size of approximately 12 times the number of variables used in the questionnaire, this dataset was suitable for the use of SEM and was capable of yielding sufficient statistical precision (Gorard, 2003).

4.3 Descriptive Statistics

4.3.1 Profile of the Respondents

4.3.1.1 Hong Kong

Table 4.1 illustrates the sociodemographic characteristics of the respondents to the Hong Kong survey.

Table 4. 1 Demographic Profile of Survey Respondents in Hong Kong (N=608)

	Profile category	Frequency(Valid N)	Percentage (%)
Gender	Male	280	46.1
	Female	328	53.9
Age	18-25	135	22.2
	26-35	121	19.9
	36-45	65	10.7
	46-55	150	24.7
	56-65	48	7.9
	65	89	14.6
	Marital	Single	302
Married		286	47.0
Other		20	3.0
Education	Primary and below	27	4.4
	Secondary / Sixth Form	165	27.1
	diploma / certificate	192	31.6
	courses		
	Bachelor Degree	187	30.8
	Master Degree	29	4.8
	Doctor Degree	3	0.5
Occupation	Manager or administrator	25	4.1
	Service or sales worker	85	14.0
	Civil servant	37	6.1
	Professional	63	10.4
	Clerical worker	77	12.7
	Unskilled worker	52	8.6
	Skilled worker	49	8.1
	Self-employed	26	4.3
	Housewife	49	8.1
	Student	71	11.7
	Retired	66	10.9
	Other	8	1.3
	Monthly	Bellow HKD 5,000	73
Household	HKD 5,000-9,999	47	7.7
	HKD 10,000-24,999	235	38.7

HKD 25,000-49,999	177	29.1
HKD 50,000-99,999	57	9.4
More than HKD 99,999	19	3.1

Approximately 54% were female. In terms of age, respondents were fairly evenly distributed across the different age groups, similar to the Hong Kong population in general. However, the Hong Kong respondents were somewhat older than their counterparts in Guangzhou, with senior citizens accounting for nearly 15% of the sample. There were slightly more married respondents (49.7%) than single (47.0%). In terms of education, respondents with a bachelor's degree accounted for more than one third of the sample (35.2%), followed by 27.8% having completed diploma or certificate courses. A small proportion had either a postgraduate or elementary education.

In terms of occupation, service or sales workers and students accounted for the largest segments, at 14.0% and 11.7% respectively. Other participants worked in a wide range of fields, including clerical work (12.7%), management (10.4%), unskilled work (8.6%), skilled work (8.1%), and professional roles (4.1%). Of the 608 respondents, 37.8% had a family income of HKD10,000-24,999 per month and 29.1% earned HKD25,000-49,999. Generally speaking, the sample was a reasonable representation of the general population in Hong Kong, with striking similarities in terms of age,

gender, marital status, education, and household income. This can be ascribed to the successful use of quota sampling, which meant the interviewers selected the survey participants to a certain extent.

4.3.1.2 Guangzhou

The profiles of the Guangzhou respondents are presented in Table 4.2.

Table 4. 2 Demographic Profile of Survey Respondents in Guangzhou (N=672)

	Profile category	Frequency(Valid N)	Percentage (%)
Gender	Male	362	53.9
	Female	310	46.1
Age	18-25 years	110	16.4
	26-35 years	161	23.9
	36-45 years	193	20.7
	46-55 years	125	18.6
	56-65 years	36	5.4
	More than 65 years	47	7.0
	Marital status	Single	288
Married		362	53.9
Other		22	3.2
Education	Primary or bellow	23	3.4
	Junior middle school	99	14.8
	Senior middle school/Secondary school	271	40.3
	/Diploma		
	Bachelor degree	248	37.1
	Master degree	27	4.0
	Doctor degree	4	0.5
	Service or sales worker	125	18.6
	Civil servant	39	5.8
	Professional	42	6.3
Clerical worker	27	4.0	

	Unskilled worker	20	3.0
	Skilled worker	92	13.7
	Self-employed	113	16.8
	Housewife	15	2.2
	Student	65	9.7
	Retired	38	5.7
	Other	42	6.3
Monthly household income	Less than RMB 4000	158	23.5
	RMB 4001 to 8000	240	35.7
	RMB 8001 to 12000	169	25.1
	RMB 12001 to 16000	42	7.0
	RMB 16001 to 20000	27	4.8
	More than RMB 20000	9	1.3

Unlike in Hong Kong, male respondents in Guangzhou made up more than half the sample (53.9%), nearly 7% more than females (46.1%). The age groups 26-35 and 36-45 represented the two largest proportions within the sample, each constituting more than a third. The number of middle-aged residents was higher in Guangzhou than Hong Kong. Over half were married (42.9%), which was slightly more than the number of single respondents. In terms of education, respondents with a senior middle or secondary school diploma accounted for 40%, followed by more than a third with a bachelor's degree (37.1%); as in Hong Kong, only a small proportion of respondents had either a postgraduate (4.5%) or an elementary education (3.4%). With regard to occupation, the top three categories were service or sales work (18.6%), self-employment (16.8%), and skilled work (13.7%). In terms of monthly household family

income, more than one third earned RMB4,001-8,000 per month, which is the average income level for Guangzhou citizens; one quarter earned RMB8,001-12,000, and 1.3% more than RMB20,000. Overall, the sample in Guangzhou appeared to be broadly representative of the city's population and showed similar ratios to the Guangzhou Population Census in terms of gender, age, education level, and household income. The use of quota sampling appears to have enabled the demographic characteristics of the data to be well controlled, resulting in a moderately reliable sample.

4.3.2 Comparison of Descriptive Statistics between Two Cities

Means, mean differences, and standard deviations for all measurement items were calculated before the factor analysis was carried out. Independent sample t-tests were also conducted to compare the two samples. The differences between Hong Kong and Guangzhou respondents' support for development of non-casino gaming, perceptions of its positive and negative impact, community attachment, and gambling behavior were explored. The results are presented in Tables 4.3, 4.4, and 4.5.

Table 4. 3 Support Level of Non-casino Gaming in Hong Kong and Guangzhou (Main Survey)

Measures	Hong Kong		Guangzhou		Mean difference	t-Value	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation			
Non-casino gaming is one of the most important industries for GZ(HK).	3.82	1.51	3.43	1.72	0.39	4.29	0.000***
Non-casino gaming help GZ(HK) grow in the right direction.	3.43	1.46	3.49	1.71	-0.07	-0.75	0.453
The future of GZ (HK) looks bright due to non-casino gaming development.	3.20	1.37	3.38	1.77	-0.18	-2.06	0.039**
Non-casino gaming continue to play an important economic role in GZ (HK).	3.76	1.47	3.62	1.70	0.14	1.62	0.105
I am happy that there are tourists coming to GZ (HK) because of non-casino gaming.	3.20	1.50	3.30	1.86	-0.10	-1.01	0.105
I support additional non-casino gaming development.	3.47	1.51	3.97	1.67	-0.50	-5.62	0.000***
The non-casino gaming development makes GZ(HK) a better place to live.	3.11	1.44	3.51	1.66	-0.40	-4.64	0.000***
The non-casino gaming development is the right choice for GZ (HK).	2.27	1.50	3.61	1.71	-1.34	-3.73	0.000***

Note: all items were measured on a 7-point Likert scale, with 1 indicating “strongly disagree” to 7 indicating “strong agree”; **p <0.05, ***p <0.01 confidence levels.

Table 4.3 shows the mean values for all the items dealing with level of support for casino development. As can be seen, these ranged from 2.27 to 3.97, with most falling below 3.5. Given that a 7-point Likert-type scale was used to collect responses, this indicates that on the whole, respondents tended to disagree with the statements presented in the survey. Respondents in the two cities perceived five out of eight

measures differently. The Hong Kong residents agreed more with one statement related to the status quo (“Non-casino gaming is one of the most important industries for HK”). This may be because the gaming industry contributes more to the local economy in Hong Kong than Guangzhou. With regard to the other four statements, Guangzhou respondents showed stronger support for non-casino gaming than their counterparts in Hong Kong, with the biggest difference found in responses to the statement “Non-casino gaming development makes GZ (HK) a better place to live” which was given a mean value by Guangzhou residents that was 1.34 times higher than in Hong Kong. This indicates that people are more optimistic about gaming development in mainland China.

Table 4. 4 Perceived Impacts of Non-casino Gaming in Hong Kong and Guangzhou (Main Survey)

Measures	Hong Kong		Guangzhou		Mean difference	t-Value	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation			
	Perceived positive impacts						
Increased tax revenue	5.00	1.46	4.53	1.67	0.47	5.40	0.000***
More investment and business	4.43	1.39	4.26	1.68	0.17	2.01	0.044**
More employment opportunities	5.00	1.35	4.02	1.87	0.98	10.90	0.000***
More tourist spending	4.15	1.58	3.73	1.77	0.43	4.52	0.034**
Increase in public infrastructure	4.07	1.50	4.23	1.82	-0.15	-1.67	0.096
Increase of welfare in the community	4.11	1.50	4.22	1.86	-0.11	-1.15	0.251
Increased city attractiveness	3.90	1.54	3.47	1.75	0.43	4.71	0.000***
More social opportunities	3.66	1.45	3.84	1.73	-0.19	-2.13	0.034**
More educational funding	3.90	1.55	4.01	1.79	-0.11	-1.19	0.236
Increased pride of local residents	3.04	1.42	3.21	1.74	-0.16	-1.86	0.064
More entertainment and recreation facilities	3.92	1.53	4.07	1.81	-0.15	-1.66	0.094
Perceived negative impacts							
Gambling addicts	5.49	1.29	4.58	1.83	0.91	10.34	0.000***
Destruction of family	5.06	1.27	4.02	1.68	1.04	12.55	0.000***
Increase of loan sharking(usury)	5.20	1.37	3.94	1.77	1.25	14.28	0.000***
Increase of speculative activities	5.17	1.28	4.65	1.74	0.52	6.07	0.000***
Crime	4.56	1.43	3.80	1.80	0.76	8.40	0.000***
Bankruptcy	4.74	1.50	3.80	1.85	0.93	9.95	0.000***
Divorce	4.64	1.46	3.68	1.78	0.95	10.53	0.000***
Traffic congestion	3.81	1.56	3.17	1.71	0.65	7.10	0.000***
Quantity of litter	4.06	1.60	4.10	1.88	-0.04	-0.382	0.702
Noise level	4.25	1.61	3.55	1.78	0.70	7.76	0.000***
High cost of living	4.04	1.41	3.89	1.75	0.16	1.76	0.079
Decrease of cleanliness of the community	3.86	1.48	3.89	1.77	-0.03	-0.32	0.748
An overcrowded city	3.69	1.53	3.51	1.75	0.18	2.02	0.044**

Note: all items were measured on a 7-point Likert scale, with 1 indicating “strongly disagree” to 7 indicating “strong agree”; **p <0.05, ***p <0.01 confidence levels

In terms of the indicators relating to the perceived impacts of gaming, overall, Hong Kong respondents were more likely to see it as having a positive economic impacts than those in Guangzhou, while the Guangzhou residents tended to focus more on two positive social impacts (“city attractiveness” and “social opportunities”). The means of the two groups are not significantly different on other social impacts (see Table 4.4). An independent sample t-test also indicated that Hong Kong respondents regarded nearly all the negative social impacts as being worse than their Guangzhou counterparts. The perceptions that gaming would bring with it social problems such as an increase in loan sharking (usury), destruction of the family, divorce, bankruptcy, and gambling addiction were significantly higher in Hong Kong. However, Hong Kong residents only rated two negative environmental indicators (“noise level” and ”overcrowded city”) higher than Guangzhou counterparts.

In terms of community attachment, the Guangzhou respondents felt more strongly that they were satisfied with the city, willing to enhance the development of the city, and involved in community issues and activities. In contrast, the Hong Kong residents expressed more agreement with the questions that they “feel at home” ”know what it goes” in the city and thought that “the city is an ideal place to live”. The largest difference was found in the item “I have lived in GZ (HK) for a long time,” with a mean

value for Hong Kong respondents of 6.22. This is likely to be due to the relatively stable composition of the population in Hong Kong.

As for power, the Guangzhou respondents perceived themselves as more able to influence decisions related to community development than their Hong Kong counterparts. There were no significant differences between the two cities in two thirds of the items measuring gambling behavior, which is perhaps not surprising given their cultural similarities. Significant differences were found in relation to two items only; the Hong Kong respondents were more likely to agree that “Family members want to buy non-casino gaming products” and “My family spend some money on gambling in the past one year”. In Hong Kong, many respondents acknowledged that their relatives liked to purchase lottery or horse-racing tickets. As for residents in mainland China, gaming was enjoyed by many individuals in various forms. But generally speaking, the differences between two groups are not so big because of the similar gaming cultural.

Table 4. 5 Attachment, Power and Gaming Behavior of Non-casino Gaming in Hong Kong and Guangzhou (Main Survey)

Measures	Hong Kong		Guangzhou		Mean difference	t-Value	Sig.
	Mean	Std. Deviation	Mean	Std. Deviation			
Community Attachment							
I feel at home in GZ(HK).	5.28	1.29	4.76	1.83	0.52	5.89	0.000***
I would like to live in GZ(HK) more than other cities.	4.90	1.46	4.84	1.82	0.06	0.63	0.532
I know what goes on in GZ(HK).	5.11	1.21	4.74	1.63	0.37	4.61	0.000***
I will be sorry if I move away.	4.44	1.49	4.41	1.81	0.04	0.39	0.694
I am satisfied with GZ(HK).	4.34	1.42	4.75	1.58	-0.41	-4.85	0.000***
GZ(HK) is an ideal place to live.	4.61	1.40	4.40	1.78	0.20	2.29	0.022**
I would do my best to enhance the development of GZ(HK).	4.80	1.28	5.07	1.50	-0.27	-3.44	0.001***
I am actively involved in community issues and activities.	4.06	1.46	4.67	1.57	-0.60	-7.10	0.000***
I lived in GZ(HK) for a long time.	6.22	1.09	5.34	1.70	0.88	11.11	0.000***
Power							
I can personally influence over decisions related to community development.	2.99	1.45	3.39	1.72	-0.40	-4.52	0.000***
I have political influence (e.g. through voting) in the decision making process of gaming development.	2.95	1.42	3.08	1.78	-0.12	-1.32	0.187
Gaming Behavior							
I bought non-casino gaming products in the past one year.	3.75	2.16	3.72	2.26	0.03	0.27	0.791
My family (including spouse, parents, children) bought non-casino gaming products in the past one year.	4.28	1.96	3.49	2.06	0.80	7.10	0.000***
Spending on non-casino gaming was part of my annual household spending in the past one year.	2.68	1.73	2.56	1.80	0.12	1.81	0.238
I spend some money on gambling in the	2.89	1.91	2.76	1.94	0.13	1.20	0.229

past one year.

My family (including spouse, parents, children) spend some money on gambling in the past one year.	3.41	1.93	2.92	1.93	0.49	4.55	0.000***
Gaming spending was part of my annual household spending in the past one year.	2.51	1.60	2.59	1.83	-0.09	-0.89	0.347

Note: all items were measured on a 7-point Likert scale, with 1 indicating “strongly disagree” to 7 indicating “strong agree”; **p <0.05, ***p <0.01 confidence levels

4.4 Effects of Demographic Characteristics on Support Level

Independent samples t-test or one-way ANOVA with least significant difference (LSD) post hoc tests were conducted on the responses to the individual statements in the survey in order to identify any differences based on respondents’ characteristics. Researchers have so far been unable to reach agreement as to whether or not particular sociodemographic factors are significant indicators of attitudes toward gaming development, with the results of previous work being mixed. The analysis therefore set out to increase understanding of the potential impact of sociodemographic characteristics on residents’ inclination to support non-casino gaming. Before conducting the t-test or ANOVA, the simple average of the item scores of all the items in this factor (labeled as support level) was used as the factor score representing the general level of support. In the t-test or ANOVA procedure, eight specific measures of degree of support for gaming plus the general support level variable were set as the

dependent variables, and the demographic characteristics as the independent variables.

The items that did not belong to the support level variable in the exploratory factor analysis (EFA) were included in the ANOVA. The fact that those items did not belong to a particular factor simply meant that they were not correlated with any other items, not that they were unimportant (Johnson, 1998).

To avoid redundancy, some categories of sociodemographic characteristics such as age, education level, occupation, and monthly household income were combined into a smaller number of subgroups, making the analysis more manageable. Specifically, the age categories 18-25 and 26-35 were reclassified as young; 36-45 and 46-55 as middle-aged, and 56-65 and over 65 as elderly. In terms of education level, respondents who had completed only primary and secondary school were reclassified as secondary and below; those with a vocational diploma and bachelor's degree were combined into a single group labeled tertiary education; and the respondents with postgraduate degrees were classified in the higher tertiary education group. In terms of occupation, managers or administrators, civil servants, clerical workers, and professionals were reclassified as white collar and skilled, service, or sales workers as blue collar; other occupational roles including self-employed, housewife, student, and retired were classified as other. Considering the household income, in Hong Kong, the median monthly household

income for 2012 was HKD20,700¹, while average monthly family income in Guangzhou was RMB9, 125 in 2010². Therefore, respondents of Hong Kong whose monthly household income was below HKD5,000 or HKD5,000-9,999 and Guangzhou residents who selected less than RMB4,000 or RMB4,001-8,000 were reclassified as low income. Individuals whose income was HKD10,000-24,999, HKD25,000-49,999, RMB8,001-12,000, or RMB12,001-16,000 were labeled middle income, and those with household incomes above these limits were reclassified as the high income subgroup.

The responses to the items dealing with level of support for non-casino gaming indicated that community attitudes are far from homogenous. Although the effect of all the demographic variables (age, gender, marital status, education level, occupation, and household income) on levels of support were tested, only four (gender, age, marital status, and education level) significantly affected attitudes in Hong Kong and three (age, marital status, and education level) in Guangzhou. Occupation and annual household income had no significant effect on propensity to be either a proponent or opponent of non-casino gaming. These findings indicate that respondents' support for existing gaming industries or their future expansion was determined not only by their

¹ HONG KONG : THE FACTS, retrieved from:

<http://www.gov.hk/en/about/abouthk/factsheets/docs/population.pdf>

² Guangzhou Yearbook 2011(p.136)

perceptions of its impact, their community attachment, gaming behavior, and level of power, but also personal characteristics such as age, gender, marital status, or education. These effects are discussed in more detail in the following sections. In order to simplify the presentation of the results, the tables only report items that were significant at the $p < 0.05$ level.

4.4.1 Gender

Table 4. 6 Differences between Male and Female

City	Support level	Demographic		t-value	Sig.
		Characteristic (Gender)			
		Male n=280	Female n=328		
HK	<ul style="list-style-type: none"> ● Non-casino gaming help Hong Kong grow in the right direction. ● Non-casino gaming continue to play an important economic role in Hong Kong. ● I support additional non-casino gaming development. ● The non-casino gaming development makes Hong Kong a better place to live. ● The non-casino gaming development is the right choice for Hong Kong. ● General support level(Average of all the items in Support level) 	3.59	3.29	2.537	0.011**
	<ul style="list-style-type: none"> ● Non-casino gaming continue to play an important economic role in Hong Kong. 	3.89	3.65	2.003	0.046**
	<ul style="list-style-type: none"> ● I support additional non-casino gaming development. 	3.72	3.25	3.875	0.000***
	<ul style="list-style-type: none"> ● The non-casino gaming development makes Hong Kong a better place to live. 	3.25	2.99	2.223	0.027**
	<ul style="list-style-type: none"> ● The non-casino gaming development is the right choice for Hong Kong. 	3.46	3.10	3.034	0.003***
	<ul style="list-style-type: none"> ● General support level(Average of all the items in Support level) 	3.55	3.29	2.605	0.009***

Note: ** $p < 0.05$, *** $p < 0.01$ confidence levels.

Independent samples t-test was conducted to compare whether men and women have different average values on support level. As shown in Table 4.6, among the Hong

Kong subsample, gender had a significant effect on support for non-casino gaming. Male residents were more optimistic about its future, given that they scored the five statements related to the current state of local gaming as well as its further development higher than their female compatriots. The general support level expressed by female respondents fell below the midpoint, while men's attitudes towards all the statements were essentially neutral, with an average of 3.5. This finding is consistent with previous research (Pizam & Poleka, 1985; Spears & Boger, 2003; Vong, 2004) indicating that gender is significantly related to support for casino gaming and opposition to its development comes mainly from females. Women, who in general are not as interested in gambling as men and who anticipate problem gambling among the male citizenry, are the core group of gaming opponents. This can also be ascribed to the fact that women are generally considered to be more sensitive to social problems (Vong, 2004). Another influencing factor may be that men are more likely than women to participate regularly in most types of gambling (Volberg, 2003). In Hong Kong, male residents participate in gaming more frequently than females, especially in activities such as betting on horse racing and football. Recent research (Ho, 2012) shows that in 2011, 21.8% and 13.7% of men in Hong Kong had bet on horse racing and football, whereas only 5.8% and 1% of females had taken part in these two activities (both of which are

legal). That is to say, men in Hong Kong benefit more directly from non-casino gaming because of its recreational function. Although another study (Tam et al., 2013) reports that males are more likely than females to say that living standards may worsen if Hong Kong were to legalize casino gaming, they are still more likely to support expansion of existing non-casino games such as the lottery, horse racing, and sports betting. Supporters of the current gaming arrangements in Hong Kong favor developing these approaches rather than introducing a new casino industry, which requires huge effort and brings with it many unpredictable risks.

In contrast, the t-test results indicated no statistical differences based on gender among the Guangzhou sample, where both men and women expressed similar views in terms of their support for gaming.

4.4.2 Age

Table 4. 7 Differences among Different Age Groups

City	Support level	Demographic Characteristic(Age)			F value	p-Value	Post hoc LSD Test
		Youth n=256	Middle-aged n=215	Elderly n=137			
HK	● Non-casino gaming continue to play an important economic role in Hong Kong.	3.66	3.70	4.04	3.226	0.039**	(Y,E)
	● I support additional non-casino gaming development	3.26	3.47	3.85	6.778	0.001***	(Y,M)(M,E)(Y,E)

● The non-casino gaming development is the right choice for Hong Kong	3.10	3.22	3.66	6.407	0.002***	(Y,M)(M,E)(Y,E)
● General support level(Average of all the items in Support level)	3.30	3.37	3.69	4.520	0.011**	(Y,M)(M,E)(Y,E)

	Youth n=271	Middle-aged n=318	Elderly n=83			
GZ ● Non-casino gaming help Guangzhou grow in the right direction.	3.41	3.61	4.04	3.428	0.033**	(Y,M)(M,E)(Y,E)
● The future of Guangzhou looks bright due to non-casino gaming development.	3.56	3.63	4.16	8.587	0.000***	(Y,M)(M,E)(Y,E)
● I am happy that there are tourists coming to Guangzhou because of non-casino gaming.	3.21	3.32	4.10	5.150	0.006***	(Y,M)(M,E)(Y,E)
● I support additional non-casino gaming development.	3.82	4.41	4.32	7.778	0.000***	(Y,M)(M,E)(Y,E)
● The non-casino gaming development makes Guangzhou a better place to live.	3.35	3.78	4.34	10.215	0.000***	(Y,M)(M,E)(Y,E)
● The non-casino gaming development is the right choice for Guangzhou.	3.46	3.85	3.60	8.669	0.000***	(Y,M)(M,E)(Y,E)
● General support level(Average of all the items in Support level)	3.45	3.66	4.17	7.406	0.001***	(Y,M)(M,E)(Y,E)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. Y=Youth, M=Middle-aged, E=Elderly. Variables in parentheses are statistically significant at p < .05.

Age is frequently discussed in the literature as one of the demographic variables likely to affect residents' attitudes to gaming. As shown in Table 4.7, the ANOVA for differences in support level according to age revealed significant variations. Since the

overall F statistic was significant, a post-hoc analysis was conducted to determine which types of institutions differ in scores of support level statements. The LSD (least significant difference), which is the most liberal of the tests (George & Mallery, 2001), was selected for post hoc analysis. The significant items for the Hong Kong subsample related mainly to the current state of gaming, which confirms its important economic role, while for Guangzhou more emphasis was placed on the statements about future expansion. Elderly residents in both cities were more inclined to be optimistic about the development of gaming. Among the Hong Kong subsample, the older the respondents were, the higher they rated three of the eight statements about support as well as the general variable. The results of the ANOVA of the Guangzhou responses indicated statistically significant differences between age groups for six of the eight statements and the average measure of support. Respondents aged 56 or above rated these items 0.72 points higher than those aged 18-35.

These findings contradict the results of earlier casino gaming studies, which show that the elderly tend to express opposition to gaming because they are more likely than other subgroups in the population to feel threatened by its negative side effects (Spears & Boger, 2003). Nevertheless, the negative impact of non-casino gaming may be relatively minor and some older people are more likely to appreciate its recreational

role. In terms of gaming expenditure, there have been concerns that older consumers (that is, people aged over 65) are more vulnerable to inappropriate horse racing or lottery marketing practices, resulting in larger numbers of purchases. Several studies of lottery purchasing have found that older people are more likely to buy tickets than younger people (Aasved, 1993), which may also be true in China. It is worth mentioning that 8.8% of ticket buyers in mainland China are retired (Zeng & Zhang, 2007). In Hong Kong, those who take part in the Mark Six lottery and horse racing are mostly 40 or above (Ho et al., 2012). There is no doubt that in China, non-casino gaming activity enriches older people's social lives by providing opportunities for leisure and social interaction (Perdue et al., 1999).

In contrast, younger adults, whose lives may be less affected by the development of gaming, are likely to be worried that gambling may have a bad influence on their generation. Respondents aged 36-55 were more concerned about the poor reputation gaming may bring to Hong Kong, but at the same time, may have been skeptical about the environmental impact of gaming development. Thus, it is perhaps not surprising that senior citizens were more positive about this important recreational activity than younger residents.

4.4.3 Marital Status

Table 4. 8 Differences among Marital Status

City	Support level	Demographic Characteristic (Marital status)			F value	p-Value	Post hoc LSD Test
		Single n=302	Married n=286	Other n=20			
HK	• The non-casino gaming development makes Hong Kong a better place to live.	3.38	3.73	3.15	4.722	0.009**	(S,M)(M, O)(S,O)
		Single n=288	Married n=362	Other n=22			
GZ	• Non-casino gaming continue to play an important economic role in Guangzhou.	3.59	3.95	3.77	3.163	0.014***	(S,M)(M, O)(S,O)
	• The non-casino gaming development is the right choice for Guangzhou.	3.09	3.46	3.39	3.136	0.014***	(S,M)(S, O)
	• General support level(Average of all the items in Support level)	3.27	3.57	3.42	3.127	0.015***	(S,M)(M, O)(S,O)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. S=Single, M=Married, O=Other. Variables in parentheses are statistically significant at p < .05.

The results from the ANOVA comparing support across groups with different marital status are shown in Table 4.8. Post-hoc tests were again made using the LSD test. There were significant differences in the means among groups of residents in different marital status. Apart from one item in Hong Kong and two in Guangzhou, there were no significant differences in these indicators between single or married residents. Nevertheless, we can still conclude that married respondents had a slightly more positive attitude than single ones, with the effect being more pronounced in Guangzhou.

In terms of general support, in Guangzhou, individuals who were not currently married were less supportive than those who had been married at some point.

Some casino gaming studies show that marital status has no statistically significant effect on the inclination to support or oppose casino gaming (Caneday & Zeiger, 1991; Ham et al., 2004), suggesting that attitudes towards gaming may be unrelated to whether or not one is single or married. Another researcher suggests that support for casino legalization may come more from single people because of the lifestyle changes that they perceive as likely to result from it (Pizam & Poleka, 1985). Unlike casino gaming studies, this study suggests that married people, many of whom are likely to be relatively mature and enjoy a more stable family life, may be more open minded and accepting towards nontraditional industries. The married respondents in this survey were in the prime of their working lives with stable earnings, and hence are likely to have enough disposable income. As noted by George (1993), there is greater variability in leisure activity preferences around the time of marriage and parenthood. Marriage is an important factor in determining leisure preferences. Therefore, this group of people is more likely to seek different forms of hobbies or entertainment, with gaming being one of the possible choices.

4.4.4 Level of Education

Table 4. 9 Differences among Level of Education

City	Support level	Demographic Characteristic (Level of education)			F value	p-Value	Post hoc
		Secondary and below n=192	Tertiary education n=379	Higher tertiary education n=32			
HK	• Non-casino gaming is one of the most important industries for Hong Kong.	3.50	3.97	4.11	6.814	0.001***	(S,T)(T,H)(S,H)
	• The future of Hong Kong looks bright due to non-casino gaming development.	2.98	3.28	3.53	3.955	0.020**	(S,T)(T,H)
	• Non-casino gaming continue to play an important economic role in Hong Kong.	3.52	3.88	3.82	3.807	0.023**	(S,T)(T,H)
	• I support additional non-casino gaming development.	3.24	3.58	3.57	3.417	0.033**	(S,T)(T,H)(S,H)
	• General support level(Average of all the items in Support level)	2.90	3.22	3.00	4.375	0.013**	(S,T)(T,H)(S,H)
		Secondary and below n=123	Tertiary education n=519	Higher tertiary education n=31			
GZ	• The non-casino gaming development makes Guangzhou a better place to live.	3.93	3.41	3.26	5.36	0.005***	(S,T)(T,H)
	• The non-casino gaming development is the right choice for Guangzhou.	4.00	3.49	3.78	4.90	0.008***	(S,T)(T,H)(S,H)
	• General support level(Average of all the items in Support level)	3.80	3.45	3.73	3.78	0.023**	(S,T)(T,H)(S,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. S= Secondary and below, T= Tertiary education, H=Higher tertiary education. Variables in parentheses are statistically significant at p < .05.

It is a frequent criticism of lotteries that they unfairly burden the less educated (Price

& Novak, 2000). High levels of formal education are usually presumed to be inversely related to lottery purchasing (Lee & Change, 2005). Post hoc tests (LSD) show that in both Hong Kong and Guangzhou, support for gaming varied among residents with different levels of education. Furthermore, the general support level varied for residents with high, medium, and low levels of education in both cities. It is worth noting that the proponents of gaming formed different subgroups in the two cities, with different characteristics. This indicates the subtle effect of education on attitudes towards non-casino gaming.

In Hong Kong, the mean values of the responses to the four statements relevant to this issue were significantly different. Two of the items addressed the currently essential status of gaming in the city and the other two its future development. Respondents who had completed tertiary or higher tertiary education were significantly more likely to agree with these items than those with less education. Educated people, who have acquired adequate knowledge about gaming, are likely to be confident that they can control themselves and instead focus on the hope that developing non-casino gaming will stimulate economic growth.

In Guangzhou, the scores for two of the statements were significantly different. Nonetheless, respondents with a college education or above displayed more

conservative attitudes toward gaming. This is consistent with the work of Perdue, Kang, and Long (1995) who report that as education level increases, support for gambling decreases. It appears that the better-educated residents of Guangzhou objected to any kind of gaming industry on moral grounds. This result also supports the contention that gambling as a social activity is more popular among segments of the population with less education (Chen & Hsu, 2001). In view of local residents' rate of participation in gambling, it is also reasonable to suggest that less educated people may spend more on lottery tickets, and may therefore be looking to the government to provide more opportunities for them to gamble.

4.4.5 Occupation and Monthly Household Income

No differences in response according to occupation were found in the ANOVA testing. Moreover, monthly income was not associated with support for gaming. It can be concluded that occupation and income do not play a decisive role in terms of support for gambling in either Hong Kong or Guangzhou; or in other words, attitudes do not vary according to these two variables. Perceptions of gambling as a leisure activity appeared to be universally represented across all occupational and income subgroups.

This pattern of response is consistent with previous work showing that demographic characteristics are not always significant in explaining variations in residents'

perceptions (Carmichael, 1996). Research findings on the effects of demographic factors tend to be inconclusive and some of the explanations suggested in the casino gaming literature may not be directly applicable to non-casino gaming. Non-casino gaming, unlike casinos which generate much more revenue and hire more labor from the local market, will generally not be the strongest sector in a local economy. At the same time, most residents will not be direct financial beneficiaries of non-casino gaming. As a result, those characteristics (occupation and income), which are more directly related to the economic aspect of gaming, did not significantly affect respondents' attitudes.

4.5 Effects of Community Attachment, Gaming Behavior and Power on Residents' Perceptions

To explore whether there were significant differences in perceptions of the positive and negative impacts of gaming according to community attachment, gaming behavior, and power, a series of multivariate analysis of variance (MANOVA) was performed. Using MANOVA reduces the likelihood of a Type I error and controls for correlations among the dependent variables (Tabachnick & Fidell, 2007). The interactions between independent variables can be examined and contrast analyses performed to identify how

they differ from each other (Field, 2011). If any statistically significant associations were found, follow-up ANOVA tests were undertaken to examine them further.

Respondents' levels of community attachment, gaming behavior, and power were assessed by calculating the factor scores of these three variables. The simplest way to estimate factor scores for individuals is to sum the raw scores corresponding to all the items loading on a factor. Using this method, average scores can be computed to retain the scale metrics, which may allow for easier interpretation. Also, average scores may be useful in making comparisons across factors when they contain different numbers of items. The summing of scores method may be most desirable when the scales used to collect the original data are "untested and exploratory, with little or no evidence of reliability or validity" (Hair et al., 2010, p. 140). In addition, the summed factor scores preserve the variation in the original data. In this study, the residents of both cities were classified into three categories (low, medium, and high) based on their responses to the factor score items (Aiken & West, 1991) of the three dependent variables. If their average score ranged from 1 to 3, the respondent was categorized in the low group; scores from 3 to 5 were classified as medium, and scores from 5 to 7 put the individual in the high category. As a result, respondents were sorted into three groups according to their level of gaming behavior, community attachment, and power, to facilitate the

MANOVA testing.

Four of the most widely used multivariate test statistics for MANOVA were calculated; Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root. A significance level of 0.05 was used as the cutoff. Pillai's trace and Wilks' lambda are commonly used for testing overall significance between groups when certain basic design criteria (adequate sample size, no violations of assumptions, approximated equal cell sizes) are met, while Roy's largest root is a more powerful test statistic (Hair et al., 2010). Therefore, all the statistical measures were used in case the results differed in particular instances. If the results of the tests conflicted with another, but only if one of the four statistics was significant, a follow-up ANOVA test was performed on the significant dependent variable as a *post hoc* analysis. Because of the large number of variables, the consequently high number of significance tests, and the increased likelihood of a Type I error, only results significant at the $p < .05$ level are reported here.

4.5.1 Differences in Perceived Positive Impacts Based on Community Attachment, Gaming Behavior and Power

MANOVA was used to look at several dependent variable simultaneously. As suggested by Field (2011), there is important additional information that is gained from MANOVA by including all dependent variables in the same analysis. It also has greater

power to detect an effect, because it can detect whether groups differ along a combination of variables, whereas ANOVA can detect only if groups differ along a single variable. For these reasons, MANOVA is preferable to conducting several ANOVAs.

The first MANOVA was conducted on the items measuring the perceived positive impacts of gaming, using community attachment, gaming behavior, and power as the independent variables. According to the results of the homogeneity of variance tests for the individual dependent variables, Box's M test statistics reported no significance at an alpha level of 0.001 (Tabachnick & Fidell, 2007). This indicates that the variance-covariance matrices within each cell of the design were sampled from the same population variance-covariance matrix. Table 4.10 reports the four multivariate test statistics for this MANOVA, namely Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root.

Table 4. 10 Multivariate Test Statistics for the MANOVA (Perceived Positive Impacts)

		Hong Kong			Guangzhou		
		Value	F value	p-Value	Value	F value	p-Value
community attachment	Pillai's trace	0.079	2.139	0.002***	0.069	2.077	0.002***
	Wilks' lambda	0.922	2.149	0.002***	0.932	2.090	0.002***
	Hotelling's	0.083	2.159	0.001***	0.072	2.103	0.002***

	trace						
	Roy's largest	0.065	3.400	0.000***	0.060	3.506	0.000***
	root						
gaming behavior	Pillai's trace	0.080	2.165	0.001***	0.046	1.376	0.115
	Wilks'	0.922	2.173	0.001***	0.954	1.376	0.115
	lambda						
	Hotelling's	0.084	2.180	0.001***	0.047	1.376	0.115
	trace						
power	Roy's largest	0.063	3.300	0.000***	0.032	1.854	0.042**
	root						
	Pillai's trace	0.084	2.289	0.001***	0.065	1.966	0.005***
	Wilks'	0.917	2.293	0.001***	0.936	1.965	0.005***
	lambda						
community attachment× gaming behavior	Hotelling's	0.088	2.298	0.001***	0.068	1.965	0.005***
	trace						
	Roy's largest	0.062	3.261	0.000***	0.043	2.512	0.004***
	root						
	Pillai's trace	0.114	1.540	0.013**		In-significant	
community attachment× gaming behavior	Wilks'	0.890	1.540	0.013**			
	lambda						
	Hotelling's	0.118	1.539	0.013**			
gaming behavior	trace						
	Roy's largest	0.052	2.717	0.002***			
	root						

Note: **p <0.05, ***p <0.01 confidence levels

For the Hong Kong data, all these test statistics were significant at the 0.001 level, indicating that community attachment, gaming behavior, and power all had significant main effects on the perceived positive impacts of non-casino gaming. When testing the effects of gaming behavior on impacts in the Guangzhou data, Pillai's trace, Wilks' lambda, and Hotelling's trace were nonsignificant at p=0.05. However, Roy's largest

root did reach the cutoff point for significance. As Field (2011) suggests, Roy's largest root is the most powerful statistic. Therefore, following analysis with univariate ANOVA with post-hoc LSD test was also performed on the Guangzhou data to see if this had a significant effects on perceptions of positive impacts. Moreover, the interaction effect between community attachment and gaming behavior on such perceptions in Hong Kong was also significant. This means that there is a difference in perceptions of the positive impacts of gaming between people with different levels of community attachment depending on their gaming behavior.

Table 4. 11 Differences in Perceived Positive Impacts Based on Community Attachment

City	Dependent variables	Independent variable: community attachment			F value	p-Value	Post hoc LSD test
		Low	Medium	High			
HK	Increase in public infrastructure	3.77	3.94	4.38	6.645	0.001***	(L,H)(M,H)
	Increase of welfare in the community	3.67	3.92	4.56	14.610	0.000***	(L,M)(L,H)(M,H)
	Increased city attractiveness	3.42	3.78	4.21	7.765	0.000***	(L,M)(L,H)(M,H)
	More social opportunities	3.06	3.66	3.79	5.078	0.007***	(L,M)(L,H)(M,H)
	More educational funding	3.51	3.80	4.17	5.362	0.005***	(L,M)(L,H)(M,H)
	Increased pride of local residents	2.55	3.00	3.23	5.062	0.007***	(L,M)(L,H)(M,H)
	More entertainment and recreation facilities	3.34	3.87	4.14	5.549	0.003***	(L,M)(L,H)(M,H)
GZ	Increased tax revenue	4.39	4.34	4.81	6.631	0.001***	(L,M)(L,H)(M,H)
	More investment and business	3.39	4.10	4.62	14.230	0.000***	(L,M)(M,H)
	More employment opportunities	3.11	3.75	4.52	19.648	0.000***	(L,M)(L,H)(M,H)
	More tourist spending	3.11	3.58	4.02	7.824	0.000***	(M,H)
	Increase in public infrastructure	3.45	4.00	4.67	15.339	0.000***	(L,M)(M,H)
	Increase of welfare in the community	3.39	3.98	4.69	16.828	0.000***	(L,M)(L,H)(M,H)

Increased city attractiveness	2.67	3.26	3.88	15.334	0.000***	(L.M)(L,H)(M,H)
More social opportunities	3.22	3.31	4.26	14.822	0.000***	(L.M)(M,H)
More educational funding	3.39	3.80	4.40	12.136	0.000***	(L.M)(L,H)
Increased pride of local residents	2.58	2.93	3.68	18.340	0.000***	(L.M)(L,H)
More entertainment and recreation facilities	3.20	3.84	4.54	18.347	0.000***	(L.M)(L,H)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

Table 4.11 presents the responses to the items measuring perceived positive impacts divided by level of community attachment. Generally speaking, community attachment had a significant effect on most of the items. Again, however, significant differences between the two cities emerged. In Guangzhou, the discrepancy in responses to the items exploring economic positive impacts was significant. Respondents with high scores for community attachment also scored the items dealing with tax revenue, investment in business, employment opportunities, and tourist spending significantly higher. On the contrary, there were no significant differences in the mean scores of these economic indicators in the Hong Kong subsample. Otherwise, the results indicate that in both Hong Kong and Guangzhou, the more the respondents felt attached to their community, the more likely they were to give high scores to the items measuring the positive social impact of gaming.

Table 4. 12 Differences in Perceived Positive Impacts Based on Power

City	Dependent variables	Independent variable: power			F value	p-Value	Post hoc LSD test
		Low	Medium	High			
HK	More investment and business	4.28	4.60	4.96	5.973	0.003***	(L,M)(L,H)
	More tourist spending	4.01	4.31	4.57	3.668	0.026**	(L,M)(L,H)
	Increase in public infrastructure	3.91	4.25	4.69	6.163	0.002***	(L,M)(L,H)(M,H)
	Increased city attractiveness	3.76	4.04	4.58	5.003	0.007***	(L,H)(M,H)
	More social opportunities	3.46	3.89	4.19	8.531	0.000***	(L,M)(L,H)(M,H)
	Increased pride of local residents	2.77	3.35	3.92	17.774	0.000***	(L,M)(L,H)(M,H)
	More entertainment and recreation facilities	3.78	4.05	4.54	4.443	0.012**	(L,M)(L,H)(M,H)
GZ	More investment and business	4.08	4.33	4.79	5.885	0.003***	(L,M)(L,H)(M,H)
	More employment opportunities	3.83	4.40	4.52	4.580	0.011**	(L,M)(L,H)(M,H)
	More tourist spending	3.36	3.96	4.39	14.994	0.000***	(L,M)(M,H)
	Increase in public infrastructure	4.02	4.31	4.81	6.193	0.002***	(L,H)(M,H)
	Increase of welfare in the community	3.92	4.40	4.84	9.783	0.000***	(L,M)(M,H)
	Increased city attractiveness	3.15	3.66	4.12	12.528	0.000***	(L,M)(L,H)(M,H)
	More social opportunities	3.50	4.01	4.71	17.649	0.000***	(L,M)(L,H)(M,H) (L,M)(L,H)(M,H)
	More educational funding	3.65	4.20	4.84	16.784	0.000***	(L,M)(M,H)
	Increased pride of local residents	2.72	3.50	4.20	30.892	0.000***	(L,M)(L,H)
	More entertainment and recreation facilities	3.76	4.20	5.05	16.737	0.000***	(L,M)(L,H)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

Mean differences in perceptions of the positive impacts of gaming were then identified using one-way ANOVA with post hoc LSD test and the results are shown in Table 4.12. Significant differences were found between the three subgroups in the Hong Kong subsample for seven of the items dealing with positive impacts. In contrast,

responses to ten of these items varied according to level of power. Residents reporting high power were more likely to score the positive impact items highly than members of the other two power subgroups, and the low-power subgroup gave these items lower mean scores overall. Three of the impact measures were scored significantly differently in Guangzhou but not in Hong Kong, namely those dealing with more employment opportunities, more welfare in the community, and more educational funding. It is interesting to note that even though gaming has actually resulted in benefits in these three areas in Hong Kong, perceptions of them varied across the two cities.

Table 4. 13 Differences in Perceived Positive Impacts Based on Gaming Behavior

City	Dependent variables	Independent variable: gaming behavior			F value	p-Value	Post hoc
		Low	Medium	High			
HK	Increased tax revenue	4.92	5.04	5.50	3.214	0.041**	(M,H)(L,H)
	More investment and business	4.22	4.69	4.82	9.568	0.000***	(L,M)(L,H)
	More employment opportunities	4.86	5.14	5.41	5.007	0.007***	(L,M)(M,H)(L,H)
	Increase in public infrastructure	3.97	4.15	4.52	3.032	0.049**	(L,M)(M,H)(L,H)
	Increase of welfare in the community	4.00	4.17	4.72	4.939	0.007***	(L,M)(M,H)(L,H)
	More social opportunities	3.52	3.75	4.20	5.179	0.006***	(L,M)(M,H)(L,H)
	Increased pride of local residents	2.81	3.33	3.52	11.663	0.000***	(L,M)(L,H)
	More entertainment and recreation facilities	3.74	4.12	4.34	5.996	0.003***	(L,M)(M,H)(L,H)
GZ	More investment and business	4.13	4.30	4.82	4.340	0.013**	(L,M)(M,H)(L,H)
	More employment opportunities	3.75	4.23	4.82	10.925	0.000***	(L,M)(M,H)(L,H)
	More tourist spending	3.41	3.99	4.61	16.251	0.000***	(L,M)(M,H)
	Increase in public infrastructure	4.00	4.44	4.77	7.263	0.001***	(L,M)(M,H)
	Increase of welfare in the community	3.96	4.40	5.14	11.939	0.000***	(L,M)(L,H)
	Increased city attractiveness	3.25	3.58	4.39	11.514	0.000***	(L,M)(M,H)(L,H)
	More social opportunities	3.59	4.04	4.63	11.969	0.000***	(L,M)(L,H)
	More educational funding	3.78	4.15	4.84	10.231	0.000***	(L,M)(M,H)(L,H)
	Increased pride of local residents	2.95	3.36	4.21	15.073	0.000***	(L,M)(L,H)
	More entertainment and recreation facilities	3.80	4.28	4.89	11.969	0.000***	(L,M)(M,H)(L,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

The results indicate that there were significantly different mean scores for nine of the positive impacts indicators in the Hong Kong subsample and two in Guangzhou.

Residents of both cities with medium or high involvement in gaming were more likely to regard it as having a stronger positive impacts than respondents with less

involvement. These differences were observed for three indicators; tax revenue, tourist spending, and educational funding. Differences in the perception of tax revenue by gaming participation were only significant for the Hong Kong subsample, and for the other two variables in the Guangzhou subsample only.

Interaction represents the joint effect of two or more treatments, and they are evaluated with the criteria as main effects (Hair et al., 2019). The effect of the interaction between gaming behavior and community attachment was further examined by splitting the data by according to gaming behavior and an ANOVA with post hoc LSD test was run for groups of different level of gaming behavior. Among the subgroups with medium and high involvement, significant mean differences were found for eight items dealing with the positive impacts of gaming.

Table 4. 14 Interaction between Gaming Behavior ×Community Attachment on Positive Impacts in Hong Kong

	perceived positive impacts	Independent variable: community attachment			F value	p-Value	Post hoc LSD test
		Low	Medium	High			
Medium level of gaming behavior	Increased tax revenue	4.84	4.88	5.39	3.370	0.036**	(L,M)(M,H)(L,H)
	More investment and business	4.54	4.50	5.04	3.959	0.021**	(L,M)(M,H)(L,H)
	More employment opportunities	4.88	5.29	5.51	6.041	0.003***	(L,M)(M,H)(L,H)
	Increase in public infrastructure	3.87	4.00	4.63	7.013	0.001***	(M,H)(L,H)
	Increase of welfare in the community	3.79	3.89	4.72	9.080	0.000***	(M,H)(L,H)

	More social opportunities		2.91	3.76	4.03	5.907	0.003***	(L,H)
	More educational funding		3.71	3.71	4.30	3.811	0.024**	(L,M)(M,H)(L,H)
	More entertainment and recreation facilities		3.83	3.95	4.48	3.217	0.042**	(L,M)(M,H)(L,H)
High level of gaming behavior	Increase of welfare in the community		3.25	4.57	5.29	4.217	0.022**	(L,M)(M,H)(L,H)
	More entertainment and recreation facilities		2.50	4.18	4.78	5.467	0.008***	(M,H)(L,H)

Note: a. **p <0.05, ***p <0.01 confidence levels

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

As shown in Table 4.14, those respondents who participated moderately in gaming activities and who were also strongly attached to their community gave significantly higher scores to several items dealing with positive impact, including economic (tax revenue, investment in business, and so on) and social (welfare in the community, social opportunities, and so on) benefits. Residents with medium gaming involvement and high community attachment also gave high scores to the items dealing with the positive effects. This indicates that individuals who participated in gaming to a certain extent (but who are not heavy gamblers) and also felt strongly attached to Hong Kong tended to have stronger perceptions of most of the potential dimensions of positive impact.

Two indicators, increase in welfare and more recreation facilities in the community, received significantly higher scores from respondents who scored strongly on both community attachment and gaming behavior. This indicates that the function

of gaming as a supplier of welfare and entertainment was recognized by those who participated heavily in the activity and also had a strong sense of belonging to Hong Kong.

4.5.2 Differences in Perceived Negative Impacts Based on Community Attachment, Gaming Behavior and Power

MANOVA focuses on the analysis on the composition of the groups based on residents' characteristic (community attachment, gaming behavior and power). When an acceptable MANOVA model is found, the results can be interpreted in more detail (Hair et al., 2010). Thus, another series of MANOVA tests was conducted to explore patterns among community attachment, gaming behavior, and power in terms of residents' perceptions of the possible negative impact of gaming. The results are shown in Table 4.15.

It can be seen that in the Hong Kong subsample, significant differences emerged between respondents with different levels of community attachment, gaming behavior, and power in terms of their ratings of items dealing with the perceived negative impact of gaming. In Guangzhou, only power had a significant effect on these evaluations. In addition, the MANOVA results suggest two groups of significant interaction effects. The interaction of gaming behavior \times power was found in the Hong Kong subsample,

indicating that the differences between low, medium, and high gaming participation varied substantially across the three community attachment and power subgroups. The interaction of community attachment \times power was found to be statistically significant in the Guangzhou subsample, representing differences between subgroups with different levels of community attachment grouped by level of power.

Table 4. 15 Multivariate Test Statistics for the MANOVA (Perceived Negative Impacts)

		Hong Kong			Guangzhou		
		Value	F value	p-Value	Value	F value	p-Value
community attachment	Pillai's trace	0.063	1.443	0.070	0.034	0.847	0.687
	Wilks' lambda	0.937	1.447	0.069	0.966	0.847	0.687
	Hotelling's trace	0.066	1.452	0.067	0.035	0.846	0.688
	Roy's largest root	0.052	2.268	0.006***	0.024	1.158	0.307
gaming behavior	Pillai's trace	0.067	1.518	0.046**	0.049	1.237	0.191
	Wilks' lambda	0.934	1.516	0.047**	0.951	1237	0.191
	Hotelling's trace	0.069	1.514	0.048**	0.050	1.236	0.192
	Roy's largest root	0.038	1.690	0.059	0.033	1.638	0.071
power	Pillai's trace	0.085	1.942	0.003***	0.068	1.730	0.013**
	Wilks' lambda	0.917	1.943	0.003***	0.933	1.729	0.013**
	Hotelling's trace	0.089	1.945	0.003***	0.071	1.729	0.013**
	Roy's largest root	0.060	2.649	0.001***	0.045	2.191	0.009***
community attachment× power	Pillai's trace				0.086	1.449	0.037**
	Wilks' lambda		In-significant		0.917	1.446	0.037**
	Hotelling's trace				0.088	1.444	0.038**
	Roy's largest root				0.038	1.892	0.028**
gaming behavior× power	Pillai's trace	0.165	1.895	0.000***			
	Wilks' lambda	0.845	1.896	0.000***		In-significant	
	Hotelling's trace	0.173	1.896	0.000***			
	Roy's largest root	0.070	3.077	0.000***			

Note: **p <0.05, ***p <0.01 confidence levels

Table 4. 16 Differences of perceived negative impacts according to level of community attachment

City	Dependent variables	Independent variable: community attachment			F value	p-Value	Post hoc LSD test
		Low	Medium	High			
HK	Noise level	3.94	4.42	4.05	4.443	0.012**	(L,M)(M,H)
	Decrease of cleanliness of the community	3.43	3.99	3.75	4.023	0.018**	(L,M)(M,H)
	An overcrowded city	3.39	3.83	3.53	3.514	0.030**	(L,H)(L,M)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

Table 4. 17 Differences of perceived negative impacts according to level of gaming behavior

City	Dependent variables	Independent variable: gaming behavior			F value	p-Value	Post hoc LSD test
		Low	Medium	High			
HK	Gambling addicts	5.64	5.36	5.26	5.828	0.003***	(L,M)(L,H)(M,H)
	Traffic congestion	3.99	3.66	3.55	5.528	0.004***	(L,M)(L,H)
	Quantity of litter	4.20	3.93	3.59	3.896	0.021**	(L,M)(L,H)(M,H)
	Noise level	4.42	4.07	3.81	4.981	0.007***	(L,M)(M,H)
	Decrease of cleanliness of the community	4.05	3.61	3.56	6.992	0.001***	(L,M)(L,H)
	An overcrowded city	3.81	3.56	3.32	3.202	0.041**	(L,M)(L,H)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

Community attachment and gaming behaviors only had a significant effect on perceptions of negative impacts in Hong Kong if examined independently (see Tables 4.16 and 4.17). Three types of negative impacts, namely noise level, cleanliness of the

community, and overcrowding were rated more strongly by respondents with medium levels of community attachment, while those in the low and high subgroups were less concerned about these issues. Gambling addiction, as well as some of the negative environmental indicators, received higher scores from respondents with low involvement in gaming. In other words, the medium and heavy gaming subgroups were less concerned about the potential negative impact.

Table 4. 18 Differences of Perceived Negative Impacts according to Power

City	Dependent variables	Independent variable: power			F value	p-Value	Post hoc LSD
		Low	Medium	High			
HK	Traffic congestion	4.51	4.56	5.23	4.433	0.012**	(L,M)(L,H)(M,H)
	Noise level	3.67	3.98	4.15	3.050	0.048**	(L,M)(M,H)
	An overcrowded city	3.67	3.98	4.15	3.447	0.032**	(L,M)(L,H)(M,H)
GZ	Destruction of family	3.86	4.05	4.61	6.271	0.002***	(L,M)(L,H)(M,H)
	Increase of loan sharking (usury)	3.74	4.05	4.61	4.693	0.009***	(L,M)(L,H)(M,H)
	Crime	3.65	3.86	4.20	3.028	0.049**	(L,M)(L,H)(M,H)
	Bankruptcy	3.61	3.91	4.21	4.009	0.019**	(L,M)(L,H)(M,H)
	Divorce	3.51	3.78	4.01	3.088	0.046**	(L,M)(M,H)
	Traffic congestion	2.73	3.48	3.81	31.643	0.000***	(L,M)(M,H)
	Quantity of litter	3.97	4.11	4.60	3.394	0.034**	(L,M)(L,H)
	Noise level	3.25	3.78	3.90	8.462	0.000***	(L,M)(L,H)(M,H)
	Decrease of cleanliness of the community	3.61	4.06	4.47	9.294	0.000***	(L,M)(L,H)(M,H)
	An overcrowded city	3.86	4.00	3.51	18.627	0.000***	(L,H)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

The items dealing with traffic congestion, noise level, and overcrowding were scored significantly differently by residents with different power levels in both cities, while the differences for other items (destruction of the family, increase in loan sharking/usury, crime, bankruptcy, and so on) were significant only in Guangzhou. It would appear that power level had more effect on the assessment of negative impact (both social and environmental) in the Guangzhou subsample.

After these interactions had been identified, the dataset was split further by gaming behavior and an ANOVA with post hoc LSD test was performed for this variable in terms of community attachment. Similar to the findings on perceived positive impacts reported above, mean differences were only found in the medium and high gaming behavior subgroups. Table 4.19 presents the results of the interaction analysis for the Hong Kong subsample. Residents who participated frequently in gaming and regarded themselves as having high levels of power were more likely to give high ratings to the items covering the potential negative impacts of gaming, especially the social effects such as crime, bankruptcy, divorce, and so on. Among the subgroup with medium gaming involvement, those with more power scored two of the environmental impacts items (traffic congestion and overcrowding) significantly higher.

Table 4. 19 Interaction between Gaming Behavior and Power on Negative

Impacts in Hong Kong

	perceived negative impacts	Independent variable: power			F value	p-Value	Post hoc LSD
		Low	Medium	High			
Medium level of gaming behavior	Traffic congestion	3.35	3.69	4.33	3.125	0.046**	(L,M)(M,H)(L,H)
	An overcrowded city	3.38	3.66	4.50	3.688	0.027**	(M,H)
	Crime	3.93	4.04	6.40	5.412	0.008***	(M,H)(L,H)
High level of gaming behavior	Bankruptcy	3.93	4.08	6.40	3.588	0.037**	(L,M)(M,H)(L,H)
	Divorce	3.93	4.43	6.60	4.655	0.015**	(M,H)(L,H)
	High cost of living	3.30	4.44	4.20	6.469	0.033**	(M,H)(L,H)
	Decrease of cleanliness of the community	2.86	4.06	5.20	14.225	0.003***	(L,M)(M,H)(L,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

To examine the interaction between community attachment and power in Guangzhou, the data were then split by community attachment and following-up ANOVA with post hoc LSD test was conducted on power. Significant results were found in the subgroups with medium and high community attachment only (see Table 4.20). Respondents with medium level of community attachment but high power were more concerned with three aspects of negative impact, namely bankruptcy, traffic congestion, and overcrowding. In the subgroup with a high level of community attachment, residents with more power were inclined to be more concerned not only with the social cost (destruction of the family, loan sharking/usury), but also the environmental impacts (traffic congestion, quantity of litter, noise level, and so on) of gaming.

Table 4. 20 Interaction between Community Attachment and Power on Negative Impacts in Guangzhou

	perceived negative impacts	Independent variable: power			F value	p-Value	Post hoc LSD
		Low	Medium	High			
Medium level of community attachment	Bankruptcy	3.56	3.96	4.60	4.444	0.012**	(L,M)(M,H)
	Traffic congestion	2.83	3.51	3.73	8.160	0.000***	(L,H)(L,M)(M,H)
	An overcrowded city	3.71	3.69	3.79	5.139	0.006***	(L,M)(M,H)
	Destruction of family	3.96	3.90	4.72	4.488	0.012**	(L,M)
High level of community attachment	Increase of loan sharking (usury)	3.72	3.80	4.47	3.085	0.047**	(L,H)(L,M)(M,H)
	Traffic congestion	2.48	3.43	3.92	14.859	0.000***	(L,H)(L,M)(M,H)
	Quantity of litter	3.68	4.15	4.68	4.641	0.010***	(L,H)(L,M)(M,H)
	Noise level	2.91	3.86	3.87	8.181	0.000***	(L,H)(M,H)
	High cost of living	3.48	4.24	4.11	5.055	0.007***	(L,H)(M,H)
	Decrease of Cleanliness of the community	3.49	3.95	4.52	5.948	0.003***	(L,H)(L,M)(M,H)
	An overcrowded city	2.97	3.89	4.13	13.235	0.000***	(L,H)(M,H)

Note: a. **p <0.05, ***p <0.01 confidence levels.

b. LSD post hoc comparison. L=Low, T= Medium, H= High. Variables in parentheses are statistically significant at p < .05.

In summary, all the significant interactions identified above (gaming behavior × community attachment on perceived positive impact and gaming behavior × power on perceived negative impact in Hong Kong; community attachment × power on perceived negative impact in Guangzhou) can be considered as ordinal interactions. These arise when the effects of one variable are not equal across all levels of another variable but the group differences always point in the same direction.

On the one hand, the views of Hong Kong residents with medium and high levels of gaming participation should be taken into consideration because their attitudes may be more extreme. Residents who are more inclined to participate in gaming will tend to focus more on the positive impact if they also feel strongly attached to the community, while if they also have more power, they will be more likely to focus on the negative impact. On the other hand, respondents in Guangzhou with higher levels of community attachment and power were most likely to have strong views, particularly negative ones, about the potential impact of non-casino gaming.

CHAPTER 5. STRUCTURAL MODELS OF RESIDENTS' PERCEPTIONS OF NON-CASINO GAMING

5.1 Chapter Introduction

This chapter considers the fifth research question using the results of the main survey. Firstly, the results of an exploratory factor analysis (EFA) performed to empirically verify the number of dimensions conceptualized in the model are reported. The chapter then explains the confirmatory factor analysis (CFA) used to identify the most appropriate measurement models for both cities. The subsequent sections report on how the hypothetical relationships proposed in Chapter 3 were tested using SEM. The chapter concludes by reporting on the results of hypothesis testing on the Hong Kong and Guangzhou subsamples.

5.2 Exploratory Factor Analysis

EFA was used to establish the appropriate number of factors to be included in the measurement model and to ascertain of which the measured variables were reasonable

indicators of the various latent dimensions. The technique was used to analyze the main survey data for three purposes; (1) to reexamine the structure of the set of all the variables; (2) to reduce the dataset to a more manageable size while retaining as much information as possible; and (3) to provide evidence of the quality of the potential indicators of the factors. A comparison of the EFA results with those from the pilot survey displayed a very high level of similarity.

Achieving uni-dimensional measurement (Anderson & Gerbing, 1982) is a crucial aspect of theory testing and development. A necessary condition for assigning meaning to the estimated constructs is that the measures proposed as alternate indicators of each construct must be acceptably uni-dimensional; that is, each set of alternate indicators has only one underlying trait or construct in common (Hattie, 1985; McDonald, 1982).

A range of cutoff criteria were used to determine the number of factors derived, such as eigenvalues, scree plot, percentage of variance, item communalities, and factor loadings (Hair et al., 2010). A factor loading of 0.40 is considered to be the cutoff point for component interpretation (Stevens, 2002). Items with loadings lower than 0.4 and higher than 0.4 on more than one factor should be eliminated.

In this research, EFA was conducted on the whole samples of each cities. Checking

Cronbach's alpha was adopted rather than split-half method to assess if the modified measures have high reliability. Because split-half estimates have methodological weakness; that is, there are several ways in which a set of data can be split into two and so the results could be a product of the way in which the data were split (Field, 2011). Cronbach's alpha allowed us to estimate the reliability of a composite, which is a better way.

5.2.1 EFA Results for the Hong Kong Sample

In the Hong Kong sample, two items dealing with more tourist spending and the desire to buy non-casino gaming products were removed because they loaded on more than one factor. Despite the usefulness of factor loadings, however, component extraction need not be based on this criterion alone (Field, 2011) as communality can also be taken into account. With communalities of less than 0.50, the items "I am actively involved in community issues and activities" and "I have lived in the city for a long time" were considered to have insufficient explanatory power (Hair et al., 2010) and were therefore deleted.

The findings from the Hong Kong sample are presented in Table 5.1. It can be seen that an eight-factor solution was generated. The Kaiser-Meyer-Olkin (KMO) statistic was 0.895, which is greater than the suggested cutoff value of 0.50 (Kaiser, 1974),

verifying the adequacy of the sampling. Bartlett's test of sphericity (990) was 16978.74, $p < 0.000$, further indicating the robustness of the analysis. The average communality was greater than 0.60, meeting the requirements set out by Kaiser (1974) for factor analysis of large samples ($n = 250$ or more). Following Kaiser's (1974) criterion for extracting and retaining factors, factors with an eigenvalue greater than one were retained, indicating that they explained a substantial amount of the variation and hence were both statistically important and theoretically meaningful. The communalities of the 44 variables ranged from 0.516 to 0.831, suggesting that the variances of each original variable (from 51.6% to 83.1%) were reasonably explained by the eight-factor solution. Cronbach's alpha ranged from 0.759 to 0.935, exceeding the minimum standard of 0.7 recommended by Nunnally and Bernstein (1994).

In the first factor, support level, eight items had factor loadings from 0.65 to 0.85 and explained 20.809% of the total variance. The second, perceived negative social impacts, incorporated seven items with factor loadings all above 0.60, explaining 13.447% of the variance. The third factor, perceived negative environmental impacts, incorporated five items with factor loadings from 0.724 to 0.831 and accounted for 7.693% of the variance. The fourth, perceived positive social impacts, consisted of four items with factor loadings from 0.649 to 0.755, explaining 6.098% of the variance. The

fifth, community attachment, included seven items with absolute factor loadings ranging from 0.595 to 0.866 and explained 5.151% of the variance. The sixth, gambling behavior, incorporated five items with loading values from 0.664 to 0.856 and explained 4.190% of the variance. The final two factors, power and perceived positive economic impacts, accounted for 3.370% and 3.053% of the variance, respectively.

Table 5. 1 Result of EFA in Main Survey (Hong Kong)

Code	Factors/Items	Loading	Eigen- value	Variance Explained	Comm unality	Reliabilit y Alpha
1. Support level for non-casino gaming			9.366	20.809		0.935
SL6	I support additional non-casino gaming development.	0.852			0.791	
SL7	The non-casino gaming development makes Hong Kong a better place to live.	0.834			0.765	
SL8	The non-casino gaming development is the right choice for Hong Kong.	0.825			0.751	
SL2	Non-casino gaming help Hong Kong grow in the right direction.	0.820			0.754	
SL4	Non-casino gaming continue to play an important economic role in Hong Kong.	0.777			0.659	
SL3	The future of Hong Kong looks bright due to non-casino gaming development.	0.771			0.727	
SL5	I am happy that there are tourists coming to Hong Kong because of non-casino gaming.	0.763			0.678	
SL1	Non-casino gaming is one of the most important industries for Hong Kong.	0.654			0.667	
2. Perceived negative social impacts			6.453	13.447		0.909
NI2	Destruction of family	0.842			0.756	
NI3	Increase of loan sharking (usury)	0.837			0.759	
NI7	Divorce	0.789			0.736	
NI6	Bankruptcy	0.784			0.738	
NI1	Gambling addicts	0.730			0.669	
NI5	Crime	0.711			0.645	
NI4	Increase of speculative activities	0.627			0.545	
3.Perceived negative environmental impacts			3.838	7.693		0.902
NI12	Decrease of cleanliness of the community	0.831			0.831	
NI3	An overcrowded city	0.808			0.808	
N9	Quantity of litter	0.805			0.805	
NI10	Noise level	0.784			0.784	
NI8	Traffic congestion	0.765			0.765	
NI11	High cost of living	0.724			0.724	
4. Perceived positive social impacts			2.869	6.098		0.851

PI11	More entertainment and recreation facilities	0.755		0.776
PI9	More educational funding	0.739		0.740
PI5	Increase in public infrastructure	0.703		0.682
PI8	More social opportunities	0.692		0.627
PI7	Increased city attractiveness	0.688		0.590
PI6	Increase of welfare in the community	0.663		0.575
PI10	Increased pride of local residents	0.649		0.528
5. Community attachment			2.471	5.151
				0.881
CA2	I would like to live in Hong Kong more than other cities.	0.866		0.777
CA6	Hong Kong is an ideal place to live.	0.792		0.743
CA5	I am satisfied with Hong Kong.	0.785		0.698
CA4	I will be sorry if I move away.	0.750		0.663
CA7	I would do my best to enhance the development of Hong Kong.	0.730		0.607
CA3	I know what goes in Hong Kong.	0.726		
CA1	I feel at home in Hong Kong.	0.595		0.592
6. Gaming behavior			1.944	4.190
				0.837
GB5	My family members spend some money on gambling	0.856		0.739
GB6	Spending on gaming was part of my annual household spending in the past one year.	0.786		0.666
GB3	Spending on non-casino gaming was part of my annual household spending in the past one year.	0.753		0.658
GB4	I spend some money on gambling in the past one year.	0.740		0.619
GB2	My family members went to racecourses or off-Course betting branches to buy non-casino gaming	0.664		0.516
7. Power			1.774	3.730
				0.877
P1	I can personally influence over decisions related to community development.	0.898		0.807
P2	I have political influence (e.g. through voting) in the decision making process of gaming development.	0.870		0.771
8. Perceived positive economic impacts			1.131	3.053
				0.759
PI1	More tax revenue	0.751		0.758
PI3	More employment opportunities	0.745		0.712
PI2	More investment and business	0.637		0.620

5.2.2 EFA Results for the Guangzhou Sample

The same procedure was used to verify the dimensions of the scale for the Guangzhou sample. The EFA results are summarized in Table 5.2.

Table 5. 2 Result of EFA in Main Survey (Guangzhou)

Code	Factors/Items	Loading	Eigen- value	Variance Explained	Comm unality	Reliability Alpha
1.Support Level			8.353	19.427		0.903
SL3	The future of Guangzhou looks bright due to non-casino gaming development.	.827			0.797	
SL2	Non-casino gaming help Guangzhou grow in the right direction.	.802			0.774	
SL4	Non-casino gaming continue to play an important economic role in Guangzhou.	.780			0.721	
SL7	The non-casino gaming development makes Guangzhou a better place to live.	.718			0.694	
SL8	The non-casino gaming development is the right choice for Guangzhou.	.713			0.685	
SL5	I am happy that there are tourists coming to Guangzhou because of non-casino gaming.	.688			0.627	
SL1	Non-casino gaming is one of the most important industries for Guangzhou.	.684			0.596	
SL6	I support additional non-casino gaming development.	.623			0.523	
2. Community attachment			5.330	12.395		0.873
CA2	I would like to live in Guangzhou more than other cities.	.825			0.842	
CA6	Guangzhou is an ideal place to live.	.763			0.820	
CA1	I feel at home in Guangzhou.	.758			0.819	
CA4	I will be sorry if I move away.	.732			0.785	
CA5	I am satisfied with Guangzhou.	.707			0.762	
CA7	I would do my best to enhance the development of Guangzhou.	.654			0.741	
CA9	I lived in Guangzhou for a long time.	.635			0.702	
CA3	I know what goes on in Guangzhou.	.616			0.694	

3. Perceived negative environmental and economic impact		3.520	8.186	0.848
NI10	Noise level	.813		0.789
NI13	An overcrowded city	.753		0.765
NI9	Quantity of litter	.749		0.741
NI12	Decrease of cleanliness of the community	.712		0.720
NI8	Traffic congestion	.692		0.690
NI11	High cost of living	.628		0.685
4. Perceived positive social impact		2.720	6.325	0.826
PI9	More educational funding	.725		0.810
PI5	Increase in public infrastructure	.721		0.784
PI6	Increase of welfare in the community	.712		0.765
PI11	More entertainment and recreation facilities	.657		0.751
PI7	Increased city attractiveness	.632		0.720
PI8	More social opportunities	.617		0.684
5. Gambling behavior		2.135	4.965	0.865
GB6	Gaming spending was part of my annual household spending in the past one year.	.813		0.855
GB5	My family members spend some money on gambling in the past one year.	.810		0.841
GB4	I spend some money on gambling in the past one year.	.788		0.792
GB3	Spending on non-casino gaming was part of my annual household spending in the past one year.	.727		0.741
GB2	My family went to betting branches to buy non-casino gaming products in the past one year.	.661		0.762
GB1	I went to betting branches to buy non-casino gaming products in the past one year.	.610		0.732
6. Perceived negative social impact		1.703	3.961	0.845
NI2	Destruction of family	.856		0.759
NI3	Increase of loan sharking (usury)	.801		0.716
NI1	Gambling addicts	.755		0.690
NI6	Bankruptcy	.717		0.652
NI5	Crime	.709		0.630
7. Power		1.385	3.222	0.796
P1	I can personally influence over decisions related to community development.	.816		0.823

P2	I have political influence (e.g. through voting) in the decision making process of gaming development.	.807			0.744
8. Perceived positive economic impacts			1.205	2.803	0.860
PI1	Increased tax revenue	.820			0.782
PI2	More investment and business	.703			0.751

Once all the significant loadings had been identified and the communalities examined, several issues came to light. With a factor loading below 0.4, the item dealing with more tourist spending was discarded. The item “I am actively involved in community issues and activities” showed cross-loading with another factor and was also removed. Moreover, the items dealing with employment opportunities, increase in speculative activities, and divorce were also deleted as they failed to meet the communality cutoff of 0.5. After these issues had been dealt with, eight latent variables with eigenvalues greater than 1 were extracted from the data to represent the underlying structure of the scale. The KMO statistic for this dataset was 0.875, greater than the suggested good value of 0.80, and Bartlett’s test of sphericity was $\chi^2 (946)=1465.934$ ($p < .000$). Taken together, the factors accounted for 60.537% of the total variance. The Cronbach’s alpha values ranged from 0.79 to 0.91, well above the generally agreed lower limit of 0.7 for exploratory research, indicating a high internal consistency among the variables within each factor.

The first factor, support level, included all eight items in the questionnaires. The

second, labeled community attachment, had eight attributes. The third factor, perceived negative environmental and economic impacts, consisted of six items, including noise level, overcrowding, and quantity of litter. The fourth factor, perceived positive social impacts, contained six items; more educational funding, increase in public infrastructure, welfare in the community, more entertainment and recreation facilities, increased city attractiveness, and more social opportunities. The fifth factor, gambling behavior, comprised six items and the sixth, labeled perceived negative social impact, had five. The seventh factor, power, included two items, and the eighth and final factor, labeled perceived positive economic impacts, comprised two items (increased tax revenue and more investment in business). Each factor generated the following reliability coefficients: support level (0.903), community attachment (0.873), perceived negative environmental and economic impact (0.848), perceived positive social impact (0.826), perceived negative social impact (0.845), gambling behavior (0.865), power (0.796), and perceived positive economic impact (0.860). Overall, the dataset demonstrated strong reliability.

5.2.3 Summary of the EFA Results

Compared to the EFA analysis of the pilot study, which yielded an eight-factor solution in Hong Kong and one with seven factors in Guangzhou, the main survey

dataset produced an eight-factor model for both cities. The item covering more tourist spending was discarded from the positive economic impacts factor for Guangzhou, implying that non-casino gaming in China mainly targets the local market. Also, the item “I am actively involved in community issues and activities” was removed from the community attachment factor, suggesting that Guangzhou respondents tended not to demonstrate their attachment by engaging in community activities.

The results indicated the presence of eight latent variables within the scale. Since the components of hypothetical positive impact were represented along two dimensions (positive social and economic consequences), as were the components of hypothetical negative impacts (negative social and environmental/economic consequences), the measurement model for both cases had an eight-factor structure.

5.3 Confirmatory Factor Analysis

SEM is a modeling tool and not a means of descriptive analysis. It aims to fit a model to a dataset. Such models require testing in order to determine their fit to the data (Barrett, 2007). As noted earlier, one of the aims of this research was to compare attitudes to non-casino gaming in Hong Kong and Guangzhou. It was therefore necessary to establish a baseline model fit to the data with minimal parameters as a

preliminary exercise. Moreover, this model required to meet the criteria for reliability and validity for both the Hong Kong and Guangzhou datasets. Unlike EFA, CFA frameworks seek out more parsimonious solutions by indicating the number of factors, the pattern of factor loadings, and the relationships among the measurement errors (Brown, 2006). In CFA, the indicators associated with each construct were specified, as well as the correlations between constructs.

5.3.1 Model Evaluation: Fit Indices

Bagozzi and Yi (2012) provide guidance on which fit indexes are important when reporting the results of SEM. The question of model evaluation is particularly salient in SEM because of the plethora of possible fit indices. AMOS returns over 40 such indices and each of them serves to optimize a slightly different objective function, so there is no single statistic that can be used independently to assess fit (Kline, 2011). It is important for researchers to decide how much emphasis should be placed on each form of evidence for a particular study, taking into account sample size, multivariate normality, and desired statistical power (Nunkoo et al., 2013). Typically, using three to four indices will provide adequate evidence of model fit. However, at least one incremental and one absolute index should be reported in addition to the value and the degrees of freedom (Hair et al., 2010). In this research, fit indices were selected on the

basis of their approach to the assessment of model fit (Hoyle, 1995) and the support for them in the literature as important indices of fit that should be reported.

One of the most common fit indices is the chi-square (χ^2), which is a likelihood ratio statistic used for testing a hypothesized model against the alternative that the covariance matrix is unconstrained (Bagozzi & Yi, 2012). Among the SEM fit indices, the χ^2 is the only one that is inferential, with all the others being descriptive (Iacobucci, 2010). Accordingly, only the χ^2 enables conclusions to be drawn about significance or hypothesis testing, as opposed to the rules of thumb which must be employed for the other indices to assess goodness of fit. However, the χ^2 also has drawbacks insofar as it is sensitive to sample size, nonnormality, and model complexity (Byrne 2010; Gerbing & Anderson 1988; Hu & Bentler, 1999). As a result, a model is said to demonstrate reasonable fit if the χ^2 statistic adjusted by its degrees of freedom does not exceed 3.0 (Kline, 2011): that is, $\chi^2/df \leq 3$.

The goodness of fit index (GFI) is a measure of the relative amount of variance and covariance in the data that is jointly explained by it. It was developed to compensate for the weaknesses of other tests. The GFI does not take into account the number of degrees of freedom in the specified model (Nunkoo & Ramkissoon, 2011), so it tends to favor more complex models. The rule of thumb for the GFI is that values greater than

0.90 are usually interpreted as indicating acceptable model fit, and values above 0.95 denote good fit (Byrne, 2010).

The root mean square error of approximation (RMSEA) is regarded as an alternative goodness of fit index (Byrne, 2001). It aims to test how well a given model approximates the true position. MacCallum and Austin (2000) strongly recommend its use for three reasons; (a) it appears to be adequately sensitive to model misspecification; (b) commonly used interpretation guidelines yield appropriate conclusions regarding model quality; and (c) it is possible to build confidence intervals around the RMSEA value. If the approximation is good, the RMSEA should be small. The acceptable threshold level for RMSEA is <0.08 (Hu & Bentler, 1998). However Jöreskog and Sörbom (1996) assert that values of less than 0.05 still represent a good fit. Therefore, in this study, a benchmark RMSEA value of 0.05 is set for assessing the fit of the final model (MacCallum, Browne, & Sugawara, 1996)

The Comparative Fit Index (CFI) is one of the incremental fit indices and assesses how well a specified model fits relative to some alternative baseline model. CFI is among the most widely used indices because it has many desirable properties including its relative, but not complete, insensitivity to model complexity (Hair et al., 2010).

The Nonnormed Fit Index (NNFI: referred to in AMOS as the Tucker-Lewis Index or TLI) measures the relative fit of a model, taking into account its complexity in comparing the hypothesized and independent models (Nunkoo & Ramkissoon, 2011). The NNFI has been found to be unaffected by sample size (Bentler, 1990; Hu & Bentler, 1998). Although values of NNFI range from 0 to 1, since it is not normed, its values can also lie outside this range, making it difficult for researchers to interpret (Bryne, 2010). A rule of thumb is that values of 0.90 indicate acceptable fit (Bentler, 1990).

There are multiple guidelines available for what constitutes acceptable model fit, but it is important to note that these are not rigid guidelines. In this study, the fit indices listed in Table 5.3 are reported in order to evaluate the model fit.

Table 5. 3 Summary of the Fit Indices Used in This Research

Category	Fit indices	Cutoff value	Remarks
Absolute index	χ^2	Significant p-value expected	It is the most fundamentally absolutely fit index, however, as sample size become larger it is meaningless.
	χ^2 /df	Values <3.0	Near 1.00 is considered a sign of good fit.
	GFI	Above 0.9	Some scholars argued that 0.95 should be used.
	RMSEA	Values<0.07 with CFI of 0.90 or higher	Lower value indicate better fit. Some others suggested a value of 0.5 to be indicative of good fit.
Incremental index	CFI	Above 0.9	Higher value indicate better fit. If it is larger than 0.95, is considered to be an indication of good fit.
	TLI(NNFI)	Above 0.9	The value can be above 1, model with good fit have values that approach 0.95 for larger sample size

Note: applicable when number of observations > 250, number of observed variable ≥ 30

The full CFA model was established based on the theoretical review and the results of the EFA. At the outset, two items dealing with more tourist spending and involvement in community issues and activities were excluded from the CFA as they had been found to be problematic in the EFA for data from both cities. The remaining 47 items from the main survey were included in the CFA. The null model for Hong Kong showed a poor fit with $\chi^2 (1006) = 3240.203$, $p < 0.000$, $\chi^2/df = 3.221$, GFI = 0.799, CFI = 0.869, TLI = 0.859, and RMSEA = 0.060. The null model for Guangzhou was also mediocre, with $\chi^2 (1006) = 3294.753$, $p < 0.000$, $\chi^2/df = 3.275$, GFI = 0.815, CFI = 0.855, TLI = 0.844, and RMSEA = 0.058. In other words, the original model demonstrated poor fit to both samples as indicated by the fact that most of the evaluation indices fell below the cutoff values. For example, the normed χ^2/df of 3.221 and 3.275 were greater than the required value of 3; GFI at 0.799 and 0.815 were both less than the required value of 0.9; the CFI of 0.869 and 0.855 were both below the cutoff value of 0.9; and the TLI of 0.859 and 0.844 were also below the cutoff value of 0.9. Only the RMSEA values, at 0.060 and 0.058, were acceptable, falling below the minimum of 0.6. The overall fit of this measurement model was therefore poor, indicating that some modification to the specification was required in order to identify a model that would better represent the

data.

Modifications were therefore carried out, based on the guiding principle that the resulting parameter changes should be both theoretically and practically meaningful (Baumgartner & Homburg, 1996).

Firstly, examination of the residual covariance matrices is the most useful tool for diagnosing the sources of misspecification in a multiple-indicator measurement model (Anderson & Gerbing, 1988). Secondly, it has become common practice to modify models by deleting parameters that are not significant and adding those that improve fit. To assist in this process, it is helpful to examine the modification indices (MI) for each fixed parameter. The MI estimate the changes in the χ^2 that result from freeing parameters that were previously fixed or constrained to zero (Kline, 2011).

The standardized loading and MI were examined first. The highest MI value was found between the error of GB1 and GB2 in both samples, so they became candidates for deletion. The standardized regression weight of GB1 and GB2 was also found to lie below the 0.5 cutoff value, so these were removed from the measurement model.

The model was then respecified with the aim of improving fit. However, a consistent pattern of larger residuals, or the differences between observed and estimated

covariance terms, was observed for three items (NI7, SL7, and SL8). Values over 2.58 are considered large (Jöreskog & Sörbom, 1993) and standardized residuals greater than 4 suggest a potentially unacceptable degree of error that may call for the deletion of the item in question (Hair et al., 2010). On this basis, these three items were also deleted.

The fit statistics demonstrated that the respecification had achieved a statistically significant improvement in model fit. In particular, the χ^2/df decreased from 3.221 (Hong Kong) and 3.275 (Guangzhou) to 2.960 (Hong Kong) and 2.871 (Guangzhou) and the RMSEA from 0.060 (Hong Kong) and 0.058 (Guangzhou) to 0.057 (Hong Kong) and 0.053 (Guangzhou). However, the CFI increased from 0.869 (Hong Kong) and 0.855 (Guangzhou) to 0.889 (Hong Kong) and 0.887 (Guangzhou). Even though the χ^2/df and RMSEA fell below the cutoff point, there was still room for improvement in the CFI values.

The MI were then reexamined and at least three error covariances with fairly large MI identified, most of which related to items CA1, NI6, PI5, and PI6 in the Hong Kong dataset. In order to solve this problem, the AMOS graphic was used to modify the items one by one. Every time an item was erased, the fit statistics were rechecked by uploading the two data files, to ensure that the modification would result in substantive improvement in the model.

The revised model was then respecified again. When checking the factor loadings, two items (CA3 and CA9) had values lower than 0.4 and so were discarded. After this modification, the Hong Kong model produced the following indices; χ^2 (1006)=1421.755, $p<0.000$, $df=2.512$, $GFI=0.881$, $CFI=0.927$, $TLI=0.919$, and $RMSEA=0.050$. These results indicated a substantial improvement in fit as shown by a decrease in the χ^2/df value from 2.960 to 2.661 for the Guangzhou model, and the values for the other indices of $CFI=0.913$, $NNFI=0.903$, $GFI=0.886$, and $RMSEA=0.050$. Except for the GFI , all the fit indices now met the cutoff criteria. However, although the model was better than before, further improvement was still necessary.

The standardized residual covariance matrix was therefore examined again and three were observed that exceeded the cutoff point of 2.58 (SL6, CA4, and NI4). These items were therefore eliminated. The CFA was computed once again for both datasets, and the covariance MI were examined. Clear evidence was found of misspecification associated with the pairing of the error terms associated with items CA7 and NI2 in the Hong Kong data, while in the Guangzhou data the measurement error of the covariances between NI11 and NI13 remained quite large. These four items were therefore deleted, after which the model demonstrated good fit to the data. The overall model fit for Hong Kong was demonstrated by χ^2 (349)=788.871, $p<0.000$, $\chi^2/df=2.26$, $GFI=0.916$,

CFI=0.947, TLI=0.938, and RMSEA=0.046; for Guangzhou it was shown by χ^2 (349)=801.882, $p < 0.000$, $\chi^2/df = 2.298$, GFI =0.923, CFI=0.944, TLI=0.935, and RMSEA=0.044.

No further respecification of the measurement model was carried out since it was concluded at this point that it represented an adequate description of Hong Kong and Guangzhou residents' attitudes and perceptions. This decision was made for three reasons. Firstly, from a statistical point of view, there was no further information available from the MI which would suggest the need to conduct any *post hoc* respecifications to improve the model fit. Secondly, statistical significance had been achieved for all parameter estimates (see below). Thirdly, in theoretical terms, this measurement model was acceptable and showed substantially good fit for both datasets, with no substantial evidence of misfit.

5.3.2 Confirmatory Factor Analysis of Hong Kong

Table 5.4 presents the results from the CFA model for the Hong Kong dataset. As can be seen, all the standardized loadings of the observed variables were significant at the 0.05 level with t-values greater than 2.58 (critical level $p < 0.05$). The guidelines for construct validity state that the individual standardized loadings (regression weight) should be at least 0.5 or preferably 0.7 (Hair et al., 2010). The standardized factor

loadings of the CFA model for the Hong Kong dataset ranged from 0.637 to 0.897, which are empirically acceptable. Standard errors have been reported because it is useful to be able to see and interpret the magnitude of a factor loading relative to its standard error (Boomsma et al., 2012), especially when the sample size is larger, the model is correct, and the distribution assumptions have been satisfied (Hoyle, 1995). Standard error with a small value for each parameter suggests accurate estimation (Byrne, 2010). The ratio of an unstandardized measurement error equals the proportion of the unexplained variance (Kline, 2011). The findings here indicate that the observed variables were reasonably successful as measures of the latent variables in the overall measurement model for Hong Kong.

Table 5. 4 Measurement Model of Hong Kong

	Factors	FL	t-value	S.E	M.E
Factor 1: Support level					
SL3	The future looks bright due to non-casino gaming development.	0.842	20.054	0.057	0.709
SL2	Non-casino gaming help the city grow in the right direction.	0.817	18.695	0.061	0.668
SL4	Non-casino gaming continue to play an important economic role.	0.793	18.506	0.061	0.630
SL5	Be happy that there are tourists coming to the city because of non-casino gaming.	0.701	16.760	0.062	0.583
SL1	Non-casino gaming is one of the most important industries.	0.651	NA	NA	0.492
Factor 2: Perceived positive social impacts					
PI10	Increase proud of local residents	0.775	14.002	0.054	0.600
PI11	More entertainment and recreation facilities	0.741	NA	NA	0.549
PI8	More social opportunities	0.706	16.314	0.055	0.498
PI9	More educational funding	0.674	15.583	0.059	0.455
PI7	Increased city attractiveness	0.651	15.035	0.058	0.423

Factor 3: Perceived positive economic impacts

PI2	More investment and business	0.764	17.590	0.081	0.580
PI3	More employment opportunities	0.739	18.056	0.077	0.546
PI1	Increased tax revenue	0.741	NA	NA	0.424

Factor 4: Perceived negative social impacts

NI3	Increase of loan sharking (usury)	0.855	25.496	0.075	0.731
NI5	Crime	0.708	NA	NA	0.501
NI1	Gambling addicts	0.637	19.393	0.059	0.406

Factor 5: Perceived negative environmental impacts

NI9	Noise level	0.836	18.287	0.057	0.699
NI10	Quantity of litter	0.815	19.595	0.057	0.664
NI12	Decrease of cleanliness of the community	0.758	14.002	0.052	0.575
NI8	Traffic congestion	0.754	NA	NA	0.569

Factor 6: Power

P2	I have political influence (e.g. through voting)	0.897	NA	NA	0.804
P1	I can personally influence over decisions related to community development.	0.871	12.814	0.072	0.758

Factor 7: Gaming behavior

GB6	Gaming spending was part of my annual household spending in the past one year.	0.798	NA	NA	0.636
GB3	Spending on non-casino gaming was part of my annual household spending	0.752	18.056	0.056	0.565
GB5	My family members spend some money on gaming in the past one year.	0.751	20.861	0.063	0.563
GB4	I spend some money on gaming in the past one year.	0.719	14.038	0.062	0.517

Factor 8: Community attachment

CA6	This city is an ideal place to live.	0.875	NA	NA	0.766
CA5	I am satisfied with this city.	0.854	13.679	0.044	0.729
CA2	I would like to live in this city more than other cities.	0.738	13.417	0.044	0.545

Note: All factor loadings are significant at $p < .000$. Parameter are fixed at 1.0 for the maximum-likelihood estimation. Thus, t-values were not obtained (NA) for those fixed at 1 for identification purposes. F.L.(Factor Loading), S.E(Standard Error for Unstandardized Coefficient), M.E(Measurement Error)

The reliability and validity of the measurement model should also be assessed when using SEM (Bagozzi & Yi, 2012). This is based on the premise that if one is not confident that the measures properly represent the constructs, there is little reason to

use them to evaluate and examine the structural model. Accordingly, having achieved adequate fit indices, the overall measurement model was further evaluated for its reliability and validity.

Construct reliability is an assessment of the degree of consistency between multiple measurements of a variable (Hair et al., 2010). It can be shown by the squared multiple correlations (SMC) of the observed variables and the composite reliability (CR) of each latent variable. The construct reliability is usually calculated using the formula devised by Fornell and Larcker (1981). The CR value for each latent factor is similar to Cronbach's coefficient, both of which measure the internal consistency of the indicators of a given factor (Hatcher, 1994). Therefore, in this study Cronbach's alpha has been used as the criterion for the internal consistency of each variable.

The convergent validity of the measurement model was then checked by examining three widely-used criteria, namely the cutoff values of the factor loadings for all items, the average variance extracted (AVE) for each factor, and the reliability of each factor. Table 5.5 shows that all AVE values for the latent variables in the Hong Kong data were greater than the cutoff value of 0.50 (Fornell & Larcker, 1981), indicating adequate convergent validity. These criteria suggested that the overall convergent validity of the measurement model was acceptable. In terms of discriminant validity, the AVE for each

factor was greater than its interconstruct correlation. This indicated that the eight factors were conceptually distinct and thus discriminant validity was established. As suggested by the SEM model, the correlations among the eight constructs were taken into consideration when estimating the measurement model. These correlations were found to be statistically significant and theoretically plausible, indicating the validity of the measurement model.

Table 5. 5 Validity and Reliability of the Measurement Model (Hong Kong)

	SL	NSI	NEI	PEI	PSI	P	GB	CA
SL	1.00							
NSI	0.50 (0.25)	1.00						
NEI	0.48 (0.23)	0.46 (0.21)	1.00					
PEI	0.46 (0.21)	0.28 (0.07)	0.34 (0.11)	1.00				
PSI	0.40 (0.16)	0.26 (0.06)	0.35 (0.12)	0.44 (0.19)	1.00			
P	0.53 (0.28)	0.39 (0.15)	0.39 (0.15)	0.47 (0.22)	0.38 (0.14)	1.00		
GB	0.58 (0.33)	0.37 (0.13)	0.35 (0.12)	0.69 (0.47)	0.42 (0.17)	0.60 (0.36)	1.00	
CA	0.58 (0.33)	0.35 (0.12)	0.33 (0.10)	0.54 (0.29)	0.40 (0.16)	0.62 (0.38)	0.72 (0.51)	1.00
Reliability (Cronbach's alpha)	0.905	0.845	0.864	0.759	0.812	0.877	0.838	0.865
AVE	0.61	0.59	0.64	0.68	0.71	0.69	0.57	0.69

5.3.3 Confirmatory Factor Analysis of Guangzhou

Table 5.6 presents the factor loadings and t-values for each item in the measurement model for the Guangzhou dataset. The standardized factor loadings of the CFA model

ranged from 0.567 to 0.907 and all t-values were statistically significant. The lowest loading obtained was 0.567, linking one item (“Increased tax revenue”) to perceived positive economic impacts.

Table 5. 6 Measurement Model of Guangzhou

	Factors	FL	t-value	S.E	M.E
Factor 1: Support level					
SL3	The future looks bright due to non-casino gaming development.	0.871	20.087	0.064	0.758
SL2	Non-casino gaming help the city grow in the right direction.	0.800	18.741	0.061	0.639
SL4	Non-casino gaming continue to play an important economic role.	0.791	18.554	0.061	0.625
SL5	Be happy that there are tourists coming to the city because of non-casino gaming.	0.708	16.793	0.066	0.502
SL1	Non-casino gaming is one of the most important industries.	0.602	NA	NA	0.478
Factor 2: Perceived positive social impacts					
PI10	Increase proud of local residents	0.773	15.384	0.077	0.597
PI7	Increased city attractiveness	0.733	14.869	0.076	0.538
PI8	More social opportunities	0.699	14.383	0.074	0.489
PI9	More educational funding	0.648	13.359	0.076	0.419
PI11	More entertainment and recreation facilities	0.622	NA	NA	0.387
Factor 3: Perceived positive economic impacts					
PI2	More investment and business	0.801	11.457	0.125	0.641
PI3	More employment opportunities	0.641	11.283	0.116	0.411
PI1	Increased tax revenue	0.564	NA	NA	0.318
Factor 4: Perceived negative social impacts					
NI3	Increase of loan sharking (usury)	0.827	16.040	0.067	0.684
NI5	Crime	0.751	NA	NA	0.564
NI1	Gambling addicts	0.567	13.050	0.059	0.322
Factor 5: Perceived negative environmental impacts					
NI10	Noise level	0.842	17.881	0.069	0.709
NI8	Traffic congestion	0.711	NA	NA	0.505
NI9	Quantity of litter	0.697	15.919	0.068	0.486
NI12	Decrease of cleanliness of the community	0.567	13.162	0.063	0.322
Factor 6: Power					

P2	I have political influence (e.g. through voting)	0.907	NA	NA	0.822
P1	I can personally influence over decisions related to community development.	0.730	12.885	0.060	0.533
Factor 7: Gaming behavior					
GB6	Gaming spending was part of my annual household spending in the past one year.	0.862	NA	NA	0.743
GB5	My family members spend some money on gaming in the past one year.	0.826	24.252	0.042	0.683
GB4	I spend some money on gaming in the past one year.	0.763	22.029	0.042	0.582
GB3	Spending on non-casino gaming was part of my annual household spending	0.681	18.991	0.041	0.464
Factor 8: Community attachment					
CA6	This city is an ideal place to live.	0.836	NA	NA	0.699
CA5	I am satisfied with this city.	0.809	19.773	0.043	0.655
CA2	I would like to live in this city more than other cities.	0.719	18.292	0.048	0.517

Note: All factor loadings are significant at $p < .000$. Parameter are fixed at 1.0 for the maximum-likelihood estimation. Thus, t-values were not obtained (NA) for those fixed at 1 for identification purposes. FL(Factor Loading), S.E(Standard Error for Unstandardized Coefficient), M.E(Measurement Error)

Table 5.7 displays the correlations among the latent constructs, together with their composite reliability and AVE values. The AVE estimates ranged from 0.59 to 0.76. All exceeded the 0.5 rule of thumb cutoff, indicating that a good proportion of the variance in the constructs was explained by the latent constructs. The overall convergent validity of the measurement model for the Guangzhou dataset was acceptable. In terms of discriminant validity, the AVE for each factor was greater than its inter-construct correlation, indicating that the eight factors were conceptually distinct, so discriminant validity was established. The Cronbach's alpha values were 0.879 for support level (5

items), 0.851 for perceived negative social impact (3 items), 0.842 for perceived negative environmental impact (4 items), 0.801 for perceived positive economic impact (3 items), 0.798 for perceived positive social impact (5 items), 0.864 for power (2 items), 0.755 for gaming behavior (4 items), and 0.873 for community attachment (3 items).

All these were acceptable, being 0.7 or higher.

Table 5. 7 Validity and Reliability of the Measurement Model (Guangzhou)

	SL	NSI	NEI	PEI	PSI	P	GB	CA
SL	1.00							
NSI	0.51(0.26)	1.00						
NEI	0.41(0.17)	0.53 (0.28)	1.00					
PEI	0.32(0.10)	0.34 (0.12)	0.52(0.27)	1.00				
PSI	0.54(0.29)	0.35 (0.12)	0.41(0.17)	0.47 (0.22)	1.00			
P	0.47(0.22)	0.49(0.24)	0.50(0.25)	0.49 (0.24)	0.47 (0.22)	1.00		
GB	0.45 (0.20)	0.41(0.17)	0.51(0.26)	0.35(0.12)	0.55 (0.30)	0.38 (0.14)	1.00	
CA	0.33(0.11)	0.44(0.19)	0.57(0.32)	0.48 (0.23)	0.34 (0.12)	0.41 (0.17)	0.47 (0.22)	1.00
Reliability (Cronbach's alpha)	0.879	0.851	0.842	0.801	0.798	0.864	0.755	0.873
AVE	0.67	0.71	0.69	0.73	0.76	0.59	0.65	0.71

5.3.4 Summary of CFA Results of Two Cities

The CFA confirmed the eight-factor measurement model but reduced the number of items from 49 to 29. Two to five indicators were retained to represent each construct, and all the items were statistically significant within their respective factors. A more

parsimonious model was established to confirm the factor loadings of the eight constructs with adequate fit indices supported by both cities' datasets.

Generally speaking, the CFA models of both cities shared some similarities. In terms of level of support, the statements related to future development were more effective measurements than the others. All the questions about residents' general gaming behavior were retained in the final constructs, while only one item about non-casino gaming behavior was included. The ranking of the indicators for support level, perceived negative economic impact, perceived negative social impact, power, and community attachment were exactly the same in both models. The item "The future looks bright due to non-casino gaming development" was the best measure of support level, followed by "Non-casino gaming helps the city grow in the right direction." Obviously, statements related to future development were more effective than the other measures. This indicates that China's gaming industry is still at the initial stage of development and still has considerable potential. The item "Increase the pride of local residents" was the most effective measure of perceived positive social impact, while the one dealing with more investment in business was the best indicator of perceived positive economic impact. The item covering loan sharking/usury loaded most strongly on to perceived negative social impact, with that dealing with noise level being the best

measure of perceived negative environmental impact.

Nevertheless, differences also existed in three constructs within the two models. In terms of perceived positive social impact, the item dealing with increased city attractiveness was more effective than that covering more entertainment and recreation facilities, which was the second-highest loading measure in the Guangzhou model. As regards perceived negative environmental impact, the factor loading of the item covering traffic congestion was higher in the Guangzhou model. As far as gaming behavior was concerned, the only item related to non-casino gaming behavior which was retained in the model was ranked higher in Hong Kong than Guangzhou. These discrepancies imply that city attractiveness and traffic problems played more important roles in measuring perceived impact in Guangzhou, perhaps because of the rapid development of the city. Moreover, spending on non-casino gaming was more common among Hong Kong respondents.

5.4 Structural Models

The specifications of the structural models were based on the measurement models. In SEM applications, theory or prior knowledge is used to create one or more latent variables which are considered to be causal in terms of the observed or manifested

variations in the variables. One or more such models may be created (Barrett, 2007). Several diagnostic measures are available for the evaluation of SEM models, ranging from fit indices to standardized residuals and modification indices. The emphasis in this type of modeling shifts away from the relationship between latent constructs and measured indicator variables to the nature and magnitude of the relationships between constructs (Hair et al., 2010). Based on the consensus on the conceptual framework developed from the literature review, and the CFA results showing the eight-factor structure, the initial structural models were developed comprising of one endogenous latent variable and seven exogenous variables. The model is illustrated in Figure 5.1.

The estimation of the model for the Hong Kong dataset yielded an overall χ^2 (357) value of 1085.848, $p < 0.000$, $\chi^2/df = 3.042$; GFI=0.890, CFI=0.912, TLI=0.900, and RMSEA=0.058. The estimation for the Guangzhou data resulted in an overall χ^2 (357) value of 1162.347, $p < 0.000$, $\chi^2/df = 3.22$, GFI=0.893, CFI=0.901, TLI=0.889, and RMSEA=0.058. Two fit indices for each model fell below the cutoff value 0.9, suggesting that this preliminary casual model was a poor fit to the data.

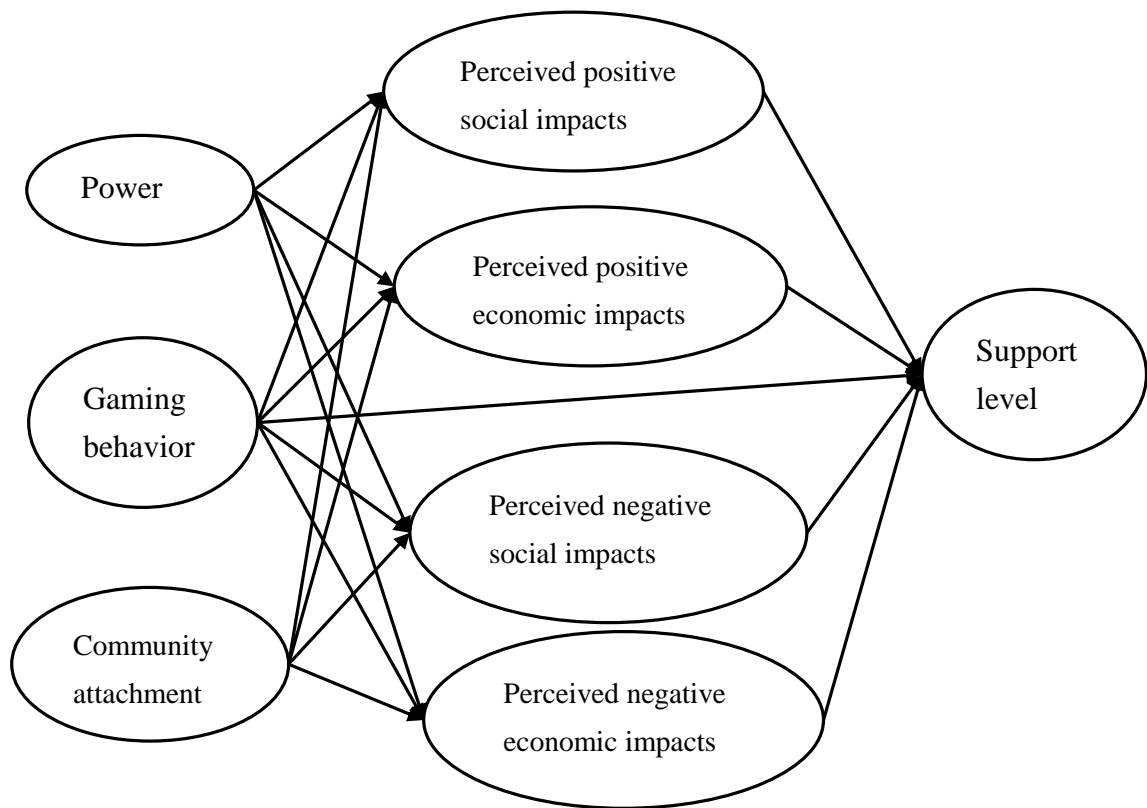


Figure 5. 1 Preliminary Structural Model Based on the Data (Guangzhou and Hong Kong)

Chou (2012) suggests that if the fit of the model being evaluated is considered inadequate, modification, also termed specification searching, becomes a viable option. Various *post hoc* model-fitting procedures were carried out in order to find parsimonious and simplified models that would fit both datasets while remaining theoretically meaningful (Chou & Bentler, 1990). The basis for modification is typically an inspection of parameter estimates, an evaluation of some form of the residual matrix, or the use of statistical searches for adjustments (Hoyle, 1995). Such modifications should be carried out sparingly and only when theoretically and

practically plausible (MacCallum, Browne, & Sugawara, 1996) according to the MI estimates, and theory. Here, with this in mind, the model modifications were conducted separately on the two city datasets, meaning the final structural model for each city might be different.

5.4.1 Structural Model of Hong Kong

Since we cannot find the best-fitting model using the confirmatory strategy, a structural model should be identified by comparing a number of alternative or nested models (with parameter restrictions) to see which comes closest to a theoretically justifiable outcome (Reisinger & Mavondo, 2006).

In testing the validity of a casual structure, the only issue of interest is the casual paths of the model, so the focus is on the MI of the parameters representing these structural paths. In reviewing the MI, it was noted that the maximum MI was associated with the regression path flowing from perceived positive economic impact to support level. The value of 117.444 for this MI indicated that if this parameter were to be freely estimated in a subsequent model, the overall λ^2 would drop by at least that amount. Therefore, an alternative model was proposed (see Figure 5.2), namely model B1, in which the factor of perceived positive economic impact was deleted.

Models are considered to be nested when a model with a smaller number of

estimated parameters can be obtained by fixing the values of one or more parameters of the larger model (Bollen & Boyd, 1989). In other words, one model is a subset of another. When this occurs, a χ^2 difference test can be performed to determine whether any difference in χ^2 significantly improves model fit (Tabachnick & Fidell, 2007; Hair et al., 2006). The χ^2 difference statistic ($\Delta\chi^2$) can be used to test the statistical significance of the decrement in overfit as the free parameters are eliminated (Kline, 2011). It allows comparison between a baseline and nested model (Hair et al., 2010). Furthermore, the Expected Cross-Validation Index (ECVI) is also of interest in this study since it compares a series of models in the quest to obtain one which fits the data well. The application of ECVI assumes such a comparison of models, hence no threshold cutoff values or ranges are specified as acceptable. The model with the smallest ECVI value exhibits the greatest potential for replication (Byrne, 2011). Therefore, a lower value for the ECVI indicates a better fit and a more reasonable approximation to the population. The ECVI for the first hypothesized model of Hong Kong was 2.046 and for Guangzhou was 1.797.

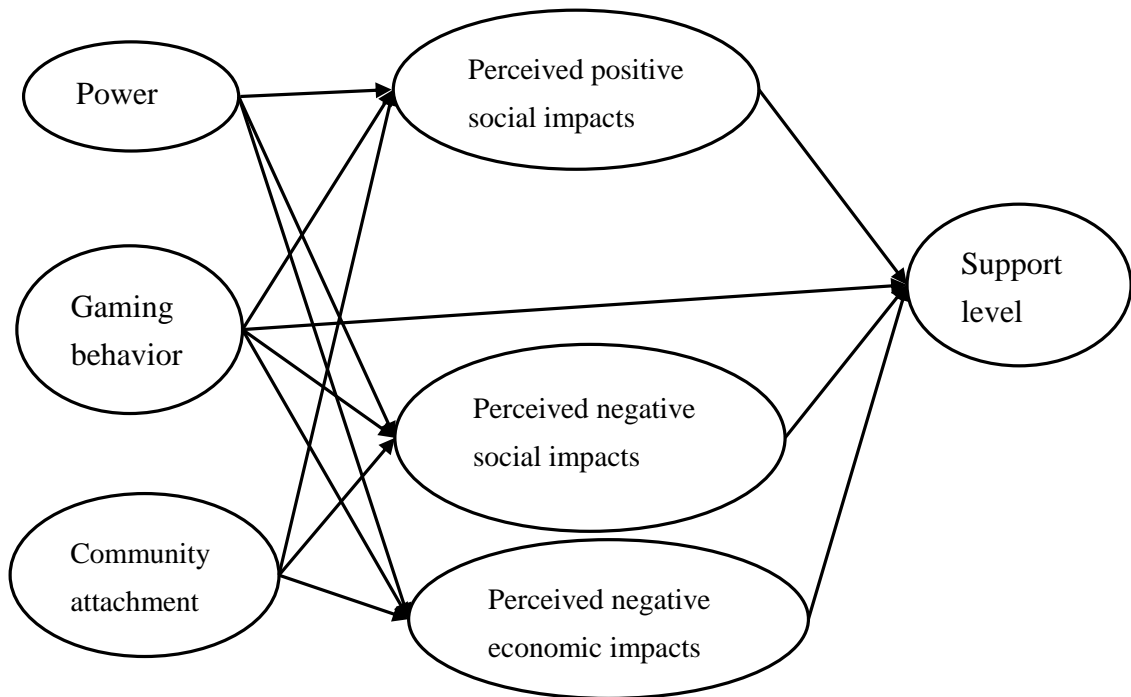


Figure 5. 2 Nested model B1 (Removed Perceived Positive Economic Impacts)

Table 5.8 summarizes the improvement in the fit indices from theoretical model A to the nested model B1. The $\Delta\chi^2$ from the initial to the final model was 350.67 with 74 degree of freedom, which indicated that the overall $\Delta\chi^2$ had significantly improved and that the modification had been statistically validated. Moreover, the model specification yielded a better result in general, with all fit indices above the cutoff value of 0.9 and RMSEA decreasing from 0.058 to 0.051. The ECVI was 1.435, below the previous value. Perceived positive economic impacts do not play an important role in affecting residents' level of support.

Table 5. 8 Comparison of Nested Models (Hong Kong)

	Model Fit Measures							Model difference	
	χ^2	df	χ^2 /df	GFI	CFI	TLI	RMSEA	$\Delta \chi^2$	Δdf
Model A	1085.848	357	3.042	0.890	0.912	0.900	0.058	N/A	N/A
Model B1	735.178	283	2.698	0.915	0.940	0.931	0.051	350.67	74

Although model B1 was a good fit, it might still be capable of improvement.

Accordingly, the MI of model B1 were examined again. A total of seven MI were identified which could be taken into account in the determination of a well-fitting model, with the largest MI associated with perceived negative social impacts. This factor was therefore dropped to create model C1 with only six variables (Fig 5.3).

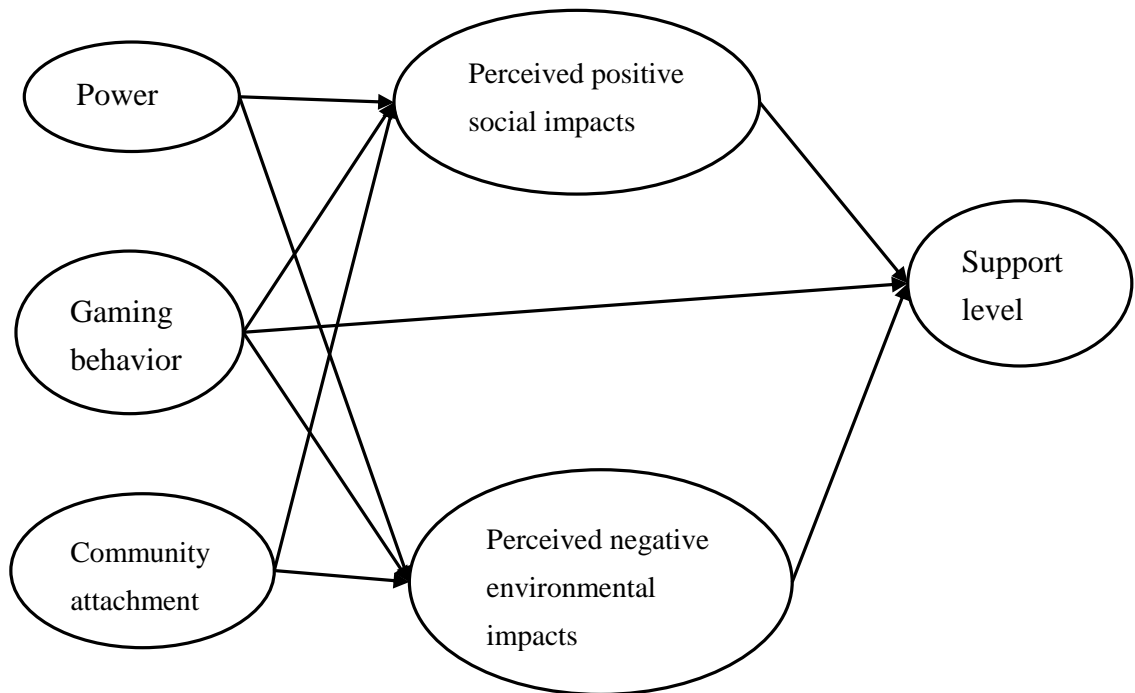


Figure 5. 3 Nested Model C1 (Removed Perceived Negative Social Impacts)

As shown in Table 5.9, the $\Delta\chi^2$ test between models C1 and B1 ($\Delta\lambda^2=300.577$, $df=65$) suggested that the former performed significantly better in modeling residents' perceptions of non-casino gambling in Hong Kong. Furthermore, the ECVI value was only 0.907.

Table 5. 9 Comparison of Nested Models (Hong Kong)

	Model Fit Measures							Model difference	
	χ^2	df	χ^2/df	GFI	CFI	TLI	RMSEA	$\Delta\chi^2$	Δdf
Model B1	735.178	283	2.698	0.915	0.940	0.931	0.051	N/A	N/A
Model C1	434.601	218	1.995	0.941	0.968	0.963	0.040	300.577	65

The MI for model C1 were then checked again, and the number had dropped from 7 to 2 with only 1 having a value greater than 10 (from community attachment to support level). The model was then re-estimated by adding another path between community attachment to support level (model D1). The results of the difference tests favored model D1 over model C1. The $\Delta\chi^2$ value being above 3.84 suggested that model D1 was a significantly better fit. The ECVI had also dropped to 0.881. The added relationship could be theoretically justified because residents' community attachment could directly lead to their support for gaming development.

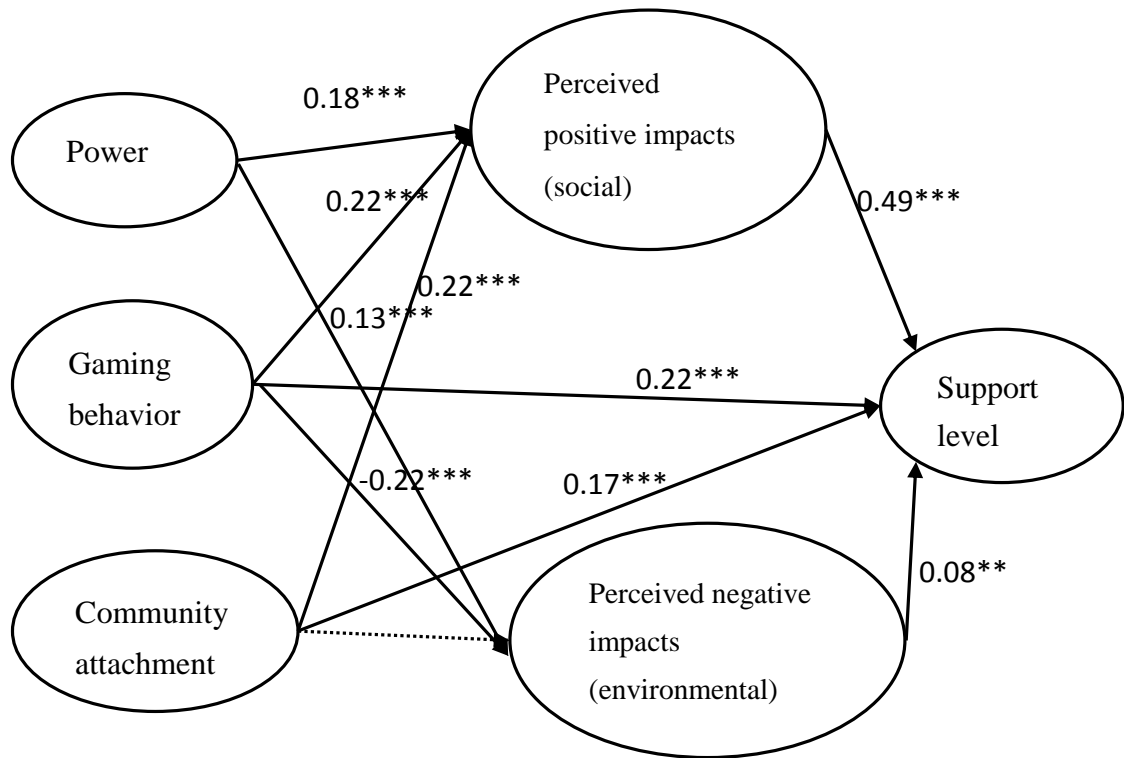
Table 5. 10 Comparison of Nested Models (Hong Kong)

	Model Fit Measures							Model difference	
	χ^2	df	χ^2/df	GFI	CFI	TLI	RMSEA	$\Delta \chi^2$	Δdf
Model C1	434.601	218	1.995	0.941	0.968	0.963	0.040	N/A	N/A
Model D1	416.942	217	1.945	0.943	0.970	0.964	0.039	17.659	1

As shown by the goodness of fit indices, model D1 represented an excellent fit to the data. At this point, as the model was largely statistically significant and theoretically meaningful, the specification process was brought to an end.

Figure 5.3 depicts the structural model diagrammatically. The final structural model for the Hong Kong data is composed of three endogenous construct (support level, perceived positive impacts, and perceived negative impacts) and three exogenous constructs (power, gaming behavior, and community attachment). The two endogenous variables with a direct impact to support level are perceived positive and negative impacts. The component of the former is linked to social impacts, and of the latter to environmental impacts. The indirect effects of power, gaming behavior and community attachment on support level were also assessed. The Sobel test, which was first proposed by Sobel (1982), is by far the most commonly used when testing indirect effects. The Sobel test assesses whether perceive impacts and perceived negative impacts significantly carries the effect of the exogenous variables (power, gaming

behavior and community attachment). The absolute value for the Sobel test of power, gaming behavior and community attachment through perceived positive impacts are 3.96, 4.96 and 4.42, whereas the results of power and gaming behavior through perceived negative impacts are 2.34 and -2.08. All of them are greater (smaller) than $(\pm) 1.96$, revealing the indirect effects are significant. Power is more strongly related to perceived positive impacts with a path coefficient of 0.18 than to perceived negative impacts with a path coefficient of 0.13. Community attachment not only has an indirect effect on support level through perceived impacts, as hypothesized, but also a direct effect through the modification. It shows that the stronger community attachment one have, the more favorable one's attitudes toward gaming development will be. A possible explanation for the positive relationship between community attachment and support level could lie in the impression that people who were historically connected to the community also cared about its future development (Gursoy et al., 2002). People who have lived longer in Hong Kong seem to realize that non-casino gaming is an important source of tax revenue. In contrast, people who are less attached may not have recognized the important role gaming is playing in sustaining construction of public infrastructure and development of education.



Note: The dash line denotes non-significant path coefficient at 0.05 level;
 *** denotes significant path coefficient at 0.001 level; ** denotes significant path coefficient at 0.05 level

Figure 5. 4 Structural Model of Hong Kong

Path analysis plays a key role in estimating the effects represented in a structural model. Accordingly, model D1 was also tested to estimate the parameters. According to the path diagram, the exogenous variables might exert their effects either directly or indirectly on the endogenous variables. According to Alwin and Hauser (1975), an indirect effect represents the influence of an exogenous on an endogenous variable as mediated by one or more intervening variables, while a direct effect is not transmitted via any intervening variables. Table 5.11 summarizes the direct, indirect, and total

effects of the exo-/endogenous variables on the other endogenous variables. The magnitude of the estimated parameters provides information about the direction and strength of the hypothesized relationships. Perceived positive impacts (0.49) was the most powerful predictor of support level, followed by gaming behavior (0.31), community attachment (0.28), power (0.10), and perceived negative impacts (0.08). In assessing the effect of perceived positive impacts, gaming behavior and community attachment were both more powerful, with the same total effect (0.22), followed by power (0.18). In assessing perceived negative impacts, gaming behavior (-0.22) was more significant than power (0.13).

According to Cohen (1988), path coefficients with absolute values of less than 0.10 may indicate a small effect, values around 0.30 a medium effect, and values of 0.50 or more a large effect. Accordingly, perceived positive impacts, gaming behavior, and community attachment all had large to medium effects on support level. In contrast, power and perceived negative impacts had relatively weak effects on support level with path coefficients equal to or lower than 0.10.

Table 5. 11 Path Estimate of the Structural Model of Hong Kong (N=608)

Path (exogenous/endogenous variables → endogenous variables)	Standardized regression coefficient		
	Direct	Indirect	Total
Perceived positive impacts →Support level	0.49	/	0.49
Perceived negative impacts →Support level	0.08	/	0.08
Power →Support level	/	0.09+0.01	0.10
Gaming behavior →Support level	0.22	0.11+(-0.02)	0.31
Community attachment →Support level	0.17	0.11	0.28

5.4.2 Structural Model of Guangzhou

Review of the goodness of fit indices of the proposed theoretical model of Guangzhou (χ^2 (357) value of 1162.347, $p < 0.000$; $\chi^2/df = 3.22$; GFI=0.893, CFI= 0.901, TLI=0.889, and RMSEA=0.058) suggested that it could be improved. Using information suggested by the MI, the original measurement model was re-specified by discarding perceived positive economic impacts and model B2 formed as a result. Similar to Hong Kong, positive economic impacts can be neglected in the structural model.

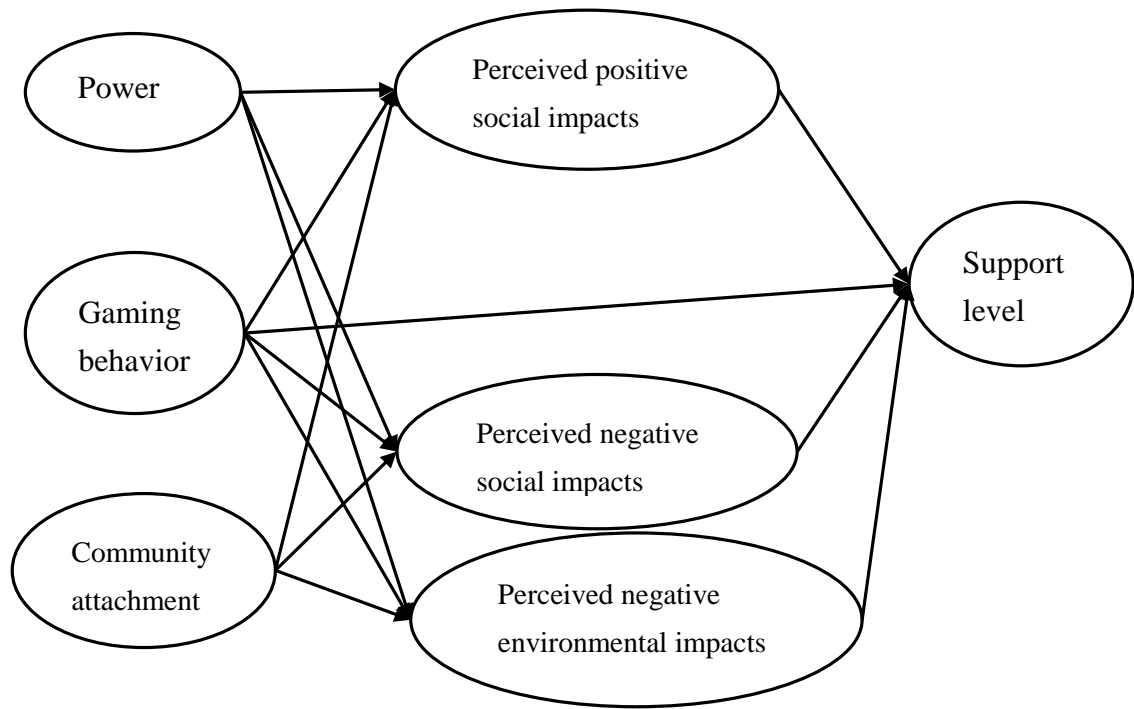


Figure 5. 5 Nested Model B2 (Removed Perceived Positive Economic Impacts)

The $\Delta\chi^2$ for model B2 was 334.373 with 74 degrees of freedom ($p < 0.001$). These results showed that the χ^2 had dropped between the original and modified model, and that it achieved a modest fit as assessed by the goodness of fit indices. In other words, economic indicators were not the appropriate component of perceived positive impacts for either Hong Kong or Guangzhou based on the empirical results.

Table 5. 12 Comparison of Nested Models (Guangzhou)

	Model Fit Measures							Model difference	
	χ^2	df	χ^2 / df	GFI	CFI	TLI	RMSEA	$\Delta \chi^2$	Δdf
Model A	1162.347	357	3.22	0.893	0.901	0.889	0.058	N/A	N/A
Model B2	827.974	283	2.926	0.914	0.928	0.917	0.054	334.373	74

The indices for model B2 yielded an overall χ^2 (283) value of 827.974, with $\chi^2/df = 2.926$, GFI=0.914, CFI=0.928, TLI=0.917, and RMSEA=0.054 and an ECVI value of 1.437. These all indicated better fit. In this regard, the model was acceptable, but still not as good a fit to the data as the model obtained for Hong Kong. In reviewing the MI statistics, it was noted that two MI associated with the regression path related to perceived negative environmental impacts. This dimension was therefore removed. Again, the difference in fit between this model (C2) and its predecessor (B2) was statistically significant with $\Delta\chi^2(66)=361.135$ and ECVI=0.863. The simplified model C2 was a better fit than model B2 as shown by the much smaller ECVI.

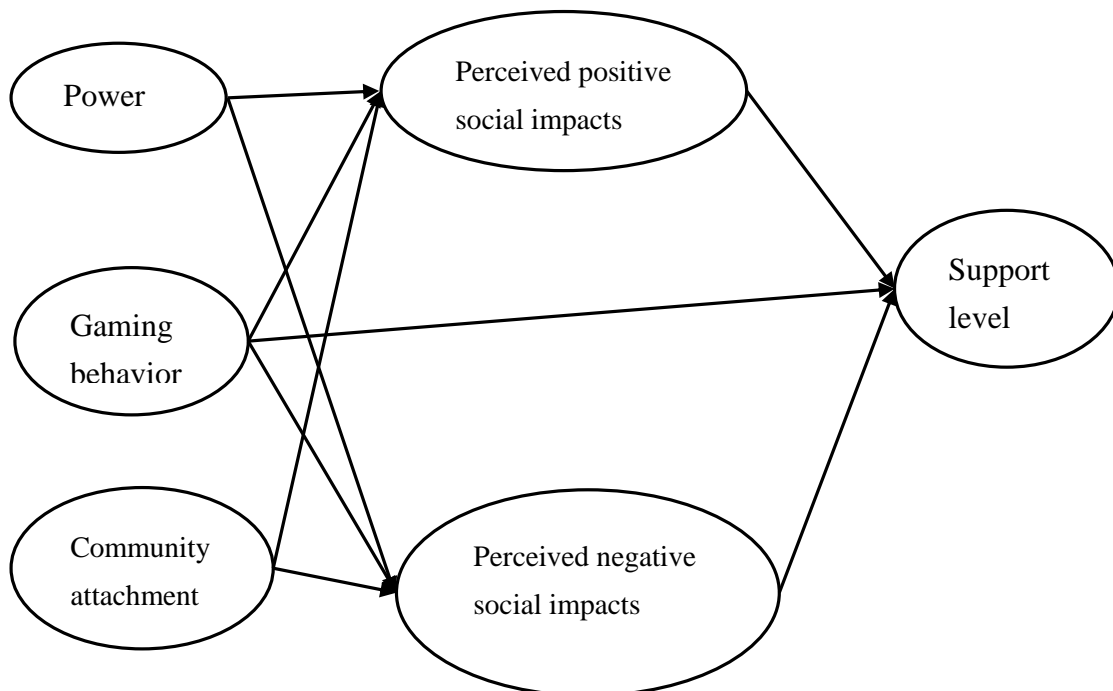


Figure 5. 6 Nested Model C2 (Removed Perceived Positive Environmental Impacts)

Table 5. 13 Comparison of Nested Models (Guangzhou)

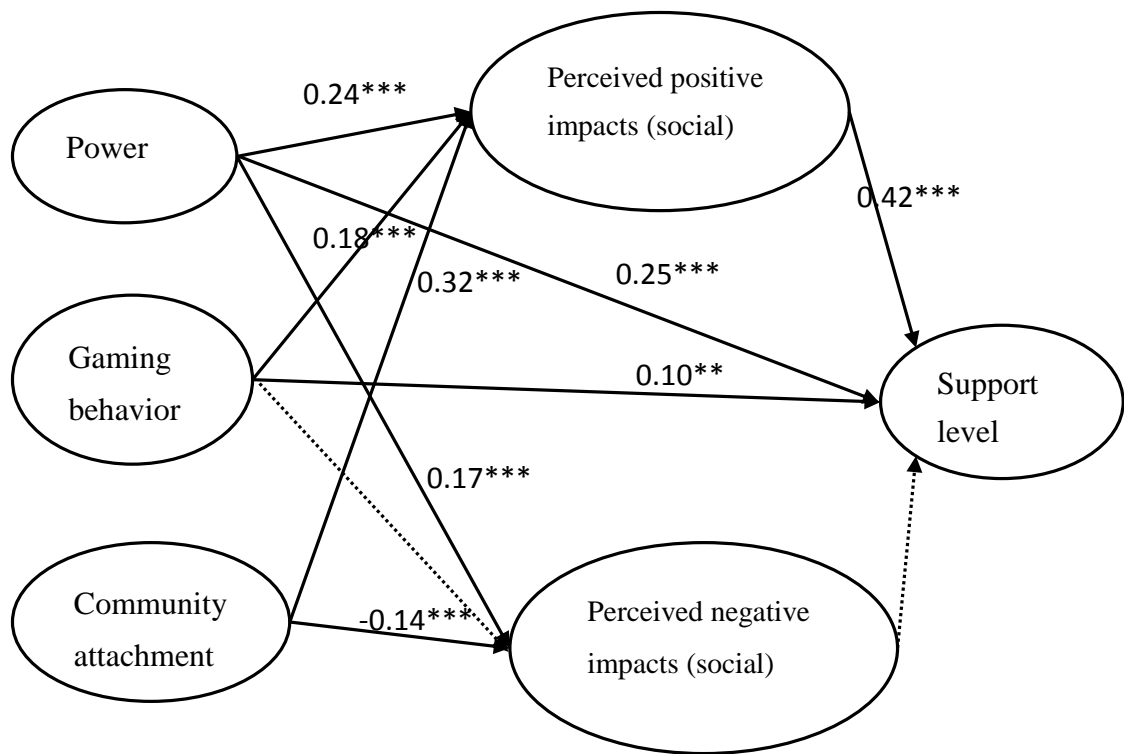
	Model Fit Measures							Model difference	
	χ^2	df	χ^2 /df	GFI	CFI	TLI	RMSEA	$\Delta \chi^2$	Δ df
Model B2	827.974	283	2.926	0.914	0.928	0.917	0.054	N/A	N/A
Model C2	466.839	197	2.370	0.940	0.958	0.951	0.045	361.135	66

Model C2 was re-specified to include the estimation of a regression path leading from power to support level in a new model D2. Substantively, this path made good sense as it seemed to be the case that in Guangzhou, residents' power directly affected their support for non-casino gaming. This finding is in line with those of Grzeskowiak et al. (2003) and Kayat (2002). The research of Grzeskowiak et al. (2003) revealed that perceived power in influencing local institutions was an important predictor of their overall attitude toward the community. Kayat's (2002) research also suggested that powerful residents had favorable perceptions and were supportive of future development. This finding can also be explained the way the "power" construct has been operationalized in the present study. In the present study, power was measured by asking respondents about their level of influence on a wider range of community decisions and gaming related decisions. Consequently, it captured only the generic concept of residents' power related to gaming development, which lead to the direct relationship between power and support level.

Table 5. 14 Comparison of Nested Models (Guangzhou)

	Model Fit Measures							Model difference	
	χ^2	df	χ^2 /df	GFI	CFI	TLI	RMSEA	$\Delta \chi^2$	Δ df
Model C2	466.839	197	2.370	0.940	0.958	0.951	0.045	N/A	N/A
Model D2	434.415	196	2.216	0.945	0.963	0.956	0.043	32.424	1

Estimation of model D2 yielded an overall χ^2 (196) value of 434.415, with fit statistics as follows; χ^2 /df=2.216, GFI=0.945, CFI=0.963, TLI=0.956, RMSEA=0.043, and ECVI of 0.817. No MI associated with the structural path were present in the output, indicating that model D2 represented the best fit to the data for Guangzhou. In reviewing the structural parameter estimates (see Figure 5.7), two parameters were shown to be non-significant, as indicated by the critical value and related p-values. These represented the paths from gaming behavior to perceived negative impacts, and from perceived negative impacts to level of support. Unlike in the Hong Kong model, the social indicators in the Guangzhou data showed better validity in the constructs of positive and negative impacts.



Note: The dash line denotes non-significant path coefficient at 0.05 level;

*** denotes significant path coefficient at 0.001 level; ** denotes significant path coefficient at 0.05 level

Figure 5. 7 Structural Model of Guangzhou

The results regarding the indirect effects were significant based on Sobel test. Specifically, the results of the Sobel test were 5.22, 4.56, 6.14 for power, gaming behavior and community attachment. These statistics showed that the indirect effects of power, gaming behavior and community attachment on support level through perceived positive impacts are significant and positive. Table 5.14 summarizes the parameter estimates of the model for the Guangzhou data, including the estimated direct and indirect effects among the constructs as well as the total effect. This is the more

important procedure when interpreting all changes from independent to dependent variables (Kline, 2011). The factor of perceived positive impact showed the strongest positive effect on support level with a significant path coefficient of 0.42, while no direct effect of perceived negative impacts on support level was found. Power had a direct (0.25) as well as an indirect effect (0.10) on support level, mediated by perceived positive impacts, resulting in a total effect of 0.35, which was larger than in the Hong Kong model. Although direct effects of gaming behavior on support level were identified, the former (0.10) was greater than the latter (0.08). Community attachment had only an indirect effect on support level mediated through perceived positive impacts (0.13).

Table 5. 15 Path Estimate of the Structural Model of Guangzhou (N=672)

Path (exogenous/endogenous variables → endogenous variables)	Standardized regression coefficient		
	Direct	Indirect	Total
Perceived positive impacts →Support level	0.42	/	0.42
Perceived negative impacts →Support level	/	/	/
Power →Support level	0.25	0.10	0.35
Gaming behavior →Support level	0.10	0.08	0.18
Community attachment →Support level	/	0.13	0.13

5.5 Hypothesis Tests

5.5.1 Hypothesis Tests for Both Cities

Within the overall model, the estimates of the structural coefficients provide the basis for testing the hypotheses. In other words, whether or not the hypothesized relationships are supported by the data will be determined by the signs and magnitude of the parameters that represent the paths between the latent variables (Diamantopoulos et al., 2000). In this section, the results are discussed in the context of the research hypotheses.

Table 5. 16 Hypotheses Tests of Model of Hong Kong

Path	Standardized coefficient	t-Value	Hypothesis Supported/Rejected
H1: Perceived positive impacts -> support level	0.488 ***	9.688	Supported
H2: Perceived negative impacts -> support level	0.078**	1.990	Rejected
H3a: Community attachment --> Perceived positive social impacts	0.167***	3.453	Supported
H3b: Community attachment --> Perceived negative impacts	-0.034	-0.823	Rejected
H4a: Gaming behavior --> Perceived positive impacts	0.216***	4.506	Supported
H4b: Gaming behavior --> support level	0.220***	4.506	Supported
H4c: Gaming behavior --> Perceived negative impacts	-0.222***	-4.547	Supported
H5a: Power --> Perceived positive impacts	0.182***	3.654	Supported

H5b: Power--> Perceived negative impacts	0.133***	2.650	Rejected
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Note: *** denotes significant path coefficient at 0.001 level; ** denotes significant path coefficient at 0.05 level

Table 5.16 reports the results of the hypothesis testing for the Hong Kong model. It can be seen that six of the nine hypotheses are supported. Perceived positive social impacts and power have a significant positive effect on support level ($\gamma_1=0.488$, $t\text{-value}=9.688$ and $\gamma_4b=0.220$, $t\text{-value}=4.506$, respectively), but so does perceived negative environmental impacts ($\gamma_2=0.078$, $t\text{-value}=1.990$). Thus, H1 and H4b are supported while H2 is rejected. Community attachment has a significantly positive effect on perceived positive social impacts ($\beta_3a=0.167$, $t\text{-value}=3.453$), supporting H3a; whereas community attachment is not significantly related to perceived negative environmental impacts ($\beta_3a = -0.034$, $t\text{-value} = -0.823$), so H3b is rejected. Gaming behavior is positively related to perceived positive social impact ($\beta_4b=0.216$, $t\text{-value}=4.506$) and negatively associated with perceived negative environmental impacts ($\beta_4b=-0.222$, $t\text{-value} = -4.547$), so H4a and H4b are supported. Finally, power has significant positive effects on perceived positive social impacts ($\beta_5a=0.182$, $t\text{-value}=3.654$) and perceived negative environmental impacts ($\beta_5b=0.133$, $t\text{-value}=2.650$), providing support to H5a and rejecting H5b.

Table 5. 17 Hypotheses Tests of Model of Guangzhou

Path	Standardized coefficient	t-Value	Hypothesis Supported/Rejected
H1: Perceived positive social impacts- ->support level	0.417***	8.165	Supported
H2: Perceived negative impacts - ->support level	0.078	0.549	Rejected
H 3a: Community attachment --> Perceived positive impacts	0.315***	6.752	Supported
H 3b: Community attachment --> Perceived negative impacts	-0.138	-2.974	Supported
H 4a: Gaming behavior --> Perceived positive impacts	0.179***	4.004	Supported
H 4b: Gaming behavior -->support level	0.096**	2.348	Supported
H 4c: Gaming behavior--> Perceived negative impacts	0.030	0.639	Rejected
H5a: Power--> Perceived positive impacts	0.245***	4.959	Supported
H5b: Power--> Perceived negative impacts	0.168***	3.330	Rejected

Note: *** denotes significant path coefficient at 0.001 level;** denotes significant path coefficient at 0.05 level

Table 5.17 also shows that three hypotheses are rejected and six supported by the Guangzhou data. As for the Hong Kong dataset, H2 and H5b were rejected. The path coefficient is non-significant with t-value < 1.98 and power is positively related to perceived positive impact ($\beta_{4b}=0.168$, t-value=3.330). Unlike in Hong Kong, however, gaming behavior is non-significantly related to perceived impacts and so H4c is rejected. Community attachment is negatively related to perceived negative impacts, supporting

H3b, which was rejected in the Hong Kong model.

5.5.2 Summary of Hypothesis Tests

Generally speaking, the results show that six out of the nine hypotheses were supported, indicating that the SEM analysis as a whole was of empirical significance.

All hypotheses dealing with perceived positive impacts were supported. Power, gaming behavior, and community attachment had a significant effect on perceived positive impacts. This suggests that high levels of power, engagement in gaming, and community attachment all made residents more likely to perceive non-casino gaming as having a positive impact. Furthermore, such perceptions greatly enhanced their level of support for its development. Gaming behavior also positively affected residents' support, which was confirmed in two cases. It can be concluded that gaming behavior is the fundamental predictor of support both directly and through the intervention of perceived positive impacts.

However, in both Hong Kong and Guangzhou, the set of hypotheses relating to negative impacts were rejected. The effect of community attachment and gaming behavior on perceived negative impacts was not statistically significant. Moreover, the relationship between perceived negative impacts and support level was not positive as had been predicted, indicating that the assessment of negative effects plays a different

role in the context of non-casino gaming. Lottery, sports betting, and horse racing are associated with negative views of impacts, but not to the same degree as certain other forms of gaming. In Hong Kong, even the negative impacts (environmental) affect residents' quality of life to some extent, the negative influence can be offset by the great benefit the Hong Kong Jockey Club provide to society as a whole. In Guangzhou, negative impacts (social) was so small that citizens overlook their effect. Power is positively related with negative impacts because the powerful groups in the community still care the downside of non-casino gaming. What is more, community attachment and gaming behavior are not the significant antecedents of negative impacts in Hong Kong and Guangzhou respectively since the environmental or social impacts are not the major factors in residents' perception.

CHAPTER 6. DISCUSSION AND IMPLIATIONS

6.1 Chapter Introduction

This chapter reviews the results of the survey and discusses them with reference to relevant literature. The major research constructs and their causal relationships with one another are reviewed and discussed. As the main theme of the study is support for non-casino gaming, the support level of residents of Hong Kong and Guangzhou will be elaborated first of all, followed by a discussion of perceived positive and negative impacts. Power, gaming behavior, and community attachment, the other three exogenous variables in the research model, are then discussed. The chapter concludes with a discussion of the implications of the findings for both theory and practice.

6.2 Research Objective One: Support for Non-casino Gaming

Differences in support level for non-casino and casino gaming were found in the data analysis. Residents' acceptance of existing gaming and its further development were different in Hong Kong and Guangzhou. This is likely to be due to (a) the scope of the change in gaming availability that has taken place; (b) the type of gaming that is

being introduced; and (c) the length of time that gaming has been legally available in each city. The type of gaming and the length of time that gaming has been legally available are varied in two study sites. In terms of types of gaming, in Hong Kong, horse racing, mark six lottery and sport betting are legalized, while in Guangzhou, only lotteries are legalized. As for the history, gaming in mainland China was completely banned by the Communist Party from 1949 until the 1980s, when the first lottery ticket was 'issued'. The history of mainland China's gaming is less than 30 years, while Hong Kong has history of gaming more than 170 years. Hong Kong and Guangzhou are at different stages in gaming development. Comparing the two cases can cover residents' perception on more types of gaming in different stages of development.

The mean value of all the items measuring community support was 3.28 in Hong Kong and 3.54 in Guangzhou. As we used a 7-point Likert-type scale to collect responses, this shows that agreement levels in both cities lay below the midpoint. This indicates that respondents in both locations were slightly more inclined to disagree with gaming development. In the work of Hsu (2000) dealing with casino gaming, respondents of Iowa and Illinois agreed (mean =3.80) with the legalization of riverboat gambling in 1993 and were neutral (mean=3.09) about it in 1998 (using the same assessment instrument). Lee et al. (2010) adopted similar items to assess residents'

support for gaming in the Gangwon Province of Korea and Colorado, USA. The Korean respondents supported casino development, with a mean value of 3.09, while the Colorado residents' average response was 2.87. The responses in these surveys were measured using a 5-point Likert-type scale, so both sets were close to neutral. Compared with casino gaming, people living in communities which offer non-casino gaming seem to have much more conservative attitudes towards it.

High community support for casino gaming is likely to be due mainly to the fact that residents may believe that they have no option but to support gaming as it will be the dominant local industry for the foreseeable future (Vong, 2008). The casino industries in such areas will continue to grow as long as they achieve the anticipated rate of return from new investment projects. Local dissatisfaction tends to be mainly with specific casino operators, not the gaming industry as such (Wan, 2012). People still have a positive attitude toward the industry in general because casino gaming has contributed significantly to the local economy and employment opportunities. As explained by Perdue et al. (1995), many regions have legalized casino gaming for the purpose of boosting economies in rural areas by attracting more tourists. The casino industries have been shaped over the years by the economic forces of expansion in response to consumer demand for casino gaming and the profitability of operations. Therefore,

residents' support for casino gaming can be considered as a compromise which bears in mind its positive implications.

Unlike in regions which offer casino gaming, however, people in Hong Kong and Guangzhou are unlikely to regard gaming as a leading element of the local economy. Gaming, as a value-laden activity (Williams et al., 2011), has always been a questionable issue for many people. Gaming activities are a form of recreation for most Asians, especially the Chinese. However, gambling is also considered immoral and decadent and has been linked to the corruption of public officials; organized crime; and various personal, family, and social misfortunes (Pizam & Pokela, 1985). The public still holds stereotypes about gaming and it has even been banned in China (Zeng & Zhang, 2007). One of the fundamental realities of gambling is that economic impact, which tends to be viewed positively, is quantifiable, tangible, and measurable, whereas social impact, which tends to be seen as negative, is qualitative, difficult to measure, and in a sense elusive (Eadington, 1999). Another point to note is that gaming is valuable to a fairly small segment of the population. Buying lottery tickets is the only type of gambling participated in by the majority of the population, with participating in horse racing, sports betting, and all other forms of gambling being much less common. It is usually only a small percentage of people who report in surveys that gambling is a

“very important” leisure activity for them, or that it has replaced other forms of recreation (Williams et al., 2011). Although billions are spent on gaming worldwide, the majority of such revenue tends to come from a small percentage of the population (Williams et al., 2011). Because of these factors, gaming will always be a controversial issue.

Respondents in Hong Kong, where there is a long history of nonprofit gaming activities, were more conservative about non-casino gaming than their compatriots in Guangzhou. Moreover, Hong Kong residents live closer to Macau and so are more directly affected by casino gaming. They are also likely to be more familiar with gambling because information about it is more freely available through different channels. In recent years, various stakeholders in Hong Kong have put forward different opinions about legalizing casino gaming (Tam et al., 2013). In one survey of perceptions of legalization, more than 70% of Hong Kong residents disagreed with the idea of establishing casinos. Many agreed that the rate of pathological gambling was related to the accessibility of such activities (Jacques et al., 2000). Consistent with previous studies, the findings of this research suggest that Hong Kong residents remain worried about the various negative issues related to gambling, even if the focus is on developing non-casino activities.

It is interesting to note that the Guangzhou residents expressed a higher level of support than those in Hong Kong. This is likely to be for three reasons. Firstly, there is a difference in demographics between Hong Kong and mainland Chinese, with the former generally financially better off than the latter. Thus, Hong Kong Chinese are more likely to perceive gaming as a form of entertainment and excitement and less as a money-making opportunity compared to their mainland counterparts (Lam, 2012). In mainland China, many people want to become rapidly wealthy, which is creating an unequal distribution of resources (Tse, 1996). As prosperity spreads within cities, many people want to “get rich quick” and enjoy the material gains of which they have been deprived for so many years. Gaming can hence be seen as a shortcut to financial success (Lam, 2012). So far, the lottery is the only form of gambling that is officially acceptable in mainland China. Thus, residents do not express strong opposition to these limited gaming opportunities. This is also reflected in the fact that the majority of the population participates in the lottery, illustrating its importance as an additional recreational activity.

Secondly, following China’s economic reforms, central government has abandoned the Maoist legal norm that prohibited all types of gambling (Cheng et al., 2013). This has resulted in a resurgence in gambling as a preferred form of entertainment among

Chinese people (Loo, Raylu, & Oei, 2008). Uptake of the lottery in mainland China is more widespread than ever before and two different lotteries are now competing to attract customers (Tse, 2010). Lottery tickets have become more attractive, with bigger prizes which are often showcased in public arenas (usually at large outdoor plazas) to attract custom. In view of mainland China's speedily increasing *per capita* income and leisure time, there is considerable room for further development of the gaming industry. However, the autonomy and maturity of the market in Guangzhou is still not comparable to the post-colonial economy of Hong Kong. Compared with the relatively slow-growing gaming market in Hong Kong, the lottery industry in mainland China still has enormous potential for rapid growth. This may explain why Guangzhou respondents indicated significantly more support for gambling than their Hong Kong counterparts.

Thirdly, the lottery market is generally healthy and its customers are not concentrated to any great extent within socially vulnerable groups (Zeng & Zhang, 2007). Because of the availability of welfare, and the ubiquity of the sports lottery in Guangzhou, people do not really consider buying lottery and scratch cards as a form of gambling. Gambling itself is a negative word in Chinese culture, and current social morals do not support it. However, because the Chinese government does approve of

purchasing lottery tickets, most citizens consider the lottery to be excluded from the definition of gambling. Guangzhou residents are likely to take the view that because of their extremely low probability of winning the lottery and the low monetary returns available, the risk involved in buying a ticket is significantly lower than in other forms of gambling. Residents in Guangzhou regarded their lottery gambling as a leisure activity; indeed, individuals who bought scratch cards and lottery tickets did not see themselves as gamblers at all. This may further explain why the Guangzhou respondents looked more favorably at the future of the gaming industry.

6.3 Research Objective Two: Effects of Residents' Characteristics

Earlier casino gaming studies indicate that residents with different social and demographic backgrounds held different attitudes toward the development of the industry. The dual faces of gaming development depend on the interests of different subgroups within a host community. Segments or typologies of residents' attitudes can be developed to identify groups of people likely to be concerned about, or opposed to, the development of non-casino gaming. However, the inconsistent results of previous investigations call for more research on the effects of such personal characteristics on

perceptions of, and support for, gaming.

The findings of this study suggest that the personal characteristics of residents may indeed help to inform our understanding of who may be more or less disposed to favor the development of gaming. Residents' support for the industry in this study was influenced not only by their perceptions of its impact and benefits but also by their social characteristics. More specifically, the findings have indicated that support is likely to be influenced by gender, age, marital status, and education level in Hong Kong and by gender, age, and marital status in Guangzhou.

In Hong Kong, the residents most likely to support non-casino gaming were males of middle age or above who are married and have completed tertiary education. Those most likely to oppose it were young single women with less education. In this sense, it would seem that residents who have formed a more mature concept of values and whose lives are stable may find it easier to accept gaming as a form of leisure. In contrast, more vulnerable groups within the community may be more inclined to be skeptical about the current and future level of the gaming industries if they are uncertain about their impacts on quality of life.

In Guangzhou, those most inclined to be proponents of gaming were of middle age

or above, married, and with comparatively less education. At present, there is an imbalance in the Chinese lottery market insofar as most consumers are of low social status, with relatively few highly educated or intellectual citizens purchasing tickets (Liu & Wang, 2010). Young people with good education were not as optimistic as older citizens about the introduction of gaming, suggesting that many people of their generation in Guangzhou are concerned about the risk of developing the industry. Compared with their Hong Kong counterparts, young people in mainland China are likely to know less about gaming due to China's restrictions on casino gambling. Raymore (1995) suggests that gambling may be a form of leisure that people begin to enjoy in early life and continue with as they grow older instead of moving on to different pursuits. Accordingly, young people in mainland China may need more information and knowledge to help them understand gaming and therefore change their views.

In addition, the findings of this study have shown that other external factors (such as political power and gaming involvement) affected residents' perceptions of the impact of gaming. This suggests that people's views are formed through dynamic interaction with the community and society as a whole. In particular, those in both cities who perceived gaming as bringing about stronger social and economic benefits were those with more power and stronger community attachment, as well as those who

themselves participated more in gaming. Nonetheless, three key variables affected the indicators of positive impact in Guangzhou, especially the potential effect on tourist spending and educational funding, neither of which may be true in reality.

In Hong Kong, respondents who were less involved in gaming and more strongly attached to the community were more inclined to perceive gaming as having social and economic costs. Moreover, gaming participants who also enjoyed a high level of power scored the items listing the potential negative impact higher than those who did not. In the urban community of Guangzhou, powerful and highly community attached residents were more sensitive to the potential negative influence of lotteries.

6.4 Research Objectives Three and Four: Comparing Residents' Perceptions of Non-casino Gaming

6.4.1 Residents' Perceived Impacts about Non-casino Gaming

Gaming typically influences significant economic and social change in host communities (Eadington, 1986). Residents' perceptions of the positive and negative impacts of gambling need to be explored. As suggested by Chhabra & Gursoy (2007), "The first step in understanding the perceptions and attitudes of locals towards gaming impacts is determining the areas of support and their concerns, impact of those areas on

support and the factors that are likely to influence those perceptions and attitudes” (p. 159). The impacts of gambling can vary according to the type of game and the jurisdiction in which it is introduced (Williams et al., 2011). Hence, the actual impacts of the introduction of gaming on local attitudes is an important issue.

The theoretical foundation of the discussion of residents’ perceptions in this study is the social exchange theory, which serves as an appropriate framework for studying perceptions of impacts (Zhou, Liu, & Yoo, 2014). Residents’ perceptions of gaming were examined from positive and negative perspectives. It was proposed that residents who perceived gaming as having a stronger positive impacts would be more likely to view it positively, while those who saw the effects as negative would tend to have a critical view in general. The findings of this study show that the social exchange model is a good fit for the data in explaining residents’ attitudes toward casino development (Lee et al., 2003; Lee & Back, 2006), insofar as it was not fully supported in either Hong Kong and Guangzhou. Non-casino gaming has unique characteristics, with social impacts having a more important positive role and the negative effects having weak or even insignificant influences on levels of support. In addition, residents may have been less concerned about both the positive and negative economic impacts because they neglected the relatively minor economic contribution made by such gaming to the local

community, especially when they were not themselves regular players.

It's worth noting that noticeable differences were found between two places about the perceived negative impacts. Due to the vast differences in social and political systems that have prevailed in Hong Kong and Mainland China for a long period of time, the Hong Kong respondents who have materialistic thinking of western market capitalism paid less attention about the negative social effects of gaming than mainland residents. Hong Kong society's capitalistic/materialistic orientation is part of the reason why people more tolerate the negative social impacts of gaming. It has also been proposed that gaming and a capitalistic orientation in general promote individualism, entrepreneurship and risk-taking, which are fundamental to economic success. On the other hand, Chinese mainland residents still consider gaming as a symbol of capitalism, which are not necessarily conducive to social harmony.

6.4.1.1 Perceived Positive Impacts

In both of the cities studied here, perception of positive impacts was the most significant factor in determining the extent of support for non-casino gaming. In other words, this was a positive precedent variable of support for non-casino gaming development. This finding is consistent with previous longitudinal studies conducted in casino gaming communities, which suggest that perceptions of positive social impacts

generally have a significant ongoing effect on support (Lee & Back, 2006).

The positive impacts measures studied here were greater pride among local residents, increased attractiveness of the city, more social opportunities, more educational funding, and more entertainment and recreation facilities, all of which fall within the social domain. These results suggest that one of the important positive function of gaming is that it provides entertainment and an extra leisure option for citizens. A further important potential impacts is the possibility of a significant improvement in general living conditions. People involved in recreational and non-casino gaming are mostly community residents, rather than tourists, so the composition of the market is quite different from casino gaming. The fast growth of China's economy after the economic reform program has encouraged society to become more entertainment- and pleasure-oriented, particularly among the younger generation. People's taste for games of chance is growing stronger as the nation becomes wealthier.

In modern cities such as Hong Kong and Guangzhou, residents have the freedom to choose their own lifestyles and determine how and where they spend their leisure time. Hong Kong is a vibrant metropolitan city which offers many attractions and leisure options (Wong, 2009). Betting on horse racing, the Mark Six lottery, and football are among the many choices available to Hong Kong residents. In Guangzhou, the purchase

of lottery tickets, one of the most important forms of non-casino gaming, is the only type of gaming in which the majority of the residents are able to take part in. People buy lottery tickets in order to be in the company of others, either socially or officially. Socializing is a major reason why people engage in gaming, and represents a form of reward from persistence gambling which may exceed its economic value. Betting shops are special places that create an atmosphere and promote feelings that drive people to buy lottery or horse-racing tickets. Because many people go to the same betting branch at the same time every day, they are likely to meet others that share their interest. Lotteries also offer the hope of winning the jackpot, which can be considered as another strong motivation to participate. Generally speaking, gaming extends the range of recreational options for local residents. However, it results in little net economic stimulation to the area, even though the gaming industry itself is a substantial revenue generator.

Most respondents in this study perceived that gaming could increase the pride of local residents and the attractiveness of the city. Concern for the city's image was stronger than any other issue, and had a significant impact on the expression of support for the industry in the main survey. Residents' perception of the image of their community is likely to influence their desire for legalized gaming (Chen & Hsu, 2001).

A casino tends to bring a disreputable image to a city in terms of the associated crime and addiction, while lotteries, horse racing, and sport betting can help enhance its attractiveness.

It is worth noting that in both cities studied here, participants regarded the use of gaming revenue to facilitate educational development as an important indicator of positive impacts. This suggests that public support for gaming may be limited unless residents perceive that education and standards of living will improve as a result. Lotteries are the type of gaming most likely to be directly provided by governments, while horse-racing and football betting also have a strong relationship with government revenue through taxation. Research on professional casino gaming show that it has become an increasingly accepted recreational activity that has strengthened communities by generating tax revenues that can be used to finance health and education services (Lee & Back, 2003, 2006; Long, 1996). When discussing the impacts of gaming on communities, several studies show that it can improve quality of life because increased government revenue usually leads to better public services (Roehl, 1999). Lottery money may be specifically earmarked for certain purposes such as education. Governments must continue to provide nongaming leisure and recreational opportunities by making good use of betting and lottery revenues.

Economic success in turn improves the educational environment, ranging from the provision of new facilities and equipment to the setting up of educational funds and scholarships, all of which give young people more opportunities to develop their potential. The social status of gaming in Hong Kong and Guangzhou may, in some respects, reflect how Chinese society regards the essential role of education.

Unlike the results of research on casino gaming, the findings of this study indicate that other economic and environmental effects were not important as the social impacts in determining residents' perceptions of non-casino gaming. The positive economic impacts of gaming development was not significant here in explaining respondents' perceptions of its benefits. Echoing the findings of Lee et al. (2003), residents who supported casino development were more likely to view its economic and environmental impacts positively. One longitudinal study of casino gaming shows that positive economic impacts influences support at the preopening stage (Lee & Back, 2006). The ability to attract players from outside the area results in significant local economic development as it brings new spending into the region (Eadington, 1999). This revenue inflow can stimulate local economic development when patrons from outside the community spend money while visiting it (Marbach, 1999). While gaming in many casino areas is the only industry without a diverse economic basis, in Hong

Kong and Guangzhou it is part of a more diversified economy served by other industries.

Respondents in this survey were more concerned about positive environmental factors (preservation of historic sites and areas of natural beauty), which were discarded at an early stage of the analysis. In Carmichael's (1996) longitudinal study of the impact of gaming, environmental effects from the building of casinos were an important consideration in residents' support for further development. To develop non-casino gaming, operators do not need to construct large buildings. Rather, betting branches can be distributed all around the city. Even the two racecourses in Hong Kong are arenas which can be used by locals as outdoor spaces for leisure and recreation purposes. Since only those who live nearby can enjoy this benefit, the positive environmental impacts of gaming is minimal and can be overlooked by those living in the city.

6.4.1.2 Perceived Negative Impacts

The effects of non-casino gaming are not as widespread as casino gaming, which influences the daily lives of residents in many aspects including the social, economic, environment, and cultural. In both models, the rejected hypotheses related to perceived negative impacts, indicating that the relationships between perceptions of impacts and support for gaming, as well as community attachment, gaming behavior, and power, were not as predicted. The negative impacts of non-casino gaming are less tourist

oriented compared with those of casinos. Nearly all the negative consequences arise from the regular operation of the industry or the nature of gaming as an unproductive and even irrational activity.

In terms of environmental impacts, the expansion of casinos tends to result in an obvious deterioration in the environment because of the increased visitor volume and construction of new tourism facilities (Vong, 2008). The size and economic dominance of the casino gaming industries in the cities of Las Vegas, Atlantic City, and Reno, and the amount of political and social influence that they exert, has had a significant influence on the day-to-day ambiance of all these cities (Eadington, 1996). Thus, environmental variables have always played an important role in studies of casino gaming. However, these problems are less serious for non-casino gaming. In the case of Guangzhou, the side effects for the environment may even have become less significant, resulting in the environmental factor being deleted from the final structural model. This is likely to be due to the fact that the environmental impacts of selling lottery tickets is so minor that it was not perceived as salient by respondents.

In the Hong Kong results, items relating to environmental deterioration such as noise level, quantity of litter, decrease of the cleanliness of the community, and traffic congestion were identified as the most significant contributors to residents' assessment

of negative impact. Although the environmental impacts of horse racing, Mark Six lottery, and football betting is far less than for casino gaming, noise and litter problems may still affect local residents. For example, the size of crowds in public areas and the resulting noise levels, as well as the number of driving hazards in the area, may increase as a result of horse-racing events. Daily living patterns may be disrupted due to increased levels of traffic.

Furthermore, the negative social impacts identified by the Hong Kong respondents was not significantly related to their levels of support for gaming. Further investigation of this finding is required, but it may be the case that almost everyone in Hong Kong, regardless of how they perceive the negative impacts of gaming, supports its development. As gaming has developed, residents' perception of its negative social impact might be mitigated by their recognition of the regulatory and monitoring systems introduced and run by the Hong Kong government and Hong Kong Jockey Club.

In the Guangzhou model, the items addressing social problems (increase in loan sharking/usury, crime, and gambling addiction) were the most relevant indicators of perceived negative impact. Even though gambling can be considered as entertaining and sociable, problem and pathological gambling still exist as issues. Communities may

be confronted with gambling addiction, which is likely to have a negative impact. Respondents in Guangzhou seemed more concerned about the possible negative social impacts of such gaming.

In recent years, problem gambling associated with the sports lotteries has gradually emerged as a major social issue in China. The market is still not mature, and lottery providers and administration institutions have no clear vision of their positioning and functions within the industry. Accordingly, there is no real public or shared concept of the lottery having any kind of social responsibility (Li et al., 2013). There have been numerous reports of the interests of players having been harmed. Gaming is a common form of leisure, but this aspect can be portrayed negatively if dependency on gaming becomes too high.

Public concern about gaming is also often rooted in its historical connections to organized crime. Several studies also suggest that gaming development appears to attract specific types of crime, such as economic and public order offences (Giacopassi, Stitt, & Nichols, 1993). It is not surprising that gambling addiction was identified by respondents as one of the important items capturing negative social impact. In China, it is an open secret that there is a broad underground gaming population (Gu, 2012). Gambling addictions have been frequently reported by the mass media in mainland

China, stimulating public attention and concern. For example, the lack of efficient laws and regulations about sports lottery supervision, and the temptation to win the top prizes, have resulted in cases of fraud connected with sales and distribution. The frequency of such lottery-related crimes indicates that there may be problems with China's lottery management system (Huang, 2012). In other words, the frequent media reports of gambling and related arrests reveal people's continuing interest in games of chance. In western countries, compulsive behavior is less likely to be associated with the lottery than with harder forms of gaming such as slot machines or betting. However, the situation in mainland China may be different given that the only legal gambling product on offer is the lottery. This may explain why these respondents were inclined to focus on the long-term problems such as loan sharking/usury, crime, and gambling addiction.

Negative economic effects, which have been identified as the most influential variable in determining support for casino development (Lee & Back, 2006), were not significant in this study, indicating that they have impact-specific dynamics. As the findings have shown, economic cost did not significantly affect support for gaming, perhaps because these costs did not directly influence respondents. Moreover, the majority of participants thought that selling lottery and horse-racing tickets would not increase the general cost of living. This may be attributable to the successful marketing

strategy of the so-called “Welfare Lottery,” which has increased people’s willingness to purchase tickets and simultaneously reduced the negative image or stereotype of lottery games.

6.4.2 Residents’ Power in Non-casino Gaming Community

In general, power influenced residents’ perception to a larger extent in Guangzhou than Hong Kong because of the different political systems in two cities. Hong Kong had been ruled by a more efficient government with all power vested in the hands of governor and government bureaucracy. Political apathy was prevalent among Hong Kong citizens. Compared with power, Hong Kong residents more respected academic qualifications and professional training (Chiu, Ting, Tso, & Cai, 1998). On the contrary, power was the second most important factor affecting gaming support, which reflect Guangzhou’s political reality and the lingering effects of political socialization with the ideal of socialism.

In this study, social exchange theory was extended to the gaming context by including a variable measuring power. The findings confirm that power is central to the development and governance of gaming, both of which are characterized by important power relations. According to the social exchange theory, power derives from having, controlling, or influencing resources that another actor needs and values (Wrong, 1979).

Therefore, two items in the survey were used to assess power, namely “I have personal influence over decisions related to community development” and “I have political influence in the decision-making process of gaming development.” Casino gaming may be attractive to community leaders in economically depressed places (Park & Stokowski, 2011). Giacomassi et al. (2000) suggest that community leaders are likely to have played a prominent role in the legalization of casino gambling in their communities and may therefore be more inclined to see the industry in a favorable light. The findings of this study have indicated that power is a significant predictor of perceptions of the impact of non-casino gaming. In both Hong Kong and Guangzhou, powerful residents had stronger perceptions of the impacts of gaming than their less powerful compatriots. The amount of power enjoyed by residents was positively related to their assessment of the positive impact of gaming. These findings are consistent with other work in the tourism literature (Kayat, 2002; Madrigal, 1993; Nunkoo & Ramkissoon, 2012) and support the postulates of the social exchange theory. They also echo Li and Wan’s (2013) empirical findings from Macau, which show that residents who are more involved in making decisions about gaming are more likely to perceive it positively and support its further development.

However, powerful residents in both cities, who have probably been more involved

in decision making, were also more aware of the negative impacts of gaming. This contradicts the findings of earlier work which suggests that negative perceptions are related to low levels of social power among actors, since they perceive little gain from the exchange (Waitt, 2003). This apparent contradiction may be explained by the nature of the gaming industry. Gambling has always raised controversial issues. The legalization of any form of gaming in a community is likely to result in various social problems such as street crime, loan sharking, prostitution, drugs, and compulsive gambling. These factors, along with a change in the image of the community within its region, are likely to alter both its character and reputation (Eadington, 1986). In particular, Chinese people living in an area where gambling is part of the economy are likely to see it as a socially undesirable behavior, since it conflicts with the traditional mores of Chinese society (Taormina, 2009). The public is always likely to be concerned about the possible downside or costs to society resulting from gaming. Leaders tend to be more moderate in their assessments and more likely to identify the problems which go along with gaming. The numerous scandals emerging from mainland China have illustrated some of the wider effects of problem gambling. For example, when a prominent member of the Communist Party of China becomes addicted to gambling, not only is his or her promising career ruined, but the reputation of the Party is also

damaged (Tse, 2010). More critical evaluations of the impacts of gaming appear to be associated with community leaders who have first-hand knowledge of someone who has suffered as a result of problem gambling.

In Hong Kong, power as an exogenous factor affected the evaluation of impact, but did not appear to be directly relevant to levels of support. In Guangzhou, however, power influenced support directly, as shown by the standardized coefficient of 0.25. Moreover, in the Guangzhou model, the standardized coefficients of power to perceived positive and negative impacts were 0.24 and 0.17, respectively, with the equivalent figures in the Hong Kong model being 0.18 and 0.13. This indicates a smaller effect on these two relationships. Therefore, it can be concluded that power influenced Guangzhou residents' attitude more than it did their Hong Kong compatriots.

The community power experienced by Hong Kong respondents is likely to be quite different from that of Guangzhou residents for three reasons. Firstly, there are differences between the two cities' social and political systems. The introduction of gambling was guided by the Chinese government with limited community involvement in the decision (Mizerski, 2013). Gaming-related decisions are normally made by community elites in Guangzhou. Lotteries in China are considered by mainstream ideology to be a social vice. It has been suggested that legalized gambling promotes

capitalism and materialism (Zeng & Zhang, 2007), which are not necessarily conducive to social harmony. Even doing research in the field is considered to be equivalent to encouraging gambling, not to mention the further development of the gaming industry. Power differentials between residents and government actors may create opportunities for the more powerful stakeholder to exercise a degree of coercion. People in mainland China are becoming more vocal in demanding that their government handles social problems, and saying that they would like to be informed about and involved in every policy made in their cities. This is also a reason why more emphasis should be placed on transparency and public participation in policymaking during the political reform of the Communist Party of China.

Another factor is that the different historical evolution of the political and gaming mechanisms in Hong Kong has weakened the effects of power on perceived impact and level of support. In Hong Kong, a mature political community led by the educated middle class and professionals was developed in the early 1980s. Governed by an executive-led polity, the powerful groups who controlled the city's resources did not express any concern about gaming development. The values and political culture amongst the Hong Kong people have been very much influenced by the 155 years of British rule (Wan, 2013). As Ng (1999) notes, "people in Hong Kong have high respect

for laws, rules and regulations. Although democracy was not introduced in the local political scene until recently, since the late 1970s, people in Hong Kong have always enjoyed liberty, individual human rights and freedom of speech” (p. 223). Even the specific decision-making mechanisms of the Hong Kong government confirm its dominant role in the policy process (Cheung, 2011), Hong Kong residents are always given the chance to express their opinions about social reforms through the advisory system.

What is more, Hong Kong commercials have tended to use more western and utilitarian values (Chan & Cheng, 2002). Hong Kong is a capitalist society that encourages the consumption of material goods and is skewed towards a free-market economy (Ng & Tang, 2003), whereas China is a socialist society that encourages a focus on the wellbeing of the nation as a whole (Chan & Cheng, 2002). In mainland China, the market is still developing rapidly in terms of the range of products and services available. Therefore, the balance of power is likely to be more important in Guangzhou, as this may offset residents’ perceptions of risk and uncertainty in a gaming social exchange process.

6.4.3 Residents’ Community Attachment

In recent years, attachment-related concepts have been developed and used to

enhance our understanding of casino gaming (Lee et al., 2010). As early as last century, Long (1996) showed how the development of casinos in several rural communities in the USA led to the loss of traditional gathering places and caused a diminished sense of community. Stokowski and Park (2012) claimed that a community's sense of place, residents' social cohesion, and their ability to identify meaningful aspects of local life are key issues in managing and planning the development processes in communities that host casino gambling venues. How individuals' rootedness and sense of belonging to a community are properly addressed is worthy of further study in other regions which have introduced gaming. The literature indicates that community attachment has added an important conceptual foundation to the existing body of work on residents' attitudes, serving as a theoretical guideline for future research (Harrill, 2004).

Community attachment is a complex construct used to assess the attitudes of host residents toward their communities. As a result of the pilot study and *post hoc* modification of the measurement models, this study used three statements to measure residents' community attachment; "This is an ideal place to live in the city," "I am satisfied with the city," and "I like living in this city more than in other cities." Other measures, such as length of residence (which is a popular proxy) as well as measures related to local social bonds, are not appropriate to measuring community attachment

in the urban Chinese context. This can be attributed to the higher mobility in urban areas, where long-term residents may not integrate into community life and form an affective bond or emotional link to the urban community.

The findings of this study suggest that in both cities, the more attached residents were to their communities, the more they supported gaming development. In the Hong Kong model, community attachment directly and positively correlated with support for non-casino gaming development. In the Guangzhou model, it was indirectly and positively correlated. These findings suggest that community attachment can be used to effectively assess support for non-casino gaming development. Someone who has a higher level of community attachment will be more likely to support non-casino gaming development. This might be explained by the fact that they may believe gaming is likely to generate a more positive social impact and result in the enhancement of public services (such as health, education, and infrastructure facilities).

However, while community attachment was an important determinant of residents' perceptions in both study sites, it affected support and perceptions of impact to a different degree in each of them. The results reinforce, to some extent, earlier work on the relationships between community attachment and residents' perceptions of gaming. Echoing Lee et al.'s (2010) study conducted in Colorado, USA and Gangwon Province,

South Korea, this work has shown that community attachment is directly and positively related to perceived positive impact in both Hong Kong and Guangzhou. That is to say, highly attached residents are more likely to perceive gaming as having a positive impact. This finding is consistent with previous work on residents' support for casino gaming, supporting the claim that those who were strongly attached to the community viewed the benefits of gaming industry more positively than those who were less attached. Nonetheless, this finding implies that community attachment plays an important role in tourism planning for gaming industry development.

In the Guangzhou dataset, significant relationships were identified between community attachment and perceptions of negative impacts. The more attached the Guangzhou respondents were to their community, the less concerned they were about perceived negative effects on society (such as increase in loan sharking/usury, crime, and gambling addiction). This finding suggests that when individuals feel a stronger sense of belonging, they are less concerned about the social costs of gaming.

Unlike in Guangzhou, for Hong Kong residents community attachment appeared to be unrelated to perceived negative impacts, which is not consistent with previous studies. This may be explained by differences in the ways the industry was introduced to the community. Residents who have lived in the city for longer tend to perceive the

development of the casino community in neighboring Macau more negatively. The construction of casino gaming has changed the city, especially in terms of the physical landscape. When a city in which residents were born and grew up is transformed, collective memories are taken away. As a consequence, residents may oppose the rapid development of gaming tourism (Li & Wan, 2013). In terms of the sports and Welfare Lottery in Guangzhou, citizens tend to regard the stations and booths selling tickets as normal components of their daily lives. The negative impacts of lotteries is comparatively tolerable if it merges into urban society, which may explain the weaker perception of negative impact among the Guangzhou respondents.

In Hong Kong, non-casino gaming is part of the memory of local residents and sometimes even arouses sentiment towards the city. As legalized horse racing and the Mark Six lottery have been part of Hong Kong life for decades, daily contact with the industry is common among residents. Moreover, the availability and accessibility of gaming are high. Gaming is not a novel behavior for most citizens, who may therefore be more likely to be guided by their own specific attitudes to gambling, formed from a young age, than by other people's opinions or behaviors. Hong Kong residents might feel as if something was missing if gaming activities were to cease to exist altogether. Betting on horse racing and buying Mark Six lottery tickets have become part of daily

life for many, which reflects the lifestyle of the Hong Kong people. Daily newspaper sport sections regularly publish the odds of winning various competitions as calculated by well-known professional gamblers. The branches of the Jockey Club are not just outlets for gambling, but are regarded as ordinary entertainment venues by many people and are a means of employment for others. Against this background, residents with high community attachment are more likely to accept gaming activities, regardless of their perceptions of their positive or negative aspects. Therefore, community attachment was not an antecedent of perceived negative impacts among these Hong Kong respondents.

The differences between the two cities in terms of community attachment and its relationship to perceptions of impact and support for gaming may also be ascribed to the effects of immigration. Other factors may also be involved as perceptions tend to change significantly throughout the stages of gaming development. More rural-urban migrants live in Guangzhou, a developing and transitional city in mainland China. Many studies show that such migrants feel like outsiders in China's urban areas and generally face poor living and working conditions, with a low quality of life (Cheng et al., 2013). Such rural-urban migrants living and working in urban China are active consumers of gambling products (Sun, 2012). Moreover, some may take time off work to gamble immediately after receiving their monthly salary (Gan & You, 2013).

Migrants with low levels of community attachment may be more likely to turn to the lottery to escape their sense of loneliness and in the hope of improving their lives by winning a large sum of money. As one of the groups more vulnerable to the negative influence of gaming, such migrants may be more likely to perceive it as having a negative impact than long-term residents. Guangzhou is one of the major centers for rural-urban migrants as well as being the capital city of Guangdong Province, the largest provincial market for both legal and illegal lotteries. It is perhaps not surprising that community attachment was significantly negatively related to perceived negative impact among this group.

6.4.4 Residents' Gaming Behavior in Non-casino Gaming Community

In general, most customers of non-casino gaming in urban areas are not tourists, which means that the games cater predominantly to those living nearby. The findings of this study have also showed how behavior relates to attitudes. Through the incorporation of gaming behavior in a more comprehensive model, residents' attitudes and perception of non-casino gaming can be discussed. In previous studies, gaming behaviors have often been analyzed by reference to participants' frequency of gaming, frequency of visits to particular venues, and the time and money spent in a single visit. This study adopted measures of residents' family members' gaming involvement and

frequency of other forms of gambling compared to the most prevalent non-casino games.

The results from both the Hong Kong and Guangzhou models suggest that gaming behavior is an effective predictor of level of support for the local gaming industry. Both mainland China and Hong Kong residents participating in this study appear to share common ideas about destiny, luck, and propensity to take part in gaming.

Respondents to this survey who spent more money and participated in gaming more frequently tended to feel more strongly about its positive impacts. Overall, the influences on Chinese gambling are predominantly captured in the variables included in the model, but there is a possibility that socio-historical and cultural factors may also have had a considerable impact on this phenomenon. Not surprisingly, gambling involvement among Chinese people has been observed to be higher than in many other cultural groups (Raylu & Oei, 2004). Although Chinese traditions have long viewed gambling as an improper behavior, many people still enjoy it. The results of this study are consistent with Hsu's (1998) observation that gaming participants enjoy these activities and look favorably on the availability of gaming opportunities in their community, so will be lenient in their evaluation of the impact of the industry.

Furthermore, participants in gaming tend to be more likely to be supportive of its further development. The findings of this study are in line with the work of Vong (2008) which suggests that gamblers generally take more positive attitudes toward gambling development over time than nonplayers. In the context of non-casino gaming, most respondents who take part also gain satisfaction or utility by doing so. An earlier survey conducted in Guangzhou (Zeng & Zhang, 2007) shows that lottery buyers purchase tickets because it is a relatively long-term hobby (41.1%), to win money (32%), or to have some fun for a brief period (15.2%). Beyond this, familiarity with rules and principles may break down entrenched stereotypes about gambling activities and crime.

While there was a similar and positive relationship between gaming behavior and support in both cities studied here, gaming behavior played a more important role in support among the Hong Kong ($\beta=0.220$) sample than in Guangzhou ($\beta =0.096$). This may be because there are fewer types of legal gaming available in Guangzhou than in Hong Kong. Engagement in multiple forms of gambling in different venues may be associated with having more reasons for gambling, doing so with greater frequency, and greater monetary wins and losses (Franco et al., 2011). Therefore, individuals who have opportunities to take part in more varieties of gambling may be more likely to perceive its impact as strong and also to be inclined to have positive attitudes towards its

development. The results may also be explained by the fact that many Chinese treat gambling as a shortcut to obtaining wealth in the light of the significant economic growth (>9% per annum) the nation has experienced over the past 25 years (Liu, 2011). Accordingly, Guangzhou citizens may be more likely to want to pursue a path to rapid individual wealth.

A negative relationship was found in the Hong Kong sample between gaming behavior and perceived negative impacts, with the most relevant measurement items being those dealing with the environmental aspect. This may suggest that those involved in gaming are willing to overlook its negative impacts in exchange for the pleasure and other benefits brought about by the industry. In Guangzhou, no significant relationship was found between gaming behavior and perceived negative impacts. In recent years, the contradiction between traditional moral opposition to gambling and its actual prevalence among the Chinese people has presented a dilemma (Taormina, 2009). The findings of this research further confirm that the social aspects of gaming draw the attention of many Guangzhou residents. However, as well as the authorized lotteries, illegal gambling has proliferated in mainland China over the past two decades, with the amount of money illegally wagered coming to approximately 10 times the turnover of the officially sanctioned lotteries each year (Li, 2008). A number of social problems are

caused by illegal gambling which takes place in card and mahjong rooms on street corners, in underground casinos in the cities, unofficial lotteries in the countryside, and websites catering to Internet gamblers (Tse et al., 2010). Respondents in this survey may have regarded the problems of gaming as being due mainly to illegal gambling and not the permitted lotteries.

The current study shows that when measuring individuals' gaming behavior, items related to all forms of gaming (including going to a casino or playing mahjong or poker) were more effective measures of respondents' involvement. Nevertheless, social influences should not be ignored altogether, because many Chinese people regard socializing as a primary motive for gambling and social gambling (with friends and relatives) appears to be the commonest form of the activity in Macao (Fong & Ozorio 2005). These findings may reflect the public image of gambling as a social activity. Gambling is popular in Chinese communities, particularly during traditional festival occasions. It is possible that multiple forms of gaming may facilitate greater social interaction (such as chatting while playing mahjong and socializing on a trip to the casino) among gamblers, which may enhance subjectively positive feelings about the activity.

The results suggest that family members' gaming behavior also significantly affects

individual perceptions and attitudes, echoing previous findings that a major predictor of whether or not someone plays the lottery is the extent of its use by his or her own friends and family (Browne & Brown, 2001). Moreover, in the Chinese context, this result could be explained by the deeply rooted norm and value of conformity and collectivism that prevails in most Chinese societies (Wan et al., 2013). Although Hong Kong was a British colony for over 100 years, Chinese traditions still dominate its society. Historically, gambling is considered to be a form of social activity among the collectivistic Chinese (Lam, 2012). To Chinese people, gaming requires interaction, and participants can perhaps be described as “sociable gamblers” (Wan et al., 2013, p.12). For example, many Chinese people like to hold mahjong games at home so that they can play in groups and watch each other play. It is not surprising that they may find it difficult to say no to gambling if they perceive that their significant others would like them to join in with it as part of socializing. The role of family influence on gambling behavior has been discussed from the perspective of the social learning paradigm (Loo et al., 2008). Gambling behaviors and cognitions are significantly related to the cognitions and behaviors of parents, especially fathers. The influence of parental gambling cognitions on their offspring’s gambling behavior is channeled indirectly via the cognitions formed by the latter. There may be defined mechanisms of transmission

of gambling behavior in a family from one generation to the next, based on results from a study on familial influences and gambling cognitions (Raylu & Oei, 2004). As a result, even though someone might not be a regular player, if his or her family members like to take part in gaming activities, that individual is more likely to accept gaming.

6.4.5 Non-casino Gaming Studies: A Social Exchange Perspective

Social exchange theory provides a framework to examine the underlying relationships between the perceived impact of gaming, power, and support for gaming development. Homans (1974) proposes that if a particular situation has been actively rewarded in the past, the more similar a present stimulus-situation is to that occasion, the more likely the activity is to be repeated; furthermore, the more frequent the reward from another, the more frequently the activity will be performed (cited in Chadwick-Jones, 1976, p. 160) People bet on horse racing, lottery, and sports because they get economic and psychological satisfaction from doing so. Game theory represents the evaluation of an outcome which a person makes by whatever criteria he or she considers important (Chadwick-Jones, 1976). It is similar to the payoff matrix in social exchange theory. In other words, social relationships are influenced by the ratio of rewards and costs for each participant (Chadwick-Jones, 1976). The process of gambling is therefore a form of elementary social behavior, or an exchange of rewards (and costs) between

persons (Homans, 1974).

Over the last few decades, the question of whether or not gambling is a leisure activity has emerged as an important issue in related research. Those who agree with this view assert that gambling can offer various benefits, such as entertainment for tourists, job creation, and tax revenues (Walker, 2007). However, opponents of gambling stress the undesirable consequences such as increased addiction and criminality (Hing & Breen, 2001). Some studies ignore the pleasurable aspects of risking money on an uncertain venture, and instead focus on gambling as an addiction, a pathological compulsion, or as a masochistic desire to punish the guilty self (Saunders & Turner, 1987).

Generally speaking, gambling can be thought of as one of many recreational activities that provide leisure benefits. It should be thought of as a leisure activity only when it is derived from an intrinsic motivation based on the pure gambling experience rather than extrinsic motivation for a specific benefit like winning money (Chantal, Vallerand, & Vallières, 1995). Participating in gambling in order to obtain the intrinsic rewards of self-determination and fun can be a true leisure activity (Neighbors, Lewis, Fossos, & Grossbard, 2007). Gambling reflects the penchant for individual comparison so prominent in the leisure class framework (Veblen, 1899). Accordingly, to members

of the upper class within this hierarchy, gambling is an avenue of consumption.

Literature that focuses on the leisure and recreational aspects of gambling tends to emphasize its positive effects and to regard it as a positive leisure activity (Abt, McGurrin, & Smith, 1984). For example, because of its economic, social, and recreational benefits, some scholars maintain that communities remain supportive of the gambling industry in spite of latent problems with it (Aasved & Laundergan, 1993; Abbott & Cramer, 1993). Filby and Harvey (1989) assert that gambling should be considered as a leisure and recreational activity, as distinct from common conceptualizations which view gamblers as deviants.

Some people, however, have a tendency to seek more financial compensation, and for this tendency to worsen when they lose money. Someone in this situation is not engaged in a leisure activity but is simply gambling for its own sake.

The comparisons involved in assessing rewards and costs, as discussed under the social exchange framework, are important. A person with high rewards and high costs will have equal profits to those of a person with low rewards but even lower costs (Chadwich-Jones, 1976). If someone obtains high rewards from gaming activities, even if the cost is also high, he or she will still consider gaming to be a beneficial leisure

activity.

Because there are both positive and negative perspectives on gambling, research and effective management are needed to maximize the advantages and minimize the disadvantages. This study has shed light on the differences across two city-specific samples in terms of the antecedents of perceptions of the impact of non-casino gaming.

6.5 Theoretical Contributions

In considering the theoretical contribution of this study, it is necessary to firstly be clear about the nature of the term theory, which has been applied in very broad contexts. Consideration of the SEM analysis presented here should be based on the formal definition of a theory (Nunkoo & Ramkissoon, 2012) as “that body of logically interconnected propositions which provides an interpretive basis for understanding phenomenon” (Dann, Nash, & Pearce, 1988, p. 4). In this context, a theory comprises a system of constructs and variables (observed or approximated empirically) in which the constructs are related to each other by propositions and the variables to each other by hypotheses (Bacharach, 1989). When considering the theoretical contribution of this work, the postulates of the theory and the hypothesized relationships among the constructs should be explicitly discussed. Since the SEM models used in this research

were based on sound theoretical judgments, the study has achieved the purpose of theory testing and development.

6.5.1 Exploring Residents' Perceptions of the Chinese Gaming Industry

Most of the published research in this field has been conducted in western contexts, with this being the first formal academic study to compare perceptions of non-casino gaming among Chinese residents of two urban communities with different political systems. With previous studies having mainly focused on western experiences and practices, little attention has been given to the operation and style of gambling activities elsewhere. The present study, as a piece of hypothetico-deductive empirical research, has examined a relationship that has not previously been the subject of theoretical or empirical research, and hence contributes to the building and testing of theories (Colquitt & Zapata-Phelan, 2007). It can serve as a foundation for the testing of social science theories for the introduction of new concepts with a fresh perspective on non-casino gaming. The study has mainly focused on models based on social exchange theory by extending existing and multiple attempts to integrate the concepts of power, gaming behavior, and community attachment. It has confirmed the utility of the social exchange theory, which has been widely used in studies of gaming impacts to explain

residents' attitudes toward development. The findings of this study have generated fruitful insights into how these factors can be used to predict residents' support for non-casino gaming. The measurement scale developed in this work can also serve as a reference for future research related to gaming impacts in different areas.

6.5.2 Developing Gaming Impacts Assessment Models in a Non-Casino Context

With reference to Smith and Lee's (2010) taxonomy of theories, the theoretical contributions of the present study are associated with complex social science phenomena and can hence be considered as synonymous with model development. This study has examined urban residents' perceptions by adding three previously unexplored variables into an analytical framework and developing a validated instrument to evaluate residents' perceptions of the impact of non-casino gaming. In terms of theory testing, the hypotheses tested in this study were grounded in the literature on the impact of gaming, re-contextualised to consider non-casino gaming. The model and measurement scale have been tested in two representative cities in China and the results compared. According to Anderson and Gerbing (1988), the assessment of construct validity is a critical step in theory development. With the development of a monitoring framework for use in the low-impact gaming industry, this research has laid a

foundation for future development of gaming impacts theory. Each of the specific contributions of the study is reviewed in the following sections.

6.5.3 Extending the Applicability of the Social Exchange Theory to Non-casino Gaming

This research has contributed to knowledge of the impact of gaming on communities by applying the social exchange theory to understand residents' perceptions of its effects. Following the mainstream literature on casino gaming, it is believed that the models developed and presented in this study can better explain residents' attitudes. The study also provides a rationale and testing framework for more comprehensive social exchange models. The social exchange theory, which has probably been the most widely used social psychology theory in hospitality and tourism studies between 1999 and 2012 (Liang, 2014), has been criticized for lacking theoretical sophistication (Ward & Berno, 2011). One of its limitations is the relative lack of attention to issues of cultural context and cross-cultural variations in the norms and rules that regulate social exchanges (Zafirovski, 2005). Representing one fifth of the world's population, the Chinese are the largest ethnic group in the world. However, limited work has so far been done to develop a measurement scale and model through which to assess the impacts of gaming on Chinese populations. Thus, the study has examined a sample

from an ethnic population that has so far been inadequately studied.

The results of this study are somewhat ambiguous in terms of support for the social exchange theory. For the most part, it has been supported, insofar as the findings have identified a relationship between perceptions of positive impact and support for gaming development. However, the results have also shown that perceptions of negative impacts were positively related to support for gaming in Hong Kong but not in Guangzhou. This finding is particularly interesting in that it is not entirely aligned with the predictions of the social exchange theory. Although this study has generated falsifiable predictions, testing may show complexities or irregularities in the phenomena being studied (Smith & Lee, 2010). Because the activity of interest may involve elements not fully accounted for by the theory, the failure to generate an accurate prediction is not a sufficient condition for rejecting that theory. This study adds to the growing body of work suggesting that while the social exchange theory may be a potentially useful framework, it may also be regarded as incomplete in terms of its applicability to understanding the response of communities to gaming activity.

6.5.4 Examining the Influence of Power on Residents' Perceptions

The finding that power plays a role in forming perceptions of impact and attitudes toward gaming has helped to generate the large body of social exchange research that

we have today, and has significant theoretical implications. The concept of power is central to the social exchange theory (Emerson, 1962). Although previous work has shown that the theory is useful in understanding casino gaming, such studies have not included power, although doing so actually improves the explanatory ability of the model significantly. The concept of power used in this study refers mainly to the political involvement of the residents in the two cities studied and is a relational concept with two central features: firstly, power is treated explicitly as relational, and not simply the property of a given actor, and secondly, it is viewed as potential power derived from the resource connections among actors which may or may not be used. Developmental and operational patterns in China can ultimately be summarized as the representations of their power relations, which are determined by the actual possession of the right to instigate tourism development and operations under the general framework of a communal approach (Ying & Zhou, 2007). This study has included power in the models constructed and therefore provided a more in-depth understanding of the perception of Chinese societies about gaming.

6.5.5 Understanding the Effect of Community Attachment on Residents' Perceptions

This study has also demonstrated how respondents' sense of community attachment

affected their response to the variables covering impact and support in both Hong Kong and Guangzhou. Although attachment-related concepts have been developed and used in the tourism literature to reflect the affective, cognitive, and behavioral domains of attitudes, limited research has examined community attachment in gaming contexts. Furthermore, little research so far has compared how community attachment influences perceptions in two different settings. The findings of this study show how a strong sense of rootedness and belonging to a community can inform individual responses to gaming, especially when the activity has been embedded in the community for a long time. In both cities studied here, an individual's social participation and integration into community life strongly affected his or her attitudes towards the local gaming industry.

6.5.6 Verifying the Role of Gaming Behavior on Residents' Perceptions

A further theoretical contribution is the association identified between gaming behavior and residents' attitudes. It is noteworthy that gaming participation emerged as having a significant role in generating support for the non-casino gambling industry. In this sense, this study has pioneered a new direction in the gaming literature. Individuals' gaming behavior has been found to be one of the predictors of perceptions of impact and level of support for development. Although existing studies have discussed

differences between the attitudes of gamblers and nongamblers in the context of casinos, no explanations have been provided for the specific influences of gaming participation on the perceptions of the general public. Few studies so far have attempted to compare gaming behavior in two different geographical settings. Gambling (or gaming) is the product category with the highest percentage or penetration of consumers (gamblers) and frequency of purchase in the industries' markets (Mizerski, 2013). Prevalent forms of non-casino gambling (such as lotteries) may be undertaken more frequently than casino gambling by local patrons. Understanding the influence of consumer behavior on perceptions remains an important goal of research in this area. Therefore, examining the relationship between attitudes and behavior extends models of casino gaming to provide a more generally useful theory.

6.5.7 Conducting Multiple Case Study in Gaming Impacts Research

The study has contributed to the gaming literature in the sense that it has compared the perceptions of residents from two different cities located near the Pearl River Delta. Guangzhou, one of the richest cities in China (Zeng & Zhang, 2007), is the economic and business center of South China, while Hong Kong is a world-class financial, trading, and business center as well as Asia's gateway to the world. As the first empirical study to have adopted such a comparative logic, it provides a solid foundation for subsequent

work in related fields. Some research findings were confirmed in two study sites. For example, the positive economic impacts was not strong as positive social impacts. While the sample was more diverse than most, the results appear to have reinforced some of the existing theoretical perspectives in the field of gaming impacts assessment.

However, respondents from the two cities included in this study also expressed different views on certain variables, which is likely to be due to variations in cultural traditions, lifestyle, gaming behaviors, and of course local political administration between the two locations. Since this is the first empirical study to have adopted such a comparative logic, it provides a foundation for subsequent work in related fields. While the sample was more diverse than most, and the study has embraced an impact measurement method that is somewhat different from similar work in this area, the results appear to have reinforced some of the existing theoretical perspectives in the field of gaming impacts assessment. As gaming gains popularity worldwide, the findings of this research may also have implications for cities elsewhere.

6.6 Practical Contributions

A politically mature, economically powerful, and culturally diverse China can be seen as the promised land for tomorrow's global gaming industry (Gu, 2012). As the

success of gaming in many regions is dependent on the support of the local community, it is vital that its impacts on residents is understood, monitored, and managed. It is necessary to understand the reasons why certain perceptions may form, and the drivers behind residents' gaming behavior, if appropriate management strategies are to be put in place. The insights from this study can inform government policy- and decision-making processes and also have important practical implications for local authorities and gaming operators in the industry in Hong Kong, Guangzhou, and other cities. The results can also be applied to the field of tourism planning and marketing. Effective management requires information about human behavior and attitudes. The contributions of this gaming impact study can be thought of as principles that can help guide the management, planning, and marketing activities of tourism and recreation professionals.

This section summarizes the practical value of the models generated by this study in guiding recommendations aimed at benefiting the gaming industry as well as public policy. Successful development strategies rely to a large extent on the active support and involvement of all stakeholders. This ultimately depends on an understanding of both the benefits and costs of gaming development (Zhou et al., 2013). Understanding the variety of attitudes to gambling and the diversity of gambling experiences among

participants is a first step to developing suitable stakeholder management strategies.

The heterogeneity of jurisdictions also needs to be acknowledged when considering the practical implications of the findings. According to the “one country, two systems” policy, mainland China uses the socialist system, while Hong Kong as a special administrative region of China retains its own capitalist economic, political, and legal systems. In consideration of these differences, the practical implications are discussed separately for the two sites.

6.6.1 Implications for the Hong Kong Government and Jockey Club

Several managerial implications have emerged from the findings from the perspectives of the Hong Kong government and the Hong Kong Jockey Club. The urban districts of Hong Kong have been fairly well developed for non-casino gaming. The challenge is to strike a balance between regulation and outright prohibition, and to achieve an optimal mix of further development and maintaining community support.

First and foremost, the results of this study provide a reference point for future development of the gaming industry in Hong Kong by highlighting the importance of embracing local residents’ preferences and adopting appropriate gaming tourism strategies accordingly. By examining residents’ perceptions of local authorized gaming, the conclusion can be drawn that tourism attractiveness is not the dominant function of

non-casino gaming. Though the major customer base for Hong Kong gaming is the local metropolitan market, one of the major selling points of gaming activities in Hong Kong, such as betting on horse racing, may be the potential attraction for international tourists. The strengths of Hong Kong's tourism lie in its well-established image as a highly efficient cosmopolitan city and an aviation hub for the Far East. Furthermore, Hong Kong's image shift from an international to a Chinese city after the handover of sovereignty in 1997 may become a weakness that could reduce its appeal to international tourists (Hsu & Gu, 2010). Horse racing, which has been considered as a major leisure and tourism product in North America, Australia, South Africa, and South Korea, has a positive impact on destination image and tourists' intention to visit (Jeong, Kim, Ko, Lee, & Jeong, 2009). Learning from successful examples elsewhere, Hong Kong could promote this spectator sport as a new tourism product. Horse racing is linked to leisure travel that draws visitors from mainland China as well as other countries to attend events. At the same time, community concern might also be turned to the integration of gambling into a popular and healthy activity, namely sport. In recent years, various segments of the sports industry, both spectator and participative, have experienced soaring global growth. At the same time, the uncertainty and popularity of sports also make the connection between sports and gambling inevitable

(Koning & Velzen, 2009). Many popular forms of gambling, such as lotteries, racing, charitable gambling, and non-casino devices, cater not only to local markets but also to tourists from other regions.

Furthermore, because positive perceptions among residents are directly associated with community support for gaming, administrators should communicate the benefits of gaming through different marketing techniques and channels to secure citizens' collaboration and support. As an industry that has a long tradition, but no obvious intrinsic need to exist, gaming is reliant on its ongoing ability to capture revenue. In other words, the future of gaming rests on the ability of its administrators to capture revenue and use it to support facilities in the host community which will benefit industry participants. In order to justify the further development of gaming in Hong Kong, operators should not only provide employment opportunities but also other benefits to the community in the areas of education, environmental protection, and the promotion of responsible gambling.

Furthermore, facing an increasing politicized community and more complicated social and economic settings, the Hong Kong government will require to make more effort to work collaboratively with stakeholders in order to gain governing capacity and legitimacy. Local leaders also play an important role in communicating with

policymakers about the needs of the entire community. The government needs to act proactively and use more creative means to communicate its plans to the public. As professionals and local elites are generally active in advocating for their needs, they could be invited to play a greater role in the gaming planning process to contribute their talent and ideas. Gaming planning authorities should be more proactive in initiating genuine dialogue with local residents by conducting regular meetings, seminars, and workshops in the community. Such a two-way communication process will be helpful in clarifying policies, addressing grievances, and identifying problems that require attention. Keeping residents informed about the potential positive outcomes of gaming development may sharpen their awareness of the benefits and increase their support. Equally important is the possibility that stronger community attachment will enhance public views of the positive impact of sustainable gaming development and generate support among residents. Ultimately, the collaborative involvement of governments, industry, and individuals will determine the effectiveness of gaming programs in Hong Kong.

Last but not least, there should be a planning and design agenda of gaming in Hong Kong. The ultimate success of any community in working towards an improved quality of life for its residents through the gaming development process depends upon careful

community planning, effective implementation, and constant reassessment (Long, 1996). It is recommended that gaming implementers should emphasize quality of life for Hong Kong residents. Environmental problems should be resolved by residents and government working together on measures to improve traffic circulation and community cleanliness, particularly on racing nights or over weekends.

6.6.2 Implications for the Government of Mainland China

The findings of this comparative study of gaming sites in can provide more useful information that policymakers can use in preparing and monitoring policies and strategies related to gaming industry, especially for mainland China. Using the results of this research, mainland China can learn from Hong Kong's successful practice while consider local current situation.

Mainland China has been, and continues to be, undergoing tremendous economic growth in most areas. The lottery needs to be understood within the context of this almost magically rapid economic growth. The lottery industry in mainland China has experienced huge success over a short period of time. However, although it has been proven to significantly benefit society, its management remains immature. Problems such as the assigned prize results affecting the sale price and cheating have frequently occurred because of the disorganized administration of the lottery market. Based on the

results of this study, several recommendations can be made to the Chinese government in terms of the future administration and regulation of the gaming industry.

Firstly, the government should make more suitable laws and regulations about lottery, and try to control illegal betting more effectively. Gaming control involves the adoption, interpretation, and enforcement of laws governing how persons may participate in gambling transactions (Cabot, 1996). To tap into the positive effects while minimizing the negatives, proactive measures must be adopted by the government through legislation and policies. In mainland China, a clear regulatory regime that sets out the framework for the lottery industry will be the basis of sustainable future development. Before 2009, the State Council of China had adopted the *Regulations on the Administration of Lotteries*, which stipulates some aspects of lotteries such as distribution, sales, announcement of results, and fund management. However, a new lottery law has been under discussion for several years but has still not entered the legislative process. Compared with the rapid development of the lottery industry, China's lottery administration laws are now out of date, which will block healthy development. Considering the lack of efficient legal supervision of the lottery and the temptation to win the top prizes, a number of frauds have occurred in sales and distribution in recent years (Huang, 2012). Without effective laws, China can neither

promote the development of the lottery with assurance, nor effectively address the problems facing it. The lack of efficient lottery laws and regulations further facilitates underground betting and illegal lotteries, leading to criminal violations. Forms of gambling that are more likely to be delivered by governments, such as lotteries, have more regulatory and administrative costs (Williams et al., 2011). If the Chinese government hopes to introduce secure and reliable lottery systems to facilitate the development of the industry, new laws should be enacted to lay a solid foundation for future innovation and development.

Secondly, addressing transparency would help reinforce public confidence in the legal lotteries. Gaming operations must maintain a clean image in China in order to remain in operation without government intervention. The organizers should avoid involvement in prostitution and money laundering. In the early 2000s, the illegal lottery experienced its fastest period of growth when public distrust of the legal lotteries peaked following a number of scandals. Attitudes to lotteries amongst residents of mainland China are very much influenced by their level of power. Providing annual reports on lottery operations may increase trust in the administrators. However, only 9 of 34 provinces and municipalities provide even brief information about the management and distribution of their lottery income. The licensing and administration

of the legal lotteries in China by (semi) governmental agencies is often shrouded in mystery and is perceived by the general public as corrupt. The transparency of these lotteries, which operate in the name of charities and other public funds, is of particular concern. At the same time, China should encourage private investors to become involved in the lottery industry and break the state-run monopoly. Real competition in the Chinese lottery industry may decrease the likelihood of corruption and match-fixing scandals as seen in recent years.

Thirdly, the findings of this research suggest that positive attitudes among mainland China residents toward the development of gaming tourism, and the performance of the government in managing the industry, should not be exaggerated. For communities with a rich Chinese cultural context, development strategies are commonly planned and decided by local authorities, and the people are likely to support whatever is decided. Strong opposition from local residents is rare unless their personal interests are directly affected (Chen, 2011; Zhou, 2010). The traditional Confucian culture in China predisposes its citizens to follow and respect the mainstream and consensus viewpoint, as well as to maintain respect for authority and not challenge it or show too much direct opposition. In tourism research, it is often remarked that any discussion of activity in China is never far removed from a consideration of government (Gu & Ryan, 2008) and

this is equally true in this case. It is not a surprise that gaming in China is a government business developed in the name of enhancing welfare and sports participation. The more attentive leaders are to residents' concerns, the more support they are likely to receive for gaming development. Nevertheless, as professionals and local elites become more active in advocating for their needs, they could be invited to play greater roles in the planning process to contribute their talents and ideas. Through the interactive processes of citizen education and involvement, more and more residents could enhance their knowledge and sense of engagement, which could in turn increase their support for the industry.

At the same time, the government could involve local universities and higher education institutions in their policymaking mechanisms to help build consensus. As the profits from the lottery continue to grow, charity will be given more weight. Dedication to welfare services in China is what originally stimulated the development of the lottery industry. Compared with other countries, public services in China were poor. Money was needed to help improve services such as public health insurance, and access to facilities like libraries and museums. More effort should be made to create a viable non-casino gaming industry that prioritizes community participation and addresses citizens' concerns about quality of life.

Fourthly, the lottery has inevitably caused some citizens to worry, even if the stated purpose of developing the industry has been to capture the underground gambling market. Approximately 2.5-4.0% of adults in the general population in China meet the diagnostic criteria for pathological gambling, which is a higher rate than is found in other jurisdictions (Loo et al., 2008). Social problems do arise that are similar to those caused by other gambling activities. Participating in the official lotteries and engaging in other forms of gaming, such as playing mahjong and card games, are factors which also have strong marginal effects on communities.

The Chinese government has not yet addressed the issue of problem gambling. There may also be concerns about the capacity of gambling promotion to trigger gambling in new and existing markets, including people who already have problems. There is thus a need to ensure vulnerable groups, such as young people and the elderly, are protected from the adverse effects of lottery gambling. Properly managing the harmful effects of lotteries such as compulsive or pathological gambling and addiction will give the sector a more wholesome image, which will also have a strong impact on levels of support. More specifically, the concept of responsible gambling currently adapted by many casinos could equally be applied to lottery operations. Responsible gambling refers to having policies and practices designed to prevent and reduce the potential harm

associated with the activity (Blaszczynski et al., 2004). Residents are more likely to change their attitudes, interests, and opinions about gambling if they are made aware of the formation of a responsible gambling strategy which seeks to minimize its harmful effects for both customers and the community in general (Hing, 2003). High quality and responsibly produced products should be promoted in order to maintain the healthy development of the lottery market, as well as reducing the incidence of gambling-related harm at the individual, group, community, and social level.

Mainland China is already in the experimental stage of gaming ventures. In January 2010, the State Council of China encouraged Hainan to explore and develop parimutuel and instant sports lotteries for large international events, in an effort to develop the island province into a global tourist resort. Hainan has started exploring ways to introduce betting-type lotteries for major international competitions. Given its special requirement for cooperation, unlike traditional businesses, the accelerated growth of the gambling industry could not be accomplished without political support (Bernhard, Futrell & Harper, 2009). The central government initiative gave the province more room to try new approaches, with new lottery schemes already being launched and expanding in mainland China. In order to reduce or eliminate such negative influences, China was faced with a decision about whether to legalize casinos in order to protect

its profits. However, it is currently all but impossible to envisage a casino or horse-racing track being built in China, given the special nature of its economy and the limitations on the feasibility of casino gambling being legalized within a short period. The games may be revised or redesigned, and more restrictions imposed on players and bets.

Despite the impressive growth of the sports and welfare lotteries in recent years, China's regulated lottery gross win (that is, total stakes less prize money) as a proportion of gross domestic product (GDP) is extremely low compared with other countries. This lack of market penetration by regulated products is driven by a number of factors, including constraints on distribution (that is, low numbers of shops *per capita* and the absence of a legitimate remote channel), gaps in the range of certain products (such as sports betting) and payout ratios which are not high enough to compete with the illegal market. This last issue is particularly relevant to products with higher play frequency such as sports betting, virtual sports betting, scratch cards, and so on. The range of lottery products in China should be further developed, except for the rapid-draw lotteries (similar to slot machines).

CHAPTER 7. CONCLUSION

7.1 Overview of the Study

With the rapid development of gaming in an increasing number of countries and regions, the industry has become an important topic in the leisure and tourism research. In the gaming research literature, particular attention has been paid, especially over the last two decades, to residents' perceptions of, and attitudes toward, the impacts of gaming (see for example Chen & Hsu, 2001; Hsu, 2000; Vong & McCartney, 2005). However, more research is needed on forms of gaming other than casinos, and in nonwestern jurisdictions. From that perspective, this research has bridged the knowledge gap by conducting a comparative study of residents' perceptions of non-casino gaming.

The thesis has been presented as follows. Chapter 1 introduced the background to the study, outlined the research objectives, and defined the research problems. Chapter 2 began with an extensive and in-depth literature review and theoretical discussion covering impact studies in the tourism, leisure, and gaming field and research on the social exchange theory. The chapter also offered a critical overview of studies applying

the social exchange theory in the context of gaming as well as work on presenting theoretical extensions to the current models. On the basis of this review, a conceptual framework for the study was developed and the relationships among the research constructs were hypothesized. Chapter 3 outlined the methodology and research design adopted in this study, as a basis for discussing the approach taken to data analysis. It went on to describe the development and validation of the measurement instruments used to collect data on residents' attitudes and perceptions. Surveys were conducted in Hong Kong and Guangzhou to test the model empirically, with 626 and 694 questionnaires returned from each location.

Chapter 4 presented the results of the main survey and reported on a series of statistical tests of the effects of different respondent characteristics on perceptions. After addressing issues related to missing data, outliers, and normality, descriptive statistics were calculated to understand the support for non-casino gaming in the two cities. This was followed by a detailed analysis of the influence of residents' demographic characteristics on their level of support, and how their community attachment, gaming behavior, and power affected their perceptions of the impact of gaming. Chapter 5 reported on the specification, validation, and statistical testing of the measurement and structural models. It was shown that the final structural models and

constructs describing the data from both cities demonstrated satisfactory fit, reliability, and validity. Six of the nine hypotheses were supported. Chapter 6 discussed the findings in the context of the research objectives and compared them with existing work to highlight the similarities and differences, and shed light on the distinction between casino and non-casino gaming. The point was made that the association of non-casino gaming with public welfare, charity, and education may soften people's attitudes towards gambling in general and weaken the stigma of participating in such activities. The chapter also highlighted the theoretical and practical contributions made by the study.

This chapter now sets out the conclusions of this thesis in relation to each of the research objectives. After presenting an overview, the main findings are reiterated. The limitations of the study are also discussed and recommendations made for future research.

The findings of this study offer valuable evidence in support of the proposed structural model and the hypothesized relationships. According to Ragin, and Zaret (1983)'s criteria of comparability, the two models are highly comparable, reliable and valid because of (1) units of analysis; (2) conception of causality; (3) conception of adequate explanation; and (4) logic of analysis. The models are structurally similar in

terms of the numbers of latent variables, as well as causal relationship between variables. Moreover, the measurement items are exactly the same regarding each latent variables. The final models are conceptual consistent with the proposed model.

To summarize, the perceived positive impact of gaming, comprising a sense of pride, social opportunities, and entertainment, was the most powerful antecedent of support in both Hong Kong and Guangzhou. Perceived negative impact, a more controversial variable, was approached differently by respondents in each of the two cities. In Hong Kong, the negative environmental aspect of gambling had a negative and direct effect on support, while in Guangzhou there was no significant relationship between these two variables. Power, as a central component of the social exchange theory, was positively related to perceived impact in both cities, with a stronger impact in Guangzhou where it directly influenced level of support. As hypothesized, gaming behavior, which is of particular importance in the context of non-casino gaming, had a direct and positive relationship with perceptions of positive impact and support in both cities. However, its negative relationship with perceptions of negative impact was only supported in Hong Kong and was not significant in Guangzhou. Community attachment had a strong effect on perceived positive impact in both cities. It directly and positively influenced level of support in Hong Kong, and directly and negatively affected

perceptions of negative impact in Guangzhou.

7.2 Achievement of the Research Objectives

The findings of this study provide support for the proposed model which specifies the relationships among a number of constructs in order to understand residents' perceptions of non-casino gaming in Asian urban communities. The results suggest that the measurements of each latent construct are robust and exhibit very satisfactory fit indices.

As outlined in Chapter 1, the study had four research objectives. This section revisits these objectives and compares them to the findings to confirm they have been satisfactorily achieved.

The first objective was to understand residents' overall attitudes to the presence of non-casino gaming in their communities and the positive and negative impact they perceived. General levels of support for gaming were assessed, with the results indicating that respondents were inclined to be skeptical about the gaming industry. Respondents in Hong Kong paid more attention to the positive social and negative environmental effects, whereas the Guangzhou participants were mainly concerned about both positive and negative social impact. The first objective was therefore

achieved.

The second objective was to explore the underlying dimensions of residents' perceptions of non-casino gaming in Hong Kong and Guangzhou. Through a rigorous scale development procedure, eight domains were identified, namely residents' support for non-casino gaming, their perceptions of its positive and also its negative social impacts, their own gaming behavior, their perceptions of its negative environmental and economic impacts, community attachment, and power. Therefore, the second objective was also addressed.

The third objective set out to compare the similarities and differences between respondents in the two cities. Group difference methods using independent samples t-tests, ANOVA, and MANOVA were used to examine the two datasets. By using SEM to analyze the interrelationships among the latent variables and their observable manifest variables, the distinguishing characteristics of the Hong Kong and Guangzhou dataset were also identified and presented. Accordingly, the third objective has been achieved.

The fourth and final objective was to develop an analytical framework to describe and explain the causal relationships between the factors affecting residents' attitudes.

As reported in Chapter 5, the modeling process was carried out in several phases. The result of the EFA identified eight latent variables related to respondents' perceptions. A full model was tested and then refined by deleting insignificant causal relationships one at a time to reduce complexity. The simplified model had a better fit to the data than the initial and full model. The final models for both cities included more significant relationships than the first model due to the removal of the suppressed effects of the insignificant variables. Finally, the overall structural model was specified and used for hypothesis testing and the relationships between the dimensions were analyzed. Hence, the fourth objective was achieved.

In conclusion, all the questions associated with the research objectives have been satisfactorily answered and the objectives fully achieved, enabling the critical factors in research on community responses to gaming to be addressed.

7.3 Limitations of the Study

There remain a number of limitations to the study that must be acknowledged, which also provide a platform for future research. The first is methodological in nature and inherent in the use of survey research. The methods used to conduct empirical research may have inherent limitations. Surveys often appear superficial in their coverage of

complex topics (Barbie, 2012). This study has relied heavily on quantitative data. While this form of data can add significantly to our knowledge in this field, standard questionnaire items often represent the lowest common denominator in terms of assessing people's attitudes, orientations, circumstances, and experiences. Surveys are in some senses inflexible and using them typically requires that the study design remains unchanged throughout. Although surveying a large number of residents to collect their views on the impacts of gaming has had a number of advantages, additional insights could be gained by using qualitative methods as well.

Moreover, the SEM methodology also has its limitations, in that "SEM assumes free correlations between all exogenous variables in a structural model... [and]...it cannot test the directional relationship between each pair of exogenous variables even if causal relationships exist among them" (Huang, 2007, p. 280). There is also much debate on the inconsistencies of the different fit index cutoff values (Schermelel-Engel & Moosbrugger, 2003) and the undeveloped nature of SEM applications in general (Anderson & Gerbing, 1988; Kaplan, 2000).

A second limitation concerns the measurement of impacts. Although the reliability of the impacts scale developed in this research was satisfactory, the scale validation process can always be improved. The items used here were mainly drawn from previous

gaming studies, and a large-scale process of item generation was not undertaken. While the measurements used have been tested in previous studies, they may or may not have provided a suitably stringent assessment of impacts in this piece of work.

Thirdly, only cross-sectional data were collected in both cities. In other words, the survey has provided a snapshot of what was happening at a particular point in time, but was unable to capture trends or changes in these variables. The ideal research design for assessing the social impacts of any form of development is a longitudinal panel study beginning several years prior to the project commencement and continuing for several years afterwards (Purdue et al., 1999). The impacts of gaming as assessed by the community is various according to the time at which the study is performed. It is therefore important to revisit the communities at different stages to determine if residents' perceptions of gaming impacts have changed.

The fourth limitation lies in the selection of cases. The survey was conducted in Hong Kong, an international and cosmopolitan city, and Guangzhou, one of the richest cities in mainland China. The findings may therefore represent the views of those lottery players who have higher disposable incomes and more education than people in other parts of China. Thanks to the economic reforms, China's wealth and the personal incomes of its citizens have increased significantly. Nonetheless, the impacts of the

economic reform has been uneven across the country. People living in the eastern and southeastern coastal provinces are more independent of central government because of their economic power (Gu, 2012). While these provinces have been the main beneficiaries of the economic reforms and have been developed in recent years, the inland provinces are still relatively poor. People living in smaller cities and inland areas may behave differently and have different attitudes towards the research topic. To increase the generalizability of the findings, future studies could target residents in the second-tier cities of mainland China.

Finally, this study is less directly related to the tourism or hospitality industry because of the inherent local-originated nature of non-casino gaming. Compared with casino gaming, the non-casino gaming researches are doomed to bind up with local community.

7.4 Future Research Directions

This exploratory study is only a first step toward understanding residents' perception of non-casino gaming in urban communities, and much remains to be done to explore the topic further. There are several potentially useful extensions of the work done in this study, and a need to continue conducting theory- and model-driven research. Future

research looking at attitudes towards gaming development should include new locations and theoretical perspectives. The following are some suggestions for possible research directions for the immediate future.

Firstly, it is strongly suggested that in order to gain a more comprehensive understanding of residents' attitudes, qualitative methods be used alongside surveys. Given that it falls within the strand of research related to the social impacts of tourism, the next stage of the gaming impacts research should focus on a qualitative approach. For instance, in-depth interviews could be conducted with residents and community leaders to elicit their detailed views on the impact of gaming on the community. In-depth interviews "satisfy the need to collect rich data and offer a voice to the researched" (Tribe, 2010, p. 8), and also allow researchers to "discover the meanings that participants attach to their behavior, how they interpret situations, and what their perspectives are on particular issues" (Woods, 2006, p. 2). Future studies should be less structured and constrained to enable real, rich, and deep data to be collected. Qualitative interviews with key informants in the community would enable researchers to capture a greater insight into the issues. Stakeholders who might be involved in such work could include gaming experts and operators, government planning officials, local residents, and professional bodies and interest groups.

Secondly, the moderating effects of residents' characteristics on perceived gaming impacts and gaming industry support can be tested by more sophisticated method such as multi-group approach of Structural Equation Models. In this research, ANOVA (MANOVA) were used to compare effect of moderators (gender, age, level of power etc.) on dependent variables, which made the author had chances to look at the moderation effects and address the research objective. However, researcher may not only assess moderating effects significant or not, but which one is more significant. Structural Equation Model is a more elaborate approach, which can be used for future researches.

Thirdly, future research may need to collect and investigate data from communities over several years in order to better understand this model of support for non-casino gaming development. It would be useful to conduct a longitudinal study looking at such support among communities. Given that similar studies carried out at different times are likely to yield different results, a longitudinal study could shed more light on the development and improvement of gaming operations in China over time. Furthermore, if gambling opportunities are expanded in future (such as casino gambling, National Basketball Association matches, or more race meetings), further surveys should be conducted to gauge the prevalence of excessive gambling and to identify the

involvement of potentially vulnerable groups.

Fourthly, research on the impact of gaming could be extended to gambling via the Internet, mobile phones, and interactive television. The advances in third-generation networks and handheld technologies in recent years has resulted in a number of new mobile innovations being pushed out to the market, with mobile gaming becoming one of the most promising and potentially profitable services. It has been noted that Asian users, particularly the Chinese, seem to have an even stronger preference for using hedonic mobile services to play games (Liu & Li, 2011). The rise of mobile gaming has the potential to radically alter how people perceive their leisure opportunities, making gaming available regardless of time and location. On the other hand, modern gambling is a very profitable business with many different and varied new ways to take part in gambling activities being offered. The rise in Internet gambling activity has been very rapid (Griffiths & Barnes, 2008). In China, while traditional forms of gaming have been developed to a certain degree, online and phone gambling are the current growth areas. In mainland China in particular, the lotteries have thrived due to their attractiveness and the development of technology. Various methods of playing offer people more entertainment for a higher profit. A number of new lottery products have been developed as a result of new technology. Games such as Two Color Ball, 3D, and *Qi*

Cai Le were immediately popular, and the new football, basketball, and other Sports Lottery games have also been very successful. Electronic gambling machines (EGM), marketed in the high-frequency lottery category and referred to as online lottery terminals, are now part of the Chinese landscape and are even more numerous there than in Macau (Papineau, 2013). Recent data suggests the prevalence of pathological gambling is higher among Internet than offline players (Jackson et al., 2008). Future growth of recreational participation in gaming activities and the resulting revenues will be derived from increased acceptance by younger and nontraditional segments of the market who have been conditioned to the excitement of electronic games and media. The introduction of gambling activities on the Internet may have different structural characteristics from traditional gaming because of two situational changes, namely the bringing of gambling activities into the home and workplace environment, and their easy accessibility to anyone with an Internet connection and a means of making electronic payment (Griffiths, 2003). Therefore, it will be necessary for future research to explore the effects of the Internet on gambling attitudes and the behavior of individuals.

Fifthly, there may well be differences between the perceived impacts of gaming and actual changes in the community. It is recommended that future studies document the

actual social and economic impacts of non-casino gaming. For example, such work could estimate its economic impacts in Hong Kong using an input-output model by summing the total impacts of gambling visitor expenditure, consumer surplus, tax revenue, and charitable contributions. Quantitative and objective measures could be used to assess the direct impacts of non-casino gaming development (such as changes in crime levels, job growth, infrastructure development, increases in community revenues, and so on) and future studies could also evaluate how these consequences affect quality of life among the affected residents.

Finally, there are often differences between community groups in different socioeconomic circumstances, in terms of their views of the benefits and detriments associated with the gaming industry (Chhabra & Andereck, 2009). The perceptions of specific groups of residents could be investigated. For instance, as 8.8% of lottery ticket buyers in Guangzhou are retired, it may be worthwhile to examine the views of retired persons and senior citizens about gaming in mainland China. In Hong Kong, although the prevalence of pathological gambling in the adult population seems to be stable, disordered gambling among young people is becoming more of an issue (Wong, 2011). At the same time, understanding tourists' perceptions of horse racing, the Mark Six lottery, and football betting when in Hong Kong would be valuable in helping the

government develop non-casino gaming products as tourism attractions. The present study has examined residents' perceptions of non-casino gaming, but the perceptions of tourists have rarely been investigated (Lam & Vong, 2009). Closing this research gap would provide valuable information for tourism planning and strategy development. In the future, non-casino gaming products and services will gain substantial exposure to large customers through its combination with sports, festivals and events, and also lead the research more relevant to tourism industry.

Appendices

Appendix 1. Profile of Respondents in Pilot Study of Hong Kong(N=159)

Profile category		Number of questionnaires	Percentage (%)
Gender	Male	77	49.4
	Female	79	50.6
Age	18-25	84	52.5
	26-35	16	10.1
	36-45	16	10.1
	46-55	25	15.7
	56-65	10	6.3
	66 or above	4	2.5
	Marital status	Single	95
Married		55	34.6
Other		1	0.7
Education	Primary and below	12	7.7
	Secondary/Sixth Form	22	14.1
	Diploma/Certificate courses	13	8.3
	Bachelor Degree	99	63.5
	Master Degree	8	5.1
	Doctor Degree	2	1.3
Occupation	Manager or administrator	8	5.0
	Service or sales worker	19	11.9
	Civil servant	5	3.1
	Professional	20	12.6
	Clerical worker	8	5.0
	Unskilled worker	1	0.6
	Skilled worker	3	1.9
	Self-employed	2	1.3
	Housewife	2	1.3

	Student	81	50.9
	Retired	4	2.5
	Other	1	0.6
Monthly Household Income	less than 5,000	35	22.0
	5,000-9,999	14	8.8
	10,000-24,999	56	35.2
	25,000-49,999	30	18.9
	50,000-99,999	14	8.8
	more than 99,999	6	3.8

Appendix 2. Profile of Respondents in Pilot Study of Guangzhou (N=191)

Profile category		Number of questionnaires	Percentage (%)
Gender	Male	99	51.8
	Female	92	48.2
Age	18-25	76	39.8
	26-35	61	31.9
	36-45	32	16.7
	46-55	12	6.3
	56-65	7	3.7
	Above 66	3	1.6
	Marital status	Single	101
Married		72	37.7
Other		18	9.4
Education level	Primary and below	7	3.7
	Junior high school	29	15.2
	High school/Vocational School	92	48.2
	Bachelor degree	54	28.3
	Master degree	8	4.2
	Doctoral degree	1	0.5
	Occupation	Manager or administrator	18
Service or sales worker		36	18.8
Civil servant		3	1.6
Professional		4	2.1
Clerical worker		17	8.9
Unskilled worker		6	3.1
Skilled worker		19	9.9
Self-employed		37	19.4
Housewife		8	4.2
Student		31	16.2
Retired		7	3.7
Other		4	2.1
Monthly		Less than 2,001	34

Household	2,001-4,000	67	35.1
income(in	4,001-8,000	50	26.2
RMB)	8,001-12,000	27	14.1
	12,001-16,000	10	5.2
	More than 16,000	2	1.0

Appendix 3. Univariate and Multivariate Normality Test Result (Hong Kong, N=608)

Construct/ Indicators	Skewness		Kurtosis	
	Statistic	C.R.	Statistic	C. R.
Support level for non-casino gaming				
Non-casino gaming is one of the most important industries for GZ(HK).	-.146	-1.474	-.480	-2.424
Non-casino gaming help GZ(HK) grow in the right direction.	.056	0.565	-.374	-1.888
The future of GZ (HK) looks bright due to non-casino gaming development.	-.001	-0.010	-.532	-2.686
Non-casino gaming continue to play an important economic role in GZ (HK).	-.158	-1.595	-.588	-2.969
I am happy and proud that there are tourists coming to GZ (HK) because of non-casino gaming.	.238	2.404	-.539	-2.722
I support additional non-casino gaming development.	-.006	-0.060	-.672	-3.393
The non-casino gaming development makes GZ(HK) a better place to live.	.254	2.565	-.531	-2.681
The non-casino gaming development is the right choice for GZ (HK).	.043	0.434	-.760	-3.838
Perceived positive impacts				
Increased tax revenue	-.841	-8.494	.511	2.580
More investment and business	-.438	-4.424	-.248	-1.252
More employment opportunities	-.701	-7.080	.331	1.671
More tourist spending	-.135	-1.363	-.725	-3.661
Increase in public infrastructure	-.123	-1.242	-.512	-2.585
Increase of welfare in the community	-.130	-1.313	-.547	-2.762
Increased city attractiveness	-.044	-0.444	-.573	-2.893
More social opportunities	-.121	-1.222	-.631	-3.186
More educational funding	-.103	-1.041	-.749	-3.782
Increased pride of local residents	.360	3.636	-.299	-1.510
More entertainment and recreation facilities	-.184	-1.858	-.575	-2.904
Perceived negative impacts				
Gambling addicts	-.935	-9.444	.766	3.868
Destruction of family	-.500	-5.050	.054	0.272
Increase of loan sharking(usury)	-.640	-6.464	.072	0.363
Increase of speculative activities	-.455	-4.595	-.164	-0.828
Crime	-.254	-2.565	-.222	-1.121
Bankruptcy	-.446	-4.505	-.247	-1.247
Divorce	-.431	-4.353	-.065	-0.328

Traffic congestion	.180	1.818	-.440	-2.222
Quantity of litter	-.054	-0.545	-.674	-3.404
Noise level	-.183	-1.848	-.659	-3.328
High cost of living	.001	0.010	-.285	-1.439
Decrease of cleanliness of the community	-.010	-0.101	-.328	-1.656
An overcrowded city	.153	1.545	-.348	-1.757
Community attachment				
I feel at home in GZ(HK).	-.491	-4.956	-.139	-0.702
I would like to live in GZ(HK) more than other cities.	-.363	-3.666	-.356	-1.797
I know what goes on in GZ(HK).	-.427	-4.313	.315	1.590
I will be sorry if I move away.	-.103	-1.040	-.417	-2.106
I am satisfied with GZ(HK).	-.167	-1.686	-.269	-1.358
GZ(HK) is an ideal place to live.	-.395	-3.989	-.006	-0.030
I would do my best to enhance the development of GZ(HK).	-.434	-4.383	.335	1.691
I am actively involved in community issues and activities.	-.232	-2.343	-.356	-1.797
I lived in GZ(HK) for a long time.	-1.563	-15.787	2.358	11.909
Power				
I can personally influence over decisions related to community development.	.245	2.474	-.721	-3.641
I have political influence (e.g. through voting) in the decision making process of gaming development.	.192	1.939	-.889	-4.489
Gaming behavior				
I bought non-casino gaming products in the past one year.	-.037	-0.373	-1.427	-7.207
My family (including spouse, parents, children) bought non-casino gaming products in the past one year.	-.413	-4.171	-1.002	-5.060
Spending on non-casino gaming was part of my annual household spending in the past one year.	.745	7.525	-.591	-2.984
I spend some money on gambling in the past one year.	.548	5.535	-1.052	-5.313
My family (including spouse, parents, children) spend some money on gambling in the past one year.	.130	1.313	-1.313	-6.631
Gaming spending was part of my annual household spending in the past one year.	.870	8.787	-.280	-1.414
Multivariate			421.350	73.480

Appendix 4. Univariate and Multivariate Normality Test Result (Guangzhou, N=672)

Construct/ Indicators	Skewness		Kurtosis	
	Statistic	C.R.	Statistic	C. R.
Support level for non-casino gaming				
Non-casino gaming is one of the most important industries for GZ(HK).	.204	2.170	-.637	-3.388
Non-casino gaming help GZ(HK) grow in the right direction.	.149	1.585	-.603	-3.207
The future of GZ (HK) looks bright due to non-casino gaming development.	.275	2.925	-.673	-3.579
Non-casino gaming continue to play an important economic role in GZ (HK).	.101	1.074	-.671	-3.569
I am happy and proud that there are tourists coming to GZ (HK) because of non-casino gaming.	.355	3.776	-.771	-4.101
I support additional non-casino gaming development.	-.058	-0.617	-.362	-1.925
The non-casino gaming development makes GZ(HK) a better place to live.	.158	1.680	-.445	-2.367
The non-casino gaming development is the right choice for GZ (HK).	.131	1.393	-.510	-2.712
Perceived positive impacts				
Increased tax revenue	-.251	-2.670	-.387	-2.058
More investment and business	-.160	-1.702	-.554	-2.946
More employment opportunities	-.045	-0.478	-.903	-4.803
More tourist spending	.077	0.819	-.707	-3.760
Increase in public infrastructure	-.193	-2.053	-.793	-4.218
Increase of welfare in the community	-.190	-2.021	-.883	-4.696
Increased city attractiveness	.221	2.351	-.633	-3.367
More social opportunities	-.042	-0.446	-.676	-3.594
More educational funding	-.106	-1.127	-.751	-3.994
Increased pride of local residents	.329	3.5	-.628	-3.340
More entertainment and recreation facilities	-.138	-1.468	-.813	-4.324

Perceived negative impacts

Gambling addicts	-.324	-3.446	-.700	-3.723
Destruction of family	-.054	-0.574	-.500	-2.659
Increase of loan sharking(usury)	-.001	-0.010	-.697	-3.707
Increase of speculative activities	-.368	-3.914	-.627	-3.335
Crime	.018	0.191	-.758	-4.031
Bankruptcy	.019	0.202	-.858	-4.563
Divorce	.080	0.851	-.697	-3.707
Traffic congestion	.333	3.542	-.617	-3.281
Quantity of litter	-.110	-1.170	-.915	-4.867
Noise level	.135	1.436	-.758	-4.031
High cost of living	.014	0.148	-.661	-3.515
Decrease of cleanliness of the community	-.022	-0.234	-.707	-3.760
An overcrowded city	.163	1.734	-.651	-3.462
Community attachment				
I feel at home in GZ(HK).	-.382	-4.063	-.768	-4.085
I would like to live in GZ(HK) more than other cities.	-.475	-5.053	-.647	-3.441
I know what goes on in GZ(HK).	-.383	-4.074	-.379	-2.015
I will be sorry if I move away.	-.255	-2.712	-.682	-3.627
I am satisfied with GZ(HK).	-.264	-2.808	-.443	-2.356
GZ(HK) is an ideal place to live.	-.171	-1.819	-.763	-4.058
I would do my best to enhance the development of GZ(HK).	-.503	-5.351	-.050	-0.265
I am actively involved in community issues and activities.	-.327	-3.478	-.241	-1.281
I lived in GZ(HK) for a long time.	-.734	-7.808	-.419	-2.228

Power

I can personally influence over decisions related to community development.	.179	1.904	-.645	-3.430
I have political influence (e.g. through voting) in the decision making process of gaming development.	.406	4.319	-.735	-3.909
Gaming behavior				
I bought non-casino gaming products in the past one year.	.108	1.148	-1.451	-7.718
My family (including spouse, parents, children) bought non-casino gaming products in the past one year.	.252	2.680	-1.174	-6.244
Spending on non-casino gaming was part of my annual household spending in the past one year.	.943	10.031	-.149	-0.792
I spend some money on gambling in the past one year.	.760	8.085	-.638	-3.393
My family (including spouse, parents, children) spend some money on gambling in the past one year.	.620	6.595	-.815	-4.335
Gaming spending was part of my annual household spending in the past one year.	.877	9.329	-.333	-1.771
Multivariate			266.469	81.453

Appendix 5. Questionnaire for pilot test in English (Hong Kong)

A SURVEY OF HONG KONG RESIDENTS' PERCEPTION OF NON-CASINO GAMING

We are currently conducting a survey on behalf of School of Hotel and Tourism Management, the Hong Kong Polytechnic University regarding to residents' perception of commercial non-casino (e.g. horse racing, mark six lottery, football betting) gaming in Hong Kong.

The aim of this study is to examine residents' perceptions of the impacts of commercial non-casino gaming on urban communities. Information obtained from this research may be used in future research. All information related to you will remain confidential, and will be identifiable by codes only known to the researcher. You have every right to withdraw from the study at any time.

I would be very grateful if you could please spare 10 minutes of your time to complete this questionnaire. Thank you for your cooperation!

School of Hotel and Tourism Management

The Hong Kong Polytechnic University

Ph.D. Research Student: Miss Gemma, Jiaqi Luo

Screening Questions:

1. Are you over 18 years old?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Hong Kong **Adults**.

2. Are you living in Hong Kong more than 1 year?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Hong Kong **Residents**.

1. Perceived positive impacts of the non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The non-casino gaming in Hong Kong may lead to some positive impacts and the following statements may describe your perception about those positive impacts. Please indicate your level of agreement with the corresponding statement by circling a number

that denotes such a level.

	I think non-casino gaming in Hong Kong leads to...	strongly disagree	neutral				strongly agree	
1-1	Increased tax revenue	1	2	3	4	5	6	7
1-2	More investment and business	1	2	3	4	5	6	7
1-3	More employment opportunities	1	2	3	4	5	6	7
1-4	More tourist spending	1	2	3	4	5	6	7
1-5	Increase in public infrastructure	1	2	3	4	5	6	7
1-6	Increase of welfare in the community	1	2	3	4	5	6	7
1-7	Increased city attractiveness	1	2	3	4	5	6	7
1-8	More social opportunities	1	2	3	4	5	6	7
1-9	More educational funding	1	2	3	4	5	6	7
1-10	Increased pride of local residents	1	2	3	4	5	6	7
1-11	More entertainment and recreation facilities	1	2	3	4	5	6	7

1-12 Are there any other positive impacts which the development of non-casino gaming (e.g. horse racing, mark six lottery, football betting) bring to the communities?

2. Perceived negative impacts of the non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The non-casino gaming in Hong Kong may lead to some negative impacts and the following statements may describe your perception about those negative impacts.

Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Hong Kong leads to...	strongly disagree	neutral				strongly agree	
2-1	Gambling addicts	1	2	3	4	5	6	7
2-2	Destruction of family	1	2	3	4	5	6	7
2-3	Increase of loan sharking (usury) •	1	2	3	4	5	6	7
2-4	Increase of speculative activities •	1	2	3	4	5	6	7
2-5	Crime	1	2	3	4	5	6	7
2-6	• Bankruptcy	1	2	3	4	5	6	7
2-7	Divorce •	1	2	3	4	5	6	7
2-8	Traffic congestion •	1	2	3	4	5	6	7

2-9	Quantity of litter •	1	2	3	4	5	6	7
2-10	Noise level	1	2	3	4	5	6	7
2-11	High cost of living •	1	2	3	4	5	6	7
2-12	Decrease of cleanliness of the community	1	2	3	4	5	6	7
2-13	An overcrowded city	1	2	3	4	5	6	7

2-14 Are there any other negative impacts which the development of non-casino gaming (e.g. horse racing, mark six lottery, football betting) bring to the communities?

3. Community Attachment

Community attachment is your participation and integration into community life, and sentiment toward the community. The following statements describe your attachment to Hong Kong as community at large. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree	
3-1	I feel at home in Hong Kong.	1	2	3	4	5	6 7
3-2	I would like to live in Hong Kong more than other cities.	1	2	3	4	5	6 7
3-3	I know what goes on in Hong Kong.	1	2	3	4	5	6 7
3-4	I will be sorry if I move away.	1	2	3	4	5	6 7
3-5	I am satisfied with Hong Kong.	1	2	3	4	5	6 7
3-6	Hong Kong is an ideal place to live.	1	2	3	4	5	6 7
3-7	I would do my best to enhance the development of Hong Kong.	1	2	3	4	5	6 7
3-8	I would be willing to provide financial support for the development of Hong Kong.	1	2	3	4	5	6 7
3-9	I am actively involved in community issues and activities.	1	2	3	4	5	6 7
3-10	I lived in Hong Kong for a long time.	1	2	3	4	5	6 7

4. Power

Power is your ability of control over the resources in the community. The following statements describe your level of power. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree	
4-1	I can personally influence over decisions related to community development.	1	2	3	4	5	6 7
4-2	I have political influence (e.g. through voting) in the decision making process of gaming development.	1	2	3	4	5	6 7
4-3	I have a high level of education.	1	2	3	4	5	6 7
4-4	I have enough knowledge of gambling.	1	2	3	4	5	6 7
4-5	I can control my gambling behavior.	1	2	3	4	5	6 7

5. Support level for non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The following statements describe your support level for non-casino gaming. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree	
5-1	Non-casino gaming is one of the most important industries for Hong Kong.	1	2	3	4	5	6 7
5-2	I have supported the non-casino gaming development in Hong Kong.	1	2	3	4	5	6 7
5-3	Non-casino gaming help Hong Kong grow in the right direction.	1	2	3	4	5	6 7
5-4	The future of Hong Kong looks bright due to non-casino gaming development.	1	2	3	4	5	6 7
5-5	Non-casino gaming continue to play an important economic role in Hong Kong.	1	2	3	4	5	6 7
5-6	I am happy that there are tourists coming to Hong Kong because of non-casino gaming.	1	2	3	4	5	6 7

5-7	I support additional non-casino gaming development.	1	2	3	4	5	6	7
5-8	The non-casino gaming development makes Hong Kong a better place to live.	1	2	3	4	5	6	7
5-9	The non-casino gaming development is the right choice for Hong Kong.	1	2	3	4	5	6	7

6. Gaming Behavior

Many Hong Kong residents take part in different kinds of gaming. The following questions are related to your participation in gaming activities. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree	
6-1	I went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. horse racing, mark six lottery, football betting) products in the past one year.	1	2	3	4	5	6 7
6-2	My family (including spouse, parents, children) went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. horse racing, mark six lottery, football betting) products in the past one year.	1	2	3	4	5	6 7
6-3	Spending on non-casino gaming (e.g. horse racing, mark six lottery, football betting) was part of my annual household spending in the past one year.	1	2	3	4	5	6 7
6-4	I spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6 7
6-5	My family (including spouse, parents, children) spend some money on gambling (including went to casino to gamble,	1	2	3	4	5	6 7

	playing mahjong or poker) in the past one year.							
6-6	Gaming spending (including spending on casino gambling, playing mahjong or poker) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7

7. Demographic information

Please indicate your demographic information by circling an item in each category.

7.1 Your gender: Male Female

7.2 Your age: 18-25 26-35 36-45 46-55 56-65 66 or above

7.3 Your marital status: Single Married Other

7.4 Your level of education:

Primary and below Secondary / Sixth Form Diploma / Certificate courses
 Bachelor Degree Master Degree Doctor Degree

7.5 Your occupation:

Manager or administrator Service or sales worker Civil servant Professional Clerical worker Unskilled worker Skilled worker Self-employed
 Housewife Student Retired Other (Please specify) _____

7.6 Monthly Household Income of your family (in Hong Kong Dollars) :

Less than 5, 000 5, 000-9, 999 10, 000-24, 999 25, 000-49, 999
 50, 000 -99, 999 More than 99, 999

香港居民對於非賭場類博彩感知的調查

我們現在代表香港理工大學酒店及旅遊業管理學院就香港居民對於商業性非賭場類（例如：賽馬、六合彩、足球彩票）博彩的感知進行問卷調查。本項研究的目的是在於瞭解城市社區中居民對於非賭場類博彩的感知。從調查中獲得的信息將用於未來的研究。所有關於您的資訊都將被保密，並且將被編成只有研究人員才能識別的代碼。您有權隨時退出研究。

如果您願意花十分鐘時間完成本問卷，我們將不勝感激。謝謝您的合作！

香港理工大學酒店及旅遊業管理學院
博士研究生：羅佳琦

篩選問題：

1. 請問您年滿 18 歲嗎？

() 是。請繼續填寫餘下問題。

() 否。感謝您，請交還問卷，我們希望瞭解成年居民的感知。

2. 請問您在香港居住超過一年以上嗎？

() 是。請繼續填寫餘下問題。

() 否。感謝您，請交還問卷，我們希望瞭解香港居民的感知。

1. 對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的正面影響的感知。

下列句子描述您對香港非賭場類博彩的正面影響的感知。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為非賭場類博彩為香港帶來了：	非常 不同意		中立				非常 同意
1-1	更多稅收收入	1	2	3	4	5	6	7
1-2	更多投資和商業	1	2	3	4	5	6	7
1-3	更多就業機會	1	2	3	4	5	6	7

1-4	更多旅遊者消費	1	2	3	4	5	6	7
1-5	公共基礎設施的增加	1	2	3	4	5	6	7
1-6	社區福利的增加	1	2	3	4	5	6	7
1-7	城市吸引力的增加	1	2	3	4	5	6	7
1-8	居民社交機會的增加	1	2	3	4	5	6	7
1-9	教育資助的增加	1	2	3	4	5	6	7
1-10	本地居民自豪感的增加	1	2	3	4	5	6	7
1-11	更多居民娛樂和遊憩設施	1	2	3	4	5	6	7

1-12 請問還有其他未提及的非賭場博彩（例如：賽馬、六合彩、足球彩票）的正面影響嗎？

2. 對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的負面影響的感知。
下列句子描述您對香港非賭場類博彩的負面影響的感知。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為非賭場類博彩為香港帶來了：	非常 不同意	中立					非常 同意
2-1	賭博成癮	1	2	3	4	5	6	7
2-2	家庭崩潰	1	2	3	4	5	6	7
2-3	高利貸的增加	1	2	3	4	5	6	7
2-4	投機行為的增加	1	2	3	4	5	6	7
2-5	犯罪	1	2	3	4	5	6	7
2-6	破產	1	2	3	4	5	6	7
2-7	離婚	1	2	3	4	5	6	7
2-8	交通擁擠	1	2	3	4	5	6	7

2-9	垃圾的增加	1	2	3	4	5	6	7
2-10	噪音提高	1	2	3	4	5	6	7
2-11	生活成本提高	1	2	3	4	5	6	7
2-12	社區清潔度的降低	1	2	3	4	5	6	7
2-13	城市過度擁擠	1	2	3	4	5	6	7

1-14 請問還有其他未提及的非賭場博彩（例如：賽馬、六合彩、足球彩票）的負面影響嗎？

3. 社區依戀

社區依戀是您融入和參與社區活動的程度，也是您對於香港作為一個大社區的感情強烈程度。下列句子描述您的社區依戀程度。請選擇最能代表您情況的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意	1	2	3	4	5	6	7	非常 同意
3-1	我在香港就像在家一樣。	1	2	3	4	5	6	7		
3-2	我喜歡住在香港勝於其他城市。	1	2	3	4	5	6	7		
3-3	我知道香港目前發生的事情。	1	2	3	4	5	6	7		
3-4	如果我搬出了香港，我會很難過。	1	2	3	4	5	6	7		
3-5	我對於香港很滿意。	1	2	3	4	5	6	7		
3-6	香港是理想的居住地。	1	2	3	4	5	6	7		
3-7	我會盡力幫助香港發展。	1	2	3	4	5	6	7		
3-8	我願意為香港發展提供財政上的支持。	1	2	3	4	5	6	7		
3-9	我主動參與社區各項活動。	1	2	3	4	5	6	7		
3-10	我在香港住了很長時間。	1	2	3	4	5	6	7		

4. 權力

權力是您對於社區資源的掌控能力。下列句子描述您的權力水準。請選擇最能代表您情況的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意		中立			非常 同意	
4-1	我對於各種社區發展的決策有個人影響力。	1	2	3	4	5	6	7
4-2	我在社區關於博彩發展的決策過程中有政治影響力。(例如：通過選舉)	1	2	3	4	5	6	7
4-3	我有較高的教育水準。	1	2	3	4	5	6	7
4-4	我對於博彩有足夠的知識。	1	2	3	4	5	6	7
4-5	我能夠控制自己的博彩行為。	1	2	3	4	5	6	7

5.對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的支持度。

下列句子描述您對於非賭場類博彩的支持度。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意		中立			非常 同意	
5-1	非賭場類博彩是香港最重要的產業之一。	1	2	3	4	5	6	7
5-2	我一直以來支持香港的非賭場類博彩。	1	2	3	4	5	6	7
5-3	非賭場類博彩幫助香港向正確的方向發展。	1	2	3	4	5	6	7
5-4	香港的未來由於非賭場類博彩的發展而更加光明。	1	2	3	4	5	6	7
5-5	非賭場類博彩在香港的經濟中繼續扮演重要的角色。	1	2	3	4	5	6	7
5-6	我十分高興旅遊者們因為香港的非賭場類博彩而來到香港。	1	2	3	4	5	6	7
5-7	我支持香港非賭場類博彩進一步發展。	1	2	3	4	5	6	7
5-8	非賭場類博彩使得香港成為一個更加好的居住地。	1	2	3	4	5	6	7
5-9	非賭場類博彩是香港發展的正確選擇。	1	2	3	4	5	6	7

6. 博彩行為

許多香港居民都會參與各種形式的博彩。下列問題與您的博彩行為相關。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意		中立				非常 同意
6-1	過去一年中，我曾經前往馬場或投注站購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）。	1	2	3	4	5	6	7
6-2	過去一年中，我的家人（包括了配偶、父母、子女）曾經前往馬場或投注站購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）。	1	2	3	4	5	6	7
6-3	過去一年中，購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）佔我家庭總開支的一部份。	1	2	3	4	5	6	7
6-4	過去一年中，我在博彩上(所有博彩，包括前往賭場博彩，打麻將或者撲克)花費了一些錢。	1	2	3	4	5	6	7
6-5	過去一年中，我的家人（包括了配偶、父母、子女）在博彩上(所有博彩，包括前往賭場博彩，打麻將或者撲克)花費了一些錢。	1	2	3	4	5	6	7
6-6	過去一年中，博彩消費(包括了賭場博彩消費，打麻將或者撲克的消費)佔我家庭總開支的一部份。	1	2	3	4	5	6	7

7. 人口統計特徵（請選擇對您本人描述最準確的一項）：

7.1 您的性別: 男 女

7.2 您的年齡: 18-25 歲 26-35 歲 36-45 歲 46-55 歲

56 -65 歲 超過 66 歲

7.3 您的婚姻狀況: 獨身 已婚 其他

7.4 您的受教育程度:

小學及以下 中學 / 預科 高級文憑 / 證書課程

學士學位 碩士學位 博士學位

7.5 您的職業:

經理及行政級人員 服務工作及銷售人員 公務員

專業人士 文書人員 非技術工人 專業技術工人

自僱人士 家庭主婦 學生 退休 其他(請注明)_____

7.6 您的家庭月收入範圍是多少 (港幣) ?

少於 5,000 5,000 至 9,999 港幣 10,000 至 24,999 港幣

25,000 至 49,999 港幣 50,000 至 99,999 港幣 超過 99,999 港幣

Appendix 7. Questionnaire for main survey in English (Hong Kong)

A SURVEY OF HONG KONG RESIDENTS' PERCEPTION OF NON-CASINO GAMING

Dear respondent,

We are currently conducting a survey on behalf of School of Hotel and Tourism Management, the Hong Kong Polytechnic University regarding to residents' perception of commercial non-casino (e.g. horse racing, mark six lottery, football betting) gaming in Hong Kong.

The aim of this study is to examine residents' perceptions of the impacts of commercial non-casino gaming on urban communities. Information obtained from this research may be used in future research. All information related to you will remain confidential, and will be identifiable by codes only known to the researcher. You have every right to withdraw from the study at any time.

The questionnaire is anonymous. I would be very grateful if you could please spare 10 minutes of your time to complete this questionnaire. Thank you for your cooperation!

School of Hotel and Tourism Management

The Hong Kong Polytechnic University

Ph.D. Research Student: Miss Gemma, Jiaqi Luo

Screening Questions:

1. Are you over 18 years old?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Hong Kong **Adults**.

2. Are you living in Hong Kong more than 1 year?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Hong Kong **Residents**.

1. Perceived positive impacts of the non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The non-casino gaming in Hong Kong may lead to some positive impacts and the

following statements may describe your perception about those positive impacts.
Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Hong Kong leads to...	strongly disagree	neutral				strongly agree	
1-1	Increased tax revenue	1	2	3	4	5	6	7
1-2	More investment and business	1	2	3	4	5	6	7
1-3	More employment opportunities	1	2	3	4	5	6	7
1-4	More tourist spending	1	2	3	4	5	6	7
1-5	Increase in public infrastructure	1	2	3	4	5	6	7
1-6	Increase of welfare in the community	1	2	3	4	5	6	7
1-7	Increased city attractiveness	1	2	3	4	5	6	7
1-8	More social opportunities	1	2	3	4	5	6	7
1-9	More educational funding	1	2	3	4	5	6	7
1-10	Increased pride of local residents	1	2	3	4	5	6	7
1-11	More entertainment and recreation facilities	1	2	3	4	5	6	7

2. Perceived negative impacts of the non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The non-casino gaming in Hong Kong may lead to some negative impacts and the following statements may describe your perception about those negative impacts.
Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Hong Kong leads to...	strongly disagree	neutral				strongly agree	
2-1	Gambling addicts	1	2	3	4	5	6	7
2-2	Destruction of family	1	2	3	4	5	6	7
2-3	Increase of loan sharking (usury)	1	2	3	4	5	6	7
2-4	Increase of speculative activities	1	2	3	4	5	6	7
2-5	Crime	1	2	3	4	5	6	7
2-6	Bankruptcy	1	2	3	4	5	6	7
2-7	Divorce	1	2	3	4	5	6	7

2-8	Traffic congestion	1	2	3	4	5	6	7
2-9	Quantity of litter	1	2	3	4	5	6	7
2-10	Noise level	1	2	3	4	5	6	7
2-11	High cost of living	1	2	3	4	5	6	7
2-12	Decrease of cleanliness of the community	1	2	3	4	5	6	7
2-13	An overcrowded city	1	2	3	4	5	6	7

3. Community Attachment

Community attachment is your participation and integration into community life, and sentiment toward the community. The following statements describe your attachment to Hong Kong as community at large. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree	
3-1	I feel at home in Hong Kong.	1	2	3	4	5	6 7
3-2	I would like to live in Hong Kong more than other cities.	1	2	3	4	5	6 7
3-3	I know what goes on in Hong Kong.	1	2	3	4	5	6 7
3-4	I will be sorry if I move away.	1	2	3	4	5	6 7
3-5	I am satisfied with Hong Kong.	1	2	3	4	5	6 7
3-6	Hong Kong is an ideal place to live.	1	2	3	4	5	6 7
3-7	I would do my best to enhance the development of Hong Kong.	1	2	3	4	5	6 7
3-8	I would be willing to provide financial support for the development of Hong Kong.	1	2	3	4	5	6 7
3-9	I am actively involved in community	1	2	3	4	5	6 7

	issues and activities.							
3-10	I lived in Hong Kong for a long time.	1	2	3	4	5	6	7

4. Power

Power is your ability of control over the resources in the community. The following statements describe your level of power. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree		
4-1	I can personally influence over decisions related to community development.	1	2	3	4	5	6	7
4-2	I have political influence (e.g. through voting) in the decision making process of gaming development.	1	2	3	4	5	6	7
4-3	I have a high level of education.	1	2	3	4	5	6	7
4-4	I have enough knowledge of gambling.	1	2	3	4	5	6	7
4-5	I can control my gambling behavior.	1	2	3	4	5	6	7

5. Support level for non-casino gaming (e.g. horse racing, mark six lottery, football betting)

The following statements describe your support level for non-casino gaming. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree	
5-1	Non-casino gaming is one of the most important industries for Hong Kong.	1	2	3	4	5	6 7
5-2	I have supported the non-casino gaming development in Hong Kong.	1	2	3	4	5	6 7
5-3	Non-casino gaming help Hong Kong grow in the right direction.	1	2	3	4	5	6 7
5-4	The future of Hong Kong looks bright due to non-casino gaming development.	1	2	3	4	5	6 7
5-5	Non-casino gaming continue to play an important economic role in Hong Kong.	1	2	3	4	5	6 7
5-6	I am happy that there are tourists coming to Hong Kong because of non-casino gaming.	1	2	3	4	5	6 7
5-7	I support additional non-casino gaming development.	1	2	3	4	5	6 7
5-8	The non-casino gaming development makes Hong Kong a better place to live.	1	2	3	4	5	6 7
5-9	The non-casino gaming development is the right choice for Hong Kong.	1	2	3	4	5	6 7

6. Gaming Behavior

Many Hong Kong residents take part in different kinds of gaming. The following

questions are related to your participation in gaming activities. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree		
6-1	I went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. horse racing, mark six lottery, football betting) products in the past one year.	1	2	3	4	5	6	7
6-2	My family members (including spouse, parents, children) went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. horse racing, mark six lottery, football betting) products in the past one year.	1	2	3	4	5	6	7
6-3	Spending on non-casino gaming (e.g. horse racing, mark six lottery, football betting) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7
6-4	I spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-5	My family members (including spouse, parents, children) spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-6	Gaming spending (including spending on casino gambling, playing mahjong or poker) was	1	2	3	4	5	6	7

	part of my annual household spending in the past one year.	
--	--	--

7. Demographic information (Anonymous)

Please indicate your demographic information by circling an item in each category.

7.1 Your gender: 1. Male 2. Female

7.2 Your age: 1. 18-25 2. 26-35 3. 36-45 4. 46-55
 5. 56 -65 6. 66 or above

7.3 Your marital status: 1. Single 2. Married 3. Other

7.4 Your level of education:

1. Primary and below 2. Secondary / Sixth Form
 3. Diploma / Certificate courses 4. Bachelor Degree
 5. Master Degree 6. Doctor Degree

7.5 Your occupation:

1. Manager or administrator 2. Service or sales worker 3. Civil servant
 4. Professional 5. Clerical worker 6. Unskilled worker 7. Skilled
worker 8. Self-employed 9. Housewife 10. Student
 11. Retired 12. Other (Please specify) _____

7.6 Monthly Household Income of your family (in Hong Kong Dollars) :

1. Less than 5, 000 2. 5, 000-9, 999 3. 10, 000-24, 999
 4. 25, 000-49, 999 5. 50, 000 -99, 999 6. More than 99, 999

-----End of the Questionnaire, thank you for your participation.-----

Appendix 8. Questionnaire for main survey in Chinese (Hong Kong)

香港居民對於非賭場類博彩感知的調查

尊敬的受訪者：

我們現在代表香港理工大學酒店及旅遊業管理學院就**香港居民對於商業性非賭場類（例如：賽馬、六合彩、足球彩票）博彩的感知**進行問卷調查。本項研究的目的是在於瞭解城市社區中居民對於非賭場類博彩的感知。從調查中獲得的信息將用於未來的研究。所有關於您的資訊都將被保密，並且將被編成只有研究人員才能識別的代碼。您有權隨時退出研究。

本問卷是不記名的。如果您願意花十分鐘時間完成本問卷，我們將不勝感激。謝謝您的合作！

香港理工大學酒店及旅遊業管理學院
博士研究生：羅佳琦

篩選問題：

1. 請問您年滿 18 歲嗎？

() 是。請繼續填寫餘下問題。

() 否。感謝您，請交還問卷，我們希望瞭解**成年**居民的感知。

2. 請問您在香港居住超過一年以上嗎？

() 是。請繼續填寫餘下問題。

() 否。感謝您，請交還問卷，我們希望瞭解**香港**居民的感知。

1. 對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的**正面影響**的感知。

下列句子描述您對香港非賭場類博彩的正面影響的感知。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為非賭場類博彩為香港帶來了：	非常 不同意		中立		非常 同意		
1-1	更多稅收收入	1	2	3	4	5	6	7
1-2	更多投資和商業	1	2	3	4	5	6	7
1-3	更多就業機會	1	2	3	4	5	6	7

1-4	更多旅遊者消費	1	2	3	4	5	6	7
1-5	公共基礎設施的增加	1	2	3	4	5	6	7
1-6	社區福利的增加	1	2	3	4	5	6	7
1-7	城市吸引力的增加	1	2	3	4	5	6	7
1-8	居民社交機會的增加	1	2	3	4	5	6	7
1-9	教育資助的增加	1	2	3	4	5	6	7
1-10	本地居民自豪感的增加	1	2	3	4	5	6	7
1-11	更多居民娛樂和遊憩設施	1	2	3	4	5	6	7

2. 對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的負面影響的感知。

下列句子描述您對香港非賭場類博彩的負面影響的感知。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為非賭場類博彩為香港帶來了：	非常 不同意		中立		非常 同意		
2-1	賭博成癮	1	2	3	4	5	6	7
2-2	家庭崩潰	1	2	3	4	5	6	7
2-3	高利貸的增加	1	2	3	4	5	6	7
2-4	投機行為的增加	1	2	3	4	5	6	7
2-5	犯罪	1	2	3	4	5	6	7
2-6	破產	1	2	3	4	5	6	7
2-7	離婚	1	2	3	4	5	6	7
2-8	交通擁擠	1	2	3	4	5	6	7
2-9	垃圾的增加	1	2	3	4	5	6	7
2-10	噪音提高	1	2	3	4	5	6	7
2-11	生活成本提高	1	2	3	4	5	6	7

2-12	社區清潔度的降低	1	2	3	4	5	6	7
2-13	城市過度擁擠	1	2	3	4	5	6	7

3. 社區依戀

社區依戀是您融入和參與社區活動的程度，也是您對於香港作為一個大社區的感情強烈程度。下列句子描述您的社區依戀程度。請選擇最能代表您情況的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意	中立					非常 同意
3-1	我在香港就像在家一樣。	1	2	3	4	5	6	7
3-2	我喜歡住在香港勝於其他城市。	1	2	3	4	5	6	7
3-3	我知道香港目前發生的事情。	1	2	3	4	5	6	7
3-4	如果我搬出了香港，我會覺得很遺憾。	1	2	3	4	5	6	7
3-5	我對於香港很滿意。	1	2	3	4	5	6	7
3-6	香港是理想的居住地。	1	2	3	4	5	6	7
3-7	我會盡力幫助香港發展。	1	2	3	4	5	6	7
3-8	我願意為香港發展提供財政上的支持。	1	2	3	4	5	6	7
3-9	我主動參與社區各項活動。	1	2	3	4	5	6	7
3-10	我在香港住了很長時間。	1	2	3	4	5	6	7

4. 權力

權力是您對於社區資源的掌控能力。下列句子描述您的權力水準。請選擇最能代表您情況的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意	中立					非常 同意
4-1	我對於各種社區發展的決策有個人影響力。	1	2	3	4	5	6	7
4-2	我在社區關於博彩發展的決策過程中有政治影響力。（例如：通過選舉）	1	2	3	4	5	6	7
4-3	我有較高的教育水準。	1	2	3	4	5	6	7
4-4	我對於博彩有足夠的知識。	1	2	3	4	5	6	7
4-5	我能夠控制自己的博彩行為。	1	2	3	4	5	6	7

5.對於非賭場博彩（例如：賽馬、六合彩、足球彩票）的支持度。

下列句子描述您對於非賭場類博彩的支持度。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意	1	2	3	4	5	6	7	非常 同意
5-1	非賭場類博彩是香港最重要的產業之一。	1	2	3	4	5	6	7		
5-2	我一直以來支持香港的非賭場類博彩。	1	2	3	4	5	6	7		
5-3	非賭場類博彩幫助香港向正確的方向發展。	1	2	3	4	5	6	7		
5-4	香港的未來由於非賭場類博彩的發展而更加光明。	1	2	3	4	5	6	7		
5-5	非賭場類博彩在香港的經濟中繼續扮演重要的角色。	1	2	3	4	5	6	7		
5-6	我十分高興旅遊者們因為香港的非賭場類博彩而來到香港。	1	2	3	4	5	6	7		
5-7	我支持香港非賭場類博彩進一步發展。	1	2	3	4	5	6	7		
5-8	非賭場類博彩使得香港成為一個更加好的居住地。	1	2	3	4	5	6	7		
5-9	非賭場類博彩是香港發展的正確選擇。	1	2	3	4	5	6	7		

6. 博彩行為

下列問題與您的博彩行為相關。請選擇最能代表您看法的一個數字並畫圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我認為	非常 不同意	1	2	3	4	5	6	7	非常 同意
6-1	過去一年中，我曾經前往馬場或投注站購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）。	1	2	3	4	5	6	7		
6-2	過去一年中，我的家人（包括了配偶、父母、子女）曾經前往馬場或投注站購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）。	1	2	3	4	5	6	7		

6-3	過去一年中，購買非賭場類博彩產品（例如：賽馬彩票、六合彩、足球彩票）佔我家庭總開支的一部份。	1	2	3	4	5	6	7
6-4	過去一年中，我在博彩上(所有博彩，包括前往賭場博彩，打麻將或者撲克)花費了一些錢。	1	2	3	4	5	6	7
6-5	過去一年中，我的家人（包括了配偶、父母、子女）在博彩上(所有博彩，包括前往賭場博彩，打麻將或者撲克)花費了一些錢。	1	2	3	4	5	6	7
6-6	過去一年中，博彩消費(包括了賭場博彩消費，打麻將或者撲克的消費)佔我家庭總開支的一部份。	1	2	3	4	5	6	7

7. 人口統計特徵（不記名，請選擇對您本人描述最準確的一項）：

7.1 您的性別: 1.男 2.女

7.2 您的年齡: 1.18-25 歲 2. 26-35 歲 3. 36-45 歲 4. 46-55 歲 5. 56 -65 歲 6. 超過 66 歲

7.3 您的婚姻狀況: 1.獨身 2.已婚 3.其他

7.4 您的受教育程度:

1. 小學及以下 2. 中學 / 預科 3. 高級文憑 / 證書課程
4. 學士學位 5. 碩士學位 6. 博士學位

7.5 您的職業:

1. 經理及行政級人員 2. 服務工作及銷售人員 3.公務員
4.專業人士 5.文書人員 6.非技術工人 7.專業技術工人
8.自僱人士 9.家庭主婦 10.學生 11.退休
12. 其他(請注明)_____

7.6 您的家庭月收入範圍是多少（港幣）？

1. 少於 5,000 港幣 2. 5,000 至 9,999 港幣 3. 10,000 至 24,999 港幣
4. 25,000 至 49,999 港幣 5. 50,000 至 99,999 港幣 6. 超過 99,999 港幣

-----問卷已完成，謝謝您的参与！-----

Appendix 9. Questionnaire for pilot test in English (Guangzhou)

A SURVEY OF GUANGZHOU RESIDENTS' PERCEPTION OF NON-CASINO GAMING

Dear respondent,

We are currently conducting a survey on behalf of School of Hotel and Tourism Management, the Hong Kong Polytechnic University regarding to residents' perception of commercial non-casino (e.g. Welfare Lottery, Sports Lottery) gaming in Guangzhou.

The aim of this study is to examine residents' perceptions of the impacts of commercial non-casino gaming on urban communities. Information obtained from this research may be used in future research. All information related to you will remain confidential and will be identifiable by codes only known to the researcher. You have every right to withdraw from the study at any time.

The questionnaire is anonymous. I would be very grateful if you could please spare 10 minutes of your time to complete this questionnaire. Thank you for your cooperation!

School of Hotel and Tourism Management

The Hong Kong Polytechnic University

Ph.D. Research Student: Miss Gemma, Jiaqi Luo

Screening Questions:

1. Are you over 18 years old?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Guangzhou **Adults**.

2. Are you living in Guangzhou more than 1 year?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Guangzhou **Residents**.

1. Perceived positive impacts of the non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The non-casino gaming in Guangzhou may lead to some positive impacts and the following statements may describe your perception about those positive impacts.

Please indicate your level of agreement with the corresponding statement by circling

a number that denotes such a level.

	I think non-casino gaming in Guangzhou leads to...	strongly disagree	neutral				strongly agree	
1-1	Increased tax revenue	1	2	3	4	5	6	7
1-2	More investment and business	1	2	3	4	5	6	7
1-3	More employment opportunities	1	2	3	4	5	6	7
1-4	More tourist spending	1	2	3	4	5	6	7
1-5	Increase in public infrastructure	1	2	3	4	5	6	7
1-6	Increase of welfare in the community	1	2	3	4	5	6	7
1-7	Increased city attractiveness	1	2	3	4	5	6	7
1-8	More social opportunities	1	2	3	4	5	6	7
1-9	More educational funding	1	2	3	4	5	6	7
1-10	Increased pride of local residents	1	2	3	4	5	6	7
1-11	More entertainment and recreation facilities	1	2	3	4	5	6	7

2. Perceived negative impacts of the non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The non-casino gaming in Guangzhou may lead to some negative impacts and the following statements may describe your perception about those negative impacts.

Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Guangzhou leads to...	strongly disagree	neutral				strongly agree	
2-1	Gambling addicts	1	2	3	4	5	6	7
2-2	Destruction of family	1	2	3	4	5	6	7
2-3	Increase of loan sharking (usury)	1	2	3	4	5	6	7
2-4	Increase of speculative activities	1	2	3	4	5	6	7
2-5	Crime	1	2	3	4	5	6	7
2-6	Bankruptcy	1	2	3	4	5	6	7
2-7	Divorce	1	2	3	4	5	6	7
2-8	Traffic congestion	1	2	3	4	5	6	7
2-9	Quantity of litter	1	2	3	4	5	6	7

2-10	Noise level	1	2	3	4	5	6	7
2-11	High cost of living	1	2	3	4	5	6	7
2-12	Decrease of cleanliness of the community	1	2	3	4	5	6	7
2-13	An overcrowded city	1	2	3	4	5	6	7

3. Community Attachment

Community attachment is your participation and integration into community life, and sentiment toward the community. The following statements describe your attachment to Guangzhou as community at large. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree	
3-1	I feel at home in Guangzhou.	1	2	3	4	5	6 7
3-2	I would like to live in Guangzhou more than other cities.	1	2	3	4	5	6 7
3-3	I know what goes on in Guangzhou.	1	2	3	4	5	6 7
3-4	I will be sorry if I move away.	1	2	3	4	5	6 7
3-5	I am satisfied with Guangzhou.	1	2	3	4	5	6 7
3-6	Guangzhou is an ideal place to live.	1	2	3	4	5	6 7
3-7	I would do my best to enhance the development of Guangzhou.	1	2	3	4	5	6 7
3-8	I would be willing to provide financial support for the development of Guangzhou.	1	2	3	4	5	6 7
3-9	I am actively involved in community issues and activities.	1	2	3	4	5	6 7
3-10	I lived in Guangzhou for a long time.	1	2	3	4	5	6 7

4. Power

Power is your ability of control over the resources in the community. The following statements describe your level of power. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree		neutral		strongly agree	
4-1	I can personally influence over decisions related to community development.	1	2	3	4	5	6 7
4-2	I have political influence (e.g. through voting) in the decision making process of gaming development.	1	2	3	4	5	6 7
4-3	I have a high level of education.	1	2	3	4	5	6 7
4-4	I have enough knowledge of gambling.	1	2	3	4	5	6 7
4-5	I can control my gambling behavior.	1	2	3	4	5	6 7

5. Support level for non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The following statements describe your support level for non-casino gaming. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree	
5-1	Non-casino gaming is one of the most important industries for Guangzhou.	1	2	3	4	5	6 7
5-2	I have supported the non-casino gaming development in Guangzhou.	1	2	3	4	5	6 7
5-3	Non-casino gaming help Guangzhou grow in the right direction.	1	2	3	4	5	6 7
5-4	The future of Guangzhou looks bright due to non-casino gaming development.	1	2	3	4	5	6 7
5-5	Non-casino gaming continue to play an important economic role in Guangzhou.	1	2	3	4	5	6 7
5-6	I am happy that there are tourists coming to Guangzhou because of non-casino gaming.	1	2	3	4	5	6 7
5-7	I support additional non-casino gaming development.	1	2	3	4	5	6 7
5-8	The non-casino gaming development	1	2	3	4	5	6 7

	makes Guangzhou a better place to live.							
5-9	The non-casino gaming development is the right choice for Guangzhou.	1	2	3	4	5	6	7

6. Gaming Behavior

Many Guangzhou residents take part in different kinds of gaming. The following questions are related to your participation in gaming activities. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree		
6-1	I went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. Welfare Lottery, Sports Lottery) products in the past one year.	1	2	3	4	5	6	7
6-2	My family members (including spouse, parents, children) went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. Welfare Lottery, Sports Lottery) products in the past one year.	1	2	3	4	5	6	7
6-3	Spending on non-casino gaming (e.g. Welfare Lottery, Sports Lottery) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7
6-4	I spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-5	My family members (including spouse, parents, children) spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-6	Gaming spending (including spending on casino gambling, playing mahjong or poker) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7

7. Demographic information (Anonymous)

Please indicate your demographic information by circling an item in each category.

7.1 Your gender: 1. Male 2. Female

7.2 Your age: 1. 18-25 2. 26-35 3. 36-45 4. 46-55
 5. 56 -65 6. 66 or above

7.3 Your marital status: 1. Single 2. Married 3. Other

7.4 Your level of education:

1. Primary and below 2. Junior high school
 3. Senior high school / Vocational school/ Technical school 4. Bachelor Degree
 5. Master Degree 6. Doctor Degree

7.5 Your occupation:

1. Manager or administrator 2. Service or sales worker 3. Civil servant
 4. Professional 5. Clerical worker 6. Unskilled worker 7. Skilled
worker 8. Self-employed 9. Housewife 10. Student
 11. Retired 12. Other (Please specify) _____

7.6 Monthly Household Income of your family (in RMB) :

1. Less than 4,000 2. 4,001-8,000 3. 8,001-12,000
 4. 12,001-16,000
 5. 16,001 -20,000 6. More than 20,000

-----End of the Questionnaire, thank you for your participation. -----

Appendix 10. Questionnaire for pilot test in Chinese (Guangzhou)

广州居民对于福利彩票、体育彩票感知的调查

尊敬的受访者：

我们现在代表香港理工大学酒店及旅游业管理学院就广州居民对于非赌场类博彩（福利彩票、体育彩票）的感知进行问卷调查。本项研究的目的在于了解城市社区中居民对于非赌场类博彩的感知。从调查中获得的信息将用于未来的研究。所有关于您的信息都将被保密，并且将被编成只有研究人员才能识别的代码。您有权随时退出研究。

本问卷是不记名的。如果您愿意花十分钟时间完成本问卷，我们将不胜感激。谢谢您的合作！

香港理工大学酒店及旅游业管理学院
博士研究生：罗佳琦

筛选问题：

1. 请问您年满 18 岁吗？

() 是。请继续填写余下问题。

() 否。感谢您，请交还问卷，我们希望了解成年居民的感知。

2. 请问您在广州居住超过一年以上吗？

() 是。请继续填写余下问题。

() 否。感谢您，请交还问卷，我们希望了解广州居民的感知。

1. 对于非赌场博彩（例如：福利彩票、体育彩票）的正面影响的感知。

下列句子描述您对广州非赌场类博彩的正面影响的感知。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为非赌场类博彩为广州带来了：	非常不同意	中立					非常同意
1-1	更多税收收入	1	2	3	4	5	6	7
1-2	更多投资和商业	1	2	3	4	5	6	7
1-3	更多就业机会	1	2	3	4	5	6	7
1-4	更多旅游者消费	1	2	3	4	5	6	7

1-5	公共基础设施的增加	1	2	3	4	5	6	7
1-6	社区福利的增加	1	2	3	4	5	6	7
1-7	城市吸引力的增加	1	2	3	4	5	6	7
1-8	居民社交机会的增加	1	2	3	4	5	6	7
1-9	教育资助的增加	1	2	3	4	5	6	7
1-10	本地居民自豪感的增加	1	2	3	4	5	6	7
1-11	更多居民娱乐和游憩设施	1	2	3	4	5	6	7

2. 对于非赌场博彩（例如：福利彩票、体育彩票）的负面影响的感知。

下列句子描述您对广州非赌场类博彩的负面影响的感知。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为非赌场类博彩为广州带来了：	非常 不同意		中立		非常 同意		
2-1	赌博成瘾	1	2	3	4	5	6	7
2-2	家庭崩溃	1	2	3	4	5	6	7
2-3	高利贷的增加	1	2	3	4	5	6	7
2-4	投机行为的增加	1	2	3	4	5	6	7
2-5	犯罪	1	2	3	4	5	6	7
2-6	破产	1	2	3	4	5	6	7
2-7	离婚	1	2	3	4	5	6	7
2-8	交通拥挤	1	2	3	4	5	6	7
2-9	垃圾的增加	1	2	3	4	5	6	7
2-10	噪音提高	1	2	3	4	5	6	7
2-11	生活成本提高	1	2	3	4	5	6	7
2-12	社区清洁度的降低	1	2	3	4	5	6	7

2-13	城市过度拥挤	1	2	3	4	5	6	7
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3. 社区依恋

社区依恋是您融入和参与社区活动的程度，也是您对于广州作为一个大社区的感情强烈程度。下列句子描述您的社区依恋程度。请选择最能代表您情况的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	1	2	3	4	5	6	7	非常同意
3-1	我在广州就像在家一样。	1	2	3	4	5	6	7		
3-2	我喜欢住在广州胜于其他城市。	1	2	3	4	5	6	7		
3-3	我知道广州目前发生的事情。	1	2	3	4	5	6	7		
3-4	如果我搬出了广州，我会觉得很遗憾。	1	2	3	4	5	6	7		
3-5	我对于广州很满意。	1	2	3	4	5	6	7		
3-6	广州是理想的居住地。	1	2	3	4	5	6	7		
3-7	我会尽力帮助广州发展。	1	2	3	4	5	6	7		
3-8	我愿意为广州发展提供财政上的支持。	1	2	3	4	5	6	7		
3-9	我主动参与社区各项活动。	1	2	3	4	5	6	7		
3-10	我在广州住了很长时间。	1	2	3	4	5	6	7		

4. 权力

权力是您对于社区资源的掌控能力。下列句子描述您的权力水平。请选择最能代表您情况的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	1	2	3	4	5	6	7	非常同意
4-1	我对于各种社区发展的决策有个人影响力。	1	2	3	4	5	6	7		
4-2	我在社区关于博彩发展的决策过程中有政治影响力。（例如：通过选举）	1	2	3	4	5	6	7		
4-3	我有较高的教育水平。	1	2	3	4	5	6	7		
4-4	我对于博彩有足够的知识。	1	2	3	4	5	6	7		
4-5	我能够控制自己的博彩行为。	1	2	3	4	5	6	7		

5.对于非赌场博彩（例如：福利彩票、体育彩票）的支持度。

下列句子描述您对于非赌场类博彩的支持度。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	1	2	3	4	5	6	7	非常同意
5-1	非赌场类博彩是广州最重要的产业之一。	1	2	3	4	5	6	7		
5-2	我一直以来支持广州的非赌场类博彩。	1	2	3	4	5	6	7		
5-3	非赌场类博彩帮助广州向正确的方向发展。	1	2	3	4	5	6	7		
5-4	广州的未来由于非赌场类博彩的发展而更加光明。	1	2	3	4	5	6	7		
5-5	非赌场类博彩在广州的经济中继续扮演重要的角色。	1	2	3	4	5	6	7		
5-6	我十分高兴旅游者们因为广州的非赌场类博彩而来到广州。	1	2	3	4	5	6	7		
5-7	我支持广州非赌场类博彩进一步发展。	1	2	3	4	5	6	7		
5-8	非赌场类博彩使得广州成为一个更加好的居住地。	1	2	3	4	5	6	7		
5-9	非赌场类博彩是广州发展的正确选择。	1	2	3	4	5	6	7		

6. 博彩行为

下列问题与您的博彩行为相关。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	1	2	3	4	5	6	7	非常同意
6-1	过去一年中，我曾经购买非赌场类博彩产品（例如：体育彩票、福利彩票）。	1	2	3	4	5	6	7		
6-2	过去一年中，我的家人（包括了配偶、父母、子女）曾经购买非赌场类博彩产品（例如：体育彩票、福利彩票）。	1	2	3	4	5	6	7		
6-3	过去一年中，购买非赌场类博彩产品	1	2	3	4	5	6	7		

	(例如: 体育彩票、福利彩票) 占我家庭总开支的一部份。							
6-4	过去一年中, 我在博彩上(所有博彩, 包括前往赌场博彩, 打麻将或者扑克)花费了一些钱。	1	2	3	4	5	6	7
6-5	过去一年中, 我的家人(包括了配偶、父母、子女)在博彩上(所有博彩, 包括前往赌场博彩, 打麻将或者扑克)花费了一些钱。	1	2	3	4	5	6	7
6-6	过去一年中, 博彩消费(包括了赌场博彩消费, 打麻将或者扑克的消费)占我家庭总开支的一部份。	1	2	3	4	5	6	7

7. 人口统计特征 (不记名, 请选择对您本人描述最准确的一项):

7.1 您的性别: 1.男 2.女

7.2 您的年龄: 1.18-25 岁 2. 26-35 岁 3. 36-45 岁
 4. 46-55 岁 5. 56 -65 岁 6. 超过 66 岁

7.3 您的婚姻状况: 1.独身 2.已婚 3.其他

7.4 您的受教育程度:

1. 小学及以下 2. 初中 3. 高中/职业技术学校/中专
 4. 本科 (学士学位) 5.研究生 (硕士学位) 6. 研究生 (博士学位)

7.5 您的职业:

1. 经理及行政级人员 2. 服务工作及销售人員 3. 公務員
 4. 医生、教授等专业人员 5. 文书人员 6. 非技术工人
 7. 专业技术工人 8. 自由职业者
 9. 家庭主妇 10. 学生 11. 退休
 12. 其他(请注明)_____

7.6 您的家庭月收入范围是多少 (人民币)?

1. 少于 2,000 2. 2,001 至 4,000 人民币
 3. 4,001 至 8,000 人民币 4. 8,001 至 12,000 人民币
 5. 12,001 至 16,000 人民币 6. 超过 16,000 人民币

-----问卷已完成, 感谢您的参与! -----

Appendix 11. Questionnaire for main survey in English (Guangzhou)

A SURVEY OF GUANGZHOU RESIDENTS' PERCEPTION OF NON-CASINO GAMING

Dear respondent,

We are currently conducting a survey on behalf of School of Hotel and Tourism Management, the Hong Kong Polytechnic University regarding to residents' perception of commercial non-casino (e.g. Welfare Lottery, Sports Lottery) gaming in Guangzhou.

The aim of this study is to examine residents' perceptions of the impacts of commercial non-casino gaming on urban communities. Information obtained from this research may be used in future research. All information related to you will remain confidential and will be identifiable by codes only known to the researcher. You have every right to withdraw from the study at any time.

The questionnaire is anonymous. I would be very grateful if you could please spare 10 minutes of your time to complete this questionnaire. Thank you for your cooperation!

School of Hotel and Tourism Management

The Hong Kong Polytechnic University

Ph.D. Research Student: Miss Gemma, Jiaqi Luo

Screening Questions:

1. Are you over 18 years old?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Guangzhou **Adults**.

2. Are you living in Guangzhou more than 1 year?

() Yes. Please continue to fill in the questionnaire.

() No. Thank you and please return the questionnaire. We only want to understand the perception of Guangzhou **Residents**.

1. Perceived positive impacts of the non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The non-casino gaming in Guangzhou may lead to some positive impacts and the following statements may describe your perception about those positive impacts.

Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Guangzhou leads to...	strongly disagree	neutral				strongly agree	
1-1	Increased tax revenue	1	2	3	4	5	6	7
1-2	More investment and business	1	2	3	4	5	6	7
1-3	More employment opportunities	1	2	3	4	5	6	7
1-4	More tourist spending	1	2	3	4	5	6	7
1-5	Increase in public infrastructure	1	2	3	4	5	6	7
1-6	Increase of welfare in the community	1	2	3	4	5	6	7
1-7	Increased city attractiveness	1	2	3	4	5	6	7
1-8	More social opportunities	1	2	3	4	5	6	7
1-9	More educational funding	1	2	3	4	5	6	7
1-10	Increased pride of local residents	1	2	3	4	5	6	7
1-11	More entertainment and recreation facilities	1	2	3	4	5	6	7

2. Perceived negative impacts of the non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The non-casino gaming in Guangzhou may lead to some negative impacts and the following statements may describe your perception about those negative impacts.

Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think non-casino gaming in Guangzhou leads to...	strongly disagree	neutral				strongly agree	
2-1	Gambling addicts	1	2	3	4	5	6	7
2-2	Destruction of family	1	2	3	4	5	6	7
2-3	Increase of loan sharking (usury)	1	2	3	4	5	6	7
2-4	Increase of speculative activities	1	2	3	4	5	6	7
2-5	Crime	1	2	3	4	5	6	7

2-6	Bankruptcy	1	2	3	4	5	6	7
2-7	Divorce	1	2	3	4	5	6	7
2-8	Traffic congestion ·	1	2	3	4	5	6	7
2-9	Quantity of litter ·	1	2	3	4	5	6	7
2-10	Noise level	1	2	3	4	5	6	7
2-11	High cost of living ·	1	2	3	4	5	6	7
2-12	Decrease of cleanliness of the community	1	2	3	4	5	6	7
2-13	An overcrowded city	1	2	3	4	5	6	7

3. Community Attachment

Community attachment is your participation and integration into community life, and sentiment toward the community. The following statements describe your attachment to Guangzhou as community at large. Please indicate your level of agreement with the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree	neutral	strongly agree				
3-1	I feel at home in Guangzhou.	1	2	3	4	5	6	7
3-2	I would like to live in Guangzhou more than other cities.	1	2	3	4	5	6	7
3-3	I know what goes on in Guangzhou.	1	2	3	4	5	6	7
3-4	I will be sorry if I move away.	1	2	3	4	5	6	7
3-5	I am satisfied with Guangzhou.	1	2	3	4	5	6	7
3-6	Guangzhou is an ideal place to live.	1	2	3	4	5	6	7
3-7	I would do my best to enhance the development of Guangzhou.	1	2	3	4	5	6	7
3-8	I am actively involved in community issues and activities.	1	2	3	4	5	6	7
3-9	I lived in Guangzhou for a long time.	1	2	3	4	5	6	7

4. Power

Power is your ability of control over the resources in the community. The following statements describe your level of power. Please indicate your level of agreement with

the corresponding statement by circling a number that denotes such a level.

	I think	strongly disagree	neutral				strongly agree	
4-1	I can personally influence over decisions related to community development.	1	2	3	4	5	6	7
4-2	I have political influence (e.g. through voting) in the decision making process of gaming development.	1	2	3	4	5	6	7

5. Support level for non-casino gaming (e.g. Welfare Lottery, Sports Lottery)

The following statements describe your support level for non-casino gaming. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree	neutral				strongly agree	
5-1	Non-casino gaming is one of the most important industries for Guangzhou.	1	2	3	4	5	6	7
5-2	Non-casino gaming help Guangzhou grow in the right direction.	1	2	3	4	5	6	7
5-3	The future of Guangzhou looks bright due to non-casino gaming development.	1	2	3	4	5	6	7
5-4	Non-casino gaming continue to play an important economic role in Guangzhou.	1	2	3	4	5	6	7
5-5	I am happy that there are tourists coming to Guangzhou because of non-casino gaming.	1	2	3	4	5	6	7
5-6	I support additional non-casino gaming development.	1	2	3	4	5	6	7
5-7	The non-casino gaming development makes Guangzhou a better place to live.	1	2	3	4	5	6	7
5-8	The non-casino gaming development is the right choice for Guangzhou.	1	2	3	4	5	6	7

6. Gaming Behavior

Many Guangzhou residents take part in different kinds of gaming. The following questions are related to your participation in gaming activities. Please indicate your level of agreement with the corresponding statement by circling a number that denoted such a level.

	I think	strongly disagree		neutral		strongly agree		
6-1	I went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. Welfare Lottery, Sports Lottery) products in the past one year.	1	2	3	4	5	6	7
6-2	My family members (including spouse, parents, children) went to racecourses or off-Course betting branches to buy non-casino gaming (e.g. Welfare Lottery, Sports Lottery) products in the past one year.	1	2	3	4	5	6	7
6-3	Spending on non-casino gaming (e.g. Welfare Lottery, Sports Lottery) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7
6-4	I spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-5	My family members (including spouse, parents, children) spend some money on gambling (including went to casino to gamble, playing mahjong or poker) in the past one year.	1	2	3	4	5	6	7
6-6	Gaming spending(including spending on casino gambling, playing mahjong or poker) was part of my annual household spending in the past one year.	1	2	3	4	5	6	7

7. Demographic information (Anonymous)

Please indicate your demographic information by circling an item in each category.

7.1 Your gender: 1. Male 2. Female

7.2 Your age: 1. 18-25 2. 26-35 3. 36-45 4. 46-55
 5. 56 -65 6. 66 or above

7.3 Your marital status: 1. Single 2. Married 3. Other

7.4 Your level of education:

1. Primary and below 2. Junior high school
 3. Senior high school / Vocational school/ Technical school 4. Bachelor degree
 5. Master degree 6. Doctor degree

7.5 Your occupation:

1. Manager or administrator 2. Service or sales worker 3. Civil servant
 4. Professional 5. Clerical worker 6. Unskilled worker 7. Skilled
worker 8. Self-employed 9. Housewife 10. Student
 11. Retired 12. Other (Please specify) _____

7.6 Monthly Household Income of your family (in RMB) :

1. Less than 4,000 2. 4,001-8,000 3. 8,001-12,000 4. 12,001-16,000
 5. 16,001 -20,000 6. More than 20,000

-----End of the Questionnaire, thank you for your participation. -----

Appendix 12. Questionnaire for main survey in Chinese (Guangzhou)

广州居民对于福利彩票、体育彩票感知的调查

尊敬的受访者：

我们现在代表香港理工大学酒店及旅游业管理学院就广州居民对于非赌场类博彩（福利彩票、体育彩票）的感知进行问卷调查。本项研究的目的在于了解城市社区中居民对于非赌场类博彩的感知。从调查中获得的信息将用于未来的研究。所有关于您的信息都将被保密，并且将被编成只有研究人员才能识别的代码。您有权随时退出研究。

本问卷是不记名的。如果您愿意花十分钟时间完成本问卷，我们将不胜感激。谢谢您的合作！

香港理工大学酒店及旅游业管理学院
博士研究生：罗佳琦

筛选问题：

1. 请问您年满 18 岁吗？

() 是。请继续填写余下问题。

() 否。感谢您，请交还问卷，我们希望了解成年居民的感知。

2. 请问您在广州居住超过一年以上吗？

() 是。请继续填写余下问题。

() 否。感谢您，请交还问卷，我们希望了解广州居民的感知。

1. 对于非赌场博彩（例如：福利彩票、体育彩票）的**正面影响**的感知。

下列句子描述您对广州非赌场类博彩的正面影响的感知。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为非赌场类博彩为广州带来了：	非常 不同意	中立					非常 同意
1-1	更多税收收入	1	2	3	4	5	6	7
1-2	更多投资和商业	1	2	3	4	5	6	7
1-3	更多就业机会	1	2	3	4	5	6	7
1-4	更多旅游者消费	1	2	3	4	5	6	7

1-5	公共基础设施的增加	1	2	3	4	5	6	7
1-6	社区福利的增加	1	2	3	4	5	6	7
1-7	城市吸引力的增加	1	2	3	4	5	6	7
1-8	居民社交机会的增加	1	2	3	4	5	6	7
1-9	教育资助的增加	1	2	3	4	5	6	7
1-10	本地居民自豪感的增加	1	2	3	4	5	6	7
1-11	更多居民娱乐和游憩设施	1	2	3	4	5	6	7

2. 对于非赌场博彩（例如：福利彩票、体育彩票）的负面影响的感知。

下列句子描述您对广州非赌场类博彩的负面影响的感知。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为非赌场类博彩为广州带来了：	非常 不同意		中立		非常 同意		
2-1	赌博成瘾	1	2	3	4	5	6	7
2-2	家庭崩溃	1	2	3	4	5	6	7
2-3	高利贷的增加	1	2	3	4	5	6	7
2-4	投机行为的增加	1	2	3	4	5	6	7
2-5	犯罪	1	2	3	4	5	6	7
2-6	破产	1	2	3	4	5	6	7
2-7	离婚	1	2	3	4	5	6	7
2-8	交通拥挤	1	2	3	4	5	6	7
2-9	垃圾的增加	1	2	3	4	5	6	7
2-10	噪音提高	1	2	3	4	5	6	7
2-11	生活成本提高	1	2	3	4	5	6	7
2-12	社区清洁度的降低	1	2	3	4	5	6	7

2-13	城市过度拥挤	1	2	3	4	5	6	7
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3. 社区依恋

社区依恋是您融入和参与社区活动的程度，也是您对于广州作为一个大社区的感情强烈程度。下列句子描述您的社区依恋程度。请选择最能代表您情况的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	中立					非常同意
3-1	我在广州就像在家一样。	1	2	3	4	5	6	7
3-2	我喜欢住在广州胜于其他城市。	1	2	3	4	5	6	7
3-3	我知道广州目前发生的事情。	1	2	3	4	5	6	7
3-4	如果我搬出了广州，我会觉得很遗憾。	1	2	3	4	5	6	7
3-5	我对于广州很满意。	1	2	3	4	5	6	7
3-6	广州是理想的居住地。	1	2	3	4	5	6	7
3-7	我会尽力帮助广州发展。	1	2	3	4	5	6	7
3-8	我主动参与社区各项活动。	1	2	3	4	5	6	7
3-9	我在广州住了很长时间。	1	2	3	4	5	6	7

4. 权力

权力是您对于社区资源的掌控能力。下列句子描述您的权力水平。请选择最能代表您情况的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	中立					非常同意
4-1	我对于各种社区发展的决策有个人影响力。	1	2	3	4	5	6	7
4-2	我在社区关于博彩发展的决策过程中有政治影响力。（例如：通过选举）	1	2	3	4	5	6	7

5. 对于非赌场博彩（例如：福利彩票、体育彩票）的支持度。

下列句子描述您对于非赌场类博彩的支持度。请选择最能代表您看法的一个数字并画圈○，1 代表“非常不同意”，7 代表“非常同意”。

	我认为	非常不同意	中立					非常同意
--	-----	-------	----	--	--	--	--	------

5-1	非赌场类博彩是广州最重要的产业之一。	1	2	3	4	5	6	7
5-2	非赌场类博彩帮助广州向正确的方向发展。	1	2	3	4	5	6	7
5-3	广州的未来由于非赌场类博彩的发展而更加光明。	1	2	3	4	5	6	7
5-4	非赌场类博彩在广州的经济中继续扮演重要的角色。	1	2	3	4	5	6	7
5-5	我十分高兴旅游者们因为广州的非赌场类博彩而来到广州。	1	2	3	4	5	6	7
5-6	我支持广州非赌场类博彩进一步发展。	1	2	3	4	5	6	7
5-7	非赌场类博彩使得广州成为一个更加好的居住地。	1	2	3	4	5	6	7
5-8	非赌场类博彩是广州发展的正确选择。	1	2	3	4	5	6	7

6. 博彩行为

下列问题与您的博彩行为相关。请选择最能代表您看法的一个数字并画圈○，1代表“非常不同意”，7代表“非常同意”。

	我认为	非常不同意	中立	非常同意				
6-1	过去一年中，我曾经购买非赌场类博彩产品（例如：福利彩票、体育彩票）。	1	2	3	4	5	6	7
6-2	过去一年中，我的家人（包括了配偶、父母、子女）曾经购买非赌场类博彩产品（例如：福利彩票、体育彩票）。	1	2	3	4	5	6	7
6-3	过去一年中，购买非赌场类博彩产品（例如：福利彩票、体育彩票）占我家庭总开支的一部份。	1	2	3	4	5	6	7
6-4	过去一年中，我在博彩上(所有博彩，包括前往赌场博彩，打麻将或者扑克)花费了一些钱。	1	2	3	4	5	6	7
6-5	过去一年中，我的家人（包括了配偶、	1	2	3	4	5	6	7

	父母、子女) 在博彩上(所有博彩, 包括前往赌场博彩, 打麻将或者扑克)花费了一些钱。	
6-6	过去一年中, 博彩消费(包括了赌场博彩消费, 打麻将或者扑克的消费)占我家庭总开支的一部份。	1 2 3 4 5 6 7

7. 人口统计特征 (不记名, 请选择对您本人描述最准确的一项):

7.1 您的性别: 1.男 2.女

7.2 您的年龄: 1.18-25 岁 2. 26-35 岁 3. 36-45 岁
 4. 46-55 岁 5. 56 -65 岁 6. 超过 66 岁

7.3 您的婚姻状况: 1.独身 2.已婚 3.其他

7.4 您的受教育程度:

1. 小学及以下 2. 初中 3. 高中/职业技术学校/中专
 4. 本科 (学士学位) 5. 硕士学位 6. 博士学位

7.5 您的职业:

1. 经理及行政级人员 2. 服务工作及销售人員 3. 公务员
 4. 医生、教授等专业人员 5. 文书人员 6. 非技术工人
 7. 专业技术工人 8. 自由职业者
 9. 家庭主妇 10. 学生 11. 退休
 12. 其他(请注明)_____

7.6 您的家庭月收入范围是多少 (人民币)?

1. 少于 4,000 2. 4,001 至 8,000 人民币
 3. 8,001 至 12,000 人民币 4. 12,001 至 16,000 人民币
 5. 16,001 至 20,000 人民币 6. 超过 20,000 人民币

-----问卷已完成, 谢谢您的参与! -----

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