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# Residents' Perceptions towards the Impacts of the Beijing 2008 Olympic Games

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The aim of this article is to identify and examine the host residents' perceptions towards a mega event, the Beijing 2008 Olympic Games, and its impacts. An impact scale comprising 20 impact items with four factors—social-psychological impacts, urban development impacts, economic development impacts, and social life impacts—was developed. It was found that the majority of respondents perceived the impacts of the 2008 Games very positively, particularly for those related to the social-psychological, urban development, and economic development factors. Residents' perceptions towards some social life impacts (e.g., overcrowding, higher prices) were mixed. Based on their different social representations (i.e., perceptions towards the impacts of the Games), residents were classified into two groups: “embracers” and “tolerators.” The three most significant factors that influenced residents' perceptions towards the Beijing 2008 Olympics were residents' perceptions/attitudes about government performance, their preference of more tourism development, and tourism-industry work experience.

**Keywords:** *residents' perceptions; impacts; mega event; 2008 Olympic Games; Beijing*

## Introduction

Event tourism has become a major and highly competitive economic phenomenon at the global level since the 1980s (Getz 1997). Sporting events, as one of the fastest-growing segments of event tourism, have lured and captivated many countries and cities to compete, bid, and host these events primarily due to the economic and infrastructure benefits they can generate (Gelan 2003). Within the event tourism context, most of the literature has focused on marketing and management issues and evaluation of economic benefits (Gelan 2003; Kasimati 2003). In contrast, studies examining the social, cultural, and environmental impacts of such events, and local community opinions and attitudes towards these impacts, have been relatively ignored. Waitt (2003, p. 195) argued that emphasis of research on the economic and skills benefits “may be misplaced on ethical and pragmatic grounds.” It has been argued that community perceptions and attitudes towards the impacts of event development must be understood and emphasized, as a host community that is positively disposed towards the development (or event) will enhance the spectators' and tourists' experiences and contribute to a destination's overall attractiveness (Madrigal 1995).

The Olympic Games are probably the world's largest peacetime event, with substantial economic, social, political,

and other benefits for the host nation, region, and city (Toohey and Veal 2000). Various impacts of the Olympics have been studied investigated over the decades. Previous multidisciplinary research concerning the Olympic Games has also approached the event from a number of perspectives, including the local social-political perspective (Burbank, Andranovich, and Heying 2001) and the historical perspective (Guttmann 1992). Toohey and Veal's (2000) social research focused on media, women, and issues of “antidrugs”. While consultancy firms such as Economic Research Associates, Arthur Andersen, and KPMG have conducted impact studies on several Olympic Games and other mega events, these consultancy studies were carried out or sponsored largely by government or event organizers with an emphasis on financial costs, economic benefits, and physical changes (Kasimati 2003). Such studies have been questioned, as they may exaggerate the benefits to “gain political advantages” (Getz 1991, p. 76). In contrast, the perceptions and attitudes of residents towards the real outcome of the Olympic Games are often ignored or taken for

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granted, although it has been widely urged that Olympic Games planners, organizers, and host governments must take the views of the host residents and communities into consideration if the event and its host destinations are to be sustainable.

Tosun (2002) has argued that tourism impacts are not universal. From an event tourism perspective, it can be inferred that the impacts of sporting events such as the Olympic Games upon their host cities would be different. Host communities and residents differ in terms of development experience; development stage; carrying capacity; and problems in the sociocultural, political, and economic realms. Indeed, it would be surprising if different host residents and communities did not have different perceptions of events and tourism. In the event literature, a number of event perceptions studies exist; however, almost all of them were conducted in a developed society context. Such studies include the longitudinal study on the Calgary 1988 Winter Olympics in Canada conducted by Ritchie and Aitken (1984, 1985) and Ritchie and Lyons (1990); studies on the 1986-1987 and 1999-2000 America's Cup in Australia and New Zealand, respectively, by Soutar and McLeod (1993) and Barker, Page, and Meyer (2002); the 1996 Atlanta Olympic Games studies by Mihalik (2004); the Melbourne Grand Prix Formula One study by Fredline (2000); the 1999 British Open golf tournament by Gelan (2003); and studies of the Sydney 2000 Olympic Games by Hall (1996), Lenskyj (2002), and Waitt (2003). In contrast, very little research examining the nature of local responses in a developing economy context has been undertaken. The work of Kang and Perdue (1994), which presented a conceptual model and used the 1988 Seoul Olympics as an example, represented one of the first such papers reported in the English literature.

The reason why this research situation has developed varies. On one hand, event tourism in developing countries is a relatively new phenomenon particularly during the past two decades (Getz 1997). This results in a lack of data, information, and knowledge about event development; and with inadequate resources allocated for academic research in the developing countries, it is not surprising to find a limited amount of research. On the other hand, developing countries have a major competitive disadvantage when applying to host mega international events against developed countries, with one of the most obvious disadvantages being the lack of sufficient infrastructure. In essence, the imbalance of research should be corrected in terms of research direction and scope, location, and time to increase knowledge concerning the sustainability of event venues and destinations. Specifically, studies on host perceptions towards upcoming mega events will provide an opportunity to better understand the impacts of event development and thereby assist government bodies,

local residents, and other stakeholders to maximize benefits, where possible. For this reason, the 2008 Beijing Olympic Games was used as a case study to examine host residents' perceptions towards a mega event. Specific objectives of the study reported in this article were (1) to identify and analyze local residents' perceptions towards the impacts of the 2008 Beijing Olympic Games, (2) to identify and measure the main types of Olympics impacts, and (3) to examine subgroups among residents with differing perceptions towards the impacts of the Beijing Games.

Within the tourism context, theories such as social exchange and social representations have expounded by Ap (1992) and Pearce, Moscardo, and Ross (1996), respectively, to explain how residents perceive and react to the impacts of tourism. In addition, several models have been developed and proposed by Doxey (1975), Butler (1975), Dogan (1989), and Ap and Crompton (1993) that examine how residents respond to the impacts of tourism and provide some insights on such responses. The first and most well-known model is Doxey's (1975) irritation index (also known as "Irridex"), which proposed a four-stage index whereby residents attitudes progress from euphoria through to apathy, irritation, and antagonism as tourism and its impacts increase in the host community. Dogan (1989) identified four strategies used by indigenous populations to cope with the effects of international tourism, namely, adoption, boundary maintenance, retreatism, and resistance; while Ap and Crompton (1993) developed an Embrace-Withdrawal continuum, which identified the nature and type of residents' reactions toward tourism. The three above-mentioned models all suggest, under various contexts or conditions, that residents' reactions occur along a positive-negative continuum; and they provide some insights, at a conceptual level, as to how residents' perceptions or attitudes may be examined and interpreted.

At the theoretical level, the authors applied social representations theory in this study to examine local residents' perceptions towards the impacts of the 2008 Olympic Games. Social representations theory draws on Durkheim's work and has parallels to the work of several sociologists such as Moscovici (1984) and Gaskell (2001). Essentially, the theory assumes that social phenomena do not occur as something outside the individual but, rather, within a dynamic process of interaction and communication. Thus, the social entity (whether society, culture, or group) and the individual are not conceived as opposite universes. To the contrary, just as the social phenomenon shapes the contents of individual minds, so too is the social phenomenon a product of communication and interaction between individual minds. The "thinking society" typified by interpersonal and mediated communication is the arena where reality is

constructed and negotiated. Moreover, as Moscovici affirmed, the images, ideas, and languages shared by a given group always appear to dictate the initial direction and expedient by which the group tries to come to terms with the unfamiliar. At the same time, social thinking owes more to convention and memory than to reason, more to traditional structures than to current intellectual or perceptive structures. Accordingly, Moscovici defined social representations as systems of preconceptions, images and values that have their own cultural meanings, persist independently of individual experience, and can operate at both the individual and community levels. It can explain how various groups of people understand and respond to social affairs and is particularly appropriate when the topic of study involves multiple social perspectives or accompanies conflicts because of potential change and uncertainty. Therefore, this theory was adopted to assist the understanding of different resident groups' perceptions and reactions to an upcoming mega event: the Beijing 2008 Olympic Games.

### The Olympic Games and Beijing 2008

After a century of development, the modern Olympic Games have become the largest and most significant sporting event in the world. Moreover, the role of the Games is not limited just to the sporting field but incorporates various aspects of human activity, such as business and technological innovation (Toohey and Veal 2000). They are also regarded as an economic, cultural, and political phenomenon. Various stakeholders see the Olympic Games as a media event, a tourism attraction, a marketing opportunity, a catalyst for urban development and renewal, a local image creator and booster, an inspiration for youth, and a force for peace and international understanding. With so many positive benefits and opportunities, the Olympic Games have enticed many cities and nations to bid and host the Games. It is arguable whether it is these added nonsporting roles that make the Olympic Games unique. However, the development and survival of the modern Olympic Games probably depend on the continued functions of these roles (Toohey and Veal 2000).

Despite the many positive aspects of the Olympics, there have been cases where public opposition to a bid has caused it to be aborted, notably Berlin's bid for the 2000 Games and Toronto's bid for the 1996 Games (Toohey and Veal 2000). Also, after a successful bid, continued political and community support for the Games is not necessarily guaranteed (e.g., 1976 Montreal Games). The question of the public's right in participating in decisions about preparations for the

Games remains an unresolved issue. Thus, it is essential and also important to examine host communities' perceptions towards the Olympic Games even before it is staged so that organizers can apply appropriate strategies to gain maximum support.

Beijing was awarded the 2008 Olympic Games in 2001 after its second Olympic bid attempt. The bid received strong support from the Chinese government (both politically and financially) and its citizens. In particular, most Chinese view the Olympic Games as a landmark that provides a means for narrowing the cultural distance between China and the outside world. The Beijing Organization Committee for the 29th Olympic Games (BOCOG) reported that a large majority (i.e., 94%) of Beijing residents supported the bid to host the Olympic Games in their city (BOCOG 2001b). After the nationwide celebration of the successful bid for the Games, Chinese citizens, especially residents of Beijing, have begun to directly experience the impacts of the Games, as substantial Games preparation and infrastructure works commenced. As time progresses towards the opening of the Games, residents' perceptions towards the impacts of the Games may change accordingly. Therefore, identifying residents' opinions and attitudes towards the Olympic Games can provide the Games' organizers an understanding of public concerns in the Games' planning and preparation stage.

### Research Methods

A descriptive research design was adopted for this study with a survey questionnaire used to measure residents' perceptions. The survey questionnaire instrument comprised four sections. The first section was designed to identify and measure residents' general perceptions towards the 2008 Olympic Games. These questions addressed general perceptions towards the Games, such as its commercialization, its politicalization, its overall impacts, support/satisfaction for the Olympic Games, and the likelihood of having another Olympics or similar mega event in Beijing. Some of the above items were derived from Ritchie and Lyons (1990).

The second section identified and measured residents' perceptions towards the impacts of the Games in terms of their economic, social, cultural, political, and environmental impacts. These items were derived and based upon Fredline and Faulkner's (2000) 36-item event impact scale, Ap and Crompton's (1998) 35-item tourism impact scale, the Olympulse series conducted by Ritchie and his colleagues (Ritchie and Aitken 1984, 1985; Ritchie and Lyons 1987; 1990), and Lankford and Howard's (1994) 27-item Tourism

Impact Attitude scale. Twenty-one items were generated and used with 16 items derived from scales developed by both Ap and Crompton (1998) and Fredline and Faulkner (2000). They include items related to the Games' impacts on business opportunities, employment, tourism promotion, local service availability, prices, roads and other public facilities, crowding, traffic congestion, noise, community life, crime, opportunity to attend major events, community solidarity, citizen pride, meeting new people, and so on. Items for cultural understanding were derived from Ritchie (1990) and Ap and Crompton (1998). Three questions relating to physical appearance, international identity, and national/regional ethnocentrism were based on Fredline and Faulkner (2000). All question items in the first two sections were formulated as statements, and respondents were required to indicate their level of agreement with each statement based on a 7-point Likert scale ranging from *very strongly disagree* (1) to *very strongly agree* (7). For analysis purposes, these items were assumed to be and treated as interval measures.

The third and fourth sections of the questionnaire measured other independent variables of interest and the respondents' demographics, respectively. The questionnaire was pretested before the survey to ensure the intended meaning of the questions had the same meaning for respondents. The pretest used a debriefing approach; that is, 20 Beijing residents were asked to complete the pilot questionnaire without any specific assistance as the interviewer observed and noted any reactions of confusion, uneasiness, or resistance. After completing the questionnaire, the pilot respondents were asked whether there were any problems in understanding the questions and whether any aspects of the subject were not covered by the questions. Information collected from the pretest was then used to review, modify, and finalize the questionnaire.

The population chosen for this study was drawn from the 9.5 million residents of the eight urban districts of Beijing where 30 of the 32 Beijing-based Olympic venues are located. A proportional stratified random sample, based on the size of each district's population, was used. This sampling design ensures that the sample will accurately reflect the population and that the results will be self-weighted. A telephone interview was used to collect data from the respondents. Beijing has high telephone population coverage with about 5.9 million fixed residential telephone subscribers in Beijing's urban districts by the end of 2004. On average, this means 1 residential telephone per 1.6 residents (*China Communication World* 2004), which makes conducting a telephone interview feasible. In determining sample size, Fowler (1998) indicated that at a 95% confidence interval with means of proportions of .5 (i.e., the most conservative proportions), and a margin of error of  $\pm 3\%$  would meet the needs of most social science studies. To satisfy this

requirement, the required sample size under this criterion was 1,067. In view of the number of questions in the questionnaire and the large population base, a sample of 1,165 was obtained, which also meets the requirements of most statistical techniques. The telephone interview was conducted in January 2006 with the assistance of a Beijing-based professional survey company. Both the questionnaire and interview language were translated into Chinese Mandarin, the official language in China. A computer-assisted random dial sampling system was used in the sampling procedure, and to maximize interviewees' time availability, the telephone interviews were arranged between 7 p.m. and 9 p.m. on both weekdays and weekends. The household member, aged 15 years and above, who had the most recent birthday was invited to participate in the survey. A response rate of 19% was reported, with most respondents completing the survey in about 10 to 15 minutes. The collected data were transferred to a SPSS document for subsequent analysis.

Although respondents were asked to express their opinions honestly, one must bear in mind a potential shortcoming of the survey, which is that respondents may have a tendency to report opinions that are more positive to please the interviewers. This bias may be more prevalent in the Chinese context, due to its collective and consensus nature, where respondents are more likely to provide an answer that reflects what the respondent thinks most people will think rather than give his or her own personal opinion (Ap 2001, 2004). The influence of the government and Communist Party ideology, as well as vigorous promotion of the 2008 Games, were other factors that may contribute to this bias. Respondents may think that reporting negative opinions about the Games would be regarded as unpatriotic or antigovernment, and this bias is recognized as a potential limitation of the study.

## Data Analysis and Results

The descriptive statistics of the respondents' perceptions towards the Olympic Games' impacts are summarized and presented in Table 1. Among the 26 general and impact items measured, 17 had mean scores of 5.8 or more, based on a 7-point scale, indicating that respondents' agreement with these items was high. A large majority (about 92%) of respondents believed that the Olympic Games would bring more positive than negative impacts, with more than 80% of participants who agreed or strongly agreed with this statement. The results indicate that residents have a high level of enthusiasm and support for the Olympic Games. Residents appear to accept, to some extent, the impacts of the Games notwithstanding the fact that similar impacts from other

**Table 1**  
**Perceptions towards the 2008 Beijing Olympic Games ( $n = 1,165$ )**

	Frequencies (%)			Mean	Standard Deviation
	Disagree <sup>a</sup>	Neutral	Agree <sup>b</sup>		
<b>General perceptions</b>					
I support the 2008 Olympics	3.0	0.8	96.0	6.5	0.98
Beijing should apply another mega event like the Olympics	4.0	1.8	92.5	6.3	1.16
Overall the positive impacts outweigh its negative ones	4.2	7.8	92.1	6.2	1.13
The Games are too commercialized	22.7	4.1	54.9	4.7	1.56
The Games are too politicized	32.1	16.2	46.3	4.3	1.65
<b>Impacts</b>					
Enhance Beijing's international identity through world media exposure.	2.4	2.4	95.5	6.3	0.99
Increase business opportunities	1.3	3.4	96.3	6.3	0.89
Improved city appearance	2.7	1.5	95.6	6.2	1.02
Give Beijing a chance to show what it is capable of doing	4.4	5.3	92.4	6.1	1.14
Increase the pride of local residents	4.5	3.9	93.2	6.1	1.16
Promote Beijing as a tourism destination	3.5	3.6	93.3	6.1	1.08
Provide locals opportunity to attend an international event	4.9	8.7	93.9	6.1	1.14
Understand different people and cultures	3.9	5.7	93.2	6.1	1.10
Increase employment opportunities	4.3	5.2	91.7	6.0	1.15
Bring the community closer	5.4	1.4	89.3	5.9	1.25
Meet new people	4.6	4.1	91.1	5.9	1.17
Higher levels of local service	4.4	2.1	91.2	5.9	1.11
Improved public facilities	4.8	7.5	90.6	5.9	1.15
Improved road condition in Beijing	7.3	1.0	88.4	5.8	1.28
Higher price levels in Beijing	25.7	2.8	64.0	4.8	1.68
Overcrowding of the use of local facilities during the Games	32.4	2.1	57.8	4.5	1.62
Inconvenience for locals due to increased traffic congestion	42.0	3.9	51.2	4.3	1.74
More noise	61.1	15.5	32.6	3.5	1.76
Damage the natural environment	69.0	2.6	24.5	3.1	1.71
Disrupt residents' peace and tranquility	72.6	0.8	22.9	3.0	1.73
Higher levels of crime in Beijing	68.5	2.8	22.2	2.9	1.77

a. "Disagree" includes 1 = *strongly disagree*, 2 = *disagree*, 3 = *somewhat disagree*.

b. "Agree" includes 5 = *somewhat agree*, 6 = *agree*, 7 = *strongly agree*.

tourist development projects would normally evoke a more concerted negative reaction from the host community.

To reduce the 21 impact items into a smaller number of meaningful factors, as well as to identify underlying constructs in the data, exploratory factor analysis was conducted (Aaker, Kumar, and Day 2004). In this study, principal component analysis with varimax rotation was used to extract the underlying impact factors. Factor analysis was started by calculating the variable-by-variable (bivariate) correlation matrix; and the correlation results showed that, despite the fact that some variables have low correlations with others, the majority of variables were significantly correlated. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO MSA) values for each variable are calculated, and all KMO MSA values were greater than .8, which reveals that these variables were highly suitable for factor analysis (Hair et al. 1998; De Vaus 2002)

The communality statistics were calculated, and factors with an eigenvalue greater than 1 were retained for interpretation. To determine whether any item should be included in a certain factor, a factor cutoff score of 0.4 was adopted. The total variance explained for the rotated components matrix comprising the 21 perceived impact items was 53%, and this yielded 4 factors with each factor containing 2 to 7 items.

The internal consistency of each of the factors was examined through reliability analysis (Cronbach's coefficient  $\alpha$ ), and it was noted that the items in each factor were clearly characterized by the underlying factor themes (see Table 2). The Cronbach's  $\alpha$  coefficients ranged from .67 to .85, and the factors can be regarded as internally consistent and stable. Only one item—higher level of services offered by local businesses—did not fit into the factor that it loaded onto, and this item

**Table 2**  
**Factor Analysis Results with Varimax Rotation of Residents' Perceptions towards**  
**the Impacts of the Olympic Games ( $n = 1,165$ )**

	F1	F2	F3	F4	Mean	Communality
Factor 1—Social-Psychological						
Bring the community closer together	.816				5.9	.687
Give the city a chance to show the world what we are capable of doing	.776				6.1	.657
Provide residents chance to meet new people	.747				5.9	.602
Increase the pride of local residents in the city	.667				6.1	.530
Provide local residents opportunity to attend international event	.622				6.1	.532
Promote the city as a tourism destination	.484				6.1	.394
Help people to understand different people and cultures	.483				6.1	.508
Factor 2: Social Life						
More noise which will annoy local residents		.803			3.5	.650
Damage the natural environment		.776			3.1	.662
Inconvenience for local residents due to increased traffic congestion		.737			4.3	.592
Disrupt residents' peace and tranquility		.703			3.0	.618
Overcrowding of the use of local facilities during the event		.682			4.5	.550
Higher levels of crime in the city		.515			2.9	.418
Higher price levels		.427			4.8	.247
Factor 3: Urban Development						
Improved city appearance			.678		6.2	.548
Development of new public facilities which can be used by locals			.708		5.9	.572
Enhance the city's international identity by world media exposal.			.454		6.3	.436
Improved city road condition			.568		5.8	.421
Factor 4: Economic						
Increase business opportunities				.686	6.3	.637
Increase employment opportunities				.685	6.0	.593
Eigenvalue	5.81	3.14	1.12	1.07		
Variance explained (%)	18.20	15.40	10.60	8.80		Total: 53.0
Cronbach's alpha ( $\alpha$ )	.85	.79	.67	.67		
Number of items	7	7	4	2		

was removed from the scale, as the reliability of the factor would decrease if this item were retained. The communality for this variable was also very low (approximately .28), which means that it offered little contribution and explanation for the scale.

Factor 1 contained seven items with the highest eigenvalue (5.8) and greatest individual variance (28% and 18% of the variance before and after rotation, respectively). The event impact items included in this factor were “bring the community closer together”; “give the city a chance to show what we are capable of doing”; “provide residents opportunity to meet new people”; “increase the pride of local residents in the city”; “provide local residents opportunity to attend international event”; “promote the city as a tourism destination”; and “help people to understand different people and cultures.” These seven items were related to impacts of a social psychological nature, and therefore were labeled “Social-Psychological Impacts.”

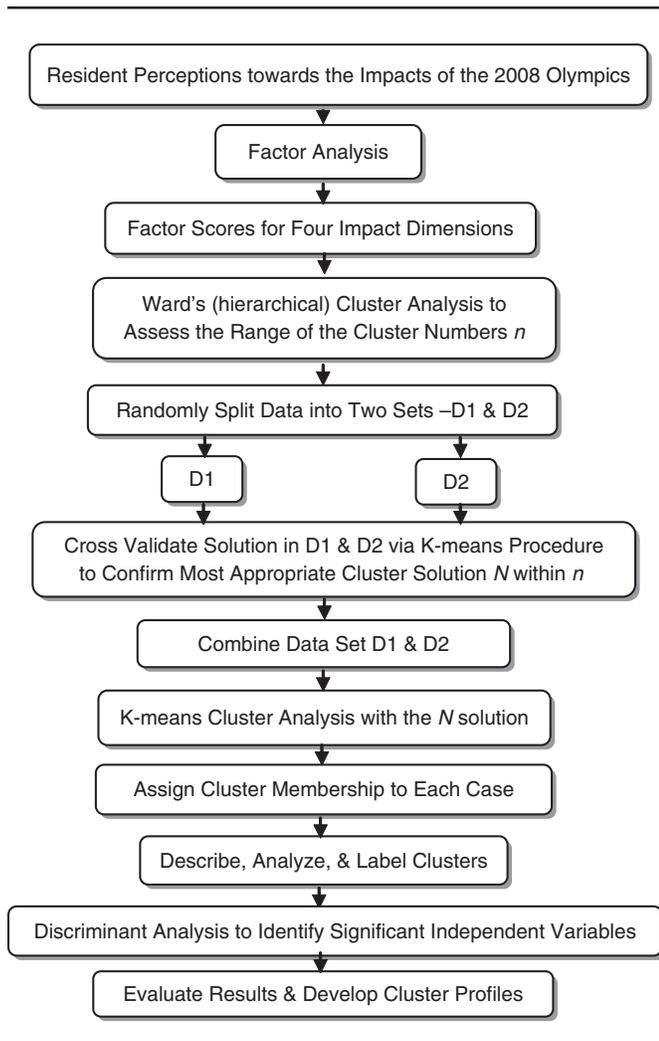
Factor 2 was named “Social Life Impacts.” It explained approximately 15.4% of the variance and had

an eigenvalue of 3.14. Seven items were also included in this factor, namely, “the natural environment”; “disrupt residents' peace and tranquility”; “more noise which will annoy local residents”; “inconvenience for local residents due to increased traffic congestion”; “higher levels of crime in the city”; “higher price levels”; and “overcrowding of the use of local facilities during the event.” The items in this factor differ from those in Factor 1 inasmuch as they constituted impacts that directly affect residents' everyday social life.

Factor 3 comprised four items and accounted for 10.6% of the variance, with an eigenvalue of 1.12. The items included “improved city appearance”; “development of new public facilities which can be used by local residents”; “enhance the city's international identity by world media exposal”; and “improved city road conditions.” Items in this factor focused on the Games' impacts on the host city's development, and the factor was labeled “Urban Development Impacts.”

The fourth and final factor generated was “Economic Impacts,” which comprised 2 items and reflected the

**Figure 1**  
**Cluster Analysis Process**



economic role of mega events. The items were “increase business opportunities” and “increase employment opportunities.” This factor accounted for 8.8% of the variance, with an eigenvalue of 1.1. After scale purification, a set of four Olympic Games impact factors clearly emerged from the factor analysis with 20 items.

Cluster analysis was used to identify and examine subgroups among residents with different perceptions towards the impacts of the Olympic Games. The cluster analysis in this study followed the procedures recommended by Singh (1990) in his seminal customer satisfaction study. Figure 1 provides a brief outline of the procedures that were followed.

Rather than using individual impact items, the impact factors generated by the previous factor analysis were used as inputs for the cluster analysis. This is because the individual variables contain interdependencies (which

reflect the number of variables in each factor and their intercorrelations) that are likely to bias the cluster analysis results. The use of factors according to Singh (1990) eliminates such interdependencies by representing the raw data by a relatively independent and parsimonious set of factors. Observation for any outlying data was conducted before the analysis was undertaken as cluster analysis is very sensitive to outliers (Hair et al. 1998), and no outliers were found in the data set. Factor scores were used in the analysis, and all variables were standardized and had been measured on a 7-point Likert response scale.

To obtain an initial estimate of the range of the number of clusters, hierarchical cluster analysis was administered using Ward’s method (with the squared Euclidean distance applied). The hierarchical cluster analysis with standardized measurement (Z-score, by cases) results suggested the number of clusters ranged from 2 to 7. Next, the raw data consisting of 1,040 cases (excluding cases with missing values) was randomly split into two data sets, D1 and D2, each containing 520 cases. With the possible cluster solution  $n$  ( $n = 2, \dots, 7$ ), D1 was utilized to generate the distances between initial clusters by the K-means procedure. D2 was computed by K-means analysis both in an unconstrained manner using the same procedure used in D1 and in a constrained manner (i.e., with the cluster distances acquired in D1). This procedure essentially provides a cross-validation for the D2 data set. For a given  $n$ , the constrained solution clustered the cases in D2 based on the D1 cluster solution, while the unconstrained solution was free of restrictions. For each  $n$ , the chance corrected coefficient of agreement, Kappa, was calculated for the two solutions of D2 cases. The optional  $n$  with the maximal Kappa was chosen as candidate N for the entire cluster analysis. It was then submitted to K-means cluster analysis again with the entire combined D1 and D2 data. This split-combine approach ensured the validity of the analysis, an approach that has been recommended by several researchers such as Hair et al. (1998).

The analysis initially resulted in a two- to seven-cluster solution with Kappa coefficients (i.e., the chance corrected coefficient of agreement) ranging from .926 to -.106. Repeated attempts to randomly split the entire data set into D1 and D2 produced similar Kappa results. Therefore, the two-cluster solution was selected as the most appropriate representation of the data. The two-cluster solution based on all 1,040 cases was then developed, with 919 cases in Cluster A and 121 cases in Cluster B. Based on the cluster sizes and mean scores, and following the embrace-withdraw continuum developed by Ap and Crompton (1993), Cluster A was labeled

**Table 3**  
**Mean Score Difference between Embracer and Tolerator Clusters**

	Cluster A: Embracers ( <i>n</i> = 919, 88% of <i>N</i> )		Cluster B: Tolerators ( <i>n</i> = 121, 12% of <i>N</i> )	
	Mean	<i>SD</i>	Mean	<i>SD</i>
General perceptions				
I support the 2008 Olympic Games in Beijing	<b>6.7</b>	0.69	5.5	2.01
Beijing should apply to host another major event like the Olympic Games	<b>6.5</b>	0.91	5.2	1.98
Overall, positive impacts of the 2008 Olympics outweigh its negative impacts	<b>6.3</b>	1.00	5.2	1.60
The Games are too commercialized	<b>4.7</b>	1.53	4.4	1.66
The Games are too politicized <sup>a</sup>	4.2	1.65	4.3	1.67
Impacts				
Urban development				
Enhance Beijing's international identity by world media exposure	<b>6.5</b>	0.74	5.3	1.59
Improved city appearance	<b>6.3</b>	0.79	5.2	1.74
The development of new public facilities which can be used by locals	<b>6.1</b>	0.93	4.7	1.58
Improved road condition in Beijing	<b>5.9</b>	1.16	4.7	1.69
Social-psychological				
Provide local residents opportunity to attend international event	<b>6.3</b>	0.75	4.6	1.82
Help people understand different people and cultures	<b>6.3</b>	0.8	4.6	1.73
Promote Beijing as a tourism destination	<b>6.3</b>	0.81	4.8	1.73
Give Beijing a chance to show the world what we're capable of doing	<b>6.3</b>	0.81	4.7	1.80
Increase the pride of local residents in the city	<b>6.3</b>	0.90	5.0	1.81
Bring the community closer together	<b>6.1</b>	1.00	4.6	1.89
Give residents chance to meet new people	<b>6.1</b>	0.93	4.6	1.76
Economic				
Increase business opportunities in Beijing	<b>6.4</b>	0.63	5.0	1.35
Increase employment opportunities in Beijing	<b>6.3</b>	0.79	4.0	1.52
Social life				
Higher price levels in Beijing	<b>4.9</b>	1.59	4.0	1.93
Overcrowding in use of local facilities during the Games	<b>4.6</b>	1.60	4.0	1.78
Disrupt Beijing residents' peace and tranquility	2.9	1.72	<b>3.4</b>	1.99
Higher levels of crime in Beijing	2.8	1.73	<b>3.6</b>	1.88
Inconvenience for local residents due to increased traffic congestion <sup>a</sup>	4.3	1.74	4.0	1.77
More noise which will annoy local residents <sup>a</sup>	3.5	1.76	3.4	1.77
Damage the natural environment <sup>a</sup>	3.1	1.71	3.3	1.85

Note: The higher means are in bold.

a. Items for which the two clusters did not show significant difference.

“Embracers” of the Olympic Games and Cluster B as “Tolerators.” As shown in Table 3, embracers constituted the majority (88%) of the total sample, while respondents who were tolerators of the impacts of the Olympic Games were a minority (12%). Thus, the majority of Beijing residents perceived the impacts of the Olympic Games very positively and expressed a high degree of favorable perceptions towards the Games. The Tolerator cluster also had mean scores greater than 4, based on the 7-point scale, which indicated an overall positive but lower degree of favorable opinion toward the Games.

In the case of most items, embracers displayed significant differences from tolerators. Embracers viewed the overall impacts of the Olympic Games more positively and also tended to be more supportive for the Games than the tolerators. Embracers perceived the Olympic

Games' social-psychological impacts, urban development impacts, and economic impacts more positively. In contrast, tolerator respondents had several concerns about the Games' impacts on social life such as the Games' disruption of residents' tranquility and the potential increase in crime, and this primarily distinguished tolerators from the embracers. As shown in Table 3, four items showed no statistically significant differences between the two clusters, and three of these items belonged to the Games' social life impacts.

Considering the large size of Cluster A, a further clustering was conducted with its 919 cases to discover whether subgroups exist among the embracers. Two subclusters were identified, with 574 cases in Subcluster A1 and 345 in Subcluster A2. The mean scores of these two subclusters are presented in Table 4. Based on an item analysis of the

**Table 4**  
**Mean Score Difference between Optimistic Embracers and Embracers with Reservations**

	Subcluster A1: Optimistic Embracers ( <i>n</i> = 574, 55% of <i>N</i> )		Subcluster A2: Embracers with Reservations ( <i>n</i> = 345, 33% of <i>N</i> )	
	Mean	<i>SD</i>	Mean	<i>SD</i>
General perceptions				
I support the 2008 Olympic Games in Beijing	<b>6.7</b>	0.62	6.5	0.78
The Games are too commercialized	4.5	1.57	<b>5.1</b>	1.37
The Games are too politicized	3.9	1.67	<b>4.7</b>	1.52
Beijing should apply to host another major event like the Olympic Games <sup>a</sup>	6.5	0.94	6.4	0.87
Overall, positive impacts of the 2008 Olympics outweigh its negative impacts <sup>a</sup>	6.4	1.01	6.2	0.98
Impacts				
Economic				
Increase business opportunities in Beijing	<b>6.5</b>	0.59	6.3	0.66
Increase employment opportunities in Beijing	<b>6.3</b>	0.78	6.1	0.80
Social life				
Overcrowding of using facilities during the Games	4.0	1.57	<b>5.6</b>	1.08
Inconvenience for local residents due to increased traffic congestion	3.6	1.57	<b>5.6</b>	1.21
Higher price levels in Beijing	4.6	1.62	<b>5.5</b>	1.39
More noise which will annoy local residents	2.6	1.24	<b>5.1</b>	1.40
Damage the natural environment	2.2	1.05	<b>4.6</b>	1.57
Disrupt Beijing residents' peace and tranquility	2.1	1.06	<b>4.4</b>	1.71
Higher levels of crime in Beijing	2.2	1.33	<b>3.8</b>	1.87
Urban development				
Enhance Beijing's international identity by world media exposure <sup>a</sup>	6.5	0.72	6.4	0.79
Improved city appearance <sup>a</sup>	6.3	0.81	6.3	0.74
The development of new public facilities which can be used by locals <sup>a</sup>	6.1	0.95	6.2	0.89
Improved road condition in Beijing <sup>a</sup>	5.9	1.17	6.0	1.14
Social-psychological				
Bring the community closer together <sup>a</sup>	6.1	0.98	6.1	1.02
Provide local residents an opportunity to attend an international event <sup>a</sup>	6.3	0.73	6.3	0.77
Increase the pride of local residents in the city <sup>a</sup>	6.3	0.92	6.3	0.86
Promote Beijing as a tourism destination <sup>a</sup>	6.3	0.83	6.2	0.78
Give Beijing a chance to show the world what we're capable of doing <sup>a</sup>	6.3	0.79	6.2	0.83
Help people understand different people and cultures <sup>a</sup>	6.3	0.73	6.2	0.90
Give residents a chance to meet new people <sup>a</sup>	6.1	0.94	6.2	0.91

Note: The higher means are in bold.

a. Items for which the two clusters did not show significant difference.

differences between the items, Subcluster A1 was labeled "Optimistic Embracers" while Subcluster A2 was labeled "Embracers with Reservations." As shown in Table 4, optimistic embracers differed from embracers with reservations in their opinions towards the Games' economic and social life impacts. No statistically significant differences were found between their perceptions towards the Games' social-psychological and urban development factors. Therefore, it is reasonable to conclude that both optimistic embracers and embracers with reservations maintained highly positive perceptions of the Games' social-psychological and urban development impacts. In contrast, embracers with reservations recognized to a greater degree the possible negative social life impacts caused by the Olympic Games and valued the economic impacts less than the optimistic embracers.

Consequently, their overall degree of support for the Games was slightly lower than that of optimistic embracers.

The profile of the respondents in the different clusters was examined through discriminant analysis. In this analysis, the dependent variable for the discriminant analysis was the residents' cluster category (1 = embracers, 2 = tolerators), and 15 independent variables were utilized to profile category membership. Most of these 15 variables had been reported as relevant determinants in previous tourism-community relationship studies (e.g., Faulkner and Tideswell 1997; Snepenger and Johnson 1991; Gursoy and Rutherford 2004) and were assumed to provide the source of residents' social representations that determine their perceptions towards the Olympics and its impacts.

A stepwise operation with Wilks' Lambda was adopted in the discriminant analysis procedure. The result reported one discriminant function (overall Wilks' Lambda  $\Lambda$  .788,  $\chi^2[3, n = 714] = 168.9, p < .001$ ), with an eigenvalue of .27, a canonical correlation of .46, and 21% variance. Discriminant loadings were examined to determine the relative importance of each independent variable in discriminating between the groups. With the stepwise procedure, three independent variables—namely, (1) satisfaction with government performance, (2) opinions about more tourists visiting Beijing, and (3) work experience in tourism industry—were statistically significant, with correlations of .78, .77, and .25 in the discriminant function, respectively. The unstandardized canonical discriminant function coefficients results in a discriminant equation:

$$RCA = -8.2 + .54 * SatisfGP + .55 * OpinMTVB + .92 * TourWE,$$

where RCA is resident cluster attachment, *SatisfGP* is the response of satisfaction with government performance, *OpinMTVB* is opinion about more tourists visiting Beijing, and *TourWE* is work experience in the tourism industry.

The standardized discriminant function coefficients results were *OpinMTVB*: .62; *SatisfGP*: .59; and *TourWE*: .21. Accordingly, respondents' opinions on more tourists visiting Beijing and their satisfaction with government performance contributed considerably more to determining their cluster membership, while the role of work experience was somewhat less important. The results correctly classified 83% of original grouped cases.

It was concluded that membership of the two clusters (embracers and tolerators) can be distinguished by their satisfaction with government performance, their attitudes on tourists visiting Beijing, and work experience in the tourism industry. Other independent variables, such as demographics (age, gender, education level, employment status) had little or no effect in determining respondents' general perceptions towards the Olympic Games and its impacts. Compared with members in the Embracers cluster, tolerators tend to be less satisfied with government performance, less willing to see more tourists visiting Beijing, and had a higher probability of work experience in the tourism industry. Independent sample *t*-tests also confirmed this conclusion where embracers had a higher degree of satisfaction (5.9 mean score, compared with 4.6 for tolerators) with the government's performance ( $t = 7.66, df = 121.3, p < .001$ ). Embracers were also more willing to see more tourists visiting Beijing ( $t = 7.32, df = 131.6, p < .001$ ) than were tolerators (6.3 mean score, compared with 5.1 for tolerators). In addition, results of the chi-squared test with work experience with tourism industry showed that tourism work

experience had a significant influence on the respondents' cluster attachment. About 27% of respondents with tourism work experience were tolerators, while ambivalence characterized only 11% of those who did not have tourism work experience. Similar chi-square tests with other independent variables such as gender, age, education background, income level, length of residency, or employment status did not reveal any significant differences between the two clusters.

## Discussion and Conclusion

The survey study revealed that local Beijing residents held very positive perceptions towards the impacts of the Olympic Games, with 96% of respondents indicating support for the event. This verified the results of a BOCOG (2001b) study that reported 94% support for the Games by Beijing residents. Thus, while strong support for hosting the Olympic Games has been demonstrated, one also needs to recognize that such support may be exaggerated, as previously reported in the Research Methods section, when it was noted there is potential for interviewee bias, which may be attributed to cultural and political factors. Based on a factor analysis of the event impacts, residents perceived the Games' impacts more positively in terms of the social-psychological, urban development, and economic development benefits. An unexpected finding was that respondents' perceptions towards some social life impacts such as noise, crime, and environmental damage, which were generally regarded as inevitable and negative in previous studies, were not perceived as possible negative impacts by a large number of residents. One possible explanation is that residents may not necessarily associate these impacts as outcomes of the Olympic Games. It is also possible that, due to the large scale of the Beijing metropolitan area, residents perceived that the Olympics would only affect their everyday lives to a limited degree. It appears that the residents may have adopted a somewhat tolerant attitude towards these impacts. However, from an event planner's perspective, the BOCOG, the event host and organizer and the government are encouraged to undertake more public relations work to introduce the Olympic Games and its range of impacts on the public. Such an awareness is essential for a successful event because, to a certain extent, successful event strategies are based on every stakeholder's active support and involvement, which ultimately depends on their understanding both the benefits and costs of hosting the event.

The "embracers—tolerators" classification of residents' perceptions towards the impacts, rather than the

more common typology of “lover-tolerators-hater,” is reasonable in a Chinese societal context. As discussed previously, the Chinese have generally viewed hosting the Olympic Games in their own country as far more than a sporting competition. Hosting the Games is viewed as symbolic of the country’s renaissance, of the renewed strength of the nation, and even as a means to validate China’s political system. To a certain extent, this symbolization is in accordance with, or led on by, the Chinese government/Community Party ideology and its motivations for hosting the Games in Beijing. Traditional Confucian culture in China will predispose its citizens to follow and respect the mainstream and a consensus viewpoint, as well as maintain respect for authority and not to challenge or show too much opposition (Bond 1991; Schutte and Ciarlante 1998). Consequently, Chinese residents are likely to show respect and concur with the social utility and development benefits that will accrue from hosting the Olympic Games, even if their personal interests may be disadvantaged. A mega event such as the Olympic Games would be regarded as a project that represents the entire nation and its people to the whole world and, as frequently reported in the media, China’s “coming out” party. Thus, it is not surprising that the large majority of respondents are embracers and only a small proportion are tolerators, while very few are opposed.

Beijing residents’ support shown for the Olympic Games as reported in this survey study would be considered very satisfactory for any event organizer. However, from an event management perspective, maintaining the embracers’ consistently high level of support would pose a long-term challenge for the government and organizers. Improving the tolerators’ support for the Games would be even more challenging, for their perceptions are unstable and can shift easily, as Eagly and Chaiken (1993) noted. Therefore, it is suggested that different public relation strategies can be applied for the two clusters based on their profile differences. For example, the study confirmed that the two clusters had different opinions on government performance and on more tourists visiting Beijing. Means to improve residents’ perceptions and attitudes on government performance and on tourism development need to be addressed, although the complexity of such measures is apparent. It is also suggested that appropriate measures should be put into practice to address and reduce residents’ concerns about possible price increases, overcrowding in public facilities, and traffic congestion, all of which were found to be influential in determining the tolerators’ lower ratings and support for the Games. The issue will require systematic and careful planning in the development of new public facilities and public transport infrastructure.

More important, the integration of comprehensive top-down and bottom-up development planning approaches is recommended to the government and event organizers to help them address and fully understand residents’ concerns and to meet their needs. The survey found that about 93% respondents reported they were not consulted during the Olympic bid and preparation process. This is not surprising and expected, given that the 2008 Games were prepared and organized using the traditional top-down planning approach. The organizers believe that, based on their knowledge and experience, careful planning and design would guarantee the success of the Olympic Games. This top-down planning approach may have been previously effective under a centralized administration system; however, times have changed, and the administration system in China has loosened its controls, especially in the economic arena. For example, most Olympic Games projects and related infrastructure have followed market rather than administrative rules as the host organizers attempt to address sustainability issues and the utilization of the venues after the Games (BOCOG 2001a). The top-down approach has been widely criticized and challenged for its disadvantages, such as the lack of proper feasibility analysis and public participation/consultation, which are usually not incorporated in the process (Friedmann 1987; Taylor 1999). The community-based planning approach, which starts at the bottom level, is geared towards community participation and empowerment and is recommended to the Chinese government to reinforce the existing Olympic Games planning and preparation strategies. For example, public seminars and consultations can involve residents directly in the planning process. A thorough community-based, bottom-up approach that relies extensively on communication and interaction with residents and other stakeholders would not be regarded as the best option to recommend to the Chinese government. This assertion is based on two considerations, namely, (1) the time needed for such a participatory process could render the Games preparation more complicated and may even delay the Games preparations and (2) a thorough bottom-up approach cannot avoid the existing political situation. With respect to the latter, consensus would need to be arrived at democratically, and politically speaking, China is not ready or mature in this regard.

Based on residents’ perceptions towards the impacts of the Olympic Games, this study identified and developed a 20-item events impacts scale, which comprised four event impacts factors. Combined with the general tourism impact items and a number of specific event impact items derived from the existing literature, the development of this 20-item scale represented an

exploratory attempt in event impact measurement that could be useful for assessing the impacts of future mega events and for monitoring community reactions to future event development. However, it must be cautioned that although the reliability scores were high, the scale validation is incomplete, as a large-scale item generation process was not undertaken. Therefore, to verify the scale's application and generalizability, further testing and verification of this scale is recommended.

This study identified the effects of several variables on residents' perceptions towards the impacts of event development. Results from the discriminant analysis of respondents' cluster attachment confirmed that among the 15 selected independent variables identified from the literature, only a handful had any significant influence on residents' perceptions towards the Olympic Games. Consistent with the studies by Perdue, Long, and Allen (1987); Snepenger and Johnson (1991); and Lankford and Howard (1994), this study found that residents who had a positive attitude towards government performance or tourism development were more favorable towards event impacts and more supportive of the event. In contrast, several variables that had shown significant impacts on resident perceptions towards tourism and event development in previous research were found to have negligible influence in this study. Researchers who previously found that residents' education, income, proximity, event attachment (in terms of length-of-residence and economic reliance, etc.), and event involvement through consultation or personal interest were significant variables (e.g., Husbands 1989; Teye, Sonmez, and Sirakaya 2002) will not find evidence to support their findings in this study. Instead, findings from this research study were consistent with those of Davis, Allen, and Cosenza's (1988) Florida study and Ryan and Montgomery's (1994) UK case study, which reported that these variables have little or no effect on residents' perceptions. These results suggest that higher-order principles or values are more influential determinants of perceptions than sociodemographic variables.

The results also shed light on how social representations are formed and how they influence perceptions towards certain social and economic factors. The two clusters identified in the Beijing sample have demonstrated social representation's role as a key contributor to both individual and social group identity. Through the existence of shared sets of beliefs expressed in the behaviors of the respective groups, social representation forms properties of groups and the group identity. From perspectives such as residents' direct life experience and their experience and interaction with the Olympic Games, the above-mentioned independent variables constitute sources of residents' social representations. The study has confirmed that the roles of social representation sources differ. The study findings indicate that the two

variables (i.e., residents' perceptions towards government performance and towards tourism development in Beijing) were identified as influential variables in forming residents' social representations towards the Games. It is suggested that under the long-term influence and control of the Communist Party's public awareness/propaganda and education systems, residents' social representations tend to be united and undiversified; and the sources of social representations, particularly life experience through education and so on, are somewhat undifferentiated. It demonstrates how social representations influence the way in which people perceive and interpret the world.

What is worth bearing in mind is that various stakeholders can perceive the same development program very differently. It is therefore suggested that to gain a comprehensive understanding of different stakeholders' opinions and the full range of event impacts, a wider variety of event stakeholders (e.g., government, business sector, etc.) be included in future studies. Furthermore, this study was undertaken during the event's preparation period. As a preevent evaluation, this research does not claim to have covered and identified all impacts that will result from the 2008 Beijing Olympics. For example, some impacts may not yet have emerged, and others may not even be identifiable before the actual event takes place. Beginning with the decision to make a bid as the host city, the preparatory work for the Olympic Games has been continuing for nearly a decade. Within such a long time frame, residents' perceptions towards the Olympic Games may well change, and longitudinal research that traces the entire event process is encouraged, as that will certainly provide a more substantial and comprehensive understanding of the development of mega events and their impacts. Although our knowledge and understanding of mega events has increased over the past decade or so, more research is still needed to develop a better and more comprehensive understanding of this phenomenon.

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