Residents' perceptions of non-casino gaming in an urban destination: The case of Hong Kong

Gemma Jiaqi Luo
East China Normal University, China
Honggen Xiao
The Hong Kong Polytechnic University, Hong Kong SAR

(Highlights)

- Residents' perceptions and levels of support are of complex relationships.

- Perceived social impacts have significant positive effects on support.

- Community attachment and gaming behavior are direct predictors of support.

- Perceived power relations are indirect predictors of support.

ABSTRACT

This study aims to understand residents' perceptions of the impacts of non-casino gaming on an urban destination. Executed in Hong Kong, the survey research finds that the level of community support is determined by residents' perceptions of gaming impacts, as well as their power, behavior, and attachment to their community. While positive impacts largely fall into the social domain, the negative ones are more often associated with the environment. Residents' gaming behavior has significant effects on their level of support of the activity. Direct positive relationships are identified between residents' attachment to the community and their level of support. Moreover, power relations are found to be strongly embedded in community perceptions of gaming impacts. The research contributes to literature on non-casino gaming and residents' perceptions of its impacts on the destination community. Findings from the study provide useful information for the planning, managing, and marketing of both the industry and of the urban destination.

1. Introduction

In an urban community, gaming is an important provider of leisure and recreation facilities and services for both residents and tourists. In Hong Kong, for example, Mark Six lottery and horse racing are important components of local culture and recreation (Wong, 2009), projecting an attractive image of the destination (Hsu & Song, 2013), which have great potential to be developed as new tourist attractions. In 2015, the number of visitors to Hong Kong from around the world declined by 2.5% compared to 2014 (The Hong Kong Tourism Board, 2015). Tourists from mainland China changed their taste from shopping, sightseeing to searching for more experience related to local culture, as well as exciting and relaxing entertainment.

There is a huge market potential for Hong Kong to develop gaming attractions which are not allowed in mainland China, but Chinese tourists look for a variety of entertainment and leisure options for a novel experience as well as for socialization and relaxation, which goes beyond hardcore gambling (Rosenbaum & Wong, 2015). By venues of occurrences, non-casino gaming takes the forms of lotteries, wagering on racing, and sport lotteries (Eadington, 1999), and attracts customers with unique products, services and diverse lifestyles (Wu & Chen, 2015).

In an urban destination, the success of gaming depends on residents' support, hence it is vital that its impacts on the community are often monitored and researched.

Chhabra and Andereck (2009) reported that improved community perceptions of gaming would facilitate higher patronage and help showcase the recreational nature of the industry. Fong, Au and Law (2015) suggested that more research should be conducted on the impact of gaming so as to sustain tourism in (or to) a destination. Moreover, while residents' perceptions of gaming have been subject to investigation for decades (Zhou, Lu, & Yoo, 2014), the models and scales used to analyze its impacts and understand community attitudes have been mostly developed in the context of casino gaming. Residents' perceptions of non-casino gaming such as lottery, horse racing, and sport betting have not been assessed under a theoretical framework. Western research has found that gaming is a form of entertainment that begins in early life and continues throughout one's lifetime instead of something to be discarded along the way (Raymore, 1995). Hence, it has far-reaching effects on the local community. In turn, understanding the impacts of gaming on a community becomes important, particularly as gambling research and policy efforts begin to focus on public health considerations such as economic and legal issues as well as responsible gambling efforts (Blaszczynski, Ladouceur, & Shaffer, 2004).

This study aims to understand community perceptions of non-casino gaming through a case study in Hong Kong. A potentially important gaming destination, horse racing has long been a tradition as spectacular event or tourism endeavor (Kurtzman, 2005). Specifically, the research addresses the questions of what residents' perceptions are of non-casino gaming, what factors affect residents' perceptions, and their underlying relationships in China and, by extension, in many Asian communities.

Theoretically, while the study tests theories and hypotheses on the one hand, findings on gaming behavior and community attitudes are also practically useful for destination marketing and management. Hong Kong was chosen for this study because it was one of the earliest cities that took the initiative to develop tourism as an economic pillar. However, the existing urban attractions in Hong Kong could not explicitly satisfy tourists' need for such gaming activities. Hence results of the study could also shed light on strategic planning of the destination in terms of how it may sustain its tourism as the "Asia's World City".

2. Social exchange and community support of non-casino gaming

Social exchange theory posits that human relationships are formed on the basis of subjective assessments of costs and benefits as well as comparisons of alternatives (Homans, 1974). Prior studies have used social exchange theory and adopted structural equation approaches to understanding residents' attitudes toward gaming and tourism development (Back, 2005; Fong, Fong, & Law, 2016; Lee, Kim, & Kang, 2003; Vong, 2008). It was concluded that social exchange theory was valid for explaining the relationships between perceived benefits and residents' level of support of gaming development in their community (Ap, 1992). The theory postulates that the more dependent a community is on gaming, the more positive its residents' attitudes are toward its further development. The theory is methodologically applicable as residents can evaluate the impacts of gaming in terms of perceived benefits or costs.

However, while prior studies examine the structural relationships between perceived impacts and level of support of gaming development, residents' feeling towards their community and their gaming behavior has been under-researched (Fong et al., 2016; Lee et al., 2003). Moreover, the core ideas of power that comprise social exchange have yet to be adequately integrated into the research framework on community responses.

Three categories are considered in building the constructs for this study. The first is residents' level of support, which is an important indicator in the context of casino gaming and is hence examined as the ultimate dependent variable in this study. In some destinations such as Hong Kong, horse racing is one of the few activities in which gambling is legal, thereby giving it a significant advantage over other sports where gaming is not permitted. The most difficult and least resolved issues relative to the introduction of gaming in communities relate to social consequences, which has rarely received any attention in the field of lottery, horse racing and sport betting. For developing non-casino gaming as tourist attractions, planning is important and it should begin during the early conceptual stages. The second category contains perceived positive and negative impacts. These are chosen because they represent the effects of gaming on the community. The third category contains variables that exert influences on residents' perceptions of gaming impacts such as community attachment, gaming behavior, and power.

To elaborate, as is postulated in social exchange theory, community's expression of support can be seen as a proxy of its residents entering into an exchange

relationship through a development initiative (Ap, 1992). A community is likely to support certain kinds of industry development if its residents perceive that the industry could bring them more benefits than costs (Gursoy & Rutherford, 2004). Over the past 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 assert that gambling can offer various benefits, such as entertainment, leisure options, job creation, and tax revenues (Walker, 2007). However, opponents of gambling stress the undesirable consequences such as increases in 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 addiction and pathological compulsion (Wood & Tirone, 2013).

In terms of perceived positive impacts, most variables in prior studies are grouped into social-cultural, economic, and environmental constructs (Lee, 2001). When managed properly, gaming may help generate revenues to advance the economic and social-cultural development of a community, serving as an effective means to boosting consumer spending, generating tax incomes, and promoting other related industries (Li, Zhang, Mao, & Min, 2012). Among the positive results of the casino industry, the most obvious benefits to the society are the creation of jobs and improvements in the prospects of local businesses (Carmichael, 1996). Rosenbaum and Wong (2015) further acknowledge the positive impact of gaming as a means of alleviating mental fatigue and strain. This health-related consequence of gaming

means that it has properties that allow people to escape from boredom and daily routines as well as the ability to enjoy novelty while wagering.

Beyond the traditional casino gaming, horse racing and lottery are more modest and easier to be accepted by family vacationers (McManus & Raewyn, 2014). Many participants do not get "hooked"; rather, they have considered racing as novelty, cultural experience and sport (Neal, 2005). The recreational value for both tourists and residents generate the community support. Hence, it is hypothesized:

H_1: *A positive relationship exists between residents' perceived positive impacts and their level of support of non-casino gaming.*

Despite the positive aspects of gaming, there are evident negative impacts associated with this activity, of which problem gambling is a major issue and can have a drastic impact on a community if not managed properly. Lee and Back (2003) found that residents held stronger perceptions of some types of negative social impacts, such as gambling addiction, speculative gambling, increases in bankruptcy rates, and destructive effects on families. Socio-environmental problems (including worsening traffic congestion, air pollution, and crowding in the city) caused residents to develop negative sentiments or even resentment towards gambling development. In the case of Macau, the world's gambling capital, environmental deterioration caused by a rapidly growing tourism and gambling industry has become the focus of local media. These factors have made residents become more conservative (Vong, 2008). The rapid increase in traffic volume on rural roads leading to communities disrupted residents'

lives (Kang et al., 2008). Other negative impacts such as corruption, poor quality of life, and increase of crime rates are relatively intangible and hard to measure in reality (Chhabra, 2007). Crime rates are often cited as a negative impact of gaming (Stokowski, 2012). Consequently, such negative perceptions have affected community support in general. It is thus hypothesized:

> H_2: *A negative relationship exists between residents' perceived negative impacts and their level of support of non-casino gaming.*

Moreover, 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). 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, 2002). Residents with strong community attachment are more likely to perceive positive social impacts from casino development and are less likely to perceive negative social impacts. In addition, level of community attachment influences perceived benefits and support. The higher the level of attachment, the stronger the perceived benefits among residents (Lee et al., 2010). Gursoy, Jurowski and Uysal (2002) found that the more attached residents are to their community, the more likely they evaluate the benefits positively and minimize the negative impacts. The following hypotheses are thus 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.*

Next, in terms of gaming behavior, research suggests that, as general attitudes toward gaming become more favorable, the frequency of participation will accordingly increase. Hsu (2000) indicated that the more often respondents visited the casino, the more positive their perceptions were concerning its impacts. Frequent visitors see the impacts of casino in more favorable ways. Vong (2008) conducted longitudinal studies of Macau residents' attitudes toward gaming and their behavior. Her results suggested that players generally had more positive attitudes toward gaming than non-players. Hence the following hypotheses on gaming behavior are formulated:

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

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

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

Finally, in terms of relations amongst stakeholders involved in social exchange, power has to do with residents' ability to secure personal returns from having a certain industry in their community (Kayat, 2002). Ap (1992) indicated that power is the central variable of exchange and provides a basis for determining the form of the exchange relationship. It has been defined as the ability of one actor to influence the

outcome of another actor's behavior or experience. Therefore, power is derived from having and controlling resources that another actor requires and values. Power is determined by access to resources (e.g., economic), position held in a community (e.g., the role of an officer), and skills (Latkova & Vogt, 2012). Ap (1992) further highlighted that the average of two actors' power or their interdependence is cohesion, and greater cohesion is related to greater satisfaction with the consequences of the exchange (that is, the perceptions of impacts). Nunkoo and Ramkissoon (2011, 2012) reported that residents with (or in) power were more satisfied with their community than those who were not empowered. Additionally, power was an important construct for influencing overall satisfaction within a tourism community. Despite its importance, little attention has been paid to power in previous research endeavors on gaming impacts theorized under the social exchange framework. Therefore, the following hypotheses are developed:

> H5a: *A positive relationship exists between residents' power and their perceived positive impacts of non-casino gaming.*
>
> H5b: *A negative relationship exists between residents' power and their perceived negative impacts of non-casino gaming.*

3. Methods

This study uses survey to achieve the research objectives. The measurement items are derived from an extensive review of the literature relating to resident perceptions of the impacts of gaming. To incorporate items suitable for the case study context and to reduce irrelevant ones, semi-structured interviews are conducted, in

which interviewees are given a checklist of all the items related to perceived impacts drawn from the literature. The resident participants are asked to choose the most important ones based on their understanding of an item or issue at hand. The interview participants are recruited via convenience sampling. The researcher also asks them open-ended questions regarding their perceptions of non-casino gaming in Hong Kong.

After the qualitative stage, 54 attitudinal items about level of support, perceived positive impacts, perceived negative impacts, community attachment, gaming behavior, and power are included in the pilot test. The details of each construct are summarized in Table 1. The questionnaire is first developed in English and is then translated into Chinese, following a back-to-back translation procedure (Chapman & Carter, 1979). Content validity of the preliminary questionnaire is assessed by a panel of experts, including three university professors with acumen in gaming and leisure research. Each panelist is asked to examine the relevance, representativeness, clarity, test format and wording, and item content of the questionnaire (Babbie, 2004). All of the questions are measured on a 7-point Likert scale, ranging from 1 = totally disagree to 7 = totally agree. Screening questions are asked concerning whether the respondents are adult residents.

INSERT TABLE 1 ABOUT HERE

Pilot tests of the questionnaire are then administered to a small sample of residents (N=159). After the pilot test, measurements are evaluated by employing

exploratory factor analysis (EFA) and reliability tests, to purify the measurement and to assess construct validity. Three items are removed from the questionnaire, which is later used in the main survey because their factor loadings are either lower than 0.45 or are cross-loaded on factors (Hair, Black, Babin, & Anderson, 2014).

Target population of the main survey comprises adult residents who are over 18 years of age and have lived in the city for more than one year. Data collection follows a quota sampling approach, in which quotas are set according to demographic characteristics of the residents based on government census. From 21 November to 23 December 2013, more than 700 questionnaires were distributed in major residential and commercial districts in Hong Kong with the assistance of trained undergraduate student helpers recruited from a local university. The authors selected different locations for questionnaire delivery; the research assistants could also invite residents from different backgrounds to take part in the survey. A total of 626 completed questionnaires were returned. The data was analyzed using SPSS 20.0 and AMOS Graphics 20.0.

4. Data analysis and results

To ensure that the dataset obtained was appropriate for the analysis, data were initially screened for entry errors, missing values, multivariate normality, and outliers using the four-point checklist of Tabachnick and Fidell (2007). Nine cases with more than 15% missing values (Hair et al., 2014) and nine outliers were discarded. After screening, the final sample retained for analysis comprised of 608 cases. Overall, with

a sample size of approximately 12 times the number of variables used in the questionnaire, this dataset was deemed suitable for structural equation modeling (SEM) and was capable of yielding sufficient statistical precision (Gorard, 2003).

In terms of demographics, the sample was a fairly good representation of the general population, with striking similarities in terms of age, gender, marital status, education, and household income, to the census (Hong Kong Government, 2011). About 53% of the population was female, while this sample recorded approximately 54% of the respondents being female. In terms of age, nearly 16% of Hong Kong residents were older than 65 years, whereas senior citizens accounted for nearly 15% of the sample in the survey. The respondents were also fairly evenly distributed by marital status, occupation and income level. There were slightly more married (almost 50%) than single (47.0%) respondents. Participants with a bachelor's degree accounted for more than one third of the sample (35%), followed by 28% having completed diplomas or certificates. Service or sales workers and students accounted for the largest segments, at 14% and 12%, respectively. Other participants worked in a wide range of fields, including clerical work (13%), management (10%), unskilled work (almost 9%), skilled work (8%), and professional roles (4%). Of the 608 respondents, about 38% had a monthly family income of HKD10,000-24,999 (USD1,288-3,221) and 29% earned HKD25,000-49,999 (USD3,222-6,443) every month.

An exploratory factor analysis (EFA) was used to establish the appropriate number of factors to be included in the measurement model and to ascertain which of

the measured variables were reasonable indicators of the various latent dimensions. In this study, EFA was conducted both on the sample of the pilot test and that of the main survey. A comparison of the two EFAs displayed a very high level of similarity. In the main survey, an eight-factor solution was generated after eliminating the nine items with factor loadings less than 0.45 (Hair et al., 2014). The hypothetical positive impacts were represented along two dimensions (social and economic), as were the hypothetical negative impacts indicated by social and environmental aspects. The Kaiser-Meyer-Olkin 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. Cronbach's alpha ranged from 0.759 to 0.935, exceeding the minimum standard of 0.7 recommended by Nunnally and Bernstein (1994).

On the basis of theoretical review and EFA results, a full confirmatory factor analysis (CFA) model was established; however, the null model showed a poor fit. Hence, modifications were carried out in light of the residual covariance matrices and the modification indices for each fixed parameter. Eight items were deleted, after which the model demonstrated good fit to the data. The eight items were related to community attachment, perceived positive impacts, and perceived negative impacts. The goodness-of-fit indices used for the assessment of model fit included the χ^2 likelihood ratio test statistic, χ^2/df, GFI, CFI, TLI, and RMSEA. The statistics – χ^2/df with a cutoff value less than 3; GFI, CFI, and TLI with cutoff values greater than 0.90; and RMSEA with a cutoff value of less than 0.08 – were used for model assessment

(Byrne, 2010). The overall measurement model exhibited good fit to the data (χ^2 (349)=788.871, p<0.000, χ^2/df=2.26, GFI=0.916, CFI=0.947, TLI=0.938, and RMSEA=0.046).

Table 2 presents results from the CFA. As can be seen, all of 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 this dataset ranged from 0.637 to 0.897, which are deemed empirically acceptable.

INSERT TABLE 2 ABOUT HERE

The model was further evaluated for its reliability and validity. Construct reliability can be shown by the squared multiple correlations of the observed variables and the composite reliability of each latent variable. Therefore, Cronbach's alpha was used in this study as the criterion for internal consistency of each variable. All of the Cronbach's alpha values were acceptable, being 0.7 or higher (Table 2). The convergent validity of the measurement model was then checked by examining three widely used criteria: 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 3 shows that all of the AVE values for the latent variables in this Hong Kong-based study were higher than the cutoff value of 0.50 (Fornell & Larcker, 1981), indicating adequate convergent validity. These criteria suggest 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 inter-construct correlation, indicating that the eight factors were conceptually distinct, and thus discriminant validity was established. As suggested by SEM, 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.

INSERT TABLE 3 ABOUT HERE

4.1 The structural model

The specifications of the structural model were based on the measurement model. In SEM applications, one or more such models may be created (Barrett, 2007). Based on the consensus regarding the conceptual framework developed from the literature and the CFA results showing the eight-factor structure, an initial structural model was developed that comprised one endogenous latent variable and seven exogenous variables (Figure 1).

INSERT FIGURE 1 ABOUT HERE

The estimation of the preliminary model yielded a poor fit. Chou (2012) suggests that if the fit of the model being evaluated is considered inadequate, modification becomes a viable option. If the best-fitting model cannot be found using the confirmatory strategy, a structural model should be identified by comparing a

number of alternatives or nested models to determine which comes closest to a theoretically justifiable outcome (Reisinger & Mavondo, 2006). In testing the validity of a causal structure, the focus is on the modification indices (MI) of the parameters representing these structural paths. In reviewing the MI, it was noted that the maximum MIs were associated with the regression path flowing from perceived positive economic impacts and perceived negative social impacts to support level. These two variables were therefore dropped to create a model with only six variables. The model was then re-estimated by adding another path between community attachment and support level. The results of the difference tests favored the new model. The positive relationship between community attachment and level of support could be explained by the fact that people who were historically connected to the community also cared about its future development (Gursoy et al., 2002), as gaming is an important source of tax revenue and contributes greatly to the future of Hong Kong as a tourism destination. The stronger the community attachment, the more favorable the residents' attitudes toward the gaming industry. The added relationship could be justified theoretically because in the Asian culture, the higher the level of community attachment, the stronger the support for gaming development by residents (Lee et al., 2010). Finally, the SEM represented an excellent fit to the data in terms of its model fit indices (χ^2 (217) =416.942, p<0.001, χ^2/df=1.945, GFI=0.943, CFI=0.970, TLI=0.964, RMSEA=0.039).

Figure 2 depicts the structural model diagrammatically. The final structural model for this Hong Kong-based study is composed of three endogenous and three

exogenous constructs. The two endogenous variables with a direct effect are perceived positive and negative impacts. The component of the former is linked to social impacts and that of the latter is linked to environmental impacts. Community attachment not only has an indirect effect on support level through perceived impacts, as hypothesized, but also a direct effect through the modification. 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.

INSERT FIGURE 2 ABOUT HERE

Table 4 summarizes the direct, indirect, and total impacts of the exo-/endogenous variables on the other endogenous variables. Perceived positive impacts (0.49) is 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 terms of the influence of perceived positive impacts, gaming behavior and community attachment are both more significant, with the same total effect (0.22), than power (0.18). In assessing perceived negative impacts, gaming behavior (-0.22) is also more significant than power (0.13).

INSERT TABLE 4 ABOUT HERE

4.2 Hypothesis testing

Within the overall model, the estimates of the structural coefficients provide the basis for testing the hypotheses. Table 5 reports the results of hypothesis testing.

Perceived positive social impacts and power have a significant positive effect on support level, so do perceived negative environmental impacts. Thus, H1 and H4b are supported while H2 is rejected. It is indicated that non-casino gaming is associated with negative views of impacts, but not to the same degree as certain other forms of gaming. The negative influence can be offset by the great benefits that gaming provides to the community as a whole. Community attachment has a significantly positive effect on perceived positive social impacts, supporting H3a, whereas H3b is rejected. Gaming behavior is positively related to perceived positive social impacts and negatively associated with perceived negative environmental impacts, so H4a and H4b are supported. Finally, power has significant positive effects on perceived positive social impacts and perceived negative environmental impacts, providing support for H5a and rejecting H5b.

The results of this study are, for the most part, in support of the social exchange theory. However, the study's findings are 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, Xiao, Nunkoo, & Tukamushaba, 2013). As 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. Social exchange theory may still be a potentially useful framework to understand residents' perceptions of community impacts.

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5. Discussion and conclusion

Gaming has been acknowledged for its positive impact on communities, providing more social opportunities, more educational funding, more entertainment and recreation facilities, and increasing the attractiveness of a city, all of which fall within the social domain. Results of this study also confirm that these benefits are perceived by Hong Kong residents, where casino gaming has been restricted by government. This study suggests that Hong Kong residents still relish this leisure activity and perceive it as an important positive function in providing entertainment options. A potential impact of gambling is the possibility of a significant improvement in community development through the welfare it brings to the society. Horse racing, Mark Six and sports lottery offer people a hope of winning a jackpot, which can be considered as another strong motivation to participate. At the same time, in mainland China – the major tourist source market to Hong Kong, as the living standards are improving, people's interest in gaming is also growing. The fast growth of China's economy after the economic reform has pushed its society to become more entertainment-/pleasure-oriented, particularly among the younger generation (Anonymous, 2007).

In respect to the impacts of gambling on communities, several studies have shown that it can improve quality of life because increased government revenue usually leads to better public services (Roehl, 1999). Community perceptions of positive effects are the most significant factor in determining residents' level of

support of non-casino gaming. The positive impact measures in this study fall within the social domain. Gambling money may be specifically designated for improving certain educational programs and community renderings. This finding is consistent with previous studies conducted in casino communities, suggesting that playing casino games is the primary purpose of casino visits (Hwang & Han, 2016). Another important potential effect is the possibility of a significant improvement in general living conditions. Governments must continue to provide leisure and recreational gambling opportunities by making good use of gambling revenues.

Most of the respondents in this study perceived that gaming could increase the pride of local residents and the attractiveness of the city. The city's image was of a bigger concern than any other issues, and has significantly affected the expression of support of the industry. Residents' perceptions of the image of their community are likely to influence their desire for legalized gaming, as it tends to bring a disreputable image to a city in terms of the associated crimes and addiction, whereas non-casino gaming such as lotteries, horse racing, and sport betting can help to enhance its attractiveness (Chen, 2001).

In contrast to casino gaming research, findings from this study appear to suggest that other economic and environmental impacts are not as important as social impacts in determining residents' perceptions of non-casino gaming. In casino destinations such as Macau, gaming appears to be the only industry without a diverse economic basis. But in Hong Kong, non-casino gaming is just one part of a more diverse economy served by other industries. Therefore, the positive economic impacts

of gaming were not as significant in explaining respondents' perceptions of its benefits.

In terms of negative impacts, non-casino gaming does not exert as much influence as casino gambling, on the daily lives of residents in their community. In the structural model, the rejected hypotheses related to perceived negative impacts indicated that the relationships amongst perceptions of impacts, level of support, community attachment, gaming behavior, as well as power, were not as predictable. As Vong (2008) cautions, the expansion of casinos in Macau tends to result in obvious deteriorations in destination environment because of increased visitor volumes and the construction of new tourism facilities. However, respondents in this survey were not concerned about environmental issues, because operators do not need to construct large buildings in order to develop non-casino gaming. Rather, betting branches can be distributed all over the city. The environmental impacts of selling racing tickets and lotteries are perceived as minor or "not salient" by the residents.

Nonetheless, negative social impacts identified by Hong Kong residents were not significantly related to their level of support of non-casino gaming. Further investigation is required, with respect to the instance that many people in Hong Kong, regardless of what they perceive as negative impacts, support such activities and/or developments.

In contrast to prior study findings (Lee & Back, 2006), negative economic impacts have not been significantly correlated with levels of support of gaming

development in this study, which is partly due to the fact that economic costs did not directly exert influence on the residents. Moreover, the majority of the respondents thought that selling lottery and horse-racing tickets would not increase the general cost of living.

With respect to community attachment, results from this study echoed a prior research conducted in the United States and South Korea (Lee et al., 2010). Stokowski and Park (2012) claimed that a community's sense of place and residents' social cohesion and ability to identify meaningful aspects of local life are key issues in managing and planning development processes in destinations that host casino gaming venues. In the model presented in this study, community attachment was indirectly and positively correlated with gaming development. The results lend support to the claim that those who are strongly attached to the community view the benefits of gaming more positively than those who are less attached. These findings suggest that community attachment can be used to effectively assess support for gaming development in the Chinese context. It also indicates that residents with a higher level of community attachment will be more likely to support gaming development. This might be explained by the fact that residents 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 infrastructural facilities). In Hong Kong, betting on horse racing and buying Mark Six lottery tickets have become part of the routine for many residents, reflecting a lifestyle of the destination (Wong, Chui, & Yue, 2011). Another reason is that Hong Kong residents are becoming accustomed

to, and are accepting, gaming due to the growth of the gaming industry in Macau, the world's gaming capital and the only jurisdiction in China with casino gaming.

Nevertheless, in terms of residents' gaming behavior, social-cultural influences should not be ignored altogether because Chinese people tend to regard socializing as a primary motive for participating in activities such as playing poker or mahjong (Loo, Raylu, & Oei, 2008), which is suggestive of general perceptions or public image of gaming. The results also suggest that gaming behavior of family members significantly affects an individual's perceptions and attitudes, echoing previous findings that a major predictor of whether someone plays the lottery is the extent to which his/her friends or family also play the same game (Browne & Brown, 2001). Moreover, in the Hong Kong situation, this result could also be explained by the deeply rooted norm and value of conformity and collectivism that prevails in most Chinese societies (Wan, Kim, & Elliot, 2013). Yet, the limited legalized gaming options in China have largely restricted its development; hence, the Chinese are keen on visiting gaming destinations such as Macau, Singapore, South Korea, and Las Vegas to satisfy their gaming needs (Wong & Rosenbaum, 2012).

Nonetheless, this study has identified gaming's potential for growth as an entertainment option in China. Beyond lottery, other forms of public gaming, such as craps, online poker, bingo, raffle, mahjong, and betting on sporting events, could further enrich the entertainment options for Chinese residents. In addition, findings further suggest that residents with high community attachment are more likely to accept gaming activities. Such findings may have significant implications as China

represents over a quarter of the world's population. This will create huge market potential for the country if it internalizes gaming as a mainstream tourism activity.

Additionally, the findings confirm that power relations are central to the development and governance of gaming; it also indicates that power is a significant predictor of opinions on the impact of gaming. The more the residents are associated with (or involved in) decision-making, the more they are aware of both positive and negative consequences of gaming. Gaming has always raised controversial issues. The development of any form of gaming in a community is likely to result in various social problems such as crime, loan sharking, prostitution, drugs, and compulsive gaming. In particular, Chinese people living in an area where gaming is part of the economy are likely to regard it as a socially undesirable behavior because it conflicts with the traditional morals of Chinese society (Taormina, 2009). For example, many Chinese residents still consider gaming as harmful to social harmony (Li et al., 2012). The possible downsides of gaming and the cost a society will face as a result of gaming are of public concerns. Leaders tend to be more moderate in their assessments and more likely to identify the problems that accompany gaming.

Arguably, results of this study are attributable to the definition of power used in this research. The two measurement items used to assess the power dimension in this study are related to personal and political influence. Critical evaluations of the impacts of gaming appear to be more often associated with community leaders who have first-hand knowledge of someone suffering from problem gaming.

6. Implications, limitations and future research

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. As profits from the lottery continue to grow, charity will be given more weight. Dedication to welfare services in this case is what originally stimulated the development of the lottery industry. More efforts should be made to create a viable gambling industry that prioritizes community participation and addresses residents' concerns about quality of life. From a different perspective, because positive perceptions among residents are directly associated with community gambling support, administrators should communicate the benefits of gambling through different marketing techniques and channels in order to secure Hong Kong residents' collaboration and increase support. Accordingly, the marketing activities of a gaming business should focus not only on gaming visitors, but also on community residents (Perdue, Long, & Kang, 1999).

From a marketing and management standpoint, Hong Kong is an international and primarily urban destination known for its blended culture of the East meeting the West (Siu, Lee, & Leung, 2012). Currently positioned as "Asia's World City", the strength of its tourism lies in its well-established image as an efficient metropolitan destination and a hub of air transport for the other Asian destinations (Hsu & Gu, 2010). Non-casino gaming activities such as betting on horse racing could be a potential selling point to attract incoming/international tourists. The potential

non-casino gaming tourists may be active participants or spectators. For tourists from mainland China, Hong Kong is the destination with the same cultural background. Taking part in horse racing or Mark Six lottery makes incoming tourists immersed and get familiar with the city quickly. For international tourists, non-casino gaming in Hong Kong can be a kind of unique oriental attractions since horse racing and lottery are strongly associated with traditional Chinese culture.

As an echo to research conducted in North America, Australia, South Africa, and South Korea, gaming activities have been usefully developed as leisure and tourism attractions and have positive impacts on destination image and intentions to (repeat) visit (Jeong, Kim, Ko, Lee, & Jeong, 2009). Findings of the study show that the local community supports non-casino gaming for its positive social benefits. Therefore, practically, destination marketers could promote non-casino gaming (e.g., lotteries, horse racing, and charitable gaming) as attractions or leisure activities in Hong Kong to appeal to visitors from mainland China and other origins. The authorities could further develop gaming-related products for both tourists and residents so as to build up a harmony and hospitable image.

In terms of theoretical implications, this study contributes to the literature in two ways. First, the study developed an impact assessment model in a non-casino gaming context. According to Anderson and Gerbing (1988), the assessment of construct validity is a critical step in theory development. Hence the research could serve as a basis for follow-up verification/validation undertakings. Second, this study has contributed to knowledge on the impacts of gaming on communities by extending

the social exchange theory to a non-casino gaming context. As an echo to the mainstream literature on casino gaming, it also provides a rationale and framework for developing more comprehensive social exchange models.

This study, however, is only a first step toward understanding residents' perceptions of non-casino gaming in urban communities, and hence has its limitations. Surveys often appear superficial in their coverage of complex topics (Barbie, 2004). The study was conducted in Hong Kong, and the findings may therefore not represent the views of consumers or visitors from other countries or cultural backgrounds.

More remains to be done to explore the topic further. First and foremost, qualitative methods can be used along with surveys to gain a deeper understanding of residents' attitudes. Qualitative interviews with key informants in the community would enable researchers to capture greater insight into the issues. In addition, there are often differences amongst community groups in different socioeconomic circumstances in terms of their views of the benefits and detriments associated with gaming (Chhabra & Andereck, 2009). Hence the perceptions of specific community groups could be a promising focus for future investigations. Furthermore, investigating the demand of tourists from different regions (e.g., mainland China vs. Western countries as well as first tier vs. lower tier cities) for horse racing, Mark Six lottery, and football betting would be valuable in helping destination marketers and managers develop non-casino gaming products for different market segments. As a prospect, non-casino gaming products and services will gain substantial exposure to incoming visitors or tourists through bundling with sports, festivals and events, to

enhance its contribution to tourism in this world-class destination.

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Table 1

Definition and reference of measurement scales

Constructs	Operational definition	Number of items	Sources
Support level	Residents' opinions on gaming development	8	Lee, Kang, Long, & Regisinger, 2010; Nunkoo & Ramkissoon, 2011
Perceived social impacts	Residents' perceptions of the positive impacts of gaming	11	Hsu, 2000; Lee et al., 2010; Tam, Tsai, & Chen, 2013
Perceived negative impacts	Residents' perceptions of the negative social impacts of gaming	5	Lee et al., 2010; Vong, 2008
Community attachment	Residents' social participation and integration into community life	8	McCool & Martin, 1994; Gursoy et al., 2002
Gaming behavior	Residents' participation and investment in gaming	6	Hsu, 2000; Oh & Hsu, 2001
Power	Residents' ability to influence community development	2	Nunkoo & Ramkissoon, 2011; Kayat, 2002

Table 2

Measurement model

Factors	FL	t-value	S.E	M.E
Factor 1: Support level				
The future looks bright due to non-casino gaming development.	0.842	20.054	0.057	0.709
Non-casino gaming help the city grow in the right direction.	0.817	18.695	0.061	0.668
Non-casino gaming continue to play an important economic role.	0.793	18.506	0.061	0.630
Be happy that there are tourists coming to the city because of non-casino gaming.	0.701	16.760	0.062	0.583
Non-casino gaming is one of the most important industries.	0.651	NA	NA	0.492
Factor 2: Perceived positive social impacts				
Increase proud of local residents	0.775	14.002	0.054	0.600
More entertainment and recreation facilities	0.741	NA	NA	0.549
More social opportunities	0.706	16.314	0.055	0.498
More educational funding	0.674	15.583	0.059	0.455
Increased city attractiveness	0.651	15.035	0.058	0.423
Factor 3: Perceived positive economic impacts				
More investment and business	0.764	17.590	0.081	0.580
More employment opportunities	0.739	18.056	0.077	0.546
Increased tax revenue	0.741	NA	NA	0.424
Factor 4: Perceived negative social impacts				
Increase of loan sharking（usury）	0.855	25.496	0.075	0.731
Crime	0.708	NA	NA	0.501
Gaming addicts	0.637	19.393	0.059	0.406
Factor 5: Perceived negative environmental impacts				
Noise level	0.836	18.287	0.057	0.699
Quantity of litter	0.815	19.595	0.057	0.664
Decrease of cleanliness of the community	0.758	14.002	0.052	0.575
Traffic congestion	0.754	NA	NA	0.569
Factor 6: Power				
I have political influence (e.g. through voting)	0.897	NA	NA	0.804
I can personally influence over decisions related to community development.	0.871	12.814	0.072	0.758
Factor 7: Gaming behavior				
Gaming spending was part of my annual household spending in the past one year.	0.798	NA	NA	0.636
Spending on non-casino gaming was part of my annual household spending	0.752	18.056	0.056	0.565
My family members spend some money on gaming in the past one year.	0.751	20.861	0.063	0.563
I spend some money on gaming in the past one year.	0.719	14.038	0.062	0.517
Factor 8: Community attachment				
This city is an ideal place to live.	0.875	NA	NA	0.766
I am satisfied with this city.	0.854	13.679	0.044	0.729
I would like to live in this city more than other cities.	0.738	13.417	0.044	0.545

Notes: 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 un-standardized coefficient), M.E (measurement error).

Table 3

Validity and reliability of the measurement model

	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 α)	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

Note: Numbers in parentheses denote squared correlation estimations with robust t-value.

Table 4
Path estimate of the structural model (N=608**)**

| Path | Standardized regression coefficient | | |
(Exogenous → Endogenous variables)	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

Table 5

Hypothesis tests

Path	Standardized coefficient	t-Value	Hypothesis supported/rejected
H$_1$: Perceived positive impacts → Support level	0.49 ***	9.688	Supported
H$_2$: Perceived negative impacts → Support level	0.08**	1.990	Rejected
H$_{3a}$:Community attachment → Perceived positive social impacts	0.17***	3.453	Supported
H$_{3b}$:Community attachment → Perceived negative impacts	-0.03	-0.823	Rejected
H$_{4a}$:Gaming behavior → Perceived positive impacts	0.22***	4.506	Supported
H$_{4b}$:Gaming behavior → Support level	0.22***	4.506	Supported
H$_{4c}$:Gaming behavior → Perceived negative impacts	-0.22***	-4.547	Supported
H$_{5a}$: Power → Perceived positive impacts	0.18***	3.654	Supported
H$_{5b}$: Power → Perceived negative impacts	0.13***	2.650	Rejected

Note: ***denotes significant path coefficient at .001 level; ** denotes significant path coefficient at .05 level.
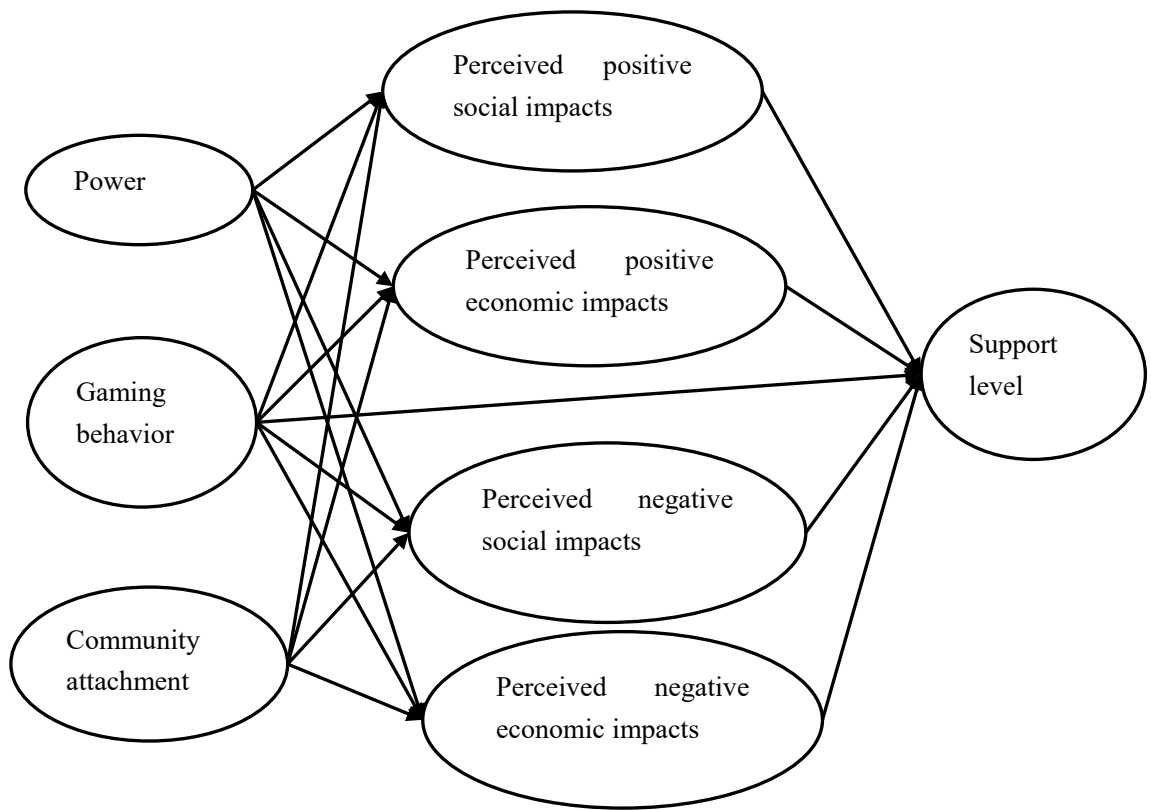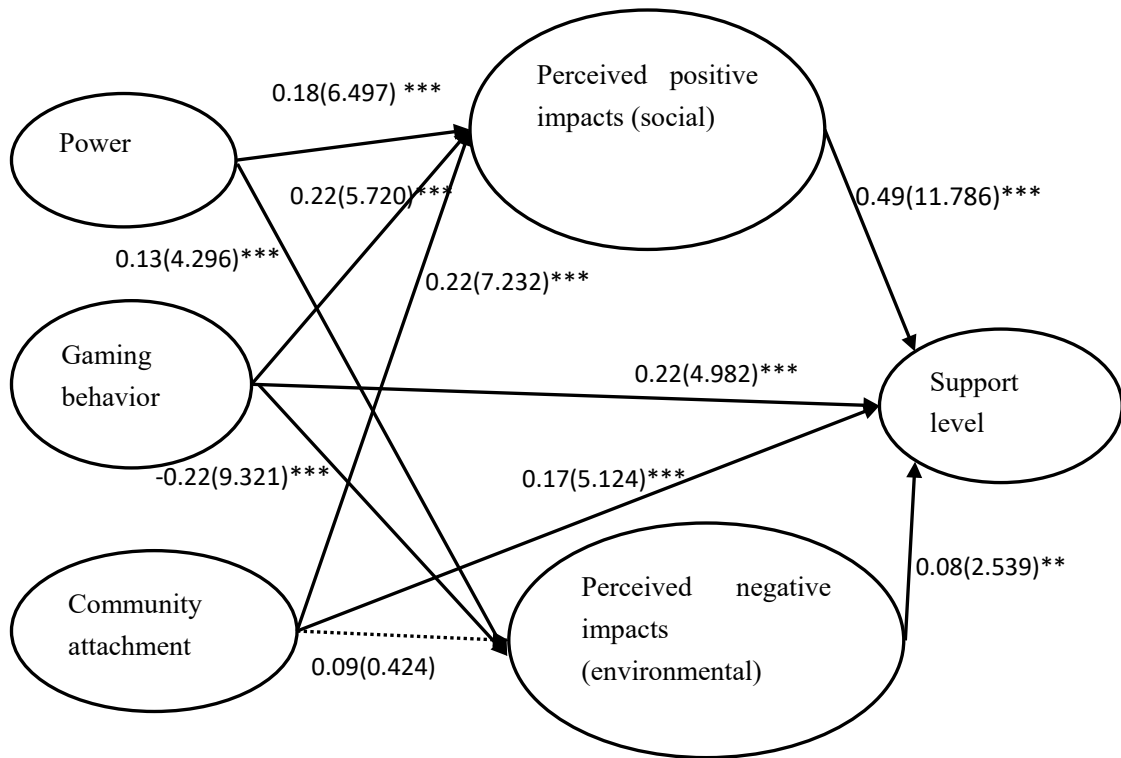
Fig. 1. Preliminary structural model

(Notes: The dashed line denotes non-significant path coefficient at .05 level; ***denotes significant path coefficient at .001 level; ** denotes significant path coefficient at .05 level; number in brackets denotes the t-value of regression weight)

Fig. 2. Structural model of residents' perceptions of non-casino gaming