**The Hong Kong Polytechnic University**

**School of Hotel and Tourism Management**

# Antecedents and Determinants of Volunteering in Mega Sports Events: A Study of Universiade SHENZHEN 2011

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## CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is, to the best of my knowledge and belief, the result of my original work. It reproduces no previously published or written material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been identified.

_____(Signed)

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August 2012

## ABSTRACT

Sports events nowadays are amongst the most popular forms of organized recreation and are responsible for several impacts on communities in which they occur. Mega sports events (MSEs), in particular, have attracted significant attention from media and government bodies who tend to promote volunteering commitment in order to expand public support for the success of MSEs.

Volunteering in MSEs has been gaining increasing popularity. In the past two decades, China has witnessed a significant increase in both the scale and the number of MSEs, which is current with its rise as a major outbound and inbound tourist market, as well as a rapidly rising event destination. Specifically, in a matter of three years, China has successfully bidden and staged a series of MSEs, e.g., the 29$^{th}$ Olympic Games, the 16$^{th}$ Asian Games, and the 26$^{th}$ Universiade, in which volunteers have showcased their professionalism, enthusiasm, dedication, and have attracted world-wide media attention. The 26$^{th}$ Universiade SHENZHEN 2011 is the most recently hosted MSE that attracted the greatest number of volunteer participation. However, the paucity of published research into the antecedents of MSE volunteering under the Chinese context limits the understanding of sustained volunteer capital. This research therefore was designed to evaluate the antecedents and determinants of MSE volunteering and to examine the relative impacts of intrinsic motivation, altruism, and external attractiveness on constructing MSE volunteer

satisfaction, which influences intention towards involvement in future MSE volunteer programs. Findings from this study confirmed that when MSE volunteers' motives and expectations are recognized and fulfilled, continuance commitment will be possible.

As a pioneering attempt to explore volunteering in MSEs, this research employed a case study of the 26th Universiade SHENZHEN 2011 to address antecedents pertaining to Chinese MSE volunteering. A model of determinants of volunteer participation in MSE contexts was proposed and validated with data from 1,015 questionnaires collected in a field survey during the gaming period of the Universiade. A comprehensive analysis using Structural Equation Modeling (SEM) revealed that: (1) the more volunteers' intrinsic motives are fulfilled, the higher the level of satisfaction is; (2) the relationship between fulfilled altruism and perceived satisfaction is positive; (3) volunteers' perceived external attractiveness is positively correlated with their overall level of satisfaction; and (4) volunteers who have experienced a higher level of satisfaction from volunteering commitment will express greater intention to volunteer in future MSEs. Furthermore, a comparison among the three exogenous variables in the conceptual model identified that external attractiveness is the most powerful component of MSE volunteer satisfaction.

Besides, several issues were explored pertaining to volunteers' demographic backgrounds (e.g., educational level, occupation, leisure time available and length of volunteering service). It was found that there was no statistically significant correlation between length of service and perceived satisfaction, implying that the duration of volunteering service

does not influence satisfaction, or vice versa. Whereas, as a category of serious leisure, volunteering is indeed influenced by leisure time, since the results in this study indicated that length of MSE volunteering service is positively associated with dispensable leisure time.

This study makes several theoretical as well as practical contributions. Firstly, it adds to the growing knowledge of event volunteer motivation and intention theory by validating a new structural model for understanding determinants of MSE volunteer participation. It also expands the current research instruments on event volunteering. To the author's knowledge, this is the first research to involve motivation, altruism and external stimuli simultaneously in assessing MSE volunteer satisfaction and behavioral intention. Secondly, results of the study yield practical implications for future MSE volunteer program organizations to optimize volunteer programs and sustain volunteer participation.

Keywords: volunteer(ing), mega sports event (MSE), Universiade, intrinsic motivation, altruism, external attractiveness, satisfaction, intention

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# CHAPTER 1 VOLUNTEERING IN MEGA SPORTS EVENTS

## 1.1 Introduction

Volunteering in mega sports events (MSEs) is an emerging area of research in event management and serious leisure, and has drawn considerable attention from academics (e.g., Allen & Shaw, 2009; Baum & Lockstone, 2007; Clary & Snyder, 1999; Davis, Hall, & Meyer, 2003; Esmond & Dunlop, 2004; Fairley, Kellett, & Green, 2007; Farrell, Johnston, & Twynam, 1998; Houle, Sagarin, & Kaplan, 2005; Millette & Gagné, 2008; Misener, Doherty, & Hamm-Kerwin, 2010). Previous researchers have applied various theories to investigate volunteers' motivation (Boezeman & Ellemers, 2009). As the number of MSEs grows and the scope expands, the need for MSE volunteer involvement has also increased (Allen & Shaw, 2009; Cuskelly, Hoye, & Auld, 2006), which leads to the need to understand volunteers' motivation and satisfaction in order to stimulate sustained volunteerism.

Research into volunteering and volunteerism in MSEs is interdisciplinary on a multitude of theories combining knowledge in event management, serious leisure, human resources management, psychology, as well as applied sociology, etc. With the expanding scale of MSEs hosted in China in the last decades, increasing

academic attention has focused on the multi-dimensionality of the motivation, satisfaction and participation intention relating to MSE volunteering. In spite of extant knowledge about motivation in voluntary service (e.g., Allison, Okun, & Dutridge, 2002; Cnaan & Goldberge-Glen, 1991; Esmond & Dunlop, 2004; Finkelstein, Penner, & Brannick, 2005), there is still a scarcity of published literature focusing on MSE volunteers' motivational factors and level of satisfaction.

Kim, Chelladurai, and Trail (2007) also recognized the research gap on MSE volunteering. "Limited knowledge of current trends in volunteerism or ignorance of the real needs and motives of volunteers could be catastrophic for the expansion of volunteer human resources" (Strigas & Jackson, 2003, p. 113), thus volunteer commitment in MSEs should be viewed as an important contribution to event success and should be paid adequate attention to by academia. There indeed emerged a great need to investigate and identify the antecedents of voluntary involvement in MSEs, especially when considering the thorny issue of volunteer supervision, recruitment and retention.

Volunteering in sports events deserves to be further promoted to invite sustained commitment. The growth of enthusiasm to host MSEs such as the Olympic Games,

world championships and the FIFA World Cup has been unprecedented, despite the decision of the Olympic Program Commission of the International Olympic Committee (IOC) to reduce the number of sports from 28 to 26 from the 2010 Olympics in July 2005. A great demand for substantial event budget and volunteer human resources therefore emerged. Adequate MSE volunteering research can help understand the underlying factors that lead to initial voluntary participation, as well as maximize the long-term benefits of volunteer engagement and mitigate the negative impacts.

As a dynamic economy in Asia, China is showcasing its improving comprehensive national power in hosting mega events in line with fast economic progress, continuous increase of global market share, and the upgrading of international status. With the success of the 29$^{th}$ Olympics, the 16$^{th}$ Asian Games and the 26$^{th}$ Universiade, China has accomplished an unprecedented expansion and development of MSEs. Nonetheless, a literature review of MSE volunteer motivation, volunteer function inventory (VFI) and volunteer participation intention reveals a notable dearth of research on MSE volunteering in the Chinese context, indicating limited knowledge of MSE volunteering supervision and management.

This research is rooted in the Universiade SHENZHEN 2011, aiming to establish a model of determinants and antecedents of volunteer participation in MSE contexts (Figure 2.2), and to interpret the multi-relationships among Chinese MSE volunteers' motivation fulfillment, altruism fulfillment, perceived external attractiveness, satisfaction, and intention to volunteer in future MSE opportunities. The first chapter starts with a systematic review of the research background in terms of the conceptualization of volunteering, volunteerism, and mega events, followed by an analysis of the significant role of volunteering in the success of MSEs. Subsequently, current issues of massive sports participation are explained, with the illustration of Chinese achievements in bidding for, hosting and participating in MSEs. Based on literature on the motivation, satisfaction and behavioral intention concerning MSE volunteering, four research objectives are established and five research questions formulated. This study hypothesizes that MSE volunteers' intrinsic motivation fulfillment, self-reported altruism fulfillment and perceived external attractiveness jointly contribute to volunteers' perceived level of satisfaction, and that future participatory intention can be forecasted by perceived level of satisfaction. At the end of this chapter, a succinct glossary is provided to facilitate the understanding of several abbreviations in the research context.

## 1.2 Volunteering in Mega Events

The significance of growing mega events has aroused research interest among many researchers. Horne (2007), for instance, identified three reasons to explain the expansion and growing attraction of mega events. Firstly, technological revolution in mass communication brings about unprecedented worldwide audiences for mega events, especially the communication strategy facilitated by satellites. Secondly, mega events destination cities gain more resources leveraging on the enormous inflow of entrepreneurship sponsorship. Thirdly, according to Xiao and Smith (2004), hosting events promotes and enhances the destination image through "an enhanced awareness" (p. 161). Furthermore, as strategic opportunities to promote destination tourism and attract external investment, MSEs are also advantageous for selling commercial products.

Pertaining to the definition of mega events, Roche (2000) defined mega events as cultural, business and sporting events (e.g., World Expo, Olympic Games, Championships, and World Cups) that yield international significance, arouse dramatic popular appeal, and are usually massive in scale. Getz (1989) stated that mega events fall into the category of special events, unique sources for attracting tourists. However, although mega event has been defined extensively, any

universally applicable definition of the term mega event may not be appropriate (Getz, 1989), mainly due to particular event planning needs and event attributes,

Mega events, especially MSEs, generate extraordinary media attention, attract a great number of visitors, and create extensive business opportunities for stakeholders. Xiao and Smith (2004) noted that the strengthened attractiveness of the event hosting destination is one of the wide range of positive social influences rendered by events. MSEs are apparently more impressive in world media coverage than general corporate events, cultural events, or business events. MSEs represent one category of hallmark events (Ritchie, 1984) in that they stimulate the greatest excitement among mega events by encouraging extensive participation in sports. Most MSE organizations need improved staff productivity and reduced absenteeism to implement practical and effective managerial measure. In event organizations' operational process, volunteers play an essential role. Volunteer capital support and commitment are vital and indispensable contributors in the whole success of special events. Meanwhile, volunteering in MSEs serves as a unique exemplification of altruism, prosociality and active citizenship.

Olympic Games are the most typical exemplification of MSEs to analyze when the researcher is reviewing the history of global volunteer participation in sports events. Recent Olympic Games attract great number of volunteers. A review of the modern Olympic history, however, reveals that in the first several modern Olympic Games, for example, Athens 1896, Paris 1900, St. Louis 1904 and London 1908, there were no explicit official recordings of volunteer participation. Small in scale, those Olympics depended essentially on family ties and friendships for successful event organization (Moreno, Moragas, & Paniagua, 1999). It was not until the 1950s and 1960s that Olympic Game volunteers began to enlist, slowly but surely. Members of voluntary groups carried out their responsibilities aiming at facilitating rigorous preparation and hosting of Olympic Games.

In the perspective of promoting community prosperity, the significant role of MSE volunteering has also become increasingly obvious in recent years. Sports event authorities should develop adaptive strategies to engage the community and to produce long term social-economic benefits with a visitation spike throughout the event duration. Recruiting volunteers to provide sports-related services has multi-dimensional advantages for destination communities. One example can be that in the 26$^{th}$ Olympic Games, volunteer participation raises the profile of the host city

as a friendly and welcoming destination.

For event organizations, it's reasonable to leverage on the advantages of repeat volunteers with reduced human resource managerial costs. Thus, a greater percentage of event budgets can be channeled for infrastructure projects, such as gaming venue construction, fire alarm system installation, free transportation, and the provision of facilities for special needs (e.g., the need of disabled and vegetarians). Event funding can also be utilized for soft network advertising and hardware upgrading.

Another issue that deserves careful attention from academia is that volunteering reflects a reciprocal relationship (Holmes & Smith, 2009). Volunteers contribute their leisure time and efforts but get enhanced expertise and professionalism. Meanwhile, their socialization needs and altruistic motives are fulfilled. It should be noted that one of the motivations for volunteering is the perceived feeling of accomplishment attained by authentic encounters with organizers, local residents, event attendees, and other stakeholders.

Volunteering and volunteerism closely connect and overlap to some extent, both bearing the characteristic of un-coerced and freely chosen. However, up to date, there is not universally accepted definition of these two terminologies. The following paragraph discusses a few established definitions of volunteering and volunteerism.

The spirit of providing voluntary services is viewed as volunteerism, which is organized, planned, and confers long-term social benefits (Penner, 2002). Volunteerism serves as a typically prototypical example of sustained helping behavior (Stukas, Snyder, & Clary, 1999). In Wilson and Musick's (1997) terminology, volunteerism is non-obligatory and unpaid help within an organizational domain.

Volunteering, in marked contrast to volunteerism, is more closely related with prosociality, which defined by Penner and Finkelstein (1998, p. 526) as "an enduring tendency to think about the welfare and rights of other people, to feel concern and empathy for them, and to act in a way that benefits them". Central to various definitions of volunteering is the notion of "free will" or "free choice" (Allen & Shaw, 2009), which is in alignment with the viewpoints of Smith, Rochester, and Hedley (1995) that traditional definitions of volunteering have mainly concentrated

on three salient characteristics, namely: (1) free and autonomous choice; (2) unpaid labor; and (3) time commitment. Cuskelly, Taylor, Hoye, and Darcy (2006) have conceptualized volunteering as "unpaid, freely chosen involvement undertaken through an organization or agency and performed for the benefit of others or the environment as well as oneself" (p. 40). Additionally, Sheard (1992) noted that altruism and self-improvement are the foundational notions of volunteering.

In the MSE context, volunteer involvement falls into the category of prosociality, and is essential to the operation and success of MSEs (Williams, Dossa, & Tompkins, 1995). As a source of community support for mega events, volunteering leaves positive impacts on social cohesion and mutual cultural understanding between host city and event attendees. It is therefore vital that event organizers understand volunteer motivation and level of satisfaction to recruit and supervise volunteers effectively, and finally create satisfactory volunteering experience that benefits event human resource retention.

In terms of length of volunteering, an event volunteering session can range from several days to months, due to the specific and flexible format of an event. Theoretically, episodic volunteering is the most common volunteering pattern in

mega events that happens discontinuously or periodically. As Cnaan and Handy (2005) suggested, episodic volunteering is gaining increasing momentum in MSEs, and "there is a rise in episodic volunteer opportunities rather than commitment to ongoing or long term volunteer assignments" (p. 31). Macduff (1990) mentioned that episodic volunteering is a kind of short-term voluntary commitment (usually less than four months) or recurring, sequential or informal voluntary commitment that takes place regularly at intervals for a short length of time. In 2005, Macduff further explored three styles of episodic volunteering based on time (involvement) and duration (persistence) as follows:

►Temporary: Service is short in duration, usually a few hours or a day at most;

►Interim: Service is on a regular basis for less than six months; and

►Occasional: Service is at regular intervals for short periods of time.

Practically, it is also not difficult to recognize that episodic volunteering represents the overwhelming majority of MSE volunteering. Even if volunteers' pre-event training, orientation, as well as their post-event field trips are all counted in, the whole period of a MSE volunteer program usually lasts no more than six months (Macduff, 2005).

MSE volunteering is significant and indispensable since it provides a great deal of human resource support to event destination communities. According to the IOC Coordination Committee (2010), Beijing benefited largely from the momentum of volunteering in the 29th Olympic Games. Volunteer networks served as invaluable soft legacies after the Olympic Games (IOC Coordination Commission, 2010). From airport arrivals to sport venue check-ins, volunteers used their professionalism, enthusiasm and hospitality to project the idea that "*volunteers' smile is Beijing's best name card*" (Liu Qi, president of BOCOG, 2008). In fact, Chinese MSE volunteer organizations carried out their responsibilities and obligations in a centralized fashion and with relatively limited consideration of recommendations and feedback provided by experienced volunteers, whose ideas and perspectives should be underscored. Suggestions based on the volunteers' perceptions and levels of satisfaction are basically valuable to volunteer program administrators and organizers to increase the overall controllability of the volunteer program. As such, it is imperative for MSE organizations to effectively manage and operate volunteer programs to capitalize on community support for event success.

Table 1.1 illustrates MSEs held in China in the two decades. In each of these events, volunteers have played an essential role. Moreno, Moragas, and Paniagua (1999)

noted that before the 29th Olympics, the 26th Atlanta Olympic Games had the largest number of volunteer of 60,422, followed by the 27th Sydney Olympic Games, which attracted around 50,000 volunteers. The total number of volunteers in the 29th Olympics surpassed all of previous Olympic Games, nearly 30 times of that in Sydney 2000.

**Table 1.1 Mega Sports Events in China**

| Year | Mega Event | Host City | Number of Volunteers Participated | | Number of Countries, Regions& International Organizations Participated | Number of Athletes &Officials Participated |
|---|---|---|---|---|---|---|
| 1990 | 11th Asian Games | Beijing | 200,000 | | 37 | 6,578 |
| 2008 | 29th Olympic Games | Beijing | Game volunteer | 100,000 | 204 | 11,438 |
| | | | City volunteer | 400,000 | | |
| | | | Community Volunteer | 1,000,000 | | |
| | | | Total | 1,500,000 | | |
| 2010 | 16th Asian Games | Guangzhou | Game volunteer | 85,000 | 45 | Around 12,000 |
| | | | Social volunteer | 500,000 | | |
| | | | Total | 585,000 | | |

Source: IOC Coordination Commission (2010)

The recent event of 2010 Shanghai World Expo became a remarkable milestone in the history of Chinese volunteer participation in mega events. These expo volunteers came not only from the Yangtze River Delta[1], but also different provinces of China. Expo volunteers' commitment and support were vital for each step of event operations. By answering visitors' questions, directing attendees to different pavilions, and introducing various themes of expo pavilions, volunteers built up on the widely recognized volunteer image fostered in the 29th Olympic Games, further exemplifying the phenomenon of dynamic event volunteering in China. Visitors gain a deeper understanding of the expo spirit, the local Shanghai indigenous culture, and the profoundness of the Chinese culture through interacting with volunteers. According to Shanghai World Expo Organizing Committee (2010), a total of 79,965 volunteers served in exhibition regions, among which 1,266 are from mainland China and 204 volunteers from Hong Kong, Macau, Taiwan and overseas. They were deployed at the Expo sites by turns in 13 groups and provided ten million hours of service in 1.29 million shifts, serving accumulatively 460 million visitors. Their competence and professionalism contributed to the success of Shanghai Expo, turning it into the most influential grand event with the highest attendance in the history of the world expo. Their diligence and dedication also won the trust of the

[1] It generally comprises the triangular-shaped territory of southern Jiangsu province and northern Zhejiang province of China.

local community, with whom they forged profound friendship.

Although the constructive role of volunteering is highly commendable, much of volunteers' work still goes unrecognized and under-researched (Research Centre for Sport in Canadian Society & Centre for Sport Policy Studies, 2005). Chinese volunteers' increasing participation draws extensive media coverage and social appraisal, but hardly any research has been conducted in an authentic Chinese context to explore MSE volunteers' profile. In non-Chinese contexts, by contrast, extensive investigations have been carried out into volunteer motivation (Farrell, Johnston, & Twynam, 1998; Harrison, 1995; Houle, Sagarin, & Kaplan, 2005; Penner, 2002; Reeser, 2005; Yeung, 2004), but there still remains salient scarcity of research on intrinsic motivational factors, altruistic needs, and perceived external attractiveness that drive Chinese community members to enroll as volunteers in the initial stage.

The inconclusiveness of research leads to few practical suggestions and recommendations for MSE organizations to better capitalize on volunteers' expertise and stimulate their motivation to sustain involvement, leaving the critical issue of volunteer recruitment and retention thorny and unsettled. Volunteer motivation and

satisfaction should be recognized and understood by both academia and event organizations in order to stimulate sustained participation. Researchers like Yoon, Lee, and Lee (2010) strengthened the importance of understanding post-visitation festival satisfaction and experiences, which can help facilitate festival and event planning and stimulate visitor loyalty and repeat visitation.

A point to emphasize is that volunteers' intrinsic motivation fulfillment is an important factor in generating satisfaction, whereas their perceptions of external attractions such as organizational attributes are also effective predictors of volunteers' overall level of satisfaction. For a successful MSE volunteer organization, how well the organizing committee understands and leverages on the volunteer motivation and satisfaction is equally important as the overall efficiency of organization operations. Skillful or preferably artful manipulation of volunteers has positive implications to modify the strategy in managing community volunteer groups in future MSEs.

### 1.3 Sports Participation and Achievements in China

Participation in sports events is noticeably massive in scale in recent years. Based on information released by the Australian Bureau of Statistics (2010), China ranked

third in the percentage of 15–59 year olds in the whole population (67.8%); a figure surpassed by only Hong Kong (70.15%) and Singapore (68.4%). In other words, 67.8% of the Chinese population demonstrates a great need for sport event participation. In response to this need, the General Administration of Sport of China started "China National Fitness Day" and implemented the "National Physical Fitness Program" on 13 January 2009, aiming to enhance Chinese participation in sport and initiate a preliminary multi-purpose sport service system for the convenience of the citizens. These series of policies are consistent with Kim, Zhang, and Connaughton's statement (2010) that sport exercise is advantageous both psychologically and socially.

A nation's sporting achievements are often viewed as an indicator of overall national power. Apart from extensive sports participation, sporting achievements in China are unprecedented and enormous in recent years. With the continuous economic growth, Chinese athletes have won increasing medals in worldwide sports competitions (e.g. Olympic Games and championships), indicating an ever-rising oriental country. In 2009, Chinese athletes broke 31 world records in various international sports events. China Statistical Yearbook (National Bureau of Statistics, 2007) reported that the number of world Championships won by Chinese athletes jumped from 83 in 2003

to 141 in 2006, a striking 158% increase. At the same time, the number of employees engaged in sport-related activities reached a high point of 145,319 in 2007, with 17,234 people being employed in physical education and sport schools throughout China. It was recorded that 135,151 sport instructors were newly recruited in 2007, equal to 19.1% of the whole number of social sport instructors (707,422) in 2006. In conclusion, the fast growing expansion of sports participation and accomplishments has largely enhanced Chinese wellness and leisure activity diversity.

## 1.4 Research Objectives and Questions

The relationships between sports events volunteers' motive fulfillments, altruism, and perceived satisfaction as well as behavioral intention have been partly tested by previous researchers under western contexts. However, research focusing on predicting volunteering behavior in sports events is quite scarce as indicated by Strigas and Jackson (2003), so are the instruments to measure volunteer motivation and behavioral intention. To date, relationships among MSE volunteer motivation, altruism satisfaction and future participation intention still remain under-researched in Chinese sports events context. Very limited published research has been conducted to explore the conjoint influence of intrinsic motivation, altruism and

external attractiveness in influencing volunteer satisfaction and predicting intention. In view of the expanding scale of MSEs hosted in China and the dynamic demand for volunteer contributions, there emerges a great necessity to investigate the antecedents of sustained volunteering in order to moderate the scarcity of research in MSE volunteering, and provide practical managerial approaches for future volunteer organizations.

In this study, three major categories of factors leading to MSE volunteer satisfaction and intention towards future volunteering participation have been identified in published literature (e.g., Boezeman & Ellemers, 2009; Esmond & Dunlop, 2004; Farrell, Johnston, & Twynam, 1998). Firstly, the most dominant type of volunteer motivation is intrinsic motivation. Gagne and Deci (2005) mentioned that individuals' job attitude can be enhanced when intrinsic motivation is satisfied through the fulfillment of autonomy, relatedness and competence motives. Likewise, self-determination theory reiterated by Deci and Ryan (2000) implies that intrinsic motivation is promoted when the social surroundings facilitates people's need for autonomy, relatedness and competence. Secondly, apart from intrinsic motivations, pure altruism also lead to actual voluntary commitment, the satisfaction of which affects intention to participate in future volunteering opportunities. Finally, published

literature reveals that perceived external attractiveness drive community members to enroll as volunteers. There are a wide range of external stimuli, such as event destination attributes, profile of organizing committee, the respect and pride received, and potential tangible blessings. External factors also simultaneously impact on satisfaction generated from intrinsic and altruistic expectations.

This research offers an initial attempt to address the phenomena of volunteer participation in a Chinese MSE context, to be specific, in the Universiade SHENZHEN 2011, thus facilitating the conceptual understanding of the antecedents of MSE volunteering. A model incorporating intrinsic and altruistic motivations as well as perceived external attractiveness is evaluated with data collected during the field survey. The following four paragraphs describe each of the research objectives.

Firstly, this study seeks to compare the relative impacts of intrinsic motive fulfillments (including autonomy and relatedness), self-reported altruism fulfillment, and perceived external attractiveness on MSE volunteers' satisfaction.

Secondly, the study strives to analyze the strength of influence of volunteers' overall satisfaction on intention to participate in future volunteering activities. The extent to

which MSE volunteers' level of satisfaction affects their future volunteering intention was tested and interpreted using Structural Equation Modeling (SEM).

Thirdly, this research aims to evaluate the appropriateness of a series of measurement instruments of antecedents prior to MSE volunteering.

Lastly, this study intends to propose a model of determinants and antecedents of volunteer participation in a MSE context (Figure 2.2). Relevant constructs were judged by established observable items under latent variables (Table 3.2). Relationships among latent constructs were measured and explained in the path analysis.

In order to fulfill these objectives, five research questions pertaining to the relationships among latent variables in the conceptual model are formulated as follows:

(1) What is the relationship between MSE volunteers' intrinsic motivation fulfillment and their level of satisfaction?

(2) In what degree is MSE volunteers' self-reported altruism fulfillment associated with perceived level of satisfaction?

(3) What is the relationship between MSE volunteers' perceived external attractiveness and their level of satisfaction?

(4) What are the relative degrees of influence on volunteers' overall satisfaction of intrinsic motive fulfillment, self report altruism fulfillment, and perceived external attractiveness?

(5) To what extent can MSE volunteers' level of satisfaction impact their intention to participate in future voluntary activities?

This study contributes to practical strategies to sustain volunteer engagement and to motivate extensive voluntary participation in MSEs. By understanding the profiles of volunteers investigated in this survey, future MSE hosting cities as well as organizations can better maintain and increase events' benefits for both society and volunteers.

## 1.5 Glossary

To facilitate reading and understanding, a glossary is summarized below with abbreviations, where applied, of organizations or special names concerned.

**The Beijing Organizing Committee for the Games of the 29th Olympiad (BOCOG)** is the top organizing committee of Beijing Olympic Games and was established on 13 December 2001; it consists of 26 departments and is responsible for numerous games functions ranging from venue planning to environmental management.

**China's Reform and Opening-up Policy** is a series of reform movements to develop the Chinese economy and open her door to the international community; it was proposed during the Third Plenary Session of the Eleventh Central Committee of Chinese Communist Party in 1978.

**Universiade SHENZHEN 2011 Organizing Committee (USZOC)** is the Organizing Committee of the Universiade SHENZHEN 2011; it was officially established with the key obligation to carry out the decisions of the Organizing Committee and follow up on the results.

**Chinese Association of Young Volunteers (CAYV)** was set up on 5 December 1994. It is a co-membership organization under the United Nations Coordinating Committee for International Voluntary Service (CCIVS).

**China Communist Youth League (CCYL)** is under the leadership of the Communist Party of China (CPC). The Chinese Socialist Youth League held its first national congress in Guangzhou in 1922, and proclaimed its establishment. Thereafter, the organization changed its name several times and in 1957 was finalized as the China Communist Youth League (CYL).

**Research Centre for Sport in Canadian Society (RCSCS)** is governed by a board of five members (including the director), chosen among its University of Ottawa collaborators. Its mission is to contribute to the expanding research on sport in Canada and to create a favorable environment for young researchers in this area.

**U-station** is a temporary service station set up before and during the Universiade to deal with the enquiries of all Universiade participants/stakeholders.

## 1.6 Summary

This chapter outlines the foundations of the research design. The statement of the research problem, the backgrounds behind the problem, and the practical necessity for conducting this research are presented. Five research questions are formulated to

address the four objectives of investigating Chinese volunteers' motivation, satisfaction and intention to remain involved in MSE volunteering opportunities. Additionally, an overview of MSE volunteering and its significant contributions in the success of MSEs in China are also offered.

In a holistic view, the thesis is structured into six chapters. The following five chapters extend the details of literature review, research methodology, findings, discussions, and contributions.

Chapter 2 presents a thorough discussion of literature concerning volunteer motivation, altruism, external attractiveness, satisfaction, and behavioral intention, after which a proposed theoretical framework of determinants and antecedents of volunteer participation in a MSE context (Figure 2.2) is presented and the relationships among the latent variables in the structural model formally hypothesized. Sections 2.2 to 2.3 are organized around the three exogenous variables and two endogenous variables in the hypothesized model to present extant theory relating to each variable. In addition, characteristics of Chinese youth volunteering and China volunteerism development history are explained to achieve a better understanding of MSE in China.

Chapter 3 describes the research methodology in eight main sections, with modified research instrument established and presented. Details for case selection, sampling, refining and finalizing research instruments are described. Before the main survey, the survey questionnaire was firstly piloted and then revised in focus group discussions. Data analysis was conducted using SPSS 18.0 and Structural Equation Modeling (SEM) in AMOS 18.0.

Interpretations of results are detailed presented in Chapter 4. As the core of the thesis, Chapter 4 records the whole procedure of data analysis. Firstly, a series of data screening techniques are carried out to purify outliers, tackle missing data, and evaluate data distribution characteristics. Descriptive analysis and correlation analysis are employed to interpret survey respondents' demographic characteristics, and relationships concerning MSE volunteers' leisure time, length of volunteering service, and perceived satisfaction. Following the reliability and validity test, both the measurement model and the structural model are assessed using SEM in AMOS 18.0. The results support all of the five research hypotheses. Interpretations of each hypothesis are organized following the sequence of research questions, relating back to the four research objectives.

Chapter 5 discusses findings in this study thoroughly with reference back to literature in Chapter 2. Besides, in the rethinking part, several suggestions are provided for future event organizations to optimize organizational mechanism and enhance volunteer satisfaction.

Chapter 6 summarizes the whole research findings, discusses the theoretical and practical contributions of this study, and directs future studies in MSE volunteering. Contributions of this study are twofold. A major theoretical breakthrough lies in the establishment of a conceptual model of determinants and antecedents of MSE volunteer participation. Findings illuminate extant theory on MSE volunteer motivation, satisfaction and intention. Regarding practical implications, the study generates managerial implications for future MSE organizations to effectively design, manipulate and recruit MSE volunteers in order to fulfill event needs and volunteer expectations, thus not only boosting the success of MSEs, but also benefiting MSE volunteers functionally and psychologically.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Introduction

The purpose of the literature review chapter is to provide a detailed understanding of extant research and theory on antecedents and determinants of volunteering and/or volunteerism in MSE contexts, whilst presenting the rationale for the choice of this research topic in this study.

To be specific, Chapter 2 presents a review of selected literature and research on volunteer intrinsic motivation, altruism, external attractiveness, satisfaction, and intention, with a focus on sports-related contexts. Sections 2.2 and 2.3 draw upon literature on each of the five latent constructs in the conceptual model of determinants and antecedents of MSE volunteer participation (Figure 2.2). Distinct Characteristics of Chinese Volunteering are analyzed in section 2.5. The rest parts of this chapter are developed to identify characteristics of sport volunteering and China's volunteerism development history, which can facilitate the understanding of volunteer participation in Chinese contexts, especially in the Universiade SHENZHEN 2011.

## 2.2 Research on Volunteer Motivation

Research into volunteer motivation is not particularly recent. What is a milestone in motivation research is that Decharms (1968) pointed out the characteristics of non-autonomy and antithesis of extrinsic motivation. In the 1970s, the emergence of research in volunteer motivation occurred; in that decade, an increasing number of studies on volunteerism and motivation were published (e.g., Gidron, 1978; Howarth, 1976; Tapp & Spanier, 1973; and others). Pioneering investigations began to gradually expand in the 1980s and 1990s (Baumeister & Leary, 1995). For instance, Herzberg's (1996) research on volunteer motivation marked the development from the intrinsic-extrinsic or altruistic-egoistic two-factor model to three-factor or even multi-factor models. Clary and Snyder (1999) confirmed that behavioral motivations are intriguingly multi-faceted and "roughly two thirds of respondents indicate having two or more important motivations" (p. 157). In fact, the multi-motivational nature of volunteering has led researchers to establish more comprehensive models from different perspectives and in various research contexts. Later in the 2000s, there was an ever expanded volume of studies in volunteer motivation (e.g., Antoni, 2009; Beehr, LeGro, Porter, Bowling, & Swader, 2010; Carpenter & Myers, 2010; Haskileventhal, Ronel, York, & Bendavid, 2008; and others), indicating that volunteering in MSEs attracted unprecedented attention from academia.

Previous researchers have categorized volunteer motivation into various dimensional conceptual models. Esmond and Dunlop (2004), for instance, noted that the main existing models are summarized as follows: (1) two or three factor model; (2) uni-dimensional model; and (3) multifactor model. Cnaan and Goldberg-Glen's (1991) study identified that volunteers' most highly rated motives are "altruistic" ones, followed by "egoistic" ones, reconfirming the two-factor model. In alignment with these proposed models, various theories (e.g., self determination theory and volunteer function inventory) have been applied to understand volunteering behavior patterns. As such, intrinsic factors (including competence motive, relatedness motive, and autonomy motive) and self-reported altruism are often noted as antecedents of volunteer satisfaction with during a mega event, and consequently of their intention to serve in future events.

Despite some published research on volunteer motivation, there still remains a notable gap in the literature on volunteer motivation and intention towards repeat participation. Research on volunteers' motivation, satisfaction and future behavioral intention is also scarce, especially in the Chinese context. Utilizing the Universiade SHENZHEN 2011, this research attempts to narrow this research gap by proposing and establishing a model of determinants and antecedents of volunteer participation

in a MSE context (Figure 2.2), so as to identify the relationships among MSE volunteers' motivation, satisfaction and future participation intention.

### 2.2.1 Self Determination Theory

Volunteering bears the characteristics of free will and self-choice, thus Allen and Shaw (2009) emphasized that self-determination theory (SDT) can explain volunteers' underlying motivations and behavior intentions appropriately. In the matter of volunteering for events, Getz (1989) pointed out that volunteers experience a full range of motivation fulfillment by participating in special events, such as "self determination" and "mastery" (p. 128). It should be noted that traditional consumer behavior theory can not exactly explain volunteers' motivation and predict repeat participation intention in that the multi-dimensionality of factors influencing the job attitudes of paid workers (e.g., fixed salary and length of holiday) cannot necessarily account for volunteers' attitudes. Being not purchasers who pay for tangible commodities or intangible services, volunteers fulfill commitments to contributing to society, and are typical exemplifications of altruism and civic prosociality. Therefore, in order to identify MSE volunteer motivation, volunteer-specific and event-sepcific literature is selected and reviewed, as discussed as follows.

Allen and Shaw (2009) argued that SDT is a viable framework for examining volunteer motivation, and they also reinforced SDT's adaptability in event volunteer motivation research by highlighting the connection between volunteer theory and practice: "This conceptualization of motivation as a self-determination continuum has a clear link with volunteering" (p. 81). Potential volunteers can be not only intrinsically motivated (e.g., the enjoyment of gaining a sense of social belongingness, and enhanced professionalism through event commitment), but also extrinsically motivated for self-determined reasons, for example, helping the event on the way to success. Deci and Ryan (1985; 2000) identified the five mini-theories comprising SDT: (1) Cognitive Evaluation Theory (CET); (2) Organismic Integration Theory (OIT); (3) Causality Orientations Theory (COT); (4) Basic Psychological Needs Theory (BPNT); and (5) Goal Contents Theory (GCT). According to University of Rochester (2010):

> Cognitive Evaluation Theory (CET) concerns intrinsic motivation, which is based on the satisfactions of behaving "for its own sake." The second mini-theory, Organismic Integration Theory (OIT), addresses the topic of extrinsic motivation in its various forms, with their properties, determinants, and consequences. Causality Orientations Theory (COT), the third mini-theory, describes individual differences in people's tendencies to orient toward environments and regulate behavior in various ways. Basic Psychological Needs Theory (BPNT) elaborates the concept of evolved psychological needs and their relations to psychological health and well-being. Goal Contents Theory (GCT), grows out of the distinctions between intrinsic and extrinsic goals and their impact on motivation and wellness.

SDT proposes that human beings have basic psychological needs for autonomy, competence, and relatedness (Roca & Gagne, 2008), which are all intrinsic needs. Maslow (1943), in his theory of the hierarchy of needs, pointed out that people's highest need is for self-actualization, while the lowest is physiological, with needs for safety, love, belonging, and esteem in between. Autonomy and competence needs belong to self-actualization need, and relatedness need is concerned with the need for love and belongingness.

Autonomy, a perceived source of behavior (DeCharms, 1968; Deci & Ryan, 1985; Ryan & Connell, 1989), is often confused with independence or dependence. Volunteer autonomy can be fostered through organizer's empowerment, by which volunteers are aware of effective management, flexible structural arrangement, comprehensive use of knowledge, and appreciation of volunteers' input (Allen & Shaw, 2009). But autonomy itself cannot fully explain people's initial motives in the pre-volunteering decision-making.

Competence refers to perceived self-trust and self-confidence, whilst not a fostered skill or ability (Deci & Ryan, 1985). It is a positive self-perception of interacting in a social context and of having the chance to put into practice one's capabilities (Deci,

1975; Deci & Ryan, 2002). Allen and Shaw (2009) also supported the viewpoint that event volunteers enjoy confronting new challenges and can feel empowered by developing new expertise.

Relatedness means being connected with others, caring for and being cared for by others, and possessing a sense of belongingness to both individuals and communities (Baumeister & Leary, 1995; Deci & Ryan, 2002; Ryan, 1995).

The significantly different roles of these three types of intrinsic motivation fulfillment have previously been identified by previous researchers. For instance, Boezeman and Ellemers (2009) investigated how these three types influenced volunteers' satisfaction in a charitable organization and concluded that satisfaction of autonomy and relatedness are both directly and positively associated with job satisfaction and intention to volunteer in future. However, satisfaction of competence needs is insignificant, and is less relevant than other factors to volunteers' overall level of satisfaction and intention. Future researchers may test the wider applicability of Boezeman and Ellemers's (2009) results in various contexts, in that there is limited published research on the distinctive roles of the three sub-categories of intrinsic needs.

Regarding the formation of intrinsic motivation, changes in perceived locus of causality and perceived competence are the two changes in the formation of cognition, which influence intrinsic motivation. These two changes are associated with people's need for autonomy and competence respectively. Deci and Ryan (2002) suggested that when an event fails to enhance people's perceived accomplishment of competence, they will express decreased intrinsic motivation; instead, when people are directed towards a more internal perceived locus of causality, perceived intrinsic motivation will be increased.

The importance of volunteer participation in the overall success of a mega event has been identified by Baum and Lockstone (2007), who noted that "without the personal investment of the volunteers, mega-events could simply not have been arranged" (p. 30). Hence, in order to encourage sustained volunteer involvement, event organizations should understand and fulfill volunteers' motivation through appropriate volunteer program design, recruitment, training and daily management. Under the Chinese context, the paucity of research in this filed indeed limits hosting bodies' understanding of volunteer motivation, thus hindering the optimization of volunteer projects and the improvement of daily supervision of MSE volunteers.

### 2.2.2 Volunteer Motivation and Volunteer Functions Inventory

Events grow quickly in terms of volunteer support as they approach, and it is motivation that drives people to enroll as volunteers in the initial stage. Without strong motivation, event volunteers and even paid employees can lack enthusiasm for delivering quality services.

As a widely adopted approach to test volunteer motivation, the functional approach is highly exemplified because it mainly addresses individual motivations for helping (Clary & Snyder, 1999). Houle, Sagarin, and Kaplan (2005, p. 342) emphasized the multiple functions served by volunteerism by noting that "volunteerism may serve more than one motive for an individual, and different motivations may be served within a group of volunteers performing the same activity". Volunteerism produces certain psychological functions, such as relatedness and autonomy motive fulfillment. Intrinsic motivation consists of autonomy, relatedness and competence motivation, whereas not all these three motivation fulfillments play the same role in generating volunteers' overall satisfaction. However, all these intrinsic need fulfillments can foster a sense of social belongingness and self-accomplishment. Boezeman and Ellemers (2009) concluded competence need fulfillment is insignificantly relevant to volunteers' job satisfaction and intention. For this reason, competence motive

fulfillment is excluded in this study, while scales of autonomy and relatedness need fulfillment are included into the research items.

The development of research instruments to test volunteer motivation has witnessed a continuous if not fertile history. In 1961, Clark and Wilson initiated a three-dimensional typology of volunteer incentives: (1) material (tangible and monetary compensation); (2) solidarity (intangible incentives which lead to affective attachments); and (3) purposive (intangible rewards from volunteer organizations). From Clark and Wilson's (1961) three-dimensional approach to Farrell, Johnston, and Twynam's (1998) four-dimensional structure of motivation (including purposive, solidarity, external traditions and commitment motivations), measurement instruments for evaluating volunteer motivation have become more sophisticated and reliable.

Multi-dimensional techniques, to date, have been utilized to identify volunteer motivational factors, whereas the majority of investigations into volunteerism utilize organizational approaches or measurement items that were not developed in sports events contexts. The first established survey instrument for assessing sports events volunteer motivation is the Volunteer Functions Inventory (VFI) designed by Clary,

Snyder, Ridge, Copeland, Stukas, Haugen, and Miene (1998) after a series of measurement item validity and reliability tests and factor analysis. Clary et al. (1998) indeed considered volunteer motivation research as comparably thin and premature. Serving as the predominant functional inventory of motivation research, Clary's et al. (1998) VFI (Table 2.1) has been widely accepted by mega event researchers and has laid the foundation for further volunteer motivation surveys (Strigas & Jackson, 2003). It consists of 30 items organized into six categories of volunteer motives: (1) Values; (2) Understanding; (3) Social; (4) Career; (5) Protective; and (6) Enhancement (Clary & Snyder, 1999, p. 156). As shown in Table 2.1, Clary et al. (1998, p. 1517-1518) also provided description of six major functions that are served through volunteering with regard to volunteers' internal motivation.

**Table 2.1 Description of Volunteering Function**

| Function | Description |
|---|---|
| Career | Developing and enhancing one's career |
| Esteem | Enhancing and enriching personal development |
| Social | Conforming to the norms of, or establishing norms for, significant others |
| Protective | Escaping from negative feelings |
| Understanding | Learning new skills and practicing underutilized abilities |
| Value | Expressing values related to altruistic beliefs |

Source: Clary et al. (1998)

Clary et al.' s (1998, p. 1517) model of multi-motivational volunteering functions laid a firm foundation for a much clearer and more adaptive six-dimensional conceptualization of volunteering functions, which was put forward by Clary & Snyder (1999) to test volunteers' fulfilled motivation. These specific functions are outlined in Table 2.2.

**Table 2.2 Description of Volunteering Function**

| Function | Conceptual Definition | Sample VFI Item |
|---|---|---|
| **Values** | An individual volunteer provides voluntary service in order to express or act on important values like humanitarianism. | I feel it is important to help others. |
| **Understanding** | A volunteer is seeking to learn more about the world or exercise skills that are often unused. | Volunteering lets me learn through direct, hands-on experience |
| **Enhancement** | One can grow and develop psychologically through volunteer activities. | Volunteering makes me feel better about myself. |
| **Career** | A volunteer has the goal of gaining career-related experience through volunteering. | Volunteering can help me to get my foot in the door at a place where I would like to work. |
| **Social** | Volunteering allows an individual to strengthen his or her social relationships. | People I know share an interest in community service. |
| **Protective** | An individual uses volunteering to reduce negative feelings, such as guilt, or to address personal problems. | Volunteering is a good escape from my own troubles. |

Sources: Clary et al. (1998); Clary & Snyder (1999)

VFI is “consistent with the results of previous studies of people’s reasons for volunteering” (Clary & Snyder, 1999, p. 156). In Clary and Snyder’s (1999, p. 157) conceptualization, “values” refer to having regard for others’ welfare and contributions to society. “Career” means volunteering functioning as a stepping stone towards targeted employment; it links with volunteers’ need for competence. “esteem” falls into the category of competence motives, while “social” and “understanding” are both associated with the need for relatedness. Furthermore, Kim et al. (2010) confirmed the significant applicability of VFI in evaluating volunteer motivation by arguing that the VFI (Clary & Snyder, 1999; Clary et al., 1998) is a general scale that was developed through comprehensive measurement procedures of all the various scales used to measure volunteerism.

VFI has experienced a number of empirical testing and modifications to date. Finkelstein (2008) tested the VFI proposed by Clary et al. (1998) and noted the positive correlation between volunteer satisfaction and four types of volunteer motive fulfillment: (1) value motive; (2) understanding motive; (3) social motive; (4) protective motive; and (5) enhancement motive. Only the career motive fulfillment was found to be insignificantly related to volunteer satisfaction, with an insignificant correlation coefficient of 0.02.

The latest version of VFI was modified by Kim et al. (2010) in their assessment of MSE volunteers' relatedness motive fulfillment, competence motive fulfillment and autonomy motive fulfillment. They refined the original VFI to be specifically applicable in youth sports organizations and assessing volunteer motivation by excluding twelve items from the existing 30 items under six sub-dimensions. Deleted items proved questionable, too vague or sensitive for volunteers to answer, or not to be clearly associated with sport organizational contexts. In view of its viable applicability, Kim et al. (2010) modified VFI is included in the research instrument for studying volunteer motivation in the Universiade SHENZHEN 2011.

On the basis of the above thematic literature review on SDT and VFI (section 2.2.1 and section 2.2.2), especially Boezeman and Ellemers's (2009) research that confirmed the direct and positive relationship between volunteers' intrinsic need fulfillment and volunteers' satisfaction in a charitable volunteer organization, a hypothesis regarding MSE volunteers' intrinsic motivation and satisfaction is formulated as below:

***H1****: MSE volunteers' intrinsic motive fulfillment is positively associated with their overall satisfaction with volunteering experience.*

### 2.2.3 Pure Altruistic Motive

As a certain spirit of prosocial contribution, volunteerism is associated with reciprocity, and virtually performs as a reflection of altruism. According to Cnaan and Goldberg-Glen (1991), volunteers' most highly rated motives are altruistic ones. Prior research has noted a linkage between volunteers' altruistic behavior and purposive motive. Caldwell and Andereck (1994) concluded that volunteers' strongest motive is purposive motive, which means volunteers wish to do something contributive to society (cited from Farrell, Johnston, & Twynam, 1998). Purposive motive is prosocial and altruistic in nature, and has no origin in self-benefit.

Altruistic behavior is defined by Chou (1998, p. 195) as "voluntary, intentional behavior that benefits another and that is not motivated by the expectation or external rewards or avoidance of externally produced punishment". Obviously, altruism cannot be categorized as any typology of intrinsic or extrinsic motivation, but as a separate stream of volunteer motivation. It has been widely researched from various perspectives, ranging from social learning, development of cognition, and social norm to psychoanalytic learning. For instance, the positive association between Chinese adolescent volunteer activities and altruistic behavior was confirmed by Chou (1998) in his study of 1,105 Hong Kong Chinese adolescent

volunteers. He concluded that a positive relationship exists between self-reported altruism and frequency in participating in extracurricular volunteering activities. Likewise, Cialdini, Eisenberg, Shell, and McCreath (1987) ascertained the positive correlation between volunteer activity participation and altruistic behavior or helping behavior.

In terms of analytical method, measurement scales of volunteers' altruism have undergone several modifications up to date. The initial Hindi version of altruistic personality and self-report altruism scale were established by Rushton, Chrisjohn, and Fekken (1981) (Table 2.3). Chou (1998) further developed the Chinese version of the self-reported altruism scale (C-SAR scale) and demonstrated the scale's satisfactory level of validity and high internal consistency (alpha=0.858, $p<0.01$, with a split-half reliability of 0.79, $p<0.01$).

**Table 2.3 Self-Report Altruism Scale**

| Item Code | Item Statement |
|---|---|
| 1 | I have helped push a stranger's car out of the snow. |
| 2 | I have given directions to a stranger. |
| 3 | I have made change for a stranger. |
| 4 | I have given money to a charity. |
| 5 | I have given money to a stranger who needed it (or asked me for it). |
| 6 | I have donated goods or clothes to a charity. |
| 7 | I have done volunteer work for a charity. |
| 8 | I have donated blood. |
| 9 | I have helped carry a stranger's belongs (books, parcels, etc). |
| 10 | I have delayed an elevator and held the door open for a stranger. |
| 11 | I have allowed someone to go ahead of me in a lineup (at Xerox machine, in a supermarket). |
| 12 | I have given a stranger a lift in my car. |
| 13 | I have pointed out a clerk's error in understanding me for an item. |
| 14 | I have let a neighbor whom I didn't know too well borrow an item of some value from me. |
| 15 | I have bought charity Christmas cards deliberately because I knew it was a good cause. |
| 16 | I have helped a classmate who I didn't know that well with a homework assignment when my knowledge was greater than his or hers. |
| 17 | I have before being asked, voluntarily looked after a neighbor's pets or children without being paid for it. |
| 18 | I have offered to help a handicapped or elderly stranger across a street. |
| 19 | I have offered my seat on a bus or train to a stranger who was standing. |
| 20 | I have helped an acquaintance to move households. |

Source: Rushton, Chrisjohn, & Fekken (1981) where frequencies of occurrences of the items were measured in a five-point scale of "never", "once", "more than once", "often", and "very often".

For the investigation of volunteers in the Universiade SHENZHEN 2011, any items in Table 2.3 that do not fit into sports volunteerism settings are deleted/revised in the pilot study. Five statements in Table 2.3 are found of highly relevance: (1) item 2; (2)

item 9; (3) item 10; (4) item 17; and (5) item 18. Most importantly, in order to explore the self-reported altruism in the Universiade SHENZHEN 2011 more precisely, these five measurement items are further modified after focus group discussions with twelve MSE volunteers, resulting in the final research instruments in Table 3.2, Chapter 3.

The positive and significantly direct relationship between altruism fulfillment and perceived level of behavioral satisfaction has been researched from different disciplines (e.g., marketing and social psychology). Lehmann (2001) stated that the notion of altruism showcases an interesting perspective on individual satisfaction with outcomes. Dulin, Hill, Anderson, and Rasmussen's (2001) examination into the impact of altruism on 137 senior adults' life satisfaction revealed that "seniors who remained in community service for altruistic, rather than economic reasons enjoy higher levels of life satisfaction" (p. 349). Altruism can be encouraged by peers' or relatives' prosocial or philanthropic behavior, which serves as a stimulating example of the external attractiveness from surroundings (Chou, 1998). The altruistic fulfillment can, in turn, raise perceived level of behavioral satisfaction and result in sustained and prolonged volunteerism. Based on the related research findings on volunteer altruism and satisfaction, the following hypothesis concerning MSE

volunteering is formulated:

***H2****: MSE volunteers' altruistic need fulfillment has a positive effect on their level of satisfaction.*

### 2.2.4 External Attractiveness of Mega Sports Events

The first step towards sustained MSE volunteering should be the clear identification of volunteers' source of satisfaction, in which organization attractiveness, destination-specific attributes, and other external stimuli act as significant contributors as intrinsic/altruistic ones. Understanding volunteers' dynamic needs and motivation accurately and then promptly rewarding volunteers are essential to promote sustained volunteerism. Holmes and Smith (2009) noted that volunteering is based on a reciprocal relationship and is a reflection of both internal motivations and external attractions. Strigas and Jackson (2003) ranked external reasons as the first in their five-dimensional structural motivation solution to explain marathon running volunteer motivation, which composes of: (1) external; (2) material; (3) purposive; (4) leisure; and (5) egoistic. In fact, a detailed review of literature indicates that sustained volunteering or repetitive volunteering is profoundly dependent not only

on intrinsic or altruistic motive fulfillment, but also on perceived external attractiveness. Hence, event organizations should pay attention to crucial and highly influencing external attractiveness, apart from some uncontrollable and personal reasons.

External stimuli, according to Strigas and Jackson (2003, p. 119), evaluate "motives related to factors outside of their immediate control, like family traditions and significant others". In the volunteer tourism context, Lyons and Wearing (2008) identified ten external factors that arouse volunteer tourism or volunteering activities: (1) the unknown; (2) danger; (3) diversity; (4) scenery; (5) linguistic; (6) influence of siblings; (7) popularity among peers; (8) preference over the destination; (9) the experience; and (10) time factor. MSE volunteers' motives are to some extent externally controlled by a wide range of inducements such as free entry permit, souvenir t-shirts, etc. Even their altruistic behavior is not only rooted in volunteers' self-motive, but is also partially attributable to external stimuli. Usually, commitment in nonpaying voluntary services can be encouraged by the following external attractiveness: (1) international fame of the event; (2) organizational effectiveness and humanization; (3) host city's profile and infrastructure; (4) event destination attractions promoted by media coverage; (5) free training and merchandise (e.g.,

tickets, badges, event posters, and clothing); (6) certificates of appreciation and public acknowledgement; and (7) positive perception of the real-time communications with celebrities. Furthermore, a prospective MSE volunteer may want to involve merely because his/her friends or families are currently members of a certain volunteer team. Motives to assist or boost volunteer organizations or to continue a family tradition of providing voluntary service also play a significant role in sport volunteerism.

Among the long list of external attractiveness, organizational attributes of event organization play the most notable role in volunteer satisfaction and future participation intention. An apparently defining characteristic of MSE volunteers is that they usually provide service under the guidance of a designated organization. According to Finkelstein and Penner (2004), Organizational Citizenship Behavior (OCB) positively correlated with volunteers' intention to help. In an investigation of 208 student sport volunteers in Brisbane (Australia), Auld (2004) demonstrated that organizational factors such as management and training are crucial factors that frequently influence sports volunteers' initial intention to participate. Boezeman and Ellemers (2008) also proved that both pride and respect are associated with organizational commitment.

The role that organizational factors play in attracting volunteer participation and volunteer preference deserves careful research. Penner (2002) argued that "although some portion of the differences in job attitudes may be due to dispositional factors, a more direct and powerful cause of differences is how a person is treated by the organization" (p. 464). MSE volunteering occurs in a complicated social background, with volunteer organization, event organization, and city or even country authority's joint support. Organizational attributes saliently influence MSE volunteers' perceived level of satisfaction because almost all MSE volunteer service is arranged by a designated organization. Furthermore, relaxing organizational atmosphere increases volunteers' working efficiency and perceived value of volunteering commitment. According to Pauline and Pauline's (2009, p. 179) ranking of reasons for volunteers in a US Open Series professional tennis event, the most important reasons are: (1) "It's fun to volunteer for this event"; (2) "Complimentary items played a very important role in my decision"; and (3) "Volunteering for this event enables the organizational committee to provide more services for less money".

The influence of MSE volunteer organizations on volunteer satisfaction are twofold, either positive or negative. In one instance, Yeung (2004) verified that volunteers express enjoyment at the organization of the volunteering activities, which is

action-centered. Xing and Chalip (2009) further reported that some volunteers serving in the 29th Olympic Games considered their working environment supportive and having the function of nurturing people, thus they expressed a high level of satisfaction towards the whole volunteering session. In another instance, certain volunteers at BOCOG also complained about the organizational inefficiency rooted in the bureaucratic system (Xing & Chalip, 2009). It should be noted that volunteers will be dissatisfied with the whole volunteer experience when organizational attributes cause negative impressions. In particular, the fast expansion of event organization is sometimes inevitably contradicted by the stresses that volunteers experience; such incongruity and inconsistency may often lead to volunteer dissatisfaction.

Although previous researchers have identified that external attractiveness plays a crucial role in constituting volunteer satisfaction, controversy and discrepancy still exists on the degree to which external factors affect perceived level of satisfaction. Although Farrel, Johnston, and Twynam's (1998) stated that particular attributes of event organizations and competition facilities play an overwhelming role in overall volunteer satisfaction, Hidalgo and Moreno (2009) concluded that organizational indicators can only predict 29% of the total variability of volunteers' intention of

remaining with the voluntary organization. Accordingly, extensive research should be dedicated to further exploring the actual influencing power of organization on volunteer satisfaction in various research settings.

Some volunteer work may be rewarded by small-scale symbolic subsidy, but most voluntary work still goes unpaid. However, material rewards or tangible blessings are appealing motivational factors for MSE volunteers. Pauline and Pauline (2009) noted that "volunteers were also seeking a material gain through volunteering in the form of complimentary items" (p. 178) in the 2005 Indianapolis Tennis Championships that, for example, a tournament souvenir T-shirt, the voucher for tickets, light meals, and credentials. The author's previous volunteering experience in BOCOG informs that volunteer badge and uniform, the gifts from foreign athletes, and even the preferential treatment during the game session all enhanced perceived level of satisfaction. This is in consistency with Cnaan and Goldberg-Glen's (1991) finding that volunteers' perceived attraction of voluntary work lead to sustained willingness for volunteerism.

Additionally, both accessibility and attractiveness of convention locations serve as determinant concerns for convention attendees (Var, Cesario, & Mauser, 1985). The

accessibility of MSE hosting city influences event volunteers' pre-event decision making fundamentally. In China, the overwhelming majority of MSE hosting destinations in China are metropolitan cities with high accessibility, and convention destination's degree of accessibility plays an important role in influencing convention attendee's decision (Zhang, Leung, & Qu, 2007).

The initial research into volunteer motivation mainly focuses on intrinsically psychological factors. Specifically, VFI, the first established functional approach to test volunteer motivation, only tests intrinsic motivation (e.g., values, understanding, enhancement, and career). External attributes or exterior stimuli are to some extent neglected in event volunteering research. A number of quantitative studies have been conducted on volunteers' internal or intrinsic motivations, but external attractiveness has not been paid adequate attention to. Without the inclusiveness of measurement items to test external attributes, merely employing VFI to assess volunteer motivation can be single-faceted. Thus, Strigas and Jackson (2003) argued that external factors should be added to the existing measurement instrument pool in quantitative assessment of volunteer satisfaction.

A more comprehensive conceptual model incorporating perceptions of external attractions that motivate potential volunteers should be valuable in MSE volunteer motivation and intention research. The following factors could be added: the profile of host city, folklore and customs, reputation of an event organizer, city transportation availability, communication facility, and the profile of events (e.g., regional, national and/or international events). All these objective attractions may stimulate event volunteers' initial intention to provide service, especially in a particular destination when strong internal motives already exist.

The reason people want to offer voluntary service is a combination of the unique Chinese social-cultural environment, volunteers' personal motives and external stimuli. When an MSE is approaching, organizational appeal and promotion stimulate potential volunteers' desire for participation. In the Chinese context, taking the lead in response to organizing committee's call is a distinguishing characteristic of volunteering. Chinese volunteers exhibit a strong tendency to volunteer for the 29$^{th}$ Olympic Games and the 16$^{th}$ Asian Games because the two organizing committees won worldwide recognition and trustworthiness. Therefore, the influence of organizational promotion should be considered and included in the measurement instruments in order to reflect the unique Chinese style of MSE volunteering.

Based on the above literature, the following hypothesis is put forward:

***H3****: There exists a positive relationship between MSE volunteers' perceived external attractiveness and their overall level of satisfaction.*

2.2.5 Volunteer Satisfaction

Oliver (2009) has identified the Latin root of satisfaction: satisfaction comprises of the Latin satis (enough) and facere (to do or make), illustrating that satisfaction means fundamentally being enough and being fulfilled. According to Anderson, Fornell, and Lehmann's (1994) definition, satisfaction is ''an overall evaluation based on the total purchase and consumption experience with a good or service over time'' (p. 54); this definition has been extensively used by researchers (e.g., Lee & Back, 2008; Garbarino & Johnson, 1999).

As a type of consumer (dis)content, (dis)satisfaction may serve as an indicator of repurchase behavior, or repeat actions in multi-disciplines. Oliver (1997; 2009), from an industrial perspective, stated the influencing factors in the process of satisfaction formation. Lam, Zhang, and Baum (2001) pointed out the positive relationship

between job satisfaction and organizations. In the volunteering perspective, Esmond and Dunlop (2004, p. 54) noted the close connection between motivation and satisfaction by arguing that "the placement of a new volunteer into volunteering activities that fulfill their motivational needs will certainly increase their level of satisfaction in their new voluntary role".

To date, there have been a number of surveys which explored volunteer satisfaction (e.g., Boezeman & Ellemers, 2009; Farrell et al., 1998; Finkelstein, 2008; Galindo-Kuhn & Guzley, 2001; Li, Lin, & Chen, 2007; Millette & Gagné, 2008). These studies have explored the relationship between volunteer motivation and satisfaction under various circumstances. However, there are far fewer published studies on Chinese MSE volunteers' motivation and satisfaction than those relating to western countries, leaving the linkage between Chinese MSE volunteers' motivation and satisfaction unidentified and untested.

Previous researchers (Gagne, 2003; Ryan & Deci, 2004) have reported different status of autonomy, competence, and relatedness motive fulfillment in constituting satisfaction, also considering various demographic characteristics. Boezeman and Ellemers (2009) have suggested that these distinctive categories of need satisfaction

exert different influences on volunteers' perceived level of satisfaction; furthermore, relatedness motive fulfillment is the principal predictor of volunteer satisfaction and future participation intention. In Millette and Gagné's (2008) survey of 230 volunteers and 24 supervisors, volunteers' intention to quit current voluntary jobs correlated negatively with autonomy motivation. Intrinsic motivation does play a key role in constituting volunteer satisfaction. However, it is argued that volunteers' intention to discontinue their commitment is not only due to failure in fulfilling motives or disaffection, but also to unexpected personal affairs, changes in behavioral preferences, or dissatisfaction with volunteer organizational attributes, etc.

While volunteer satisfaction stems from motive fulfillment, altruism need fulfillment is another influencer of volunteer satisfaction. A review of the literature reveals a dearth of research into volunteers' altruistic fulfillment. Although a few researchers have examined the influence of volunteers intrinsic need fulfillment on job attitude, the role of volunteers' altruistic need fulfillment in generating volunteer satisfaction has been largely neglected. Likewise, the extent to which external attractiveness influences satisfaction is still largely unknown. Thus, in the theoretical framework of this research, intrinsic motive fulfillment, altruism, and external reasons are all

included as causal factors to generate volunteer satisfaction, thereafter influencing intention towards future involvement.

### 2.3 Volunteer Participation Intention

Since volunteering is defined as "unpaid, freely chosen involvement undertaken through an organization or agency and performed for the benefit of others or the environment as well as oneself" (Cuskelly et al., 2006, p. 40), it falls into the category of prosociality. Sustained volunteering behavior is sustained prosocial commitment, which has long been researched by social psychologists. By understanding volunteers' psychological needs and motives, event organizations can better satisfy the volunteers' expectations and eventually sustain volunteerism in MSEs, since fulfillment through previous voluntary commitment can help maximize sustained volunteering.

Lee, Hsu, Han and Kim (2010) have mentioned that behavioral intentions reflect readiness/likelihood to conduct certain actions. This statement lend strong support to Ajzen's (1985) argument that behavioral intention serves as an indication of individuals' likelihood to undertake a particular behavior. Notably, the benefits volunteers obtained from providing voluntary service can in turn enhance their

intention to contribute more in the future (Omoto & Snyder, 1995). Even though the fact should not be denied that discrepancy or inconsistency exists between behavioral intention and actual action, Lam and Hsu (2006) noted that intention can still be the most appropriate predictor of behavior.

Research in sustained volunteerism is highly valued because sustained volunteerism is associated with volunteer human capital retention, and personnel retention is considered an important organizational outcome (Cuskelly et al., 2006). Studying MSE volunteers' underlying intention to participate in volunteering programs can help predict actual volunteer commitment and loyalty towards volunteer organizations or event organizers. Additionally, understanding potential volunteers' participation intention is of essential managerial importance in terms of promoting sustaining MSE volunteering.

Existing research includes Penner's (2002) theoretical model (Figure 2.1) which explains the causes of sustained volunteerism based on a selective literature review on the correlates of volunteerism. In this model, the following factors are considered to have direct or indirect influence on initial volunteerism, and together influence sustained volunteerism: (1) demographic characteristics (e.g., age and educational background); (2) personal beliefs and values; (3) prosocial personality; (4)

volunteer-related motives; (5) organizational attributes and practices; and (6) relationship with the organization researchers. To date, however, this model has not been validated empirically, thus its validity and its adaptability to authentic volunteering contexts remain unknown.

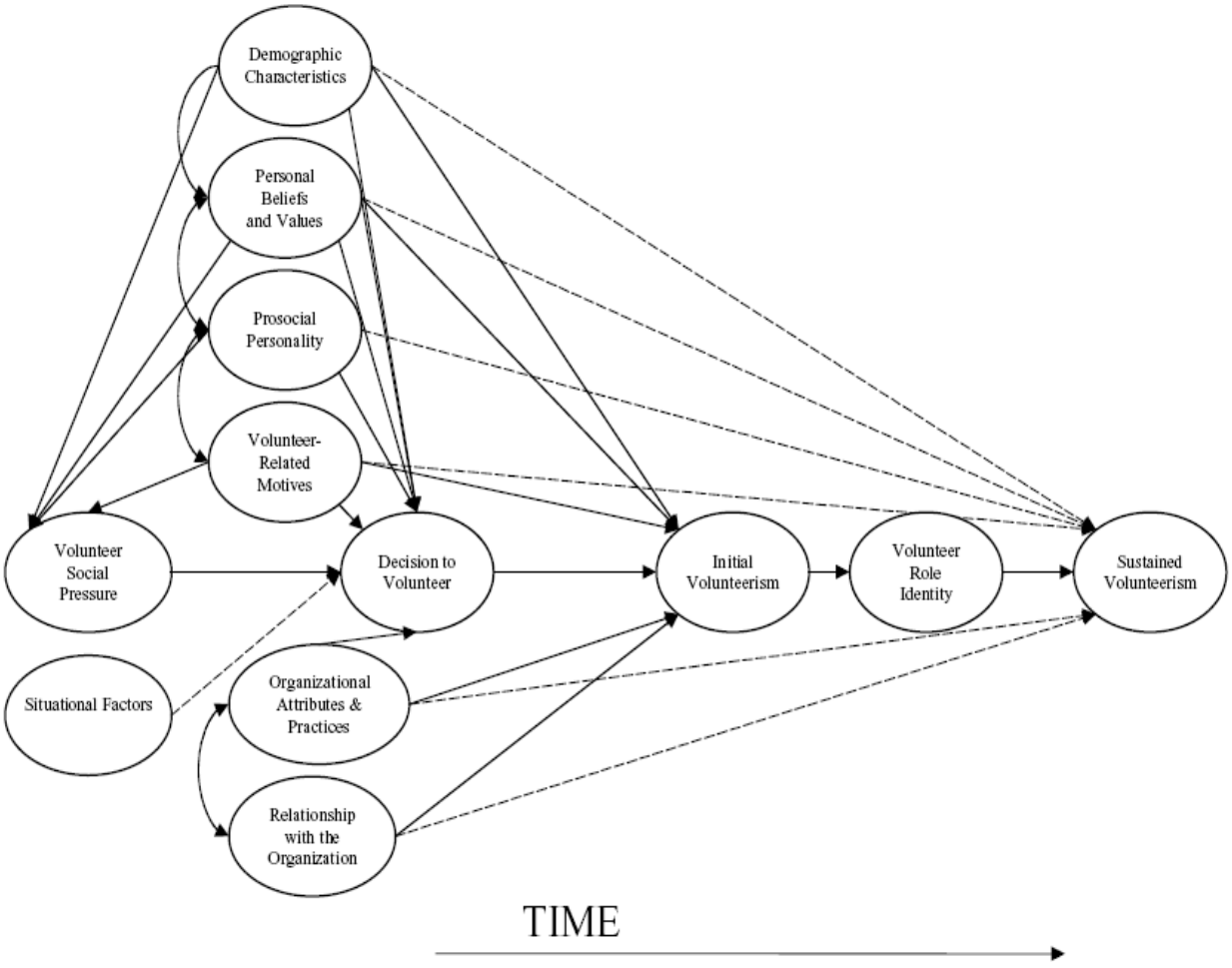



**Figure 2.1 Penner's (2002) Model of Causes of Sustained Volunteerism**

The reasoned action theory and planned action theory indicate that length of commitment and tenure as a volunteer can be forecasted by investigating volunteers' intention to continue their work. The first step towards improving volunteer retention is to examine and understand volunteers' intention towards future participation. Hidalgo and Moreno (2009) explored volunteer intention to continue their work in a sample of 393 volunteers in 95 Spanish social and ecological organizations, and concluded that some organizational indicators (e.g., good social relationships within the volunteer organization, positive assessment of the job they perform, encouragement, and support from the organization staff) can only predict 29% of the total variability of volunteers' intention of remaining with the voluntary organization. Although scholars have tested volunteers' participation intention in various western contexts, there remains a dearth of research into a comprehensive study incorporating volunteer intrinsic need fulfillment, self-report altruism and perceived external attractiveness in predicting Chinese MSE volunteers' satisfaction and future participation intention.

Cuskelly et al. (2006) noted the professionalization and business-like operational pattern in sports organizations, which indicates the changing nature of community sports organizations. Repeat volunteers can provide higher standards of both more

professionalism and efficiency since they are already recruited and trained. This allows a greater proportion of the event budget to be allocated flexibly by event organizers for other functions. Volunteering is a reflection of high involvement, which means volunteers' intention to participate in future volunteer programs largely depends on their experience and satisfaction with an event prior to making the actual volunteering commitment.

The rationale of investigating the underlying factors leading to volunteer satisfaction or discontentedness is that volunteerism will be stimulated and sustained only when volunteers can perceive the value and attractiveness of volunteering, and their motivational drives and other needs are understood and fulfilled. As noted by Davis, Hall, and Meyer (2003), it is motive fulfillment, rather than their importance, that sustains volunteerism. The role satisfaction plays in predicting volunteers' intention has not only aroused interest among psychologists, but has also driven researchers in the event field to investigate volunteers' internal psychological process. Finkelstein (2008), for instance, has noted the correlation between volunteer motivation satisfaction and future behavior intention by testing an assumption existing in the functional approach. Motive fulfillment is correlated with intention to help, and it can sustain and predict helping behavior when volunteers experience satisfaction.

Therefore, the following hypothesis has been formulated regarding MSE volunteer satisfaction and future participation intention:

***H4****: The higher the level of volunteer satisfaction, the greater their intention to volunteer in future MSEs.*

As a summary, a literature review pertaining to antecedents of MSE volunteering participation reveals that there is limited published quantitative research simultaneously incorporating motivational factors, altruism, and external attractiveness in assessing volunteer satisfaction and intention towards repetitive participation, especially in an authentic Chinese MSE cases. This study, therefore, strives to propose and justify a more comprehensive assessment model of determinants and antecedents of volunteer participation in a MSE context (Figure 2.2). In total, four hypotheses have been formulated to examine the combining effect of intrinsic motivation fulfillment, altruism fulfillment and perceived external attractiveness on volunteer satisfaction, which serves as a significant indicator of behavioral intention.

The following chapters are then dedicated to explaining sports events volunteering and the unique characteristics of volunteering in Chinese contexts. Besides, China's volunteerism development history is also summarized. The core part of the research design - the conceptual framework - is presented in section 2.5.

## 2.4 Distinct Characteristics of Chinese Volunteering

### 2.4.1 Taking the Lead in Response to Authoritative Call

In the Chinese context, the reason people want to join volunteer programs is a combination of the unique Chinese social-cultural environment and personal motives. In fact, compared with the emblematical western mode of "self-initiated" (Hustinx & Lammertyn, 2003, p. 180) volunteerism, the Chinese mode of volunteering usually stems from authorization, and is more embedded in volunteer organizations' promotion and government's encouragement. Various event volunteer organizations have carried out series of measures to encourage massive volunteer registration, such as providing favorable conditions for future employment, offering government allowance and accredited social appraisal.

The future path of the Chinese volunteer movement, according to Qiao and Yun (2006, p. 24), will be government-initiated but socially-operated. The remarkable leading roles of official organizations or organizing committees in invoking volunteering interest should be highlighted. For more than twenty years since the initiation of China's Reform and Opening-up Policy, the country has witnessed unprecedented but unbalanced economical and political achievements. One effect of these achievements has been the relative stagnation of rural development which, in turn, leads to the relative under-development of rural education (Qiao & Yun, 2006). To speed up rural development, the central government and the Communist Youth League have initiated several volunteer programs to assist educational enhancement, business corporations, nursing homes, orphanages, community construction projects, and reforestation all around China. These volunteer programs are hands-on, interactive, and diverse. Furthermore, China has witnessed several natural and man-made disasters, in which humanitarian volunteers contributed to the nation's recovery, whilst spreading the spirit of volunteerism. However, the number of volunteers in these programs is noticeably incomparable to that in MSEs. When a new mega event is to be held in China, volunteers respond cooperatively to the event organizing committee's appeal. The number of event volunteers is much larger than those in volunteer teaching programs, poverty alleviation actions, and environmental

protections, etc.

### 2.4.2 Volunteering and Mega Events in China

In alignment with social progress, China has gradually developed its own style of volunteering. Unlike western volunteerism, which is usually embedded in community development, environmental protection and feminism promotion, etc, Chinese volunteering has developed mainly in response to particular social features and characteristics. It is profoundly symbolic that Chinese youngster volunteers pay more attention to MSE participation, the phenomenon of which can be observed in the 29$^{th}$ Olympic Games. MSE volunteer participation facilitates event success and creates a platform for international society to view a rising China. According to Ding (2004), however, several influencing factors hinder volunteer participation in social service, and these factors are illustrated in Table 2.4 below.

**Table 2.4 Major Influencing Factors of Chinese Volunteer Participation**

| Difficulty in Participating Voluntary Service | Percentage (%) |
|---|---|
| Lack of social acknowledgement | 71.5 |
| Lack of funding | 63.4 |
| Lack of efficient management | 57.0 |
| Lack of a reliable and comprehensive legal environment | 50.3 |
| Lack of training | 31.4 |

Source: Ding (2004)

Funding shortage, one of the major obstacles to organizational volunteerism, must be overcome if mass participation in volunteering is to be promoted in China. In recent years, however, MSE organizing committees have enjoyed remarkable fiscal support from local governments, private investment, and a wide range of international associations. This generous local investment to MSEs contrasts with the relative slimmer resources allocated to poverty alleviation and rural education renovation.

## 2.5 Conceptual Framework

Based on the selective literature review on volunteer motivation, satisfaction and behavior intention, a conceptual diagram (Figure 2.2) has been developed to depict

the hypothesized relationships among the five latent variables.

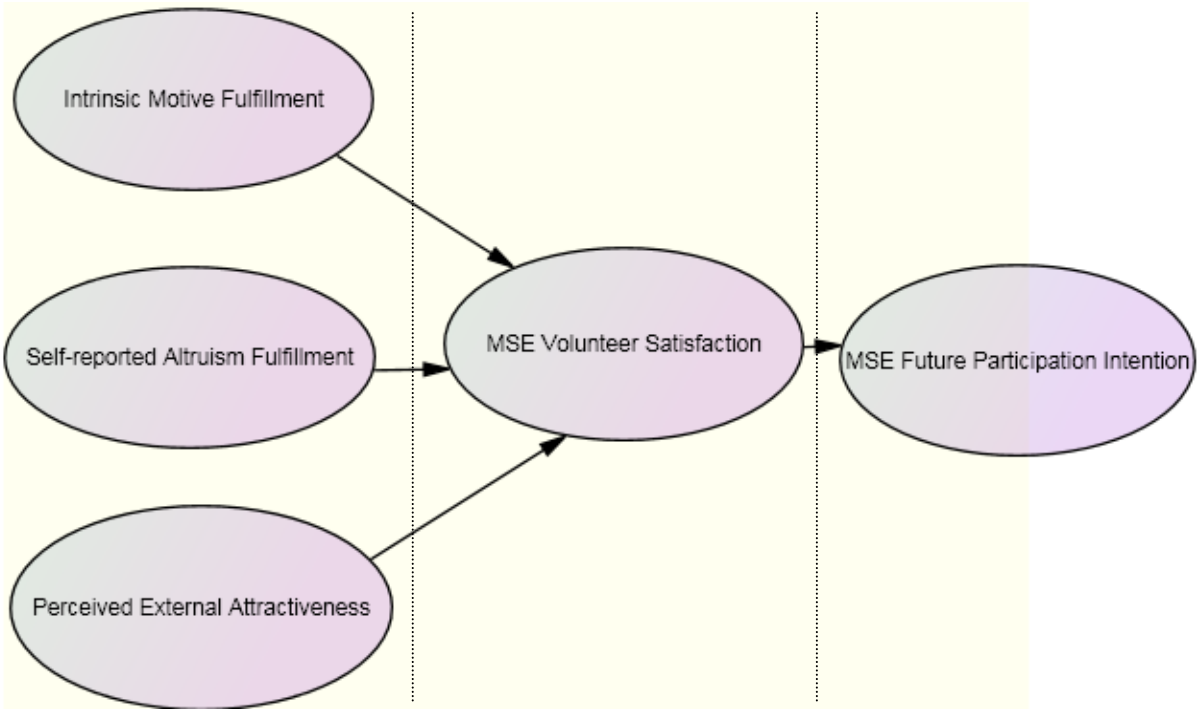



**Figure 2.2 Determinants and Antecedents of Volunteer Participation in a MSE Context (Latent Variables)**

This path diagram contains three exogenous variables: Intrinsic Motive Fulfillment, Self-reported Altruism Fulfillment, and Perceived External Attractiveness, and two endogenous variables: Volunteer Satisfaction, and Future Participation Intention.

Due to the salient distinctions of MSE volunteers from general volunteers, merely

applying the VFI (Clary et al., 1998) and SDT is not sufficient for investigating and predicting Chinese MSE volunteers' motivation, satisfaction and future participation intention. As alluded to in previous sections, volunteering is a complicated prosocial behavior, and the motivation for volunteering is attributable to various factors. Most of these influential factors are inter-correlated and may defy scientific description. In order to reduce noise within this conceptual model, the most influencing variables are identified based on literature review. As reported by Jarvis, Mackenzie, and Podsakoff (2003, p. 200), "two different measurement models using multi indicators of latent constructs have been mentioned in the MSE literature- the principal factor model and the composite latent variable model". Certainly, this model (Figure 2.2) is designed as a principal factor model or "reflective model" (Jarvis et al., 2003, p. 201).

Variables present in the conceptual model are all latent variables, which should be operationalized by manifest items to measure different scales. Manifest items are developed for employment in self-administered questionnaires (Appendix I & II). Details of the development of the research instruments under each constructs are elaborated in Chapter 3, and the following paragraphs will describe the five latent variables in detail.

What volunteers want to get out of the event voluntary experience should be regarded as the first driving motive that leads to actual volunteering behavior. The model begins with the first exogenous variable of MSE volunteers' intrinsic motive fulfillment (IMF), which includes autonomy and relatedness motive fulfillment. Davis et al. (2003) mentioned that motive fulfillment sustains volunteerism. It is worth noting that motive fulfillment is the key to satisfaction and intention formation especially when volunteers have clear and specific motivation prior to the actual volunteer experience. The more volunteers' participation fulfills their motivations for helping, the higher the level of satisfaction they tend to experience. Competence motive fulfillment is excluded in this study due to its weak relevance to satisfaction, as identified in Boezeman and Ellemers's (2009) research.

The second exogenous variable is self-reported altruism fulfillment (SAF), which is the also an essential component of the initial motivational impetus. According to Smith and Shaffer (1986), self-reported altruism is a reliable predictor of the helping behavior of people high in "private self-consciousness" (p. 215).

The third exogenous variable in this path diagram is perceived external attractiveness (PEA), including perceived attractions from MSE volunteer organization, host city's

fame and infrastructure, event profile, and folklore and customs in the host city, etc.

According to related literature, all these three exogenous variables lead to volunteer satisfaction, consequently affecting intention to volunteer in the future. It is hypothesized that MSE future participation intention can be forecasted by volunteer satisfaction. Thus this model is a causal relationship model, with the direction of causality from exogenous variables to endogenous variables. In the hypothetical model (Figure 2.2), measurement errors are taken into account at the item level, and deduction of items under one construct does not alter the meaning of the construct (Jarvis et al., 2003).

Table 2.5 below summarizes a few established items under each of the five latent variables employed by previous researchers (e.g., Boezeman & Ellemers, 2009; Rushton et al., 1981; Strigas & Jackson, 2003). Specific details of development of research instrument are explicitly elaborated in Chapter 3.

**Table 2.5 Selected Original Indicators of Each Construct**

| Construct | Operationalization of Original Indicators | Source |
|---|---|---|
| **Intrinsic Motive Fulfillment** | The three categories of intrinsic motive fulfillment (including autonomy, relatedness and competence need fulfillment) were measured with a reduced version of the Basic Need Satisfaction at Work Scale. | Boezeman & Ellemers (2009) |
| **Self-reported Altruism Fulfillment** | Self-report altruism scale consisting of 20 items was employed to demonstrate that individual differences in altruistic behavior can be measured directly by a self-report altruism scale. | Rushton, Chrisjohn, & Fekken (1981) |
| **Perceived External Attractiveness** | Items pertaining to family traditions, belief in organizing committee, employer's bonus and complementary items were believed to play important roles in volunteers' decision to participate and were tested. | Pauline & Pauline (2009); Strigas & Jackson (2003) |
| **MSE Volunteer Experience Satisfaction** | Volunteering experience in general, recognition, information and support received, and communication with other volunteers were established as indicators to test volunteer experience satisfaction of a sample of 300 volunteers at an elite sporting competition. | Farrell, Johnston, & Twynam (1998) |
| **Future Participation Intention** | Volunteers' intention to remain was operationalized by an item evaluating future expectations as a volunteer in the organization (I would like to go on collaborating with this association for many years) by Hidalgo and Moreno (2009).Tourists' intention to revisit was measured by "How likely would you return to Hong Kong for pleasure travel?" by Um, Chon, and Ro (2006). These items can be revised to reflect volunteers' intention to participate in future volunteering activities. | Hidalgo & Moreno (2009); Um, Chon, & Ro (2006); Stukas, Snyder, & Clary (1999) |

## 2.6 Characteristics of Sport Volunteering

### 2.6.1 Discontinuity

MSE organizing committees, according to Xing and Chalip (2009), have three uniquely challenging characteristics: (1) they grow rapidly; (2) they are temporary; and (3) they are accountable for event symbolisms. These MSE committees bring together people with the necessary professionalism to complete particular tasks, and require them to work interdependently to complete the overall project.

Harrison (1995) maintained that most volunteer participation is discontinuous and unconnected. This discontinuity is supported and well explained by Baum and Lockstone (2007) who pointed out that most events rarely offer permanent long-term employment. In essence, MSEs cannot be universally standardized due to the unique location, planning needs, audiences, and specific promotion strategies that each event requires.

### 2.6.2 Massive Participation

As Chinese MSEs are ever-increasing in number and experiencing unprecedented expansion in scale, an active demand for suggestions and strategies to improve the

organizational quality of volunteer programs has emerged. In Chinese metropolitan cities like Beijing, Shanghai, and Shenzhen, MSEs are being held intensively one after another. These events require massive volunteer human resource support. Lack of volunteers in MSEs would hinder the development of a city's or even a country's international image. As the case in the 29th Olympic Games, most of the mainstream social media in China took up the catch phrase that *volunteers' smile is Beijing's best name card*. It would have been far less well organized if there was no volunteer participation.

The current Olympic volunteer pattern, established after 1992, was called the "Volunteer Boom" by Moreno, Moragas, and Paniagua (1999, no page number), and "The numbers of participants, both athletes and media people, have spiraled and in this new setting the role of volunteer too has acquired new dimensions"( Moreno et al., 1999, no page number). The number of volunteers fluctuated between the 1984 Los Angeles Olympics to the 2000 Sydney Olympics, but the major trend has displayed a growth pattern in volunteer participation (Moreno et al., 1999, no page number). The large scale of volunteerism in Olympic Games is apparent in the figure shown in Table 2.6 and Table 2.7.

**Table 2.6 Number of Volunteers in a Range of Summer Olympics**

| Year | Summer Olympic Hosting City | Number of Volunteers Participated |
|---|---|---|
| 1984 | Los Angeles | 28,742 |
| 1988 | Seoul | 27,221 |
| 1992 | Barcelona | 34,548 |
| 1996 | Atlanta | 60,422 |
| 2000 | Sydney | 50,000 |

Source: Moreno et al., (1999)

**Table 2.7 Number of Volunteers in a Range of Winter Olympics**

| Year | Winter Olympic Hosting City | Number of Volunteers Participated |
|---|---|---|
| 1980 | Lake Placid | 6,703 |
| 1984 | Sarajevo | 10,450 |
| 1988 | Calgary | 9,498 |
| 1992 | Albertville | 60,422 |
| 1994 | Lillehammer | 9,054 |
| 1998 | Nagano | 32,579 |

Source: Moreno, et al., (1999)

Even though when compared with Olympic Games, the Universiade draws relatively less attention from the public, however, this is not the case with university students. University student audiences appear to pay greater attention to the Universiade. The International University Sports Federation (FISU[2]) was formed within university institutions in order to promote sporting values and encourage sporting practice in

[2] FISU was officially formed in 1949. FISU is the French abbreviation of The International University Sports Federation.

harmony with, and complementary to, the university spirit.

It is interesting and surprising to note the instances of volunteer participation in sports events by different countries. Data on all volunteers from the 2006 General Social Survey (GSS) of Australia indicated that 5.2 million Australians (34.1% of the population) aged at 18 and above had participated in voluntary work; nearly a third them (1.7 million, 11.2%) volunteered for sports and physical recreation activities. In these 1.7 million volunteers, 968,000 (6.3%) volunteered for only sports organizations, while 745,000 (4.9%) volunteered for sports, physical recreation and other organizations. Furthermore, over half, 989,000 (57.7%) of sports and recreation volunteers participated in voluntary work at least once a week. Additionally, Statistics Canada (2003) released figures regarding nonprofit and voluntary organization volunteers. Volunteer workers in sports and recreation accounted for 27.6% of all Canadian volunteers, significantly outnumbering those in social services (18.8%), grant-making, fundraising and voluntarism promotion (8.6%), education and research (7.8%), arts and culture (4.9%), and law, advocacy and politics (1.9%).

Sport volunteering not only happens in mega events at national or international level, but also at local level, for example in grassroots sporting activities. Sport England (2010) said it will recruit, train, and deploy 40,000 sport makers as the next generation of sports volunteers to organize and lead grassroots sporting games. Obviously, the massive scale is also remarkable.

## 2.7 China's Volunteerism Development History

Volunteering in China can be traced back to the era before its Reform and Opening-up Policy in 1979. In 1964, Chairman Mao Zedong, the founder of the People's Republic of China, advocated a volunteering spirit of "Learning from Comrade Lei Feng" to the whole country; then the youth of the country were encouraged to follow Lei Feng as a role model. Lei Feng was a soldier in the People's Liberation Army, who kindly assisted his colleagues, women, the aged, the disabled, and people he was not familiar with, thereby becoming a model for all the Chinese people.

### 2.7.1 Promotion of Lei Feng Spirit (from 1970s on)

For most westerners, Lei Feng's Spirit is a reflection of altruism. Gazley (2001) suggested that volunteers are probably motivated to dedicate time and effort by altruism, personal development and the immense benefits derived from recreational travel. In fact, Lei Feng's Spirit showcases Chinese traditional values of serving the people, sacrificing oneself in the interest of the public, and team spirit in work relations. Lei Feng Spirit is a combination of selflessness, specifically embodied in expressing solicitude, showing understanding and making contributions. It inspired millions of Chinese youth to participate in voluntary service and created several successor role models such as Ou Yanghai, Wang Jie, and others.

However, during the 1970s, the process of "Learning from Lei Feng" was suspended and its principles reinterpreted after the "*Cultural Revolution*[3]" (文化大革命). After China's Reform and Opening-up Policy was carried out in 1979, Lei Feng's Spirit was resumed and elevated to a greater height of development, benefiting the youth in the 1980s.

[3] also commonly known as the Cultural Revolution, was a socio-political movement that took place in the People's Republic of China from 1966 through 1976.

### 2.7.2 Initiation of China Youth Volunteer Program (1993)

It was in the 1980s that China started to promote the development of community youth volunteer programs nationally. The national volunteer activity was carried out into the 1990s, which witnessed the first peak in the development of Chinese youth volunteering. In 1990, the existing National Day for Learning from Lei Feng- 15 March- was renamed the "*National Volunteer Day*" (全國志願者日). Moreno, Moragas, and Paniagua (1999) referred to the period after 1992 as the boom of volunteerism, in which China's social volunteering development speeded up and increased to an unprecedented level. At the end of 1993, the China Communist Youth League (CCYL) officially initiated the "*Youth Volunteer Program*" (青年志願者項目). This program is a new combination of social service and working system in China's market economy. The core mission of the "*Youth Volunteer Program*" is to help those in need, and to give volunteers opportunities to gain self-improvement and publicize new trends in volunteering. After 1993, Chinese volunteer programs gradually expanded, with the notion of "*volunteering for society*" becoming widely known. Indeed, evolution can be observed, from Lei Feng Spirit, which emphasized altruism, to the "*Youth Volunteer Program*", which focuses on facilitating youth volunteers to help disadvantaged people and contribute to the harmonious development of the whole society.

This new born volunteerism embedded in the new Chinese market economy shows characteristics noticeably distinct from the traditional Lei Feng Spirit. The new volunteerism in China is rooted in a wide range of organizations, and is motivated by altruism and the intention to contribute to overall societal development in the market economy. By contrast, the Lei Feng Spirit places emphasis on personal intention, with personal willingness of paramount importance, and there is limited consideration of the organizational level.

### 2.7.3 Chinese Association of Young Volunteers (from 1994 on)

On 5 December 1994, the Chinese Association of Young Volunteers (CAYV) was set up. It is a co-membership organization under the United Nations Coordinating Committee for International Voluntary Service (CCIVS). Under the courteous solicitude of the Party Central Committee, the association gradually developed. At the end of 1997, General Secretary Jiang Zemin made a personal inscription of "Chinese Young Volunteers." On the eve of the second CAYV congress, Secretary Jiang Zemin once again pointed out the orientation of the undertaking in his official comment: "*Youth Volunteer Program*" is a noble undertaking of contemporary socialist China; it is a highly promising career."

Since its implementation, this program has carried out many voluntary services focusing on raising people's livelihood standard, training youth talents, improving community infrastructure, and providing post-disaster rescues. CAYV implemented a number of key projects and set up a fairly complete organizational system, yielding significant successes in serving society, educating young people and promoting development. Implementation of the "one-to-one" long-term pairing plan was also remarkable. Such a plan envisaged CCYL and CAYV organizations helping to link up youth volunteers with the needy on a long-term and one-to-one basis. The pairs thus formed have become a constant form of basic work for young volunteers. By the end of 1999, over two million such pairs had been set up. The official website of CAYV explains the nature of its logo in Figure 2.3.

**Figure 2.3 Official Logo of CAYV**

The design of the logo takes the shape of a heart, symbolizes the first letter for the English word "volunteer". The central white part is hand shaped, and also the shape of a dove. The whole logo symbolizes the Chinese youth volunteers' dedication with love to helping people in need, and to stretching out the hand of friendship to express the spirit of "love for society, warmth for people" and the theme of "cooperation, coexistence and harmony".

Source: http://www.zgzyz.org.cn/introduce.php, (2011)

Later, with the joint effort of CAYV and the Party Central Committee, the China Volunteer official website was established. This website has served as an important platform for communicating its mission during several mega events, post-disaster reconstruction and public welfare. As a voluntary information release platform, the website promoted and released volunteer recruitment information for potential volunteers outside Beijing during the 29th Olympic Games. The success of this website also implies the application of information technology in promoting volunteer programs, showing uninterrupted improvement in the scale and quality of China's voluntary work.

In summary, since the 29th Olympic Games and the 2010 Shanghai Expo, Chinese university students' voluntary service has gradually developed into a distinctive pattern of behavior in China. The students' expertise and dedicated altruistic spirit has earned public praise domestically and has been widely complimented internationally.

## 2.8 Summary

Chapter 2 reviews selected literature on the five latent variables of the conceptual framework (Figure 2.2). It is divided into five main parts: 1) volunteer motivation, 2) volunteer satisfaction, 3) volunteer future participation intention, 4) characteristics of sport volunteerism, and 5) China volunteerism development and characteristics. Review in these areas provides the concepts that are necessary to establish the conceptual model in order to investigate the proposed relationships among MSE volunteers' motivation, satisfaction and intention. Findings on self determination theory, volunteer function inventory, and other related research on volunteer motivation, satisfaction and intention are presented and discussed, thereby laying the foundation for providing insights into the development of research methodology in Chapter 3.

# CHAPTER 3 RESEARCH METHOD

## 3.1 Introduction

This chapter describes the methodological issues and explains the justifications of the specific statistical techniques of SEM that was applied to address the research questions. There are eight sections in this chapter. Insights into research design and case selection criteria are specifically provided in section 3.2 and 3.3. Section 3.4 explains the scale development procedures in detail, with two tables presenting the original measurement scales (Table 3.1), and the finalized measurement scales (Table 3.2) for this study. Based on previous studies on volunteer motivation, altruism, satisfaction and behavioral intention, items were selected, refined and finally established with due modifications to reflect the specific context of the Universiade SHENZHEN 2011. The rest of this chapter is developed to describe the data collection approaches (section 3.5), sample size, as well as analytical methods (section 3.6) that were used to interpret the findings. Procedures and results of pilot testing are then discussed in section 3.7. Section 3.8 summarizes the core content of the whole chapter.

## 3.2 Research Design

This research is designed to investigate the antecedents and determinants of MSE volunteer participation by testing and interpreting the hypothesized relationships among MSE volunteer motivation fulfillment, altruism, perceived external attractiveness and intention to volunteer in the future. SEM was employed to test the measurement model as well as the hypothesized model with data collected using quota sampling methods during the Universiade SHENZHEN 2011. A field survey was conducted, using a combination of data collection methods as on-site and take-away questionnaire distribution.

## 3.3 Selection of the Case

### 3.3.1 The Universiade SHENZHEN 2011

The Universiade is a comprehensive sports event organized by the International University Sports Association. After the 21st Beijing Summer Universiade and the 24th Harbin Winter Universiade, the Universaide was once again held in mainland China in August 2011, attracting approximately 160,000 volunteers, 13,000 athletes, and big number of team officials from more than 180 countries and/or regions. The

official website of the Universiade SHENZHEN 2011 (http://www.sz2011.org/Universiade/volunteer) indicated that USZOC[4] intended to recruit 1.27 million voluntary workers to serve this event. Far beyond USZOC's expectation was that the signed up number of volunteers surpassed the originally predicted 1.27 million by the end of May 2011, three months before the commencement of the Universiade. In terms of the event timing and the word-wide participation scale, this Universiade is an ideal case to explore the embodiment of MSE volunteer participation in events, especially in international sports events held in China.

It was on 17 January 2007 that FISU announced Shenzhen had won the bid to host the 26th Universiade, whereby China once more demonstrated its increasingly prominent economical and administrative ability in attracting international events. This Universiade stood out as a remarkable opportunity for China to host another international event whilst disseminating the Olympiad spirit.

The Universiade SHENZHEN 2011 Organizing Committee (USZOC) was

[4] Universiade SHENZHEN 2011 Organizing Committee (USZOC) is the Organizing Committee of the Universiade SHENZHEN 2011; it was officially established with the key obligation to carry out the decisions of the Organizing Committee and follow up on the results.

established with the approval of Chinese central government to carry out the decisions of the Organizing Committee (the organization Structure of the Universiade SHENZHEN 2011 is shown in Figure 3.1). Headed by Mr. Yuan Guiren (Chinese Minister of Education) and Mr. Liu Peng (Director of Chinese General Administration of Sport), the Universiade SHENZHEN 2011 Executive Committee consisted of ministers, chief and vice governors of provinces, mayors and departmental commissioners at both state and city level. Volunteering work during the Universiade was regulated and supervised by the Organizing Committee.


Source: USZOC (2011)

**Figure 3.1 Organization Structure of the Universiade SHENZHEN 2011**

### 3.3.2 Shenzhen: The Host City

Since its official establishment as one of China's Special Economic Zones (SEZ) in 1980, Shenzhen has only a brief history of 32 years. However, Shenzhen is as one of China's important tourist cities in the south, known as *the capital of China's theme parks and tourist innovations*.

It should be worthy of the efforts to identify the reasons why Shenzhen, but not other metropolitans in the south China, won the bid for hosting the Universiade.

Firstly, Shenzhen's reinforced economic strength enabled advanced city infrastructure (e.g., easily accessible transportation, athletic facilities, sports venues). At the southern tip of China and the border with the Hong Kong Special Administrative Region (HKSAR), Shenzhen used to be the fastest growing city in the south. In mainland China, it has the world's fourth largest container port and the fourth largest airport. Furthermore, located within the Pearl River Delta (PRD) economic zone, Shenzhen's unparalleled economic and geographic advantages attract tremendous flow of cargo and people, where investors maintain direct interaction with mainland China, HKSAR, and the pan Asia-Pacific region. The

geographical proximity to HKSAR creates increasingly enormous business opportunities that make Shenzhen a transit station for international travelers. Downtown Shenzhen is only 35 kilometers (or a 45-minute drive) from Kowloon, HKSAR. Remarkably, the award of the Universiade also marked the 10th anniversary of Hong Kong's reunification with mainland China. These conveniences all add to the competency and the competitiveness of Shenzhen to hold a worldwide sports event.

Secondly, Shenzhen is a key regional and international metropolis in southern China, enjoying increasing internationalization and hosting than 13,000 expatriates who live and work here on a long-term basis. Its cultural compatibility and international hospitality served as advantageous attractiveness for global athletes, delegation countries, volunteers, and other event attendees. According official information released by USZOC (2011):

> The expatriates living in Shenzhen come from 111 countries; most are representatives sent by foreign companies to China, employees of foreign-invested enterprises, cultural workers, teachers, and foreign students. In 2005, the number of foreigners who entered the country through various checkpoints in Shenzhen totaled 3.4 million. About five percent of the city's residential buildings were purchased by foreigners and people from Hong Kong, Macao and Taiwan.

Thirdly, high level of modernization equips Shenzhen with technological excellence. It is a regional center of high-technology, logistics, and finance in south China. By the end of 2009, 8.91 million (USZOC, 2011) people lived in Shenzhen, with 2.41 million people (27.1%) claiming permanent residence and 6.49 million people (72.9%) from outside Shenzhen holding temporary residence in this city. Of the 72.9%, the majority of people are well-educated. Human resources of high caliber and advanced technology flood into Shenzhen, making this city more modernized than ever before.

### 3.4 Research Instrument

Due to differences in the social systems, cultural identities and people's behavioral characteristics, determinants of MSE volunteering in Chinese context is different from that in the western context. It is meaningful, especially for event organizations, to conduct a research to understand the reason why people would like to volunteer and to what extent they feel satisfied. Utilizing the Universiade SHENZHEN 2011 as a case, this study serves as the very first attempt to explore Chinese MSE volunteer motivation, satisfaction and future participation intention, aiming to understand the Chinese embodiment of MSE volunteering.

3.4.1 Selecting Items from Extant Literature

In order to address the hypotheses put forward in the conceptual framework (Figure 2.2), a set of measurement items were selected from the existing literature. Following this, a series of modification were made on selected items to assess Chinese MSE volunteers' intrinsic motive fulfillment, self-reported altruism fulfillment, external attractions, satisfaction and intention towards future volunteering. Table 3.1 below summarizes selected items.

**Table 3.1 Construct Items and Measuring Scale**

| Construct | Original Items | Measurement Scale | Source |
|---|---|---|---|
| **Intrinsic Motive Fulfillment (IMF)** | 1. At my organization, I really like the people I work with.<br>2. I get along with people at my volunteer work.<br>3. People at my volunteer work are very friendly to me.<br>4. I feel like I can make a lot of input to deciding how my volunteer job gets done.<br>5. I am free to express my ideas and opinions on the volunteer job.<br>6. There is a lot of opportunity for me to | 7-point Likert Scale<br>( 1= Totally disagree<br>2= Disagree<br>3= Somewhat disagree<br>4= Neutral<br>5= Somewhat agree<br>6= Agree<br>7= Totally agree ) | Boezeman & Ellemers (2009, p. 904) |

| | | | |
|---|---|---|---|
| | decide for myself. | | |
| **Self-reported Altruism Fulfillment (SAF)** | 1. I have given directions to a stranger.<br>2. I have helped a classmate who I didn't know that well with a homework assignment when my knowledge was greater than his or hers.<br>3. I have helped carry a stranger's belongings.<br>4. I have done volunteer work for a charity.<br>5. I have before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.<br>6. I have offered to help a handicapped or elderly stranger across a street. | 5-point Likert Scale<br>( 1= Never<br>2= Once<br>3= More than once<br>4= Often<br>5= Very often) | Rushton, Chrisjohn, & Fekken (1981, p. 297) |
| **Perceived External Attractiveness (PEA)** | 1. I wanted to continue a family tradition of volunteering for sports events.<br>2. Volunteering for this event enables the organizational committee to provide more services for less money.<br>3. I adhere to the organizational committee's specific goals.<br>4. My employer/school is going to give me extra credit for volunteering.<br>5. Complementary items | 5-point Likert Scale<br>(1= Not important at all<br>2= Important<br>3= Neutral<br>4= Important<br>5= Extremely important | Pauline & Pauline (2009, p. 179); Strigas & Jackson (2003, p. 118) |

| | | | |
|---|---|---|---|
| | played a very important role at my decision to volunteer at this marathon. | | |
| **MSE Volunteer Experience Satisfaction (MES)** | 1. Volunteering experience in general.<br>2. Recognition you received.<br>3. Support you received to do your job.<br>4. Information you received to do your job.<br>5. Prior information you received.<br>6. Information you received at the event.<br>7. Communication with other volunteers. | 5-point Likert Scale<br>( 1= Highly dissatisfied<br>2= Dissatisfied<br>3= Neutral<br>4= Satisfied<br>5= Highly satisfied ) | Farrell, Johnston, & Twynam (1998, p. 296) |
| **Future Participation Intention (FPI)** | 1. I would like to go on collaborating with this association for many years.<br>2. How likely would you return to Hong Kong for pleasure travel?<br>3. The likelihood that you would volunteer at several points in the future. | 5-point Likert scale<br>( 1= Totally false<br>5 =Totally true);<br>(1= Very unlikely<br>5= Very likely);<br>7-point Likert scale<br>(1= Extremely unlikely<br>7= Extremely likely) | Hidalgo & Moreno (2009, p. 598); Um, Chon, & Ro (2006, p. 1149); Stukas, Snyder, & Clary (1999) |

3.4.2 Refining and Finalizing Items

Aiming to refine and/or supplement the construct items selected from extant literature, the researcher scheduled a one-hour focus group discussion with twelve

Universiade volunteers (Appendix III) who had already been recruited by USZOC and started their volunteering service at the time of the focus group discussion. The objective was to seek Universiade volunteers' suggestions on modifying selected items, extracting inappropriate ones from the indicator pool, and adding new ones. All of the participants were asked to rate on the extent to which items in Table 3.1 could reflect their motivation and satisfaction, as well as their intention towards sustained volunteering. After the focus group discussion, electronic sample questionnaires were emailed to them. The email included an introduction paragraph instructing them to review both the English (Appendix I) and Chinese versions (Appendix II) of the questionnaire from an examiner's perspective, and a letter inviting them to express their suggestions on questionnaire refinement. Decisions about item modification and/or exclusion were then made after the focus group discussion and the full analysis of email responses.

Five participants suggested removing particular items that could not fit into the Universiade volunteering settings. Consequently, three items proposed by Boezeman & Ellemers (2009, p. 904) were excluded from the original set of research instruments. They were: (1) "I have helped a classmate who I didn't know that well with a homework assignment when my knowledge was greater than his or hers"; (2)

“I have before being asked, voluntarily looked after a neighbor’s pets or children without being paid for it”; and (3) “I have been asked to voluntarily look after people’s belongings without being paid for it”.

When asked what additional items can represent external attractiveness of volunteer participation, focus group participants confirmed the importance of material rewards in attracting volunteers, but proposed that the terminology “complementary material items” was too vague and confusing. Thus, item “Complementary material items play a very important role in my decision to volunteer in the Universiade” was replaced by “The exclusive badge and souvenirs for volunteers will contribute to leave me a lovely memory of voluntary service”, based on the suggestions by participants.

Besides, description language in the questionnaire was further polished up to strengthen exactness and to avoid any possible misunderstanding. To illustrate, the item “I used to assist the handicapped and the elder in the Universiade” was revised into “In this Universiade SHENZHEN 2011, I have helped athletes, the handicapped, or the elder”.

The other major findings in the focus group are summarized as follows:

1) Items to express intrinsic motivation fulfilment and altruism fulfilment were important in generating MSE volunteers' overall level of satisfaction, thus supporting findings in literature discussed in Chapter 2;
2) The good fame and trustworthiness of the organizing committee was noted as highly significant factors in MSE volunteers' perceived external attractiveness of the Universiade;
3) The implementation of a well-designed volunteer recruitment and training plan was believed to play an essential role in generating volunteer satisfaction; and
4) Seven of the participants confirmed the item "After my voluntary service, my employer/school is going to give me extra credit for volunteering" insignificant, therefore this item was deleted.

The author's previous working experiencee at BOCOG also contributed to item selection and modification. For example, one of Rushton et al.'s (1981) items to test self-reported altruism was revised from "I have given directions to a stranger" to "I have given directions to an attendee or visitor in the Universiade". All of the

modifications obtained agreement by the focus group participants. Eventually, the final set of instruments was determined and ready to be distributed, as presented in Table 3.2. A total of 30 items were developed to test the conceptual model, which consists of five latent variables as indicated in Figure 2.2.

The following paragraphs then describe the process of operationalization of each latent variable.

Notably, Intrinsic Motive Fulfillment (IMF) is the first latent exogenous variable. All the motive fulfillment subscales are 5-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). Three dimensionalities of intrinsic motive fulfillment have been identified in the literature review: relatedness, competence, and autonomy fulfillment. Specifically, relatedness motive fulfillment is defined as volunteers' level of satisfaction regarding relatedness need; autonomy motive fulfillment concerns volunteers' level of satisfaction pertaining to autonomy need; competence motive fulfillment means perceived satisfaction rooted in competence need contentment. A point to emphasize is that considering Boezeman and Ellemers' (2009) confirmation of the insignificant relevance of competence motive fulfillment with volunteer satisfaction and intention to continue cooperating with volunteer organizations, the

competence dimension was excluded, leaving relatedness motive fulfillment and autonomy motive fulfillment for testing in this study. Additionally, the items of relatedness motive fulfillment and autonomy motive fulfillment were based on Boezeman and Ellemers (2009), with revision to fit into the Universiade SHENZHEN 2011 settings. For instance, the original indicator "At my organization, I really like the people I work with" was modified to be "At the volunteer team in the Universiade, I really like other volunteers that I work with".

The second exogenous variable, Self-reported Altruism Fulfillment (SAF), is defined as the degree to which volunteers perceive their satisfied need for altruism. Self-reported altruism can be used to identify prosocial personality (Penner, Fritzsche, Craiger, & Freifeld, 1995), which comprises two dimensions: other oriented empathy (the tendency to feel empathy and responsibility for others) and helpfulness (the tendency to engage in prosocial behaviors). The two dimensions' adaptability in MSE volunteering was confirmed in the focus group discussion. The finalized 5-point Likert scale measurement variables were modified from the original items developed by Rushton et al. (1981), as presented below:

(1) I have given directions to an attendee or visitor in the Universiade;

(2) I have helped carry athletes' or other peoples' belongings in this Universiade;

(3) I have delayed an elevator and held the door open for other volunteers or

visitors in the Universiade;

(4) I have before been asked to voluntarily look after people's belongings without being paid for it; and

(5) I have offered to help a handicapped or elderly stranger in this Universiade.

Perceived External Attractiveness (PEA) is the third exogenous variable, which includes perceived attractiveness of event organizational attributes, host city's profile and fame, family traditions, and folklore and culture of the host city. This construct was designed to examine the degree to which external factors that MSE volunteers can not directly control affect their level of satisfaction. Manifest indicators under this construct were tested by previous researchers (e.g. Pauline & Pauline, 2009; Strigas & Jackson, 2003). A 5-point Likert scale response format was used with (1) "totally disagree" to (5) "totally agree".

The fourth construct, also the first endogenous variable, MSE Volunteer Experience Satisfaction (MES), was assessed based on a set of selected instruments initially established by Farrell et al. (1998). Original measurements were on a 5-point Likert scale (where 1= "highly satisfied" and 5= "highly dissatisfied"). However, in this study, the sequence was reversed to make 1= "highly dissatisfied" and 5= "highly satisfied" to keep consistency with items under the other constructs to make 1 stand

for the worst outcome and 5 for the best.

The last construct, also the last endogenous variable, is MSE Volunteers' Future Participation Intention (FPI). Items under this construct were modified based on Hidalgo and Moreno (2009), and Um et al. (2006) to reflect MSE volunteering contexts. For example, one original item adopted by Hidalgo and Moreno (2009) was "I would like to go on collaborating with this association for many years" (p. 598); the modified one was "I would like to go on collaborating with MSE volunteer programs in future Chinese MSE opportunities." Although Um et al. (2006) adopted 7- point items such as "How likely would you return to Hong Kong for pleasure travel" (p. 1149) to measure tourists' revisit intention, in this study, items under this construct were evaluated with a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). One of the items utilized by Um, Chon, and Ro (2006) was revised to "I would like to provide voluntary service in future MSEs after the Universiade SHENZHEN 2011".

After a series of filtering and revising, the research instruments to test MSE volunteers' motivation, self-reported altruism, perceived external attractiveness, satisfaction and future participation intention were finalized, as illustrated in Table

3.2. Besides, the final English version questionnaire (Appendix I) and Simplified Chinese version questionnaire (Appendix II) consisting of 30 items organized into three sections (section A, B, & C) were ready. Section A in the questionnaires measured MSE volunteers' intrinsic motive fulfillment, self-reported altruism fulfillment and perceived attractiveness of MSE volunteering. Section B investigated volunteers' satisfaction and future participation intention, while section C examined MSE volunteers' demographic information, personal leisure time, length of service, previous volunteering experience, and suggestions for future MSE volunteering organizations with both close-ended and open-ended questions.

**Table 3.2 Finalized Construct items and Measuring Scale**

| Construct | Finalized Items | Measuring Scale |
|---|---|---|
| **Intrinsic Motive Fulfillment (IMF)** | I1. I get along well with other volunteers in my volunteer work.<br>I2. In the volunteer team, I knew some friends and feel happy for our friendships.<br>I3. People in my volunteer work are pretty friendly toward me.<br>I4. I believe that I can make my own contributions to the success of this Universiade.<br>I5. I am free to express my ideas and opinions on the volunteer job.<br>I6. I can have freedom of making decisions for myself during my voluntary service. | 5-point Likert Scale<br>(1= Totally Disagree<br>2= Disagree<br>3= Neutral<br>4= Agree<br>5= Totally Agree) |

| | | | |
|---|---|---|---|
| **Self-reported Altruism Fulfillment (SAF)** | A1.<br>A2.<br>A3.<br>A4.<br>A5. | I have given directions to an attendee or other people during the Universiade.<br>I have helped carry an athlete's or other people's belongingness in this Universiade.<br>I have ever done volunteer work in my school or for a charity before the Universiade.<br>I have helped people without being paid.<br>I have offered to help an athlete, the handicapped or the elder in this Universiade. | 5-point Likert Scale<br>(1= Never<br>2= Once<br>3= More Than Once<br>4= Often<br>5= Very Often) |
| **Perceived External Attractiveness (PEA)** | Ex1.<br>Ex2.<br>Ex3.<br>Ex 4.<br>Ex 5.<br>Ex 6.<br>Ex 7.<br>Ex 8. | I hope to continue my family tradition of volunteering.<br>Volunteering for this Universiade enables the organizational committee to provide more services using less money.<br>I adhere to the organizational committee's objectives and goals.<br>I respond to the organizing committee's call to be a volunteer for the Universiade.<br>Volunteers' souvenirs and badges will be part of the happy recollections of my voluntary service.<br>The host city SHENZHEN has good accessibility and the city folklore and custom are both attractive to me.<br>The organizing committee of the Universiade (USZOC) enjoys reputation and is highly trustworthy and supported.<br>The recruitment and training | 5-point Likert Scale<br>(1=Totally Disagree<br>2= Disagree<br>3= Neutral<br>4= Agree<br>5= Totally Agree) |

| | | | |
|---|---|---|---|
| | | procedure of USZOC are satisfying. | |
| **MSE Experience Satisfaction (MES)** | S1.<br>S2.<br>S3.<br>S4.<br>S5.<br>S6.<br>S7. | Volunteering experience in general<br>Respect and recognition you received<br>Support and help you received<br>Notice and information you received during your service<br>Notice and information you received before your service<br>Training and mentoring during your service<br>Communication with other volunteers | 5-point Likert Scale<br>(1= Highly Dissatisfied<br>2= Dissatisfied<br>3= Neutral<br>4= Satisfied<br>5= Highly Satisfied) |
| **Future Participation Intention (FPI)** | F1.<br>F2.<br>F3.<br>F4. | I would like to go on collaborating with more MSE volunteer programs in the future.<br>I would like to provide voluntary service in future MSEs.<br>I will recommend my friends and relatives to participate in volunteer programs during other MSEs.<br>After the Universiade SHENZHEN 2011, I would like to help promote more volunteering information. | 5-point Likert Scale<br>(1= Totally Disagree<br>2= Disagree<br>3= Neutral<br>4= Agree<br>5= Totally Agree) |

The original English questionnaire (Appendix I) was translated into simplified Chinese (Appendix II) since the official language in Shenzhen is Mandarin (also called Putonghua), and the target population in this study is Chinese volunteers. Before the field survey was conducted, the finalized questionnaire was reviewed by a panel of researchers in the School of Hotel and Tourism Management in both English and Chinese version to ensure the validity and accuracy of translation.

## 3.5 Sampling Methods

After a series of careful examination of geographical locations and public transportation facilities accessible at each sports venue, the researcher consulted two committee members from USZOC on site selection. Finally, U-stations, the Athletes' Village, and five additional game centers were selected for data collection over the 11- day duration[5] of Universiade SHENZHEN 2011.

Two distribution methods were employed: on site survey and take away survey. Copies of Chinese questionnaires were administered to the Universiade volunteers at the final stage of their volunteer assignment after they had fully understood their overall level of satisfaction with the whole volunteering commitment.

According to the official statistics released by USZOC (2011), 160,000 volunteers were selected and recruited during the Universiade SHENZHEN 2011 (www.sz2011.org). A total of 160,000 volunteers provided voluntary service for athletics, audience security checks, athlete physical examinations, evacuation passageways, and handicapped services. Krejcie and Morgan (1970) noted that sample size from a given population can be gained from their established table for

[5] Universiade SHENZHEN 2011 commenced on 12 August 2011, and ended on 23 August 2011.

determining sample size, which is applicable to any defined population and has been frequently used by researchers. Furthermore, a sample of at least 384 is required to be representative of the volunteer body of 160,000 in this Universiade. This is consistent with Stevens' (1996) argument that a sample of at least 400 should be collected to avoid misspecification errors. However, the larger the sample size, the better the generalizability of the results. In the main survey, the researcher distributed 1,400 questionnaires, and received 1,024 copies, with 1,015 being completed and usable.

The method of questionnaire distribution was location-based convenience sampling. Nearly all of the sports venues concentrated at the northeast and southwest areas of the administrative region of Shenzhen (Appendix IV). The decision on which venue to approach the survey respondents requires careful examination since volunteers working at different sports arenas have distinctly diverse demographic characteristics and motivation. It could be anticipated that the wider the data collection venues are distributed, the more representative the findings will be. The researcher conducted a one-week pre-investigation field inspection to learn about volunteers' profiles in different sports centers in order to decide where to approach the Universiade volunteers. In the end, the following locations were selected.

U-station [6] (U 站) was the first category of sites for questionnaire distribution. As with the "Water Cube" during the 29th Olympic Games and "West Cabin" during the 16th Asian Games, "U-Stations" were the main carrier of volunteer services in this Universiade, and were scattered widely at the entrance of sports arenas, subway stations, airport concourses, and safety inspection stations, etc. Official statistics released by USZOC (2011) reported that approximately 800 U-stations were established and went into operation before the commencement day of the event.

The researcher found that U-station volunteers had various educational levels. They mainly came from local community households, and usually enjoyed sufficient leisure time in their private life. When asked about their motivations to participate in the volunteer programs, they expressed a wide range of objectives, for example, the desire to serve society, the pursuit of active citizenship, and the expectation for enlarged social networking. Taking into consideration of U-station volunteers' diverse backgrounds and complicated characteristics, U-stations were chosen for the main survey.

[6] Section 1.6 provides the explanation of U-stations.

The second venue for data collection was the Athletes' Village (大運村). Conveniently located in the southwest part of central Longgang District, the Athletes' Village received approximately 13,000 athletes and team officials, and provided them with advanced catering, accommodation, recreation, transportation as well as other services during the gaming period. As a place of high concentration of MSE volunteers, the Athletes' Village was a crucial venue for approaching a large number of volunteers. Prior official approval was solicited from USZOC to distribute questionnaires in the Athletes' Village.

Sports arenas and gymnasiums, furthermore, were also included. When visiting different participant sports venues, the researcher learned that those volunteering in Shenzhen Bao'an Gymnasium and the Gymnasium of Shenzhen Second Senior High School were mainly university students or senior high school students who probobaly had heavy school work and thus may not enjoy as much leisure time as other volunteers. In order to expand the generalizability of research findings, a total of five gymnasiums (Table 3.3) distributed in three districts were selected. The mix of survey sites allowed volunteers working on various types of positions to be approached in order to gain comprehensive insights into the antecedents of volunteering.

**Table 3.3 Selected Venues for Data Collection (Alphabetical Order)**

| Questionnaire Distribution Venue (Chinese Name) | Function | Date of Survey |
|---|---|---|
| Complex Gymnasium of Longgang Sports Centre 龍崗區體育中心 | Basketball Gymnasium | 15-24 August 2011 |
| Gymnasium of Shenzhen Second Senior High School 深圳市第二高級中學體育館 | Volleyball Gymnasium | 10-25 August 2011 |
| Shenzhen Bao'an Gymnasium 深圳市寶安體育館 | Football and Artistic Gymnasium | 28 July 2011 to 28 August 2011 |
| Shenzhen Swimming and Diving Gymnasium 深圳游泳跳水館 | Swimming and Diving Gymnasium | 8-22 August 2011 |
| The Athletes' Village 大運村 | Catering, Accommodation, Recreation, Transportation, Media Reception and other services | 12-23 August 2011 |
| U-stations U 站 | On-site Enquiry, First Aid, and other instant help | 15 July 2011- 28 August 2011 |

Notes: Survey for pilot study started at various U-stations early before the commencement of the Universiade on 12 August 2011.

## 3.6 Analytical Method

MacCallum and Austin (2000) noted that SEM is a widely applied multivariate data analysis technique in a variety of disciplines. SEM can calculate multiple regression relationships simultaneously with item errors included, therefore it was applied for addressing the four research hypotheses in this study.

This research provides a 95% confidence interval with a margin of error of about ±5%. The finalized 30 measurement items (Table 3.2) were firstly subjected to validity test, and reliability test (using Cronbach's alpha) in the pilot study to assess to what extent the identified research instruments could produce the same results each time they were administered to the same person at the same setting. No items in this study were reverse-scaled, and only those factors with Cronbach's alpha greater than 0.6 were remained for subsequent analyses. Furthermore, the description on the removal of certain items was made after the pilot study to enhance scales' reliability marginally after the reliability test.

After the data were entered in SPSS 18.0, the data set went through a series of data screening procedure as described in Chapter 4, section 4.3. Then the measurement model was identified according to the three-indicator rule introduced by Blunch (2008, p. 129):

(1) Every factor has at least three indicators;

(2) No manifest variable is indicator for more than one factor; and

(3) The error terms are not correlated.

Following this, a two-step strategy was applied to analyze the model. Firstly, the model was analyzed as a Confirmatory Factor Analysis (CFA) model by the principles and procedures of SEM using AMOS 18.0 to evaluate factor loadings. Items were entered into CFA analysis to generate the factor loadings in the measurement model (Figure 3.2). It is wildly accepted that CFA can more accurately differentiate random errors and identify systematic errors than EFA. Secondly, path loadings among specified latent constructs in the structural model were examined, and the four research hypotheses were tested.

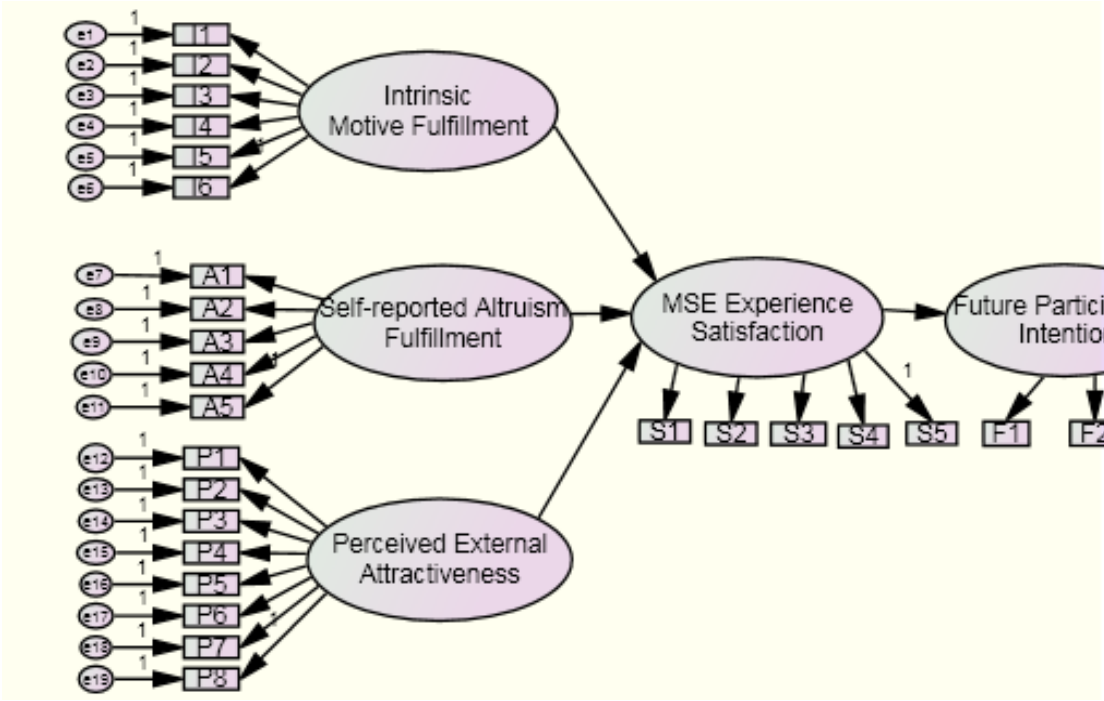



**Figure 3.2 Measurement Model**

In terms of model fit indices, Goodness-of-fit index (GFI), Likelihood of Chi-square to degree of freedom ($\chi^2/df.$), Comparative fit index (CFI), Root Mean Square Error

of Approximation (RMSER), Root Mean Square Residue (RMR), and Normed Fit Index (NFI) were evaluated to examine to what extent the measurement model and the structural model were explained by the data. Modification indices were employed to generate a better-fitting model.

Additionally, descriptive statistics were constructed using SPSS 18.0 to interpret volunteers' demographic characteristics, and two correlation analyses were conducted to explore the underlying relationships between length of service with two variables: dispensable leisure time and perceived satisfaction (section 4.5, Chapter 4).

## 3.7 Pilot Study

The questionnaire was piloted before its distribution to assess the construct validity of the measurement model and the internal consistency of the survey instruments. Considering the fact that some items specifically constructed to reflect the Universiade context may express inappropriateness, validating the questionnaire items is necessary. Slight but appropriate item modifications are indispensable in the pre main-survey stage to maximize item reliability and validity for achieving the

anticipated convincing and trustworthy results in the main survey. During the one-week pre-test procedure, 49 valid questionnaires were returned from Universiade volunteers who have already stepped into their pre-Universiade volunteer service in U-stations, sports arenas, and bus way stations.

Two steps were conducted to refine and improve the research instrument. Step I involved assessing the internal consistency using Cronbach's alpha. Reliability refers to the degree to which an instrument can be interpreted consistently across different situations (Field, 2009), and Cronbach's (1951) alpha is a widely accepted verification to assess the reliability of construct items. Hair, Black, Babin, and Anderson's (2010) threshold of 0.6 was adopted as the lowest limit of acceptability. Step I involved evaluating the validity of indicators' adaptability in the specific context of the Universiade SHENZHEN 2011. CFA was conducted to assess manifest indicators' standardized regression weights using AMOS 18.0. Item that generated factor loadings below the cut-off point of 0.6 were removed for the main survey.

### 3.7.1 Testing of Item Reliability and Construct Reliability

Cronbach's alpha demonstrated a satisfactory overall reliability coefficient of 0.888 for all the items in the pilot study, as illustrated in Table 3.4. Among all items, Ex5 "Volunteers' souvenirs and badges will be part of the happy recollections of my voluntary service", an item under the construct of Perceived External Attractiveness, produced the lowest factor loading of 0.432 and therefore was deleted because 0.432 is below the cut-off point of 0.6 (Hair et al., 2010). The reliability of construct PEA consequently increased from 0.712 to 0.765.

**Table 3.4 Construct Reliability**

| **Constructs** | **Alpha** | **Mean** | **S.D.** |
|---|---|---|---|
| Intrinsic Motive Fulfillment (IMF) | 0.804 | 27.43 | 2.837 |
| Self Reported Altruism (SRA) | 0.785 | 17.14 | 4.44 |
| Perceived External Attractiveness (PEA) | 0.765 | 30.84 | 3.094 |
| MSE Volunteer Satisfaction (MVS) | 0.891 | 30.06 | 3.484 |
| Future Participation Intention (FPI) | 0.832 | 18.41 | 1.746 |

Overall Cronbach's alpha: 0.888

### 3.7.2 Assessing Measurement Model Validity

After the reliability test, the model was analyzed as a measurement model, aiming to test the level of validity for each research item. Item I4, I5, Ex1, Ex2, Ex4, and Ex8[7] all produced factor loadings of lower than the threshold of 0.6 (0.474, 0.524, 0.340, 0.479, 0.588, and 0.540 respectively), and therefore were excluded from the main survey instruments. All of the remaining items displayed statistically significant p-values of smaller than 0.001. Table 3.5 illustrates the results of the CFA analysis.

[7] Please refer to Table 3.2 for the descriptions of these items.

**Table 3.5 Results of Confirmatory Factor Analysis in Pilot Study (With All Items Included)**

| | Standard Regression Weight | SE | CR | P-value |
|---|---|---|---|---|
| **I1<--- IMF** | 0.766 | .159 | 4.346 | *** |
| **I2<---IMF** | 0.640 | .165 | 4.452 | *** |
| **I3<---IMF** | 0.803 | .178 | 4.491 | *** |
| **I4<---IMF** | 0.474 | .152 | 2.955 | *** |
| **I5<---IMF** | 0.524 | .199 | 3.218 | .001 |
| **I6<---IMF** | 0.626 | NA | NA | |
| **A1<---SAF** | 0.634 | .299 | 3.457 | *** |
| **A2<---SAF** | 0.664 | .331 | 3.568 | *** |
| **A3<---SAF** | 0.632 | NA | NA | *** |
| **A4<---SAF** | 0.644 | .331 | 3.496 | *** |
| **A5<---SAF** | 0.680 | .312 | 3.623 | *** |
| **Ex1<---PEA** | 0.340 | .359 | 2.060 | .039 |
| **Ex2<---PEA** | 0.479 | .282 | 2.710 | .007 |
| **Ex3<---PEA** | 0.797 | .362 | 3.708 | *** |
| **Ex4<---PEA** | 0.588 | .329 | 3.125 | .002 |
| **Ex6<---PEA** | 0.760 | .368 | 3.047 | .002 |
| **Ex7<---PEA** | 0.678 | .315 | 3.412 | *** |
| **Ex8<---PEA** | 0.540 | NA | NA | |
| **S1<---MES** | 0.740 | .175 | 5.335 | *** |
| **S2<---MES** | 0.607 | .165 | 4.277 | *** |
| **S3<---MES** | 0.763 | .172 | 5.519 | *** |
| **S4<---MES** | 0.804 | .198 | 5.856 | *** |
| **S5<---MES** | 0.803 | .223 | 5.851 | *** |
| **S6<---MES** | 0.760 | NA | NA | |
| **S7<---MES** | 0.864 | .180 | 4.795 | *** |
| **F1<---PEA** | 0.626 | NA | NA | |
| **F2<---PEA** | 0.860 | .327 | 3.802 | *** |
| **F3<---PEA** | 0.750 | .371 | 3.582 | *** |
| **F4<---PEA** | 0.866 | .427 | 3.811 | *** |

Note: IMF= Intrinsic Motive Fulfillment, SAF=Self-reported Altruism Fulfillment, PEA= Perceived External Attractiveness, MES= MSE Experience Satisfaction, FPI= Future Participation Intention.

Mean values are based on 5-point Likert scale. All correlations are significant at p<.001.All these above items were measured using 5-piont Likert scale, with 1 representing “totally disagree” and 5 representing “totally agree” , or 1= “highly satisfied” and 5= “highly dissatisfied”.

The pilot testing enabled the finalization of research instruments to be employed in the main survey during the Universiade SHENZHEN 2011. The results of the main survey data analysis are to be presented and discussed in Chapter 4.

### 3.8 Summary

This chapter describes the research methods employed in this study. First, the rationale for selecting the case study is explained, after which the profile of the host city SHENZHEN is analyzed with official information provided by USZOC. Procedures of finalizing the research instruments and the pilot study are discussed. Most importantly, the methods for the main survey data collection and analysis are described. The finalized instrument pool that was utilized in the main survey is elaborated in Figure 3.2.

# CHAPTER 4 DATA ANALYSIS

## 4.1 Introduction

The main aim of his chapter is to describe, through confirming or rejecting the hypothetical relationships among MSE volunteers' motivation, altruism, the influence of external attractiveness, perceived satisfaction, and their intention to participate in future opportunities. After verifying the data set and validating the measurement model, the researcher conducted SEM to analyze specific path loadings among postulated exogenous variables. The results generated from a purified sample of 1,015 questionnaires supported all the four research hypotheses formulated in Chapter 2 with and abundant and statistically significant evidence. Hypothesis 1 regarding the relationship between MSE volunteers' intrinsic motivation fulfillment and perceived level of satisfaction is proved to be statistically significant, so is H2, which addresses the positive association between self-reported altruism and satisfaction. The relationship between external attractiveness and satisfaction is also positive and significant, thus H3 is supported. H4 addresses MSE volunteers' satisfaction and future participatory intention, and is also supported. In addition, two correlation analyses were conducted to test the interrelationships among leisure time, length of volunteering service, and satisfaction. Descriptive statistics were utilized to

interpret respondents' profile.

In total, six sections are organized to describe a complete data analysis process. Since the location-based convenience sampling method has already been discussed in Chapter 3 (section 3.5), section 4.2 provides a brief account of questionnaire distribution and then reports the survey response rate. As a preparatory step before CFA and SEM, section 4.3 explains approaches of dealing with missing data, testing normality and identifying outliers, through which the data set was consequently purified. The demographic characteristics of the 1,015 respondents are analyzed in section 4.4, after which findings of two correlation analyses are construed to identify the interrelationships between length of volunteering service, leisure time available and perceived satisfaction. The results of reliability and validity testing are discussed in section 4.5 and 4.6, followed by the core of this chapter, section 4.7 through 4.8, in which the two-way approach of SEM is introduced and employed to address the four research hypotheses. Finally, the research findings are also analyzed and accounted for by means of interpreting underlying socio-cultural reasons in order to demonstrate the pre-explained characteristics of Chinese MSE volunteering.

## 4.2 Main Survey

Survey data was collected mainly during the 11-day duration of the Universiade SHENZHEN 2011 by distributing 1,400 self-administered questionnaires (SAQs). Location-based quota sampling techniques were employed based on Universiade volunteers' willingness to participate. Some volunteers completed survey on site, while others chose to pick up the questionnaires at selected distribution points, completed it, and then returned it on spot. When certain participants expressed unwillingness or inconvenience in this survey, the researcher approached other volunteers until the expected sample size was met. All participants remained anonymous in their completed survey.

The researcher solicited official support from Shenzhen Volunteer Association (深圳義工聯) and USZOC for the convenience of recruiting a convenience sample in survey venues, especially in the Athletes' Village. A total 1,024 questionnaires were returned, with a satisfactory response rate of 73.1%. This response rate was indeed satisfactory and favorable since Babbie (1995) and Zikmund (1997) recommended that a response rate of above 50% is appropriate for survey sampling. After a series of data screening procedure which consisted of detecting of outliers and treatment of

missing data, 1,015 questionnaires were confirmed completed and valid for data analysis. Noticeable advantages should be mentioned that the sample size of 1,024 substantially exceeded the basic requirement of five recipients for every one indicator in SEM analysis (Hair et al., 2010); the variety of the sample sources could also expand the generalizability of research findings.

## 4.3 Data Screening

After all these data were retrieved, a frequency test was firstly conducted to preliminarily examine the data profile and the sample distribution, in particular to detect any obvious mistakenly inputted data. Following this step, the researcher carried out a series of data screening procedure, aimed at checking missing data (or item non-response), testing data dispersion, and dealing with outliers. Details of the three steps are described as follows.

### 4.3.1 Missing Value Purification

The first step after frequency test was purifying incomplete data. Commonly seen is that social science research is likely to have incomplete data sets, especially for those

that involve questionnaires distributed and completed manually. Rubin (1976) mentioned that the missing data malfunction may arise from not only involuntary actions (e.g., negligence of survey respondents or data recorder and the unsafe transportation of questionnaires), but also from observed unwillingness or refusal to answer sensitive questions. Hair, Anderson, Tatham and Black (1998) emphasized that missing data cause biases in statistical results to the extent that missing data impact on variables in the data set. In this study, mean imputation was adopted and all the missing values were replaced with their related mean value, finally producing a valid data set of 1,015 respondents.

### 4.3.2 Normality Test

"When data possess heavier tails than a normal distribution does, the ML estimates (MLE) are no longer most efficient" (Yuan & Hayashi, 2010, p. 335). Thus before employing ML in SEM, a normality test is necessary. Table 4.1 illustrates the results of normality tests. The absolute value of skewness ranged between 0.342 and 1.589, implying the normal distribution of the sample. Additionally, the range of Kurtosis was from -0.552 to 3.692, also indicating moderate normality. Thus taken together, the data set in this study achieved moderate univariate normality.

**Table 4.1 Univariate and Multivariate Normality Test Results (20 Variables, N=1,015)**

| Items | Skewness | CR | Kurtosis | CR |
|---|---|---|---|---|
| **Construct 1: Intrinsic Motive Fulfillment (IMF)** | | | | |
| I1: I get along well with other volunteers in my volunteer work. | -1.555 | -20.225 | 3.692 | 97.237 |
| I2: In the volunteer team, I knew some friends and feel happy for our friendships. | -1.589 | -20.673 | 3.458 | 24.011 |
| I3: People in my volunteer work are pretty friendly toward me. | -1.346 | -17.512 | 2.463 | 16.020 |
| **Construct 2: Self-reported Altruism Fulfillment (SAF)** | | | | |
| A1: I have given directions to an attendee or other people during the Universiade. | -.794 | -10.322 | -.183 | -1.188 |
| A4: I have helped people without being paid. | -.878 | -11.414 | -.055 | -0.359 |
| A5: I have offered to help an athlete, the handicapped or the elder in this Universiade. | -.673 | -8.748 | -.552 | -3.590 |
| **Construct 3: Perceived External Attractiveness (PEA)** | | | | |
| Ex3: I adhere to the organizational committee's objectives and goals. | -.703 | -9.140 | .532 | 3.458 |
| Ex7: The organizing committee of the Universiade (USZOC) enjoys reputation and is highly trustworthy and supported. | -.680 | -8.845 | .494 | 3.214 |
| Ex8: The recruitment and training procedure are attractive to me. | -.444 | -5.777 | -.358 | -2.311 |
| **Construct 4: MSE Experience Satisfaction (MES)** | | | | |
| S1: Volunteering experience in general. | -.600 | -7.807 | .566 | 3.680 |
| S2: Respect and recognition you received. | -.692 | -9.003 | .729 | 4.743 |

| | | | | |
|---|---|---|---|---|
| S3: Support and help you received. | -.540 | -7.021 | .186 | 1.211 |
| S4: Notice and information you received during your service. | -.492 | -6.398 | -.031 | -0.199 |
| S5: Notice and information you received before your service. | -.342 | -4.443 | -.422 | -2.746 |
| S6: Training and mentoring during your service. | -.394 | -5.126 | -.282 | -1.834 |
| S7: Communication with other volunteers. | -.772 | -10.044 | .520 | 3.383 |
| **Construct 5: Future Participation Intention (FPI)** | | | | |
| F1: I would like to go on collaborating with more MSE volunteer programs in the future. | -.949 | -12.344 | 1.021 | 6.637 |
| F2: I would like to provide voluntary service in future MSEs. | -1.091 | -14.192 | 1.313 | 8.542 |
| F3: I will recommend my friends and relatives to participate in volunteer programs during other MSEs.F4: The festival offered a better value for the money than did other festivals. | -.912 | -11.864 | .684 | 4.451 |
| F4: After the Universiade SHENZHEN 2011, I would like to help promote more volunteering information. | -.816 | -10.613 | .654 | 4.251 |

4.3.3 Outlier Identification and Retention

Only when the sample is detected with no obvious univariate or multi-variate outliers can researchers trust the results of the ML-based data analysis. In this study, Box-plot test (or box-whisker test) using SPSS 18.0 was conducted to detect the occurrence of univariate and multivariate outliers underlying in the data set variable

by variable. Among the three available box-whisker diagrams provided in SPSS 18.0 to display data, simple box-plot was performed and boxplots for the total 23 manifest items to target possible outliers. Furthermore, Mahalanobis distance (a part of the output from AMOS 18.0) was also examined. It resulted that the visual examination using simple box-plot did not identify any obvious outlier, thus all the items were retained.

## 4.4 Descriptive Analysis

### 4.4.1 Descriptive Analysis of Measurement Items

Descriptive statistics were calculated for each item and construct to depict the picture of respondents' perception of the research instruments. The means of all the manifest items fell into the range of 3.67- 4.47, indicating a relatively positive attitude to the statements in the questionnaire. As Table 4.2 indicates, all of the items' maximum rating is 5, and the minimum is 1, all sharing the same range of 4. The mode for I1, I2, I3, A1, A4, A5 is 5 (highly satisfied or agree); the most often occurrence for Ex3, Ex7, S1, S2, S3, S5, S6, S7, F1, F2, F3, and F4 is 4 (somewhat satisfied or agreed), while the majority of the respondents rated Ex8 as 3 (satisfied or

agreed).

**Table 4.2 Descriptive Analysis of Manifest Indicators**

| Items | Mean[8] | S.D.[9] | Variance | Max | Min |
|---|---|---|---|---|---|
| **Construct 1: Intrinsic Motive Fulfillment (IMF)** | | | | | |
| I1: I get along well with other volunteers in my volunteer work. | 4.45 | 0.71 | 0.51 | 5 | 1 |
| I2: In the volunteer team, I knew some friends and feel happy for our friendships. | 4.47 | 0.72 | 0.52 | 5 | 1 |
| I3: People in my volunteer work are pretty friendly toward me. | 4.42 | 0.73 | 0.53 | 5 | 1 |
| **Construct 2: Self-reported Altruism Fulfillment (SAF)** | | | | | |
| A1: I have given directions to an attendee or other people during the Universiade. | 3.93 | 1.09 | 1.19 | 5 | 1 |
| A4: I have helped people without being paid. | 4.12 | 0.98 | 0.96 | 5 | 1 |
| A5: I have offered to help an athlete, the handicapped or the elder in this Universiade. | 3.72 | 1.24 | 1.55 | 5 | 1 |
| **Construct 3: Perceived External Attractiveness (PEA)** | | | | | |
| Ex3: I adhere to the organizational committee's objectives and goals. | 4.18 | 0.75 | 0.57 | 5 | 1 |
| Ex7: The organizing committee of the Universiade (USZOC) enjoys reputation and is highly trustworthy and supported. | 3.95 | 0.88 | 0.78 | 5 | 1 |
| Ex8: The recruitment and training procedure are attractive to me. | 3.67 | 1.05 | 1.11 | 5 | 1 |
| **Construct 4: MSE Experience Satisfaction** | | | | | |

[8] 5-point Likert-type scale

[9] Standard deviation

| | | | | | |
|---|---|---|---|---|---|
| **(MES)** | | | | | |
| S1: Volunteering experience in general. | 3.98 | 0.79 | 0.63 | 5 | 1 |
| S2: Respect and recognition you received. | 4.01 | 0.80 | 0.63 | 5 | 1 |
| S3: Support and help you received. | 4.01 | 0.75 | 0.56 | 5 | 1 |
| S4: Notice and information you received during your service. | 3.92 | 0.85 | 0.72 | 5 | 1 |
| S5: Notice and information you received before your service. | 3.79 | 0.93 | 0.86 | 5 | 1 |
| S6: Training and mentoring during your service. | 3.72 | 0.97 | 0.94 | 5 | 1 |
| S7: Communication with other volunteers. | 4.17 | 0.78 | 0.62 | 5 | 1 |
| **Construct 5: Future Participation Intention (FPI)** | | | | | |
| F1: I would like to go on collaborating with more MSE volunteer programs in the future. | 4.25 | 0.78 | 0.61 | 5 | 1 |
| F2: I would like to provide voluntary service in future MSEs. | 4.27 | 0.80 | 0.65 | 5 | 1 |
| F3: I will recommend my friends and relatives to participate in volunteer programs during other MSEs.F4: The festival offered a better value for the money than did other festivals. | 4.16 | 0.86 | 0.74 | 5 | 1 |
| F4: After the Universiade SHENZHEN 2011, I would like to help promote more volunteering information. | 4.18 | 0.81 | 0.66 | 5 | 1 |

Note: All correlations are significant at ***p<.001.

### 4.4.2 Demographic Profile

The sample of 1,015 respondents was highly representative of the population aging between 18 and 28, being educated with a university degree, having a relatively low

average household income, and possessing an average length of voluntary service at 20.44 days. Table 4.3 displays the demographic profile of the respondents.

**Table 4.3 Demographic Information of Respondents**

| Characteristics | Frequency | Percentage (%) |
|---|---|---|
| ***Gender (n=1,015)*** | | |
| Male | 517 | 50.9 |
| Female | 498 | 49.1 |
| ***Age(n=1,015,S.D.=0.418)*** | | |
| 18 and below | 25 | 2.5 |
| 18-28 | 925 | 91.0 |
| 29-38 | 41 | 4.0 |
| 39-48 | 7 | 1.0 |
| 49 and above | 4 | 0.5 |
| ***Annual Household Income(RMB) (n=1,015, S.D.=1.129 )*** | | |
| 15,000 and below | 332 | 32.7 |
| 15,001-20,000 | 242 | 23.8 |
| 20,001-40,000 | 235 | 23.2 |
| 40,000 and above | 206 | 20.3 |
| ***Education Level (n=51, S.D.=0.985)*** | | |
| Primary School or below | 4 | 0.4 |
| Middle School | 28 | 2.8 |
| High Diploma | 47 | 4.6 |
| University | 911 | 89.8 |
| Postgraduate or above | 3 | 0.3 |
| ***Occupation(n=51, S.D.=1.203)*** | | |
| Student | 797 | 78.5 |
| Teaching Staff | 34 | 3.3 |
| Medical Staff | 38 | 3.7 |
| Government Staff | 101 | 10.0 |
| Others | 45 | 4.4 |

In the sample, an almost equal balance between female (49.1%) and male (50.9%) was achieved, with each constituting nearly half of the sample population. Over three quarters (78.5%) of the respondents were students enrolled in undergraduate and high diploma programs, whilst the remaining 21.5% were employed in the public sectors as government officials or civil servants (10.0%), followed by employees in private and public trading and logistics (3.7%), healthcare and medical institutions (3.7%), and art and education (3.3%). Only a small proportion (4.4%) of those surveyed indicated unmentioned types of jobs.

Regarding age range, the overwhelming majority (91.1%) fell into the category of 18-28, while the minority (0.4%) belonged to the age group of 49 or above, with 29-38 (4%), 18 or below (2.5%), and 39-48 (2.0%) in between. Thus, this sample typically reflected the profile of youth volunteers involved in MSEs, and this representativeness was notably consistent with one of the salient characteristics of MSE volunteering in China described in Chapter 2, namely, the majority volunteer participants are youth university students. This demographic finding also echoed the official statistics released by the official website of the Universiade SHENZHEN 2011 that over 80% of the university students in Shenzhen applied for voluntary positions in this Universiade (http://www.sz2011.org, 2011).

As to the level of average household income, nearly one third (32.7%) of the respondents reported an average household income of below RMB 15,000[10], whilst the other three groups demonstrated their income level relatively evenly at three groups: RMB 15,001-20,000 (23.8%), RMB 20,001-40,000 (23.2%), and above RMB 40,000 (20.3).

Approximately 90% of the survey participants possessed university degree, and 4.6% held a high diploma, indicating the generally high level of education of the 1,015 respondents. A very small percentage of 3.2% earned a relatively lower degree of middle school (2.8%) and primary school (0.4%) respectively. Additionally, another minority is those who obtained a postgraduate degree, constituting only 2.2% of the whole sample.

## 4.5 Correlation Analyses

### 4.5.1 Correlation between Length of Service and Satisfaction

Although still in paucity, empirical evidence was found in the literature which

[10] Nearly equal to US$ 2378

supported a positive relationship between length of volunteering commitment and perceived level of satisfaction. For instance, according to Finkelstein, Penner, and Brannick (2005), positive relationships exist between the strength of volunteers' motives and two outcome measures: firstly, time spent on volunteering; secondly, length of service. This finding also supports Omoto and Snyder's (1995) result that AIDS volunteers' perceived level of satisfaction is associated with longevity of service.

As a continuation of previous studies, the correlation between length of volunteering and level of satisfaction was examined in this study to determine whether MSE volunteers' perceived level of satisfaction will increase with length of volunteering commitment. The researcher asked the respondents to self report their total length of service (the number of days enrolled in volunteering) during the Universiade SHENZHEN 2011. The results showed that respondents' duration of volunteering participation ranged from one day to 120 days, with the average length recorded at 20.88 days (Range=119; Medium=20; S.D=14.276). It was also confirmed that volunteers took on duty before the official commencement of Universiade, and even carried their commitment into a few days after the closing ceremony. Results of the correlation analysis were presented in Figure 4.1.

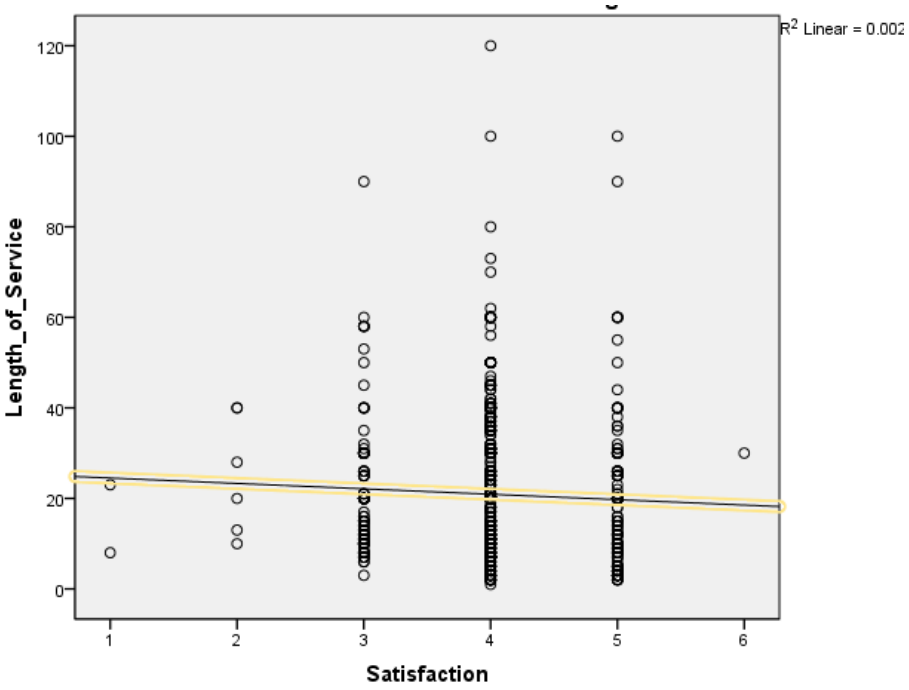



**Figure 4.1 Correlation between Length of Service and Satisfaction**

**. Correlation is significant at the 0.01 level (2-tailed).

The table illustrates a negative, insignificant (-0.046; p>0.05) correlation between length of service and perceived satisfaction, implying that duration of volunteering service did not influence satisfaction, or vice versa. Possibly, the longer the volunteering period, the more problems and difficulties emerged which reduced MSE volunteers' level of satisfaction.

### 4.5.2 Correlation between Leisure Time and Length of Service

Stebbins (1996, p. 948) remarked that volunteering belongs to serious leisure by stating that serious leisure "is a pursuit of amateur, hobbyist, or volunteer activities

sufficiently substantial and interesting in nature". Through volunteers' endeavor, durable benefits such as self-actualization and enrichment, self-regeneration, and self-accomplishment can be generated. Leisure time may be a proposition for volunteering, and it could be anticipated the more leisure time is available, the more volunteering propensity is produced. In another study, Unger (1991) suggested that prerequisite to volunteer must be availability of discretionary time. In this study, another correlation analysis was adopted was reported to explore the relationship between leisure time and length of service in the context of MSEs.

The researcher surveyed respondents' dispensable leisure time using the unit of hours per week. As can be observed from Figure 4.2, the significant positive correlation (0.103, $p<0.01$) between length of service and leisure time provided strong support to confirm that the duration of volunteering service is positively associated with leisure time available.

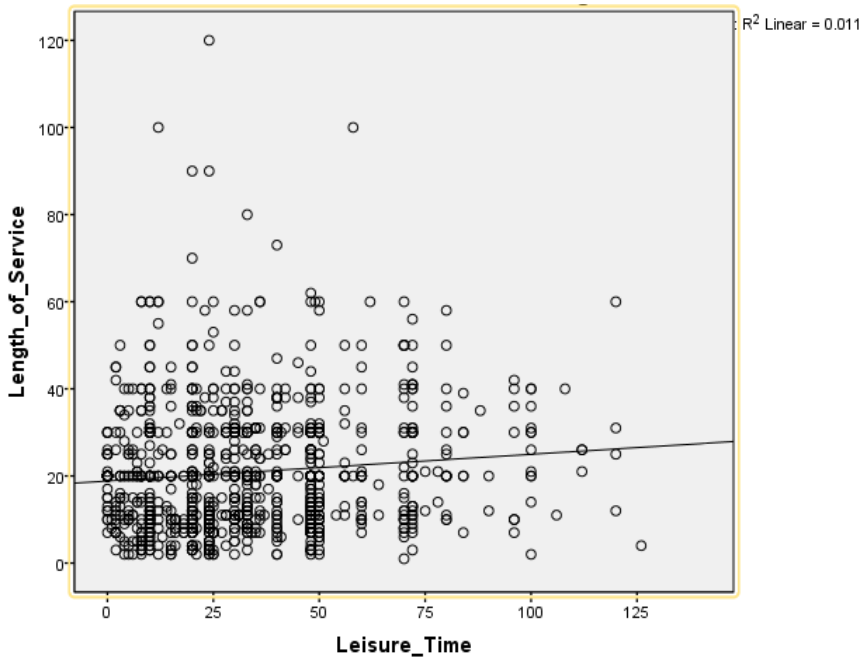



**Figure 4.2 Correlation between Leisure Time and Length of Service**

**. Correlation is significant at the 0.01 level (2-tailed).

## 4.6 Validity and Reliability Testing

### 4.6.1 Validation of Finalized Research Instruments

In this section, a two-step approach was adopted to verify the validation of items using convergent validity and discriminant validity. Construct validity of instruments was evaluated through CFA.

Construct validity represents the degree to which the measurement indicators can reflect the theoretical latent variable under empirical circumstances. Hair et al. (2010) drew attention to the importance of construct validity by mentioning that one of the research objectives using SEM is to evaluate the power of representativeness of indicators designed for related constructs. Convergent validity, as a subcategory of construct validity, expresses the extent to which the empirical assessment is related to what it should theoretically represent. Additionally, in this study, discriminant validity (another subtype of construct validity) was also tested and finally established.

In the CFA assessment, standardized factor loadings of 0.5 or higher is a good rule of thumb, while 0.7 or higher is ideal (Hair, 2010, p. 709). In this study, the researcher adopted the threshold of 0.6 and individual instrument items not meeting this criterion were excluded from further analyses to achieve a higher level of construct validity. At last, CFA analysis revealed that 20 out of 23 items were statistically significant ($p<0.001$) with standardized regression weight above 0.6, except three items: I6 (0.521, $p<0.001$), A2 (0.491, $p<0.001$), and A3 (0.576, $p<0.001$), which were then removed before running the structural model assessment. Consequently, all of the remaining 20 items showed satisfactory factor loadings of greater than

0.690.

#### 4.6.1.1 Convergent Validity

Conducting a validation test is necessary as the first step in the pre-stage of data analysis to confirm convergent validity using Average Variance Extracted (AVE) and factor loadings generated in the CFA analysis. Hair et al. (2010, p. 709) emphasized that items under latent variables should converge or be able to share a high proportion.

Several approaches have been established to estimate the relative amount of convergent validity among different variables, such as factor loading of minimum 0.5 or ideally 0.7 (Hair, 2010) and AVE of 0.5 or higher (Fornell & Larcker, 1981). An AVE of lower than 0.5 indicates unsatisfactory validity. Fornell (1992, p. 15) stated that AVE should surpass 0.5 to avoid an unsatisfactory situation with "more error in measurement than valid variance exists". This idea was further strengthened by Hair (2010, p. 709) who asserted that an AVE of 0.5 or lower signifies more errors than variances that are explained by latent variables. The cut-off point of 0.5 is the most widely accepted criteria for AVE, and therefore is adopted in this study.

The first step in validation testing was to assess convergent validity. Table 4.4 reveals that AVEs for all the five constructs surpassed the threshold of 0.5 (0.697 for IMF, 0.579 for SAF, 0.591 for PEA, 0.549 for MES, and 0.730 for FPI respectively). Accordingly, convergent validity was confirmed to be solid.

**Table 4.4 Correlations (squared correlations), Reliability, AVE, and Mean**

| | IMF | SAF | PEA | MES | FPI |
|---|---|---|---|---|---|
| IMF | 1.00 | | | | |
| SAF | .383(.147) | 1.00 | | | |
| PEA | .460(.211) | .451(.203) | 1.00 | | |
| MES | .545(.297) | .445(.198) | .556(.309) | 1.00 | |
| FPI | .453(.205) | .458(.210) | .589(.346) | .60(.436) | 1.00 |
| Reliability | .872 | .770 | .792 | .906 | .891 |
| C R | .930 | .770 | .768 | .922 | .942 |
| AVE | .697 | .579 | .591 | .549 | .730 |
| Mean | 4.445 | 3.923 | 3.929 | 3.953 | 4.216 |
| Std. Dev. | 0.520 | 1.232 | .820 | .708 | .664 |

Overall Cronbach's Alpha: 0.922

Note: IMF= Intrinsic Motive Fulfillment, SAF=Self-reported Altruism Fulfillment, PEA= Perceived External Attractiveness, MES= MSE Experience Satisfaction, FPI= Future Participation Intention. AVE= Average Variance Extracted.

C R=Construct Reliability. CV= Construct Validity

(Mean values are based on 5-point Likert scales. All correlations are significant at ***p<.001.

#### 4.6.1.2 Discriminant Validity

The second step to validate instruments was to test discriminate validity, which was also established in this study due the following two reasons. Firstly, the congeneric measurement model did not contain any cross-loadings among variables or error terms. Secondly, Fornell and Larcker (1981) stated that when AVE estimates for each construct surpassed the corresponding inter-construct squared correlations, discriminant validity is supported. As illustrated in Table 4.6, AVEs for each construct were greater than the inter-construct squared correlations presented in brackets. Thus taken together, the discriminate validity was established. Furthermore, all of the five constructs produced good CR values (the lowest is 0.768), and they were retained for the analysis of the structural model.

### 4.6.2 Reliability Testing for Latent Variables and Construct Items

Validity is a necessary but not sufficient condition of the verification of measures. The second consideration is reliability (internal consistency, or item homogeneity), for example construct composite reliability, and the overall reliability for all scales. There are three purposes of reliability testing: (1) to purify data by eliminating

variables with Cronbach's alpha below the cut-off point of 0.7 (Nunnally, 1978); (2) to test composite reliability of each latent construct; and (3) to identify and deal with underlying multicollinearity if any. Grewal, Cote, and Baumgartner (2004) pointed out that the dismissal of multicollinearity problems will lead to inaccuracy in results. Thus it is necessary to diagnose and manage multicollinearity prior to performing path analysis, since SEM's ability to incorporate measurement errors in several endogenous variables places difficulties in assessing multicollinearity's influence on the accuracy of parameter estimates (Bollen, 1989) and causes deviation in hypotheses testing.

Kline (2005) reminded that when inter-construct correlations reach as high as 0.85, the redundancy of items are apparent, leading to unstable and unreliable results of hypotheses testing. In this study, Table 4.7 indicates that all of the inter-construct correlation were below 0.85, thus problems of multicollinearity does not exist in this study. Additionally, as earlier presented in Table 4.6 (in section 4.5.1.2), all the constructs indicated ideal composite reliability (all above 0.770). The overall reliability coefficient was 0.922. Each of the five constructs' Cronbach's alpha exceeded the cut-off point of 0.7 (Nunnally, 1978), to be specific, Intrinsic Motive Fulfillment (0.872), Self-reported Altruism Fulfillment (0.770), Perceived External

Attractiveness (0.792), MSE Experience Satisfaction (0.906), and Future Participation Intention (0.891), thereby demonstrating satisfactory reliability. Table 4.7 (section 4.6.1.1) also presented the results of construct reliability testing that all of the coefficients surpassed the minimum requirement of 0.7, thus confirming ideal construct reliability.

## 4.7 Measurement Model Analysis

The two-way data analysis approach consists of CFA analysis of the measurement model (also known as covariance matrix) and the path analysis of the structural model. As a preparatory step before path analysis, the overall measurement model was tested using AMOS 18.0 to assess validity and model fit. After that, path loadings among exogenous variables and endogenous variables were measured to address the hypothesized relationships. Model fit indices for structural model were also interpreted.

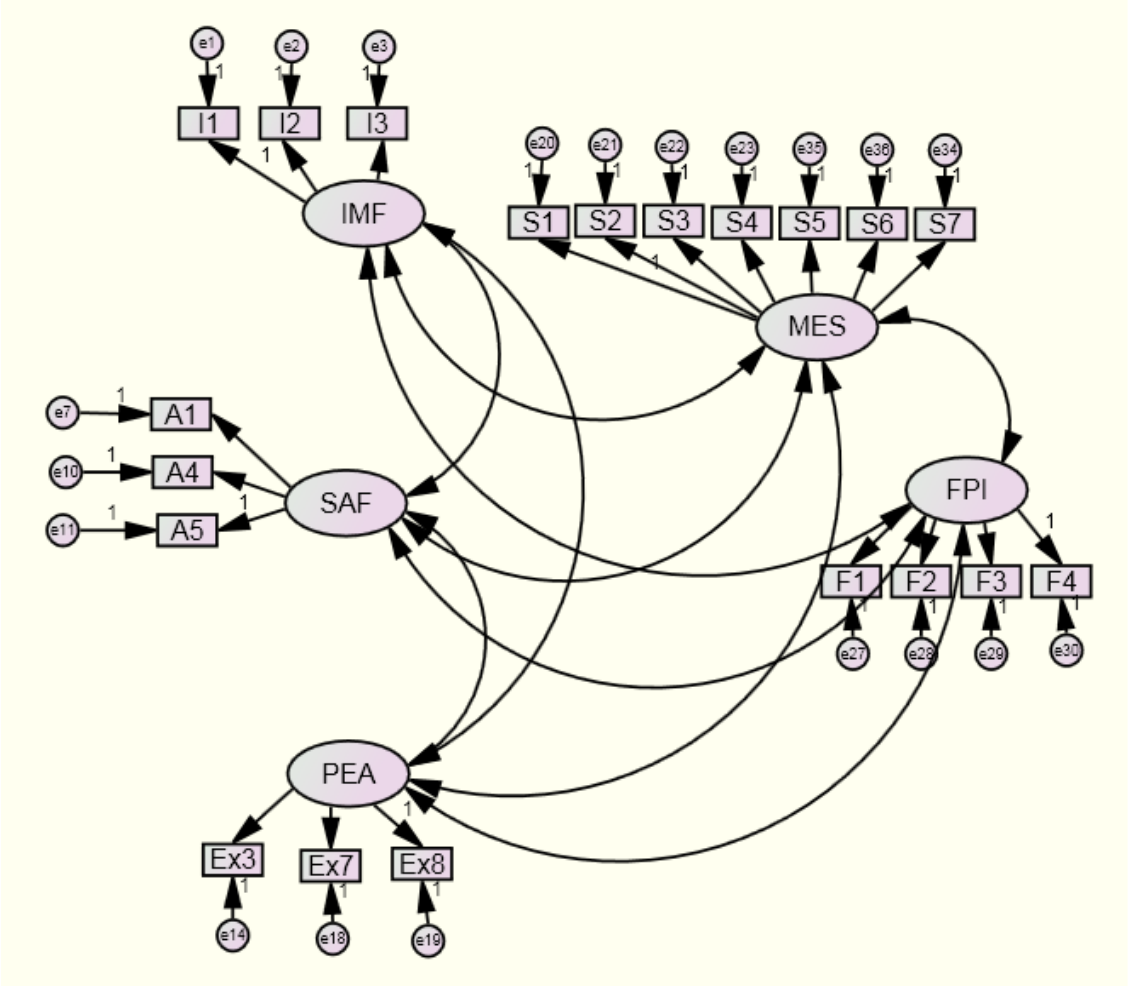
Considering that the relationships between all the manifest indicators and latent constructs are all reflective, not informative, there is no need to use partial least squares (PLS) in data analysis. Maximum likelihood (ML) was employed to examine

the measurement model and structural model, aiming to generate standardized factor loadings and the pass loadings between constructs.

After the verification of reliability and validity, a CFA analysis was undertaken of the three exogenous variables and two endogenous variables. The purpose was to test the uni-dimensionality of items, and to generate standardized factor loadings for each item. The results demonstrated satisfactory standardized coefficients for each item (as shown in Table 4.9 in section 4.7.1.1), whilst the goodness-of fit testing reveals model fit indices such as chi-square statistics ($\chi^2$), degree of freedom (*df*), goodness-of-fit index (GFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), root mean square residue (RMR), and normed fit index (NFI) all above their threshold level (Table 4.10 in section 4.7.1.2).

### 4.7.1 Confirmatory Factor Analysis of Endogenous and Exogenous Variables

Figure 4.3 represents the measurement model with covariance among each latent variable symbolized by double-headed arrows.




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

IMF= Intrinsic Motive Fulfillment, SAF=Self-reported Altruism Fulfillment, PEA= Perceived External Attractiveness, MES= MSE Experience Satisfaction, FPI= Future Participation Intention.

Model Fit Indices: S-B $\chi 2$ =660.1, *df*=149, p<0.001

RMSEA=0.058, CFI=0.959, NFI=0.947, CFI=0.932, GFI=0.937

**Figure 4.3 Measurement Model**

The first construct Intrinsic Motive Fulfillment (IMF) expressed the highest construct reliability of 0.930, as observed in Table 4.4, far surpassing the threshold of 0.7. The theory underpinning this construct is self-determination theory (SDT), wherein three groups of motivations were identified, with the influential power of

two types of motivation, relatedness and autonomy (Boezeman & Ellemers, 2009). Comparatively, item I2 (In the volunteer team, I knew some friends and feel happy for our friendships) presented the highest factor loading of 0.866 ($p<0.001$), followed by I1 (0.833; $p<0.001$) and I3 (0.804; $p<0.001$). The results exactly reflected the statement cited in Chapter 2 regarding the two essential components of intrinsic motivation fulfillment: relatedness and autonomy. Indeed, active citizenship that was enhanced through voluntary service fostered self-autonomy as well as interpersonal interactions, through which MSE volunteers expanded their social networking, strengthened self-esteem, and finally gained satisfaction with their voluntary commitment.

The second latent variable Self-reported Altruism Fulfillment (SAF) indicated the lowest construct reliability of 0.770; however, this coefficient was still above 0.7, thus confirming that this construct is an important exogenous construct. Factor loadings of items under this construct ranged from 0.740 to 0.797, still relatively low but readily acceptable. The most influential item was A1 (I have given directions to attendees or people during the Universiade), with factor loading of 0.797 ($p<0.001$). This result corresponded with our observation from filed investigation, during which the researcher noticed that volunteers' most frequent helping behavior was offering

directions to sports venues, road signage, as well as bus/ railway stations. Some volunteers' responsibility was indeed directing passengers at U-stations, sports stadiums, and the arrival and departure concourses of the airport.

Perceived External Attractiveness (PEA) was designed to measure the strength of external stimuli to initiate volunteering activities. A comprehensive review of event discourse and the findings in the pilot testing identified the most important factors as follows: (1) perceived organizational appealing; (2) complementary training opportunities; (3) the genuine humanity reflected during recruiting process; and (4) materialistic rewarding. The pilot study excluded the item "Volunteers' souvenirs and badges will be part of the happy recollections of my voluntary service" with empirical evidence, thus in Table 4.5 there was no manifestation of it. As the most influential item under this construct, Ex8 (The recruitment and training procedure are attractive to me) generated the highest factor loading of 0.92 ($p<0.001$), followed by Ex3 (0.761; $p<0.001$) and Ex7 (0.710; $p<0.001$).

Considering the multi-dimensionality of the components of satisfaction, MSE Experience Satisfaction (MES) was given the largest number of measurement items, and all the seven items were verified during pilot testing. Construct reliability scored

as high as 0.922. Factor loadings ranged across 0.69 to 0.796, which were relatively low compared with other constructs, possibly attributed to the dispersion effect of seven dimensions. It can be concluded that respondents were generally satisfied with their volunteer experience, while communication with other volunteers was the least satisfied part of their whole experience.

Items to measure the last latent variable Future Participation Intention (FPI) all presented strong factor loadings, varying from 0.821 to 0.873, with F2 (I would like to provide voluntary service in future MSEs) being the most influential one. Thus MSE volunteers expressed great intention towards sustained volunteering behavior after participating in this Universiade SHENZHEN 2011. Hypothesis 4 that assumes perceived satisfaction of volunteering experience may lead to re-volunteering expectation was also supported.

**Table 4.5 Results of Confirmatory Factor Analysis**

| Items | Std. Loading | CR | SMC[11] | P-value |
|---|---|---|---|---|
| **Construct 1: IMF** | | | | |
| I1 | .833 | NA | 0.702 | NA |
| I2 | .866 | 30.699 | 0.750 | *** |
| I3 | .804 | 27.962 | 0.637 | *** |
| **Construct 2: SAF** | | | | |
| A1 | .797 | 14.877 | 0.514 | *** |
| A4 | .745 | 13.786 | 0.410 | *** |
| A5 | .740 | NA | 0.697 | NA |
| **Construct 3:PEA** | | | | |
| Ex3 | .761 | 17.583 | 0.325 | *** |
| Ex7 | .710 | 25.654 | 0.446 | *** |
| Ex8 | .792 | NA | 0.483 | NA |
| **Construct 4: MES** | | | | |
| S1 | .796 | NA | 0.566 | NA |
| S2 | .773 | 26.134 | 0.507 | *** |
| S3 | .776 | 26.120 | 0.533 | *** |
| S4 | .735 | 24.075 | 0.484 | *** |
| S5 | .710 | 23.025 | 0.451 | *** |
| S6 | .700 | 22.604 | 0.438 | *** |
| S7 | .690 | 22.631 | 0.417 | *** |
| **Construct 5: FPI** | | | | |
| F1 | .867 | 26.267 | 0.257 | *** |
| F2 | .873 | 28.666 | 0.279 | *** |
| F3 | .821 | 25.573 | 0.306 | *** |
| F4 | .860 | NA | 0.365 | NA |

Note: All factor loadings are significant at p<.000. T-values were not obtained (NA) for those fixed to 1 for identification purpose.

[11] Squared multiple correlations

Collectively, the statistics proved a reasonable goodness of fit for the measurement model. Table 4.5 presents the results of measurement model comprising of five latent variables. All the scale items were significant, with T-values ranging from 13.786 to 30.699, and factor loadings from to 0.690 to 0.873, thereby confirming the adequacy of the measurement model.

Kline (2005) stated that squared multiple correlations (SMC) refers to the proportion of an endogenous variable's variance explained by its predictors. As shown in Table 4.5, item I2 "In the volunteer team, I knew some friends and feel happy for our friendships" expresses the highest SMC of 0.750, and a high factor loading of 0.866. Item F1 and F2 have relatively low SMC of 0.257 and 0.279 respectively. However, considering the high factor loadings of the two indicators as well as the high composite reliability and AVE of the construct IMF, these two items were also valid. Furthermore, CFA results supported the convergent validity of the measures because the estimated loadings for all items surpassed 0.5 at significant level of $p<0.001$ (Anderson & Gerbing, 1988). Additionally, the AVE for each construct was greater than the squared correlation coefficients for the corresponding inter-constructs, thus confirming discriminant validity (Fornell & Larcker, 1981).

### 4.7.2 Model Fit Indices

Hair et al. (2010) pointed out specific threshold for the following model fit indices: (1) RMSEA falling in the range of 0.03-0.08 is adequately good; (2) CFI (an improved version of Normed Fit Index) above 0.9 is usually associated with good model fit, while Bentler and Bonnett (1980) also stated that an value of CFI below 0.9 indicates that considerable improvements can be made to the model; (3) SRMR should be constrained within 0.1, otherwise, problems with model fit can be expected; and (4) a model with perfect fit will report NFI of 1, thus the closer to 1, the better. Sensitive to sample size, GFI and CFI are believed an early attempt to produce a fit statistic, whilst higher values of indicating better model fit. Table 4.6 illustrates the model fit indices for the measurement model.

**Table 4.6 Measurement Model Fit**

| Construct Standard | Index | Fit Guideline |
|---|---|---|
| ***χ²/ df*, p-value** | $\chi^2$=660.1, *df*= 149, $\chi^2$/ *df*=4.431 p<0.001 | $\chi^2$/ *df*: 1 to 3 |
| **CFI** | 0.959 | >0.900 |
| **GFI** | 0.937 | >0.900 |
| **RMR** | 0.037 | <0.100 |
| **RMSEA** | 0.058 | <0.080 |
| **NFI** | 0.947 | >0.900 |

For the three exogenous variables and one endogenous variable, the CFA model yielded satisfactory fit, since all the indices surpassed their cut-off point, although the comparative model fit indices of $\chi^2$/ *df*. was a little bit higher than the threshold. Collectively, the statistics suggested a reasonable goodness of fit for the measurement model.

## 4.8 Structural Model Analysis

### 4.8.1 Assessment of Structural Model

Following the CFA analysis, the structural model was examined using ML path analysis in AMOS 18.0 to measure general predictive character based on the theoretical foundations discussed in Chapter 2. Path diagrams can present the proposed antecedents and consequents among latent constructs in conceptual model (Susskind, Borchgrevink, Kacmar, & Brymer, 2000), with causal relationships identified and symbolized by one-headed arrows, as illustrated in Table 4.11.

### 4.8.2 Hypotheses Testing

As the second step of the two-way analysis approach, the proposed four hypotheses were tested. Table 4.7 demonstrates that all of the four hypotheses were statistically significant in the direction predicted, with significant p-value at 0.001 probability level and t-value of 10.690, 5.483, 20.724, and 20.836 respectively.

**Table 4.7 Hypothesis Testing and Model Fit**

| H | Structural Relation | Standardized Coefficient (β) | p-value | CR |
|---|---|---|---|---|
| H1 | Intrinsic Motive Fulfillment (IMF) --> MSE Experience Satisfaction (MES) | 0.332 | <0.001 | 1.116 |
| H2 | Self-reported Altruism Fulfillment (SAF)--> MSE Experience Satisfaction (MES) | 0.173 | <0.001 | 5.615 |
| H3 | Perceived External Attractiveness (PEA) --> MSE Experience Satisfaction (MES) | 0.752 | <0.001 | 19.704 |
| H4 | MSE Experience Satisfaction (MES) --> Future Participation Intention (FPI) | 0.643 | <0.001 | 20.031 |

**Goodness of Fit Indices**

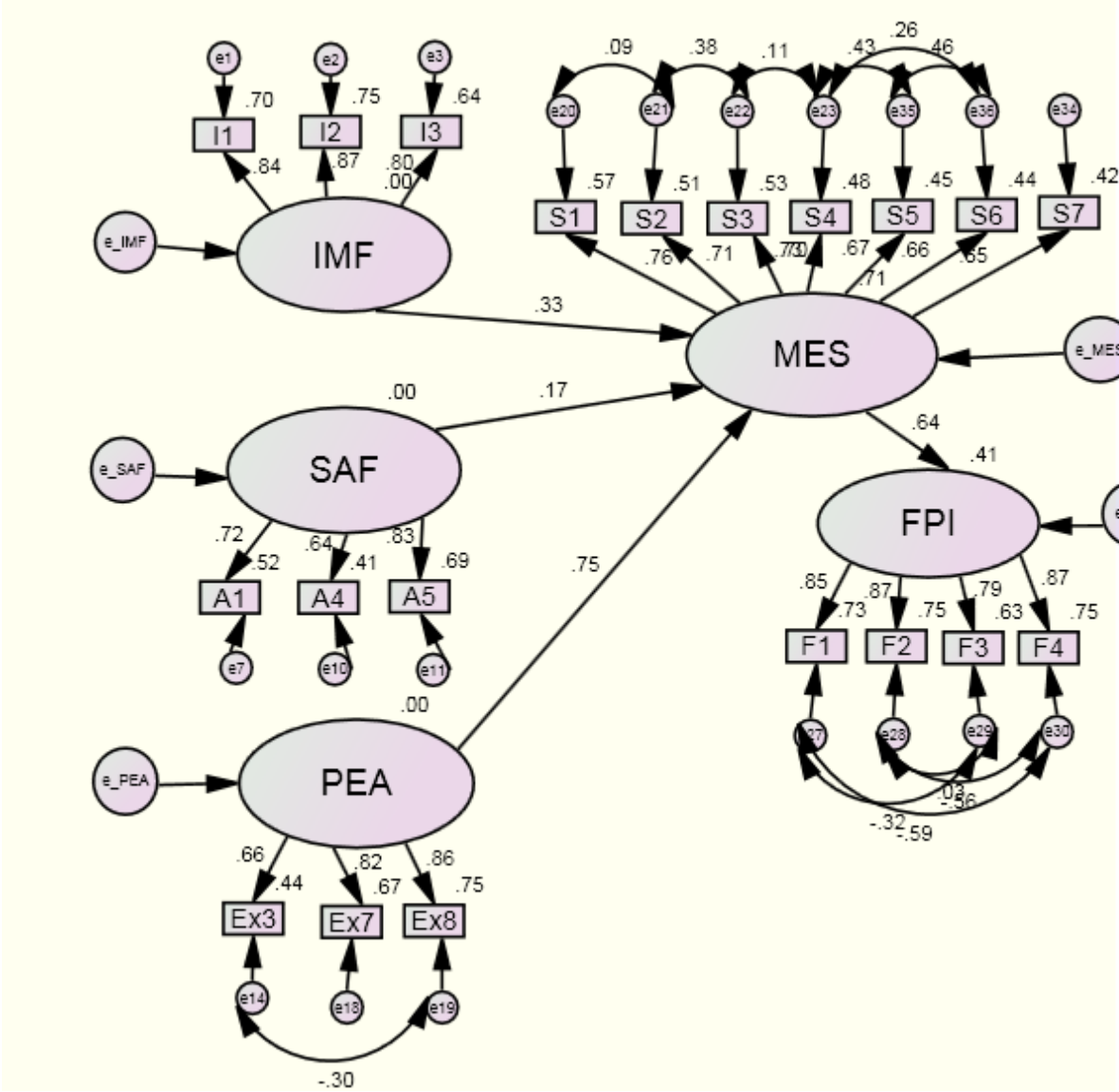
| $\chi^2$ (CMIN) | *df* | CFI | GFI | RMSEA | NFI |
|---|---|---|---|---|---|
| 0.918 | 1024.946 | 155 | 0.930 | 0.904 | 0.074 |

Note: IMF= Intrinsic Motive Fulfillment, SAF=Self-reported Altruism Fulfillment, PEA= Perceived External Attractiveness, MES= MSE Experience Satisfaction, FPI= Future Participation Intention.

***p <0.001

Results of the path analysis (Figure 4.4) revealed that contributing to volunteer satisfaction in this Universiade were not only intrinsic motivation and altruism, but also external attractiveness, wherein persuasion from superiors and the pursuit of avoidance of exclusion from peers standing out distinctively. Intrinsic motivations and altruism were not the leading factors in constructing volunteer satisfaction, but weighted over by external contributors. The following sections are developed to analyze the four research hypotheses one by one, based on data presented in Figure

4.4. Discussions are made in response to the research questions, hypotheses and findings, centering on the two endogenous constructs (MSE Volunteering Satisfaction and Future Participation Intention). Meanwhile, to interpret these findings, it would also be informative to discuss the findings during on-site observation and communication with Universiade volunteers, since some of the findings echoed the statistical results.




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

IMF= Intrinsic Motive Fulfillment, SAF=Self-reported Altruism Fulfillment, PEA= Perceived External Attractiveness, MES= MSE Experience Satisfaction, FPI= Future Participation Intention

Model Fit Indices: S-B $\chi 2$ =994.499, *df*=153, p<0.001, RMSEA=0.074, CFI=0.97, NFI=0.92, CFI=0.932, GFI=0.907

**Figure 4.4 Path Analyses (Structural Model Analysis)**

4.8.2.1 Research Question 1: Relationship between Volunteers' Intrinsic Motive Fulfillment and Perceived Level of Satisfaction

In order to measure the relationship between MSE volunteers' intrinsic motive

(autonomy and relatedness motives) fulfillment and their perceived satisfaction, H1 was formulated and it was postulated that IMF and MES are positively associated. As is indicated in Figure 4.2, IMF is ranked as the second most important exogenous factor in constructing volunteer satisfaction. The parameter estimates for the relationship between IMF and MES was statistically significant with path loading of 0.332 ($p<0.001$), consistent with the proposed positive direction in the hypothesis. Standardized regression weights of the three items - I1, I2, I3- under construct IMF are 0.866, 0.838, and 0.798 respectively, all with a significant p-value of smaller than 0.001. This confirms that the three items are robust indicators of intrinsic motive fulfillment. This is a particularly meaningful finding since Chinese volunteers also express great attention towards intrinsic motivation fulfillment, just as their counterparts in western countries, where people may volunteer in events, festivals, community development, environmental conservation, as well as feminism promotion out of intrinsic motives to gain relatedness, competency and autonomy (Kim et al., 2010).

The acceptance of H1 means that, on the one hand, when volunteers obtained a sense of relatedness and strengthened ideological social relations, their perceived satisfaction of voluntary service was enhanced. On the other hand, unfulfilled

intrinsic motivational factors will downgrade perceived level of satisfaction. However, the influence of IMF on MES is not that substantial as external attractiveness, which was proved to be the most influential factor in generating volunteer satisfaction.

MSE volunteering is capable of creating reciprocal intrinsic rewards, enhancing self-identity, strengthening self-esteem as well as improving socializing abilities. Through the on-site interaction with community residents, athletes and volunteer organizations, MSE volunteers fulfill their commitments for performing civil responsibilities, such as helping the handicapped and assisting with charitable institutions (Raymond & Hall, 2008; Wearing, 2001). For the majority of student volunteers researched in this study, sports events were invaluable in the provision of chances to involve in globally appealing events that daily campus life may not be able to facilitate. Pleasant volunteering experiences lead to high level of perceived satisfaction, which will in turn stimulate sustained helping behavior.

#### 4.8.2.2 Research Question 2: Relationship between Volunteers' Self-reported Altruism and Perceived Level of Satisfaction

Hypothesis 2 was designed to address research question 2. H2 proposes that MSE volunteers' altruistic need fulfillment has a positive effect on satisfaction. This hypothesis was also fully supported due to a significant path loading of 0.173 ($p<0.001$). Items A1, A4, and A5 showcased significant standardized regression coefficient of 0.718, 0.641, and 0.834 respectively, with p-values below 0.001. However, compared with IMF and PEA, SAF turned out to be the least influencing exogenous variable because of the smallest path loading of 0.173. Therefore, fulfillment arising from altruism plays a fairly limited role in fostering volunteer satisfaction, even though SAF still positively impacts on MES in small power.

It can be concluded that the influence of altruism fulfillment on MSE volunteer satisfaction is not potent. In other words, altruism is not an important stimulant for MSE volunteering. Focusing on the needs of others (Unger, 1991), altruism is insignificant in influencing satisfaction if volunteers pursue more self-motive fulfillment than prosocial benefits in philanthropic behavior. The results also imply that when compared with intrinsic motivation and external stimuli, altruism becomes trivial in volunteers' decision making, and thus volunteering organizations should

exert more emphasis on improving intrinsic motivation and perceived external attractiveness in their efforts towards maintaining sustained volunteer human resource.

The multi-dimensionality of the beneficiaries of volunteering also indicates that altruism may not be the leading factor to drive voluntary behavior. Cnaan et al. (1996) highlighted that the wide range of volunteering activities' beneficiaries include both those who loosely relate to volunteering such as community members, and people who are closely related, e.g., relatives and colleagues. Therefore, it is reasonable that altruism behavior leads to other beneficiaries' satisfaction, not necessarily self-satisfaction.

One finding during the on-site interaction with Universiade volunteers can also explain the less influencing power of altruism, which is "BEING VOLUNTEERED" (被志願), the most unexpected word heard during the field survey. "BEING VOLUNTEERED" refers to the transition from unwillingness or hesitation to finally enroll as volunteers. To some of the respondents in this study, the persuasion from superiors or instructors triumphed over their initial indifference or reluctance towards volunteering. In this case, neither intrinsic motivation nor altruism was more

influencing than external reasons to encourage voluntary behavior. Regarding the confession of "BEINING VOLUNTEERED", Some Universiade volunteers stated as follows:

> "The majority of my classmates applied for voluntary positions, but initially I didn't. But my instructor kept calling me asking why I didn't apply, until I agreed to participate"; and "I felt I would be excluded from my community if I didn't volunteer"; or "All of the other officers in my department participated; if I escaped, I may risk being disparaged by my boss".

#### 4.8.2.3 Research Question 3: Relationship between Volunteers' Perceived External Attractiveness and Perceived Level of Satisfaction

Hypothesis 3 assumes that there exists a positive relationship between MSE volunteers' perceived external attractiveness and their overall level of satisfaction. The parameter estimation confirmed that the relationship between external attractiveness and volunteer satisfaction is statistically positive, with a robust path loading of 0.712 ($p<0.001$), thus proving that PEA is the most influential exogenous variable in composing MSE volunteer satisfaction. The survey did found that MSE volunteers actively responded to exterior appeals such as media promotion/advertisements and USZOC's international fame and trustworthiness, and were eager for complementary training opportunities.

External attractiveness can be both observable and underlying. Clearly enough is that volunteer training material, the invaluable opportunities to experience the magnificent event, and the widely accredited reputation of USZOC all attracted volunteers' interest. The good accessibility of advanced accommodation, communication, and transportation in the Athletes' Village also served as external contributory factors. Furthermore, cooperation with contact sponsors, partners and event stakeholders provided volunteers with good chances for seeking occupations.

#### 4.8.2.4 Research Question 4: Relative Degrees of Influence of Intrinsic Motive Fulfillment, Self-report Altruism Fulfillment, and Perceived External Attractiveness on Volunteers' Overall Satisfaction

Figure 4.4 displays the effect of each of the three exogenous variables in terms of their relative impact on perceived level of satisfaction. The SEM model was proved to all the hypothesized relationships in the structural model, with exogenous variables highly predictive of endogenous variables. Path analysis revealed that PEA has a much stronger positive direct effect on volunteer satisfaction than IMF and SAF, thus PEA is the most influencing exogenous variable and the strongest predictor of volunteer satisfaction among all the latent variables.

#### 4.8.2.5 Research Question 5: The Impact of Volunteers' Level of Satisfaction on Their Intention to Participate in Future Voluntary Activities

As hypothesized in H4, the higher the level of MSE volunteer satisfaction, the greater their intention to volunteer in future MSEs. SEM analysis suggested a positive and highly significant relationship ($p<0.001$) between MSE volunteer satisfaction and intention to volunteer in future opportunities, hence the last hypothesized relationship between MES and FPI was fully supported in the structural model. Therefore, there was evidence to conclude that the more satisfaction MSE volunteer perceived, the more likely they will participate in volunteer programs in the future. It could also be surmised, common to consumer behavior research, that satisfaction from previous and/or current voluntary experience could predict future volunteering behavior. In other words, a key determinant in sustaining volunteer capital is enhanced satisfaction.

The basic volunteer organizational format for MSEs in China is governmental initiation, complemented by civic participation. MSE volunteers are temporarily recruited, organized and trained when an event approaches, and then are usually disbanded after the event. A noticeable lack of sustained volunteer participation makes the transfer of trained volunteers from one sports event to another implausible.

Back-up volunteer personnel is severely needed to reduce training costs and decrease the consumption of materials and human resources. Since the first step towards sustained volunteering is MSE volunteers' perceived satisfaction, it is essential for event organizations to enhance volunteer satisfaction through optimizing volunteer projects and improving daily management in order to increase MSE volunteer participation intention.

As a summary of section 4.7.2, structural analyses confirmed that observed path relationships among exogenous and endogenous variables were consistent with what was anticipated in the theoretical framework. The three exogenous variables -Intrinsic Motive Fulfillment (IMF), Self-reported Altruism Fulfillment (SAF), and Perceived External Attractiveness (PEA) -were all positively associated with MSE Experience Satisfaction (MES), whilst MES was strongly predictive of Future Participation Intention (FPI). Comparatively, SAF turned out to be the least influential factor in stimulating volunteer participation, with the weakest path loading manifested.

### 4.8.3 Model Fit Indices

The next step involves obtaining the goodness-of-fit statistics and modification indices (MIs). The most straightforward way of improving the model is to add path between error terms based on MIs generated in AMOS with appropriate theoretical support (Hair et al., 2010). Figure 4.4 displays that some error terms under the same construct were added two-headed arrows to express correlations. This modification practice is theoretically rational, as in a reflective model, items under the same construct are possible to be inter-correlated. The direction of causality is from latent variables to the observed variables (Jarvis, Mackenzie, & Podsakoff, 2003). As with the measurement model, CFI, GFI, NFI, and RMSEA of the hypothesized model were reported, as illustrated in Table 4.8.

It could be observed from Table 4.8 that CFI, GFI, RMSEA, and NFI all demonstrated ideal model fit, while the parameter of chi square divided by degree of freedom was not satisfactorily enough to fit the guideline.

**Table 4.8 Model Fit of Structural Model**

| Construct Standard | Index | Fit Guideline |
|---|---|---|
| $\chi^2$/ *df*, p-value | $\chi^2$=1024.946, *df*= 155, $\chi^2$/ *df*=6.503 p<0.001 | $\chi^2$/ *df*: 1 to 3 |
| **CFI** | 0.930 | >0.900 |
| **GFI** | 0.904 | >0.900 |
| **RMSEA** | 0.074 | <0.080 |
| **NFI** | 0.918 | >0.900 |

## 4.9 Summary

Chapter 4 presents statistical justifications for the scales used in CFA and SEM analyses, as well as significant evidence to support the four research hypotheses established in Chapter 2. Details of data screening, and descriptive and demographic analysis of respondents' profile are presented. The validity and reliability are confirmed, after which the measurement model and the structural model are also established.

More specifically, the positive relationship between intrinsic motivation and satisfaction has been proved. Likewise, altruism also positively impacts on satisfaction, albeit with a relatively small power. Among the three exogenous

variables, external attractiveness is the most influential factor in generating volunteer satisfaction. Furthermore, sustained volunteering behavior can be predicted by volunteer satisfaction due to the heavy path loading between satisfaction and intention to participate in future volunteering opportunities.

The next chapter discusses the ramifications of these statistical findings in greater detail. Limitations of this study and directions for future research are also provided.

# CHAPTER 5 DISCUSSION

## 5.1 Introduction

This chapter discusses the findings with reference to selected research on volunteering, event management, human resource management in the context of event study, and non-profit organizations (NPOs), etc. It serves to compare and contrast the findings with literature to display commonalities and differences, meanwhile offering explanations on the particular findings this research generated. The discussion follows the sequence of the five latent variables in the conceptual framework (Figure 2.2). As practical implications of this study, suggestions and feedback from local residents and volunteers during the Universiade SHENZHEN 2011 are summarized for future sports event organizations.

## 5.2 Appreciation of Intrinsic Motivation

The test of the first hypothesis confirmed the positive correlation between MSE volunteers' intrinsic motive fulfillment and perceived satisfaction. Of the three types of intrinsic motives - autonomy, relatedness, and competence (Roca & Gagne, 2008), competence was deleted in instrument development because Boezeman and Ellemers (2009) proved the statistically insignificant correlation between competence fulfillment and volunteer satisfaction. However, the current study revealed that

autonomy and relatedness were highly statistically significant in constituting volunteer satisfaction, and MSE volunteer organizations should care for these needs to create sustained volunteer capital. This finding was supported by previous researchers like Allen and Shaw (2009), Elstad (1996), and Kim and Trail (2007). To illustrate, Allen and Shaw (2009) concluded that opportunities to expand social network stimulate the formation of volunteer satisfaction. Furthermore, Kim and Trail (2007) investigated 515 sport volunteers and reported that empowerment explained 13.5% of the variance in intention to continue volunteering; the 13.5% is not a low percentage when taking into account of the various social-cultural factors affecting volunteers' behavioral intention. This study echoed these previous findings and concluded that empowerment and facilitation of enhanced social relationships can lead to volunteer satisfaction, and create loyal and constant volunteer base.

### 5.2.1 Bestowing Empowerment

In many ways, volunteer empowerment is similar to employee empowerment; core differences lie in the absence of payment. Volunteers are usually un-paid workers, having almost no materialistic rewards or financial benefits. Employee empowerment is depicted as "enabling or authorizing employees to make decisions to solve guest issues by themselves" (Ro & Chen, 2011). Nevertheless, volunteer

empowerment is more connected with enabling volunteers to provide voluntary service or perform responsibilities while respecting their autonomy motivations. Regarding the essence of volunteer empowerment, Allen and Shaw (2009) concluded that "creating an autonomy supportive motivational climate is about providing choice and opportunities for volunteers to have input in their roles" (p. 88).

Notably, enabling volunteer empowerment is a key element in MSE volunteer program design, volunteer supervision and retention. Similar to general volunteers who are engaged in environmental preservation, feminism promotion, or community development, MSE volunteers also require flexibility in self-government, self-decision, and expressions of their personal views. Twelve respondents in this study reported dissatisfaction when having no right to choose their serving positions and/or serving hours but being assigned the posts by superiors. In contrast, when MSE volunteers could decide for themselves within the domain of organizational approval, they believed it was worthwhile to donate their leisure time even at their own costs. Therefore, empowerment is meaningful for volunteer organizations to create satisfaction and intention towards sustained commitment.

Bestowing appropriate power and responsibilities to volunteers will promote the

sense of esteem and boost working efficiency. Voluntary doctors in this study expressed that they acquired great gratification through manipulating emergency stations and tackling the events by applying their medical professionalism. From another perspective, the under-estimation of empowerment is deemed to limit the resourcefulness volunteers may contribute to sports events. As front-line communicators with event attendees, volunteers can provide timely feedback and recommendations as to improving organizational support for event success.

In summary, autonomy needs should be fulfilled by volunteer empowerment to enable self decision-making and idea-expression so as to maximize volunteer input, enhance perceived level of satisfaction, and encourage loyalty and motivation towards sustained participation.

### 5.2.2 Cultivation of Social Relatedness

According to the Self Determination Theory (Allen & Shaw, 2009; Deci & Ryan, 2002), the need for relatedness is as important to our psychological health as food, water, and shelter are to our physical health (Ryan & Deci, 2000). The importance of MSE volunteers' relatedness needs fulfillment was confirmed in this study, and the result is consistent with findings in prior studies.

The importance of connectedness/relatedness has been identified previously. For instance, Wearing (2001), in the context of volunteer tourism, mentioned that traditional tourist patterns provide fewer interpersonal encounters than volunteer tourism does. Chen and Chen (2011) indicated that one of the motivations for volunteer tourists is socializing with local people or fellow travelers, reaching out to community and interacting with local culture. As a form of serious leisure (Stebbins, 1997), volunteering in MSEs also serves the same function of fulfilling peoples' needs for social relatedness. Fairley et al. (2007), in their study of Athens Olympic Games volunteers, reported friendship as one essential motive for volunteers. Pavey, Greitemeyer, and Sparks (2011) also reasoned in their experiments that highlighting relatedness increases engagement and interest towards prosocial behaviors.

The relatedness motive fulfillment constitutes volunteer satisfaction. Volunteer organizations should highlight relatedness fulfillment in program design and daily management to satisfy this particular need. Volunteers in this study expressed a high level of satisfaction when they agreed that I1 "I got along well with other fellow volunteers", I2 "In the volunteer team, I knew some friends and feel happy for our friendships", and I3 "People in my volunteer team are pretty friendly to me". This feedback indicated that enhanced relatedness fulfillment indeed bring about

increased satisfaction. The expanded social relationships may also offer access to job hunting or chances to expose volunteers to intense professional opportunities.

By meeting regularly with a group of fellow volunteers with common interests and job categories, MSE volunteers develop interpersonal skills, acquire a stronger sense of confidence and self-esteem, thereby gaining greater momentum to develop more contacts. As contended by Pavey, Greitemeyer, and Sparks (2011), feelings of social relatedness also generate financial benefits for communities, for example, encouraging people to donate significantly more money to volunteer organizations or charities. Additionally, the researcher noticed out that romance incidents usually emerged among volunteers in their daily work.

### 5.3 The Pursuit of Altruism

The hypothesis testing in this study has proved that altruism serves as a statistically significant factor in explaining MSE satisfaction, even though the influence of altruism fulfillment is out-performed by intrinsic need fulfillment and external attractiveness. Opposite to egoism, the spirit of altruism leads to behaviors of giving back benefits to society. Altruistic motivations are based on concerns of "supra-personal nature" (Tomazos & Butler, 2012), and the importance of which has

been emphasized by previous researchers, for example, Bussel and Forbes (2002), Caldwell and Andereck (1994), and Wearing (2001). However, the results in this study differ from Caldwell and Andereck (1994) finding that volunteers' strongest motive is purposive/altruistic motive, probably due to different research settings and cultural backgrounds.

Rushton et al. (1981) quantified the degree of altruistic tendency by frequency and experiences of volunteer participation, using scales from "never" to "very often", and these scales were adopted in this study with revision. Respondents in this study reported that the more they offered help, the greater satisfaction they obtained. They felt mentally satisfied when they helped athletes or visitors by a series of purposeful and voluntary actions such as carrying their luggage, showing directions, and offering gaming timetables. Their altruistic behavior reflects a high level of civic awareness and the sense of reciprocity and prosociality.

Some researchers believe that altruism overlaps with self-development and pleasure-seeking in the complicated mix of volunteer motivations (Lyons, Hanley, Wearing, & Neil, 2012; Sin, 2009). However, the initial self-report altruism scales established by Rushton et al. (1981) contain no evaluation on self-improvement or

leisure issues. It is a pure item pool to assess altruism under various circumstances in daily life, such as giving seat to seniors or the handicapped on buses, pushing a stranger's car out of the snow, donating clothes to charities and even blood to hospitals. It should be noted that there is limited published altruism assessment scales particularly designed for event volunteers. The researcher, in this study, proposed measurement items based on the context of Universiade volunteering, and they are open to evaluation or further examination under diverse event settings.

### 5.4 Congruence between Volunteers and Organizational Appeal

The relationship between MSE volunteers and volunteer organizations is reciprocal, in that volunteers get valuable chances (e.g., career opportunities, social gatherings) from their organizations and volunteer input facilitates event success per se. In order to maximize the benefits of this reciprocal relationship, organizations should understand volunteers' intrinsic needs (competence, connectedness, and autonomy), increase organizational appeal, and help volunteers achieve self-enhancement.

Although previous research has proposed various types of external attractiveness that stimulate volunteers to participate, this study confirmed that family traditions of volunteering, materialistic or financial rewarding (e.g., souvenir packages,

complimentary tickets), and good accessibility of the host city are not the principal factors. Notably, organizational charisma turned out to be the most influencing external attractiveness. In addition, volunteers' perceived level of satisfaction is collectively influenced by factors like widely recognized reputation of an event's organizing committee, well-designed volunteer recruitment and training programs, as well as the willingness to live up to organizational missions.

The congruence between volunteer motives and volunteer organizations' attributes and incentives (Puffer & Meindl, 1992) was also reinforced in this study. If the objectives and goals of organizations correspond with volunteers' personal pursuit, volunteerism would be aroused. When community residences perceive the organizing committee as trustworthy and capable of fulfilling their expectations, they will show great enthusiasm to involve. Likewise, organizational work that fulfills volunteers' motivations will also enhance satisfaction. This finding echoes the "matching strategy" mentioned by Allen and Shaw (2009) of "adapting human resource management (HRM) processes to cater for, or match, volunteers' motives and satisfaction with tasks and thereby facilitate motivation and satisfaction and enhance performance and retention" (p. 80). Therefore, MSE volunteer originations should maintain a high standard in terms of organizational reputation, job

specification, training provision, recruitment and daily supervision to stimulate potential volunteers' personal attachment.

Respondents in this study did not perceive city infrastructure and accessibility as key concerns. This may be attributed to the fact that recent MSEs in China were all held in major cities like Beijing, Shanghai, and Guangzhou. Comparatively, these cities have international fame and superior infrastructure in terms of city transportation, communication systems, etc. Local community members are accustomed to the advanced city facilities. Moreover, experienced MSE volunteers who are non-locals pursue the unique experience of events themselves instead of being attracted by host cities.

Several suggestions were gathered from respondents on improving the organizational work of volunteer associations. Firstly, decentralized volunteer management system is preferred. Volunteer dissatisfaction accrued when fixed working hours and/or locations were directly assigned by superior leaders. This is consistent with Boezeman and Ellemers's (2009) conclusion that volunteers need autonomy and empowerment. Secondly, information exchange and interdepartmental coordination should be intensified to achieve rational resource allocation. Thirdly, designated

shuttle buses for deployment of volunteers among Athletes' Village and various sports arenas should work on time, especially before, during and after the opening and closing ceremony. It is because a long waiting time severely degraded volunteer satisfaction, leading to the perception of "unfit" with volunteer organizations. Lastly, balanced distribution of volunteers is necessary. For example, the researcher found that some U-stations suffered from personnel shortage, while others were badly overstaffed.

### 5.5 Volunteer Loyalty

Generally, loyalty refers to intention towards remaining involved within an organization (Hirschman, 1970). Oliver (1997) proposed the specific definition of loyalty as ''a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior" (p. 392). Volunteer loyalty affects the sustainability of human resource capital and the continuance commitment (Dawley, Stephens, & Stephens, 2005), as in many NPOs, volunteers largely outnumber paid employees. The extent to which volunteers remain loyal to NPO affects the effectiveness of service provision and thereafter the pursuit of

organizational mission.

MSE volunteer organizers constitute a particular category of NPOs that arouse extensive public enthusiasm, are temporarily established for fixed event duration and are usually dismissed in the post-gaming period. It is not uncommon that turnover rate with MSE volunteers is high. MSE volunteer organizers need to recruit, deploy and train volunteers whenever a new event takes place. Thus understanding factors fostering loyalty towards MSE volunteering is of crucial operational implications.

The result that perceived satisfaction with volunteering experience creates loyalty towards volunteering organizations and sustained participation is consistent with previous research (e.g., Wisner, Stringfellow, Youngdahl, & Parker, 2005), even though respondents in this study demonstrated different profiles in terms of age, household incomes, and educational level. It should be noted that in contrast to the stereotype of western volunteers being largely retired senior citizens (Wisner et al., 2005), the majority of Chinese MSE volunteers are youngsters. Wisner et al. (2005) reported the positive impact that satisfaction exerts on volunteer loyalty in an American context. Their findings echoed results in this study.

Event volunteers, a valuable legacy of MSEs, not only provide human resource support for future events, but could also serve as impetus for culture integration, citizenship enhancement, and social cohesion. Satisfied and loyal volunteers would encourage more volunteer involvement, thus the enlarged community-based volunteer pool could be utilized for public events like festivals, forums, seminars, street fairs, tickertape parades, and all sorts of sporting, cultural and art events.

## 5.6 Rethinking Volunteer Feedback

The aims of this section are: first, provide managerial implications to help MSE volunteer organizations deepen their understanding of volunteers' needs and improve management strategies; and second, re-consider issues that have stirred up debates during and/or after the Universiade from the volunteers' and the general public's perspectives. Through onsite interactions and the open-ended questionnaire survey, the researcher obtained a series of constructive feedback. Consequently, a total of five points are summarized in the following paragraphs.

### 5.6.1 Post-event Reutilization of Event Facilities and Infrastructure

Unsustainable usage of event functional buildings usually causes discontent, especially in developing countries where MSEs usually serve as catalysts for

infrastructural improvement and transformation (Essex & Chalkley, 2003). The strategy of post-event facility utilization has attracted civic attention in China even before the 29th Olympic Games. Although the Athletes' Village for the Universiade SHENZHEN 2011 (also called the Universiade Village) has already been transformed into teaching and learning areas of Shenzhen Polytechnic College, some concerns on facility reutilization still emerged. For instance, the four zones[12] in the Athletes' Village do not provide teaching-related facilities or educational equipments. Hence, discrepancy arose as to whether those event-oriented buildings can fulfill the college's educational needs in post-event period. Some local citizens and volunteers argue that certain event programs should be reallocated to nearby cities with mature facilities, instead of investing large sum of money to build brand new gaming fields.

### 5.6.2 Humanitarian Respect and Support

Some volunteers could not receive timely help and support when difficulties occurred. Summer seasons are the active periods of red ants. Volunteers in one U-station were attacked by red ants and asked for help from their superior executives, however, no solutions were provided until one week later. Doubtlessly, more humanitarian understanding and support are preferred, even though incidents like

[12]The four zones in the Universiade Village are the Operational Zone, the International Zone, the Residential Zone and the Logistics Zone, divided by function and security level (http://www.sz2011.org/Universiade/univervill/functplan, 2011)

this are not very common. Volunteer welfare package should also be guaranteed at the managerial/organizational level, such as personal accident insurance (mainly during working hours) and medical care package.

### 5.6.3 Volunteer Training and Recruiting

An important aspect of value-based volunteer management is conducting trainings that both shares information and skills, and develops a quality relationship among the volunteer manager and volunteers (Resource center of Tools and Training for Volunteer and Service Programs, 2002). When instructor's speech dominates training, it is understandable that volunteers may find it boring. Thus the traditional means of knowledge transfer should be supplemented with more interactive activities. The researcher found that when being asked what was the most memorable outcome of training session, most respondents answered "our cooperation spirit was fostered, which I valued very much", "relationships with my volunteer colleagues became strengthened", and "I got to know my team members well, and established good relationships". Respondents also admitted that some of the volunteer training sessions were impractical and didn't improve their personal skills saliently. Several training sessions were held at evenings of workdays, occupying personal leisure time.

Therefore, the timing of training sessions should be well handled to avoid affecting volunteers' private life.

### 5.6.4 Budget Allocation

Regarding the infrastructure enhancement of the Universiade, feedback from volunteers and local residents is overall positive and constructive, yet there also emerged some notably negative comments. While local residents appreciated improved tangible assets such as subway lines and sports arenas, some regarded that the bidding process of the Universiade took immerse expense, greatly consuming local fiscal revenue and leaving little positive intangible legacies. A bigger proportion of private investments and the public fiscal revenue should be channeled to enhance athletes' sporting achievement or to improve national health-building facilities and physical education, etc.

### 5.6.5 Food Supply

Complimentary food supply, as a basic type of volunteer incentive, should be carefully manipulated. Several respondents complained about the lunch box (provided by a local supplier), the quality of which was inferior to that of products sold in its outlets. Some even claimed that they won't purchase food from this

supplier any more. Furthermore, delay in food delivery was also noticeable. It degraded volunteer satisfaction substantially. Additionally, it was suggested that there should be a fair selection of service suppliers.

## 5.7 Scientific Novelty of the Research

This study illuminates theory on event study from several perspectives. A theoretical breakthrough lies in the establishment of a new model of determinants and antecedents of MSE volunteer participation in MSE contexts (Figure 2.2). To the author's knowledge, this is the very first investigation simultaneously involving intrinsic motivation, altruism, and external stimuli (the three exogenous variables in the conceptual framework) in assessing volunteer satisfaction and intention towards future involvement. The findings add to knowledge on event volunteer study by uncovering the combined effect of the three exogenous variables. Additionally, existing measurement items have been advanced and refined to fit in the context of this study, meanwhile enriching the current instruments. Section 6.3.1 in Chapter 6 is paraphrased to highlight the theoretical contributions this study makes.

## 5.8 Summary

This chapter reviews findings relating to hypotheses in Chapter 4. Structural relations among MSE volunteers' intrinsic need, altruism, external stimuli, and satisfaction are discussed. A succinct review of findings from on-site interactions with volunteers and local residents is also presented. These observations and reflections contribute to the understanding antecedents of volunteering in MSEs; the study also provides a roadmap for volunteer program managers to establish and maintain a constant and active pool of volunteers at the organizational level. Suggestions proposed in this chapter will be helpful for volunteer organizations to improve their training and development initiatives for future events.

# CHAPTER 6 CONCLUSION

## 6.1 Introduction

The first chapter of this thesis introduces the extant formulae used to define volunteer and volunteering activities in MSEs, benefits of volunteering to the success of MSEs, as well as the sports achievements accomplished by Chinese in recent years. The paucity of research on MSE volunteering in the context of China is pointed out. Then, from a psychological and social-cultural perspective, an extensive review of the dimensionality of the antecedents of volunteering commitment is presented in Chapter 2. Three categories of components of volunteer satisfaction: motivational fulfillment, pure altruism, and external attractiveness are identified and postulated as three exogenous variables. Collaborating with perceived satisfaction and behavioral intention, the five latent variables of the conceptual framework are determined. Process of case selection and methodology are described in Chapter 3. Sampling method is location-based convenience sampling, and data analytical techniques are SEM using AMOS 18.0 and descriptive statistics by SPSS 18.0. Hypotheses testing in Chapter 4 support each of the four hypotheses, and both the measurement model and structural model express satisfactory model fit. Most importantly, the study demonstrates that external attractiveness serves as the most

influencing factor in generating volunteer satisfaction. Furthermore, there exists a positive and statistically significant relationship between volunteers' perceived satisfaction and future participatory intention.

Since this study serves as the very first attempt to identify the antecedents of MSE volunteering in the Chinese context, contributions lie both in illuminating the event theory by establishing a new SEM model and in establishing research instruments. In this chapter, theoretical as well as practical implications are deliberated. Inevitably, as in other survey-based research, this study involves possible limitations which are proposed at the end of this chapter. Empirical suggestions for future research are also provided.

## 6.2 Summary of the Research

The number and scale of mega events to be held in China will continue to grow in the years to come, so will the demand for mega event volunteering. The demand for voluntary resources in increasing, thus in the pursuit of sustained volunteer participation, it is highly necessary to understand MSE volunteering antecedents. The Universiade SHENZHEN 2011 occurred at a time when nationwide

governmental and civil enthusiasm for MSEs culminated, thus it is a good chance to explore motivational and social-cultural factors to understand contributors of MSE volunteer satisfaction and to determine ways to predict sustained volunteering.

The study draws on the data collected during the Universiade SHENZHEN 2011 to examine relationships amongst antecedents of MSE volunteering. The study subjects (n = 1,024) were recruited from Universiade volunteers working at U-stations, the Athletes' Village, and different sports venues. Methods and findings in the pilot study are first discussed, with a few revisions in the main survey instruments. The researcher's observations and onsite interactions with volunteers complement to the interpretation of the statistical results generated by SEM. It is revealed that intrinsic motivation fulfillment, altruism fulfillment and external attractiveness collectively constitute perceived level of satisfaction, which leads to sustained voluntary involvements. In particular, external attractiveness showed the greatest influence on satisfaction. Intrinsic motive fulfillment and altruism fulfillment also cause perceived satisfaction. The two correlation analyses addressed the relationship between MSE volunteers' leisure time and length of volunteering service, as well as the association between satisfaction and length of service. The results suggested that duration of volunteering varies by the leisure time of the volunteers, but level of satisfaction is

not significantly related with volunteering duration.

It is concluded that MSE volunteer organizations can maintain volunteer participation if due implementations could be performed to enhance organizational appeals and external rewards items, etc. Future MSE volunteer organizations should seek high prestige, optimize the allocation of human capital, and design attractive programs to meet volunteers' intrinsic and altruistic needs.

## 6.3 Contributions of This Study

The section details theoretical and managerial contributions this study generates. This research makes several significant contributions to the academic literature and management practice with respect to modeling the antecedents of MSE volunteering. Theoretically, empirical research on MSE volunteering is initially extended to the Chinese context. Results from this study enrich the knowledge on sports events involvement, illuminating theory on volunteer motivation, altruism, perceived satisfaction and sustained event volunteer participation. Practically, a series of managerial recommendations are put forward for volunteer organizations in upcoming sports events, for example, the 12$^{th}$ National Games of the People's

Republic of China[13] and the 2014 Nanjing Youth Olympic Games[14]. The structural analysis of Chinese sports volunteer motivation, satisfaction, and behavioral intention can deepen the understanding of determinants of sports volunteer involvement, thus contributing to organizational strategies in volunteer recruitment, program planning and on-site supervision. The ultimate goal of volunteer management is to maximize perceived satisfaction and to secure specific groups of people for higher levels of voluntary involvement and persistence.

### 6.3.1 Theoretical Contributions

This study contributes to the growing knowledge of event volunteer motivation and intention theory by validating a more comprehensive model for understanding the key determinants of MSE volunteer participation and expanding the current research instruments on event studies. To be specific, three categories of precedent factors constituting MSE volunteer satisfaction are identified, and a new perspective of research onto Chinese MSE volunteering using SEM initiated. This study not only tested the applicability of those well-established theories in a Chinese MSE context (e.g., self determination theory, volunteer function inventory, self-reported altruism

13 The 12th National Games of the People's Republic of China will be held in the northeastern province of Liaoning in 2013. Liaoning will be the 6th provincial level host of the games, following Beijing, Shanghai, Guangdong, Jiangsu and Shandong.

14 The Youth Olympic Games (YOG) follow the Olympic format of staggered summer and winter games. The 2014 Nanjing Youth Olympic Games is going to be held during16-28 August 2014.

scale), but also investigated the combined and interactive influence of intrinsic motivation fulfillment, altruism fulfillment and perceived external attractiveness in generating volunteer satisfaction. To the author's knowledge, no published research has incorporated the joint effect of these three dimensions in testing antecedents of Chinese volunteering before this study. Hence, the inclusiveness of intrinsic motivation, altruism and perceived external attractiveness in one conceptual model is highly innovative and complementary to the literature on event volunteer research, while narrowing the gap on the prerequisites of MSE volunteering.

Specifically, theoretical contributions of this study are summarized as follows.

Firstly, in a holistic view, the construction of a more comprehensive path diagram simultaneously addressing altruism, intrinsic factors and external stimuli is strictly implemented. This study is based on the conceptual model of determinants and antecedents of volunteer participation in a MSE context (Figure 2.2) proposed in Chapter 2. Both the measurement and the structural model are validated and established, utilizing revised items from existing literature and new ones generated in the focus group discussions. In interpreting the structural model, relationships among MSE volunteers' motivation, altruism, external attractiveness, satisfaction and future

participation intention are elaborated on. The findings correspond with previous research (e.g., Allen & Shaw, 2009; Roca & Gagne, 2008; Strigas & Jackson, 2003 and others) in that: (1) the positive influences of intrinsic motivation and external attractiveness on volunteer satisfaction are reconfirmed; and (2) the causal relationship between volunteer satisfaction and intention towards sustained involvement is also affirmed with strong statistical and empirical evidence.

Notably, this study offers diverse insights into the traditionally assumed role of altruism in the sports event volunteering context. Haski-Leventhal (2009, p. 271) noted that "although there is some review on altruism and some on volunteerism, surprisingly there is no review which binds the two". In response to narrow the gap, this study analyzes altruism in an authentic Chinese mega event volunteering context and reaches the illuminating conclusion that fulfillment of altruism is not the leading component of perceived satisfaction for Chinese youth volunteers.

In fact the role of altruism is statistically significant but not salient. Compared with external stimuli and intrinsic motivation, fulfillment of altruism appears much weaker in constituting volunteer satisfaction, although western researchers (e.g., Cnaan & Goldberg-Glen, 1991 and others) concluded that volunteers' most highly

rated motives are altruism-related. This discrepancy between Chinese volunteers and their counterparts in other countries may be due to different stages of social civilization and various effects of authorizing promotion. In the 1960s and 1970s, the Lei Feng spirit inspired great public excitement to help others and serve society out of no expectation for rewards. In recent years, by contrast, mega events' huge attractiveness overshadows pure altruist motives, especially considering the world-renowned reputation of event organizing committee and the vivid media coverage on the excellence of sports volunteers in previous mega events.

Echoing Holmes and Smith' (2009) statement that volunteering reflects a reciprocal relationship, this study does reveal that external rewards (e. g., chances to expand career/social networking, nation-wide recognition, and extra credit) are expected by volunteers when they are contributing their time and efforts without payment. Organizational-specific factors are most effectively active in arousing initial event volunteering.

Secondly, this study complements to the existing research methodology (e.g., research instruments and model specification) on MSE volunteer motivation, satisfaction and behavioral intention. Established research instruments by previous

researchers (e.g., Clary et al., 1998; Kim et al., 2010 and others) are selected and further amended by expansion or reduction to better reflect the organizational context of the Universiade SHENZHEN 2011. All of selected items are tested in the focus group discussions for revision. Accordingly, all of items in this study bear high validity and reliability, broadening the availability of instruments in event research, as well as confirming that volunteer function inventory and the altruism theory can address the antecedents of volunteering phenomenon in China.

New instrument items generated in the focus group discussion enrich the existing research instruments and introduce the distinctive character that MSE volunteer expresses. In particular, items under the construct Perceived External Attractiveness (PEA) produce the strongest path relationship, showcasing the highly contributory role of external stimuli.

Thirdly, relationships among volunteers' leisure time, length of service, and satisfaction are explained, supplementing to existing knowledge on serious leisure and sport volunteering. Unger (1991) and Stebbins (1996) both noted that leisure time is a proposition for volunteering. This research confirms that the more discretionary leisure time people have, the more propensity they will express towards

volunteering. As can been seen from the data analysis chapter, one of the demographic characteristic of the sample is that 91.0% of the respondents fall into the age range of 18-28 and 89.8% bear a university degree. This finding is readily understandable because the gaming duration of the Universiade Shenzhen 2011 is 12-23 August 2011, the period of which is coincidently within the summer vacation. The long summer break makes university students' volunteering possible and feasible. Enrolling in the Universiade volunteer team is indeed a rewarding and meaningful choice for university students, in that they can get extra credit, invaluable internship experience, highly appreciated service certificate and others. Local enterprises in Shenzhen also prefer job seekers with service experience in this Universiade.

### 6.3.2 Managerial Implications

Many volunteer organizations in nonprofit sectors could not survive without volunteers' joint effort because continuance commitment of volunteers performs as an indispensable contributor to event success (Finkelstein, 2008). Effective volunteer recruiting and retention are key concerns for events (Finkelstein, Penner, & Brannick, 2005), but they are not easily manipulated. The first step towards effective volunteer

management is to know their motivation and the factors that lead to perceived satisfaction. From the managerial perspective, two major implications of this study are summarized in the following paragraphs.

Firstly, this study echoes the "matching strategy" proposed by Allen and Shaw (2009), Calry and Snyder (1999) and others. Matching strategy suggests that volunteer work should take into account volunteers' capability, needs and expectations. Understanding the reason why people show great interest in volunteer commitment can facilitate organizers' recruitment, program specification, and help organizers combine volunteer needs with appropriate work categories (Allison, Okun, & Dutridge, 2002). If an MSE volunteer's responsibilities and roles are unclear or cannot match their motivation, she/he may become frustrated and eventually quit the job. This study provides empirical evidence to support the matching strategy, which is a consistent recommendation for volunteer organizations.

Findings from this study contribute to the understanding of the distinctive roles that volunteer motivation fulfillment, altruism, and perceived external attractiveness play in affecting volunteer satisfaction and intention. Significant roles that autonomy and relatedness play in fostering volunteer satisfaction are highlighted, thus the volunteer

program design should fulfill these psychological needs by empowering more self-determination rights and teamwork communication opportunities.

Four major categories of external stimuli should be further strengthened by organizations. To be specific, organizing committee's worldwide reputation and advanced managerial mechanism can earn the trust of prospective participants. Accordingly, more fund and efforts should be channeled to secure organizational charisma, especially in the recruitment and training circle. Volunteers' dietary standard should be further upgraded, since dissatisfaction caused by poor-quality food supply reduces perceived satisfaction severely. Complimentary souvenirs, as a basic type of volunteer incentives, have strong appeal to volunteers and are the carrier of the memorable service experience. Moreover, advertisements on city folklore, infrastructure and accessibility can also add to the good image of a mega event host city.

Secondly, this study has confirmed that volunteers who have satisfied their motivational needs and enhanced their specialist expertise will commit more wholeheartedly in future sports events, hence the priority of MSE volunteering organizations is to enhance volunteer satisfaction. MSE volunteers are a special

category of human resources, and could easily lose their interest and quit their volunteering job, which is totally different from quitting the duties and privileges appertaining to paid occupations (Holmes & Smith, 2009). One of the possible reasons is their economic dependence on the event organization. Any misunderstanding or ignorance of MSE volunteers' motivation and satisfaction could be catastrophic for event human capital retention. Therefore, volunteer programs should be designed as rewarding, worthwhile and fulfilling in order to sustain commitment.

The appropriate employment of volunteers in commitment that can match their motivation will enhance their perceived level of satisfaction, thereafter sustain prolonged volunteering (Esmond & Dunlop, 2004). Costa, Chalip, Green, and Simes (2006) pointed out that recruiting and maintaining volunteers are emerging needs for organizations to enhance volunteer satisfaction, since some MSEs are recurring rather than one-off events. Thus in order to create sustained volunteering, organizations should improve strategies in volunteer trainings, personnel allocation, and delivering rewards in order to enhance perceived level of satisfaction.

Capitalizing on the momentum that Beijing Olympics and Shanghai World Expo generated, USZOC did an excellent job in getting volunteers involved, and its organizational appeal and advertisement played a major role as a source of external stimulation. In the upcoming 12th National Games of the People's Republic of China and the 2014 Nanjing Youth Olympic Games, the organizing committees should advance their effectiveness in regulating role specification, controlling volunteer recruitment and training to meet volunteers' expectations. The comprehension of volunteers' motivation, altruism, and satisfaction are fairly significant not only to the development of MSE volunteering, but also to the civilization of an ever-developing nation.

## 6.4 Limitations

This study serves as an initial attempt to investigate Chinese MSE volunteers' motivation, satisfaction and future participation intention. Although the findings narrow the gap on antecedents of MSE volunteering, limitations are inevitable as discussed in the following sections.

### 6.4.1 Lack of Comparison with Previous MSE Volunteering Studies in China

It should be noted that a great number of Chinese volunteers who previously participated in volunteer service during the 29th Olympics express great interest in volunteering for the 2010 Asian Games. The perceptions of previous voluntary experience may to some extent influence volunteers' intention towards sustained participation. Those with satisfactory experience prefer to commit longer and more deeply in current and future events; they may even encourage relatives or colleagues to participate, thus creating ongoing voluntary momentum. From this perspective, a comparison study is preferred, especially with related findings of MSE volunteers in previous events (e.g., the 29th Olympic Games). However, this study serves as the very initial attempt to examine Chinese MSE volunteer behavior. The scarcity of research into Chinese MSE volunteers in previous sports events leaves no platform for comparison, making the findings of this study open to comparison by future researchers.

### 6.4.2 Sampling Limitations

This research employed non-probability sampling. Because of research funding constraints, uncontrollable working hours and scattered working stations of volunteers, location-based convenience sampling was adopted with due respect to

volunteers' willingness to participate in the survey. The sampling design might limit the generalizability of the research findings. Besides, certain demographics of the sample (e.g., age, occupation and others) may not be fully representative of the general/overall volunteer population and, least of all, of census population.

## 6.5 Directions for Future Studies

This study modified and tested selected research instruments on volunteer motivation (e.g., Boezeman & Ellemers, 2009), altruism (e.g., Rushton, Chrisjohn, & Fekken, 1981), satisfaction (e.g., Farrell, Johnston, & Twynam, 1998), intention (e.g., Hidalgo & Moreno, 2009), and external attractiveness (e.g., Strigas & Jackson, 2003). The model produced satisfactory fit indices and valid indicators. But the vast literature on event and volunteer research may enable alternative measurements which may equally address the similar research objectives. Future studies could explore replacements of measurement scales or instruments in the same research domain. Given that the overwhelming majority of published research on MSE volunteering was conducted in western contexts, measurements and instruments built on previous studies need to be adjusted or refined before being implemented in the Chinese context. Furthermore, data collection for this research relied almost

exclusively on SAQs. To address the proposed research questions, the study instrument can be expanded in terms of social demographics and other related psychological factors, especially those that may affect motivation and satisfaction. In addition, a comparative study to examine behavioral characteristics of Chinese volunteers versus volunteers from a different cultural/ethnic background could also be an interesting and worthwhile topic in future event studies.

## 6.6 Summary

In this chapter, discussions and implications of the study are presented to establish the contributions this investigation has made. In brief, intrinsic and altruistic rewards obtained from voluntary commitment contribute to satisfaction; while external attributes influence volunteer satisfaction most saliently. The higher the level of satisfaction volunteers perceive, the more likely they will participate in future MSE volunteering. The implications are important to organizational bodies in the provision of a new model to identify factors that influence MSE volunteer satisfaction and participation intention. Limitations and recommendations for future research are also discussed.

# APPENDICES

**Appendix I: Questionnaire Sample (English version)**
**Appendix II: Questionnaire Sample (Chinese version)**
**Appendix III: Profile of Focus Group Participants**
**Appendix IV: Venue Distribution of Universiade SHENZHEN 2011**

# Appendix I: Questionnaire Sample (English version)

School of Hotel & Tourism Management 酒店及旅遊業管理學院

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

## VOLUNTEER SURVEY ON THE UNIVERSIADE SHENZHEN 2011

Dear volunteers,

The School of Hotel and Tourism Management (SHTM) at Hong Kong Polytechnic University is conducting a study on Mega Sport Event (MSE) volunteers in the Universiade SHENZHEN 2011 to understand MSE volunteers' motivation fulfillment, level of satisfaction and future participation intention. We would be very grateful if you would complete this questionnaire. Your participation in our investigation will be highly appreciated. Please kindly return this questionnaire after filling it.

Anonymity is guaranteed and your answers will be treated confidentially.

### SECTION A: EVALUATION OF VOLUNTEER MOTIVATION, ALTRUISM AND PERCEIVED ATTRACTIVENESS OF MSE VOLUNTEERING

**1. Intrinsic motivation is the basic driving force of volunteering activities. Please tick the box that summarizes how much you agree or disagree with the following statements:**

| | **Totally disagree** | **Disagree** | **Neutral** | **Agree** | **Totally agree** |
|---|---|---|---|---|---|
| I get along well with other volunteers in my volunteer work. | 1 | 2 | 3 | 4 | 5 |
| People in my volunteer work are pretty friendly towards me. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| In the volunteer team, I knew some friends and feel happy for our friendships | 1 | 2 | 3 | 4 | 5 |
| I believe that I can make valuable contributions to the Universiade SHENZHEN 2011. | 1 | 2 | 3 | 4 | 5 |
| I'm free to express my ideas and opinions on the volunteer job. | 1 | 2 | 3 | 4 | 5 |
| I can have freedom of making decisions for myself during my voluntary service. | 1 | 2 | 3 | 4 | 5 |

**2. How often have you helped people in the following ways?**

| | **Never** | **Once** | **More than once** | **Often** | **Very often** |
|---|---|---|---|---|---|
| I have given directions to an attendee or other people during the Universiade. | 1 | 2 | 3 | 4 | 5 |
| I have helped carry an athlete's or other people's belongingness in this Universiade. | 1 | 2 | 3 | 4 | 5 |
| I have done volunteer work for a charity before the Universiade. | 1 | 2 | 3 | 4 | 5 |
| I have helped people without being paid. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| I have offered to help an athlete, the handicapped or the elder in this Universiade. | 1 | 2 | 3 | 4 | 5 |

**3. Below are a number of statements about the external attractiveness prior or during your volunteering session, please tick the boxes to indicate how much you agree or disagree with each statement.**

| | **Totally disagree** | **Disagree** | **Neutral** | **Agree** | **Totally agree** |
|---|---|---|---|---|---|
| I hope to continue my family tradition of volunteering. | 1 | 2 | 3 | 4 | 5 |
| Volunteering for this Universiade enables the organizational committee to provide more services for less money. | 1 | 2 | 3 | 4 | 5 |
| I adhere to the organizational committee's specific goals. | 1 | 2 | 3 | 4 | 5 |
| I respond to the organizing committee's call to be a volunteer for the Universiade. | 1 | 2 | 3 | 4 | 5 |
| Volunteers' souvenirs and badges will be part of the happy recollections of my voluntary service. | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| The host city SHENZHEN has good accessibility and the city folklore and custom are attractive to me. | 1 | 2 | 3 | 4 | 5 |
| The organizing committee of the Universiade (USZOC) enjoys good fame and is highly trustworthy. | 1 | 2 | 3 | 4 | 5 |
| The recruitment and training procedure of USZOC are satisfying. | 1 | 2 | 3 | 4 | 5 |

**SECTION B: EVALUATION OF VOLUNTEER SATISFACTION AND FUTURE PARTICIPATION INTENTION**

**4. Please indicate to what extent are you satisfied with your volunteering experience during Universiade SHENZHEN 2011?**

| | **Highly dissatisfied** | **Dissatisfied** | **Neutral** | **Satisfied** | **Highly satisfied** |
|---|---|---|---|---|---|
| Volunteering experience in general | 1 | 2 | 3 | 4 | 5 |
| Recognition you received | 1 | 2 | 3 | 4 | 5 |
| Support you received to do your job | 1 | 2 | 3 | 4 | 5 |
| Notice and information you received during your | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| service | | | | | |
| Notice and information you received before your service | 1 | 2 | 3 | 4 | 5 |
| Training and mentoring during your service | 1 | 2 | 3 | 4 | 5 |
| Communication with other volunteers | 1 | 2 | 3 | 4 | 5 |

**5. Please rate your agreement with the following statements about your intention to volunteer in the future:**

| | **Totally disagree** | **Disagree** | **Neutral** | **Agree** | **Highly agree** |
|---|---|---|---|---|---|
| I would like to go on collaborating with MSE volunteer programs in future Chinese MSE opportunities. | 1 | 2 | 3 | 4 | 5 |
| I would like to provide voluntary service in future MSEs after the Universiade SHENZHEN 2011. | 1 | 2 | 3 | 4 | 5 |
| I will recommend my friends and relatives to participate in volunteer programs | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| during other MSEs. | | | | | |
| After the Summer Universiade SHENZHEN 2011, I would like to help promote more volunteering information. | 1 | 2 | 3 | 4 | 5 |

**SECTION C: BACKGROUDN INFORMATION**

**6. Please offer your valuable suggestions on which aspects can be improved in the volunteering service during Universiade SHENZHEN 2011?**

**1)** _____

**2)** _____

**3)** _____

**7. Your gender:**

☐ Male

☐ Female

**8. Your educational level:**

☐ Primary level or below

☐ Secondary level

☐ Diploma/High diploma level

___

☐ University level

☐ Postgraduate level or above

**8. Your age:**

☐ 18-24

☐ 25-44

☐ 45-64

☐ 65 or above

**9. What is your occupation?**

☐ student

☐ teaching staff

☐ Medical staff

☐ Government staff

☐ Others

**10. What is your education level?**

☐ Primary School or below

☐ Middle School

☐ High Diploma

☐ University

☐ Postgraduate or above

**11. what is your Annual Household Income(RMB)?**

☐ 15,000 and below

☐ 15,001-20,000

☐ 20,001-40,000

☐ 40,000 and above

**12. How many hours do you have for your leisure/ free/ unobligated activities during a week?**

_____

_____

**13.On average how many hours per day do you volunteer for during this Universiade?**

_____

_____

**13. Have you been a volunteer before the Universiade SHENZHEN 2011?**

☐ Yes (please answer Question No. 15) ☐ No (the questionnaire ends here)

**14. Please indicate, how many days did you volunteer during your previous voluntary service?**

_____

**15. Are you satisfied with your volunteering experience before the Universiade SHENZHEN 2011? Please rate your agreement with the following statements.**

**--- END OF QUESTIONNAIRE ---**

## Appendix II: Questionnaire Sample (Chinese version)

# 第二十六届世界大学生运动会志愿者调查

## 第一部分：志愿者动机满意度，利他主义和外部吸引力调查

**1. 人们的内在动机是从事志愿活动的重要驱动力，请在下面的选项框中打钩，以示从何种程度上你同意以下描述 ：**

| | 完全不同意 | 不同意 | 一般 | 同意 | 完全同意 |
|---|---|---|---|---|---|
| 我与其他志愿者相处很融洽 | 1 | 2 | 3 | 4 | 5 |
| 在志愿者团队中，我认识了一些朋友，感到很愉快 | 1 | 2 | 3 | 4 | 5 |
| 志愿者团队中的其他人对我很友善 | 1 | 2 | 3 | 4 | 5 |
| 我相信可以为深圳大运会的成功举办做出自己的贡献 | 1 | 2 | 3 | 4 | 5 |
| 我可以自由表达关于志愿工作的观点和想法 | 1 | 2 | 3 | 4 | 5 |
| 志愿工作期间，我有适当的自主权 | 1 | 2 | 3 | 4 | 5 |

**2. 你经常通过如下方式帮助别人吗 ？请在相应的选项框中打钩 ：**

| | 从未有过 | 偶尔 | 一般 | 经常 | 频繁 |
|---|---|---|---|---|---|
| 我曾经给大运会中的观众或其他人指引过方 | 1 | 2 | 3 | 4 | 5 |
| 我曾经帮助他人搬运、看管物品 | 1 | 2 | 3 | 4 | 5 |
| 我曾经在学校或其他慈善机构做过义工 | 1 | 2 | 3 | 4 | 5 |
| 我曾经帮助过他人，却不要任何报酬 | 1 | 2 | 3 | 4 | 5 |
| 在大运会中，我帮助过运动员、残疾人或长者 | 1 | 2 | 3 | 4 | 5 |

**3. 以下是关于大运会志愿服务的外部吸引因素，请在相应的选项框中打钩，以示从何种程度上你同意如下说法 ：**

| | 完全不同意 | 不同意 | 一般 | 同意 | 完全同意 |
|---|---|---|---|---|---|
| 我希望继承我的家庭做义工的传统 | 1 | 2 | 3 | 4 | 5 |
| 志愿服务使大运会组委会以较少的资金提供更多服务 | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| 我支持大运会组委会的宗旨和目标 | 1 | 2 | 3 | 4 | 5 |
| 我响应大运会组委会招募志愿者的号召 | 1 | 2 | 3 | 4 | 5 |
| 志愿者纪念品、徽章等将构成我志愿服务的美好回忆 | 1 | 2 | 3 | 4 | 5 |
| 深圳市有很好的可进入性，其城市风貌很吸引我 | 1 | 2 | 3 | 4 | 5 |
| 大运会组委会声誉良好，获得较多的信任与支持 | 1 | 2 | 3 | 4 | 5 |
| 大运会组委会组织、培训志愿者的过程令我满意 | 1 | 2 | 3 | 4 | 5 |

**第二部分：志愿者满意度和未来参与意向调查**

**4. 请打钩，指出你在本次大运会志愿服务中的满意度 ：**

| | 完全不满意 | 不满意 | 一般 | 满意 | 完全满意 |
|---|---|---|---|---|---|
| 整体志愿服务经历 | 1 | 2 | 3 | 4 | 5 |
| 所受到的尊重与认可 | 1 | 2 | 3 | 4 | 5 |
| 所获得的支持与帮助 | 1 | 2 | 3 | 4 | 5 |
| 志愿服务中所获得的通知和信息 | 1 | 2 | 3 | 4 | 5 |
| 志愿服务前所获得的信息 | 1 | 2 | 3 | 4 | 5 |
| 志愿服务中所接受的组织和培训 | 1 | 2 | 3 | 4 | 5 |
| 与其他志愿者的交流与合作 | 1 | 2 | 3 | 4 | 5 |

**5. 请指明你在何种程度上同意以下陈述 ：**

| | 完全不同意 | 不同意 | 一般 | 同意 | 完全同意 |
|---|---|---|---|---|---|
| 我希望与更多的大型体育赛事志愿者组织合作 | 1 | 2 | 3 | 4 | 5 |
| 我愿意在将来的其他大型体育活动中做志愿者 | 1 | 2 | 3 | 4 | 5 |
| 我将推荐我的朋友和家人参与到未来的大型体育活动志愿者服务中 | 1 | 2 | 3 | 4 | 5 |
| 在大运会之后，我将帮助推广更多的志愿服务信息 | 1 | 2 | 3 | 4 | 5 |

**第三部分： 背景信息**

**6. 请问在此次大运会志愿服务工作中，哪些方面令您觉得有提升的空间？请提 3 条建议以帮助提升未来中国的大型体育赛事志愿者项目：**

| | |
|---|---|
| | **1）** |
| | **2）** |
| | **3）** |

**7. 请选择你的性别 ：** **8. 你的年龄区间是 ：**

☐男 ☐女 ☐ 18-28 ☐ 29-38 ☐ 39-48 ☐ 49 岁及以上

**9. 你的职业是：**

☐学生 ☐老师 ☐医生 ☐政府工作人员 ☐其他

**10. 你的学历和受教育水平：**

☐ 小学及以下 ☐ 中学 ☐ 高职 ☐ 大学 ☐ 研究生及以上

**11. 你的家庭人均年收入是 (单位：人民币)：**

计算方法：家庭全部年收入/ 家庭总人口数

☐ 小于 15 000 ☐ 15 001 - 20 000 ☐ 20 001 – 40 000 ☐ 40 000 以上

**12. 你每周可支配的休闲时间有几小时？**_____

**13. 此次大运会期间，你总共志愿服务多少天？** _____

**14. 在深圳大运会之前，你是否曾经做过义工？**

☐ 做过 （请回答第 15 题） ☐ 没做过（问卷就此终止）

**15. 你之前做的义工服务期限是多少天** _____（请回答第 16 题）

**16. 你对以前做义工的经历是否感到满意？请在相应的选项框中打钩：**

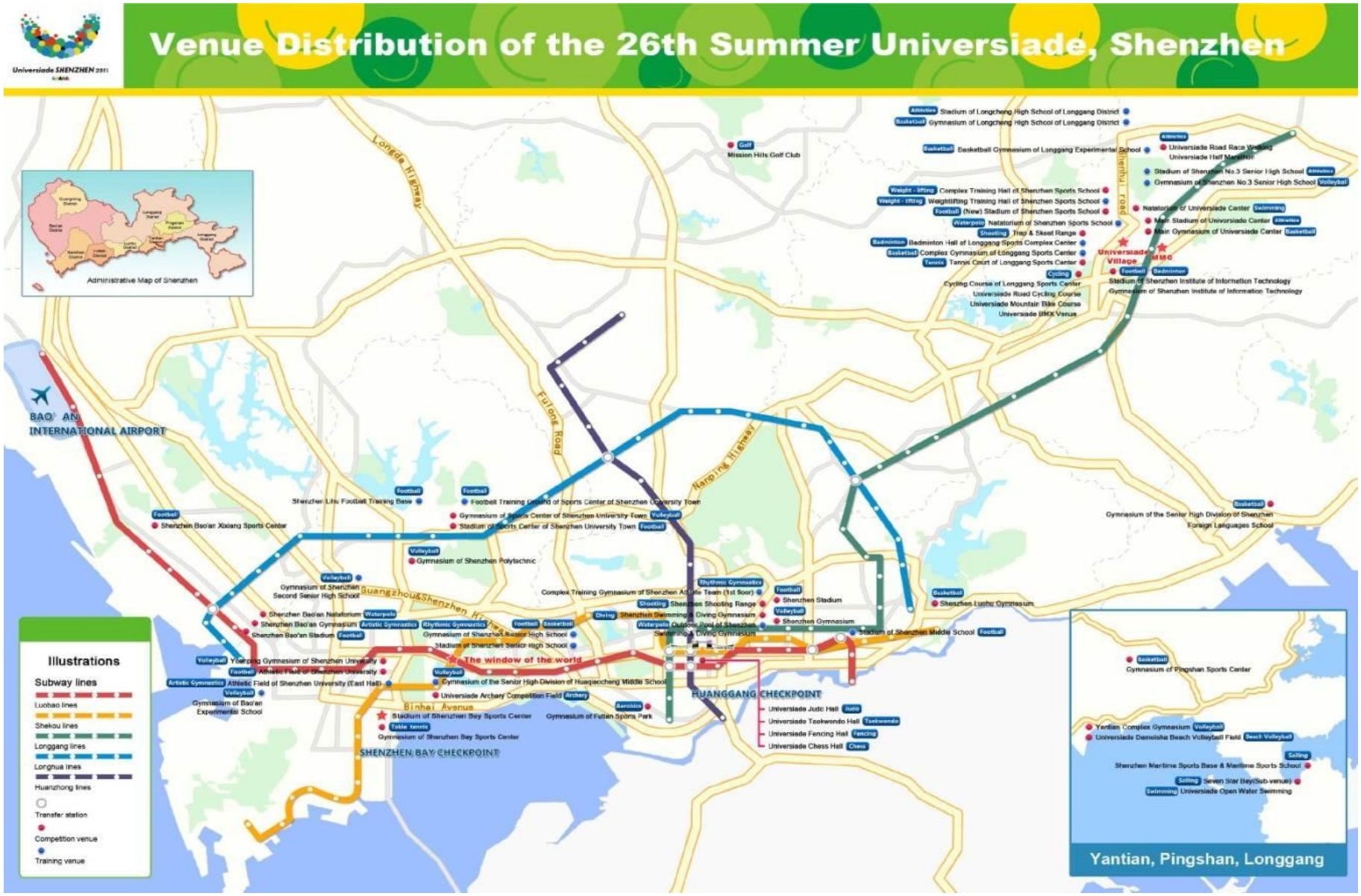
| | 完全不同意 | 不同意 | 一般 | 同意 | 完全同意 |
|---|---|---|---|---|---|
| 以前参与的志愿服务让我认识了很多朋友，扩展了人脉 | 1 | 2 | 3 | 4 | 5 |
| 那时候留下来的志愿者纪念物、照片或服装成为我今后的美好回忆 | 1 | 2 | 3 | 4 | 5 |
| 以前的志愿服务让我收获很多 | 1 | 2 | 3 | 4 | 5 |
| 我对以前志愿服务的组织方感到很满意 | 1 | 2 | 3 | 4 | 5 |

## Appendix III: Profile of Focus Group Participants

**Profile of Focus Group Participants**

| Coding | Occupation | Gender | Age | Afflation |
|---|---|---|---|---|
| 1 | third year undergrad | Female | 25 | University of SHENZHEN |
| 2 | forth year undergrad | Female | 25 | University of SHENZHEN |
| 3 | first year Mphil | Male | 24 | University of SHENZHEN |
| 4 | third year undergrad | Female | 27 | University of SHENZHEN |
| 5 | second year undergrad | Female | 21 | University of SHENZHEN |
| 6 | forth year undergrad | Female | 21 | University of SHENZHEN |
| 7 | forth year undergrad | Male | 21 | University of SHENZHEN |
| 8 | forth year undergrad | Female | 21 | University of SHENZHEN |
| 9 | third year undergrad | Male | 21 | University of SHENZHEN |
| 10 | third year undergrad | Female | 23 | University of SHENZHEN |
| 11 | second year undergrad | Male | 22 | University of SHENZHEN |
| 12 | forth year undergrad | Male | 22 | University of SHENZHEN |

## Appendix IV: Venue Distribution of Universiade SHENZHEN 2011


Venue Distribution of the 26th Summer Universiade, Shenzhen
Universiade SHENZHEN 2011
Administrative Map of Shenzhen
Longde Highway
Nanping Highway
Binhai Avenue
Guangzhou&Shenzhen Highway
BAO' AN INTERNATIONAL AIRPORT
SHENZHEN BAY CHECKPOINT
HUANGGANG CHECKPOINT
The window of the world
Universiade Village
MMC
Illustrations
Subway lines
Luobao lines
Shekou lines
Longgang lines
Longhua lines
Huanzhong lines
Transfer station
Competition venue
Training venue
Yantian, Pingshan, Longgang

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