

PREDICTING INTENTION TO VOLUNTEER FOR MEGA-SPORT EVENTS IN CHINA: THE CASE OF UNIVERSIADE EVENT VOLUNTEERS

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Attracting and retaining a loyal base of volunteers is critical to the success of mega-sport events (MSEs). The purpose of this study was to examine the antecedents of MSE volunteering in a Chinese context. Drawing upon self-determination theory, the study establishes a valid structural equation model of antecedents of Chinese volunteers' satisfaction and their intention to volunteer in future MSEs. The XXVI Summer Universiade provides a case-specific context. After a pilot study to validate questionnaire items, location-based convenience sampling was employed to collect data from Universiade volunteers. A total of 1,015 questionnaires were completed and analyzed. Results from the covariance-based structural equation modeling analysis showed that all of the three exogenous factors—external attractiveness, altruism, and intrinsic motivation—emerged as significant predictors of volunteer satisfaction. In turn, volunteers' perceived level of satisfaction predicted future MSE volunteer intention. Our findings reveal unique differences between Chinese sport event volunteers and their Western counterparts. Implications for event planning and volunteer program design are discussed.

Key words: External attractiveness; Intrinsic motivation; Altruism; Mega-sport events (MSEs); Volunteering

Introduction

Mega-sport events (MSEs) come with large costs, attract a great number of visitors, create extensive business opportunities for stakeholders, and generate extensive media attention (Müller, 2015). By way of their size or significance, mega-events are “those that yield extraordinarily high levels

of tourism, media coverage, prestige or economic impact for the host community or destination” (Getz, 1997, p. 6). Roche (2002) further 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.

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MSE volunteers represent a special category of human resources. They help event organizations reduce cost (Jago & Deery, 2002). However, they may easily lose interest and quit volunteering, which is different from quitting duties and privileges of a paid occupation (Holmes & Smith, 2009). Eliciting the continued support from volunteers is crucial to the success of any MSE. As identified by Baum and Lockstone (2007), “without the personal investment of the volunteers, mega events could simply not have been arranged” (p. 30). Thus, it is important to develop better understandings of MSE volunteers’ motivation and satisfaction. Although extant research has explored motivation in a variety of voluntary services (e.g., Allison, Okun, & Dutridge, 2002; Cnaan & Goldberge-Glen, 1991; Dickson, Darcy, Edwards, & Terwiel, 2015; Esmond & Dunlop, 2004; Finkelstein, Penner, & Brannick, 2005), there is still a scarcity of published literature focusing on the antecedents of MSE volunteering, especially in the Chinese context. Moreover, the majority of published research on MSE volunteer motivation has focused on “preevent” intentions, which has resulted in a limited understanding of Chinese volunteers’ postevent intention toward volunteering for future MSEs (Dickson et al., 2015).

China has hosted many MSEs in the last decade, including the 1990 Beijing Asian Games, the 2008 Beijing Summer Olympic Games, the 2010 Guangzhou Asian Games, and the 2011 Shenzhen Summer Universiade (Table 1). By hosting these international MSEs, China has experienced postevent

social impacts such as increased international recognition and improved popularity as a destination (Xing & Chalip, 2009). Enhanced volunteerism in host communities is also social legacies left by MSEs (Dickson et al., 2015). Given the frequency of hosting mega-events in China and the need for volunteer involvement, it is critical for event managers to understand the antecedents of MSE volunteering intention to ensure a sustainable base of volunteers for future events. Indeed, our article is particularly timely as Beijing will host the 2022 Winter Olympics.

Therefore, this research proposes a model of antecedents of volunteer participation intention in a MSE context. In particular, our model explores relationships among volunteers’ intrinsic motivation, altruism, satisfaction, and future participation intention. To our knowledge, our study is the first to simultaneously consider the influences of intrinsic motivation, self-reported altruism, and external attractiveness in a single explanatory model of volunteer motivation. We explore these relationships in more detail below.

Literature Review

Volunteering is an increasingly important area of research for academics, and has recently been identified as an important line of inquiry (Love, Hardin, Koo, & Morse, 2011). Volunteers are critical to the success of events (Baum & Lockstone, 2007). Many organizations could not survive without

Table 1
Recent Mega-Sports Events in China

Mega-Event/Host City	No. of Volunteers Participated (Approximate)	No. of Countries, Regions, & International Organizations Participated	No. of Athletes & Officials Participated
1990 Asian Games, Beijing, China	200,000	37	6,578
2008 Summer Olympic Games, Beijing, China	Game volunteer (100,000) City volunteer (400,000) Social volunteer (1,000,000) Subtotal (1,500,000)	204	11,438
2010 Asian Games, Guangzhou, China	Game volunteer (85,000) Social volunteer (500,000) Subtotal (585,000)	45	Around 12,000
2011 Summer Universiade, Shenzhen, China	160,000	170	9,000

Sources: FISU (2013); IOC Coordination Commission (2010).

volunteer efforts (Finkelstein, 2008). Allison et al. (2002) suggested that understanding the reasons why people volunteer is fundamental to the design of effective recruitment and retention programs. Although previous researchers have applied self-determination theory (SDT) (Allen & Shaw, 2009) and volunteer function inventory (VFI) (Clary et al., 1998) to understand volunteering behavior, few studies has been conducted to understand MSE volunteering, especially in the Chinese context. The following sections of the literature review explain the key theories and constructs that informed the development of our hypothesized model.

Self-Determination Theory and Intrinsic Motivation

According to SDT, human beings have three basic psychological needs: autonomy, competence, and relatedness (Roca & Gagné, 2008), which are all intrinsic needs. Autonomy means that people need free choice in activities (Deci & Ryan, 1985; Gagné, 2003; Ryan & Connell, 1989). Autonomy is often associated with independence or dependence. Competence refers to perceived self-trust and self-confidence (Deci & Ryan, 1985); it is a positive self-perception of interacting in social contexts and of having the chance to put into practice one's capabilities (Deci, 1975; Deci & Ryan, 2002). For instance, event volunteers may enjoy confronting new challenges and can feel empowered by developing new expertise (Allen & Shaw, 2009). Relatedness means being connected with others, caring for and/or being cared for by others, and possessing a sense of belongingness to both individuals and communities (Baumeister & Leary, 1995; Deci & Ryan, 2002).

By becoming involved with sport events, volunteers experience a full range of motivation fulfillment such as "self-determination" and "mastery" (Getz, 1989, p. 128). Because volunteering bears the salient characteristics of free will and free choice, SDT might explain volunteers' underlying motivations and behavioral intentions (Allen & Shaw, 2009). SDT maintains that intrinsic factors (including competence motives, relatedness motives, and autonomy motives) are antecedents of volunteer satisfaction (Allen & Shaw, 2009; C. Lee, Reisinger, Kim, & Yoon, 2014). The extent to which the

volunteer experience fulfills intrinsic needs/motives can influence volunteer satisfaction (Allen & Shaw, 2009). For example, Boezeman and Ellemers (2009) found a direct and positive relationship between volunteer autonomy/relatedness needs fulfillment and volunteer satisfaction. In a mega-event (expo) context, C. Lee et al. (2014) found that the relationship between event volunteers' intrinsic motivation and satisfaction was significantly positive. Based on the above research, the following hypothesis (H1) regarding volunteers' intrinsic motivation and satisfaction was formulated:

H1: Volunteers' intrinsic motive fulfillment will have a positive effect on their overall satisfaction with the volunteering experience.

Altruistic Motives

The most salient volunteer motives identified in Western contexts are altruistic in nature (Caldwell & Andereck, 1994; Cnaan & Goldberg-Glen, 1991). For example, Caldwell and Andereck (1994) concluded that volunteers hope to do something useful and contributive to society (Farrell, Johnston, & Twynam, 1998). Indeed, altruistic motives were the most popular motives expressed by MSE volunteers in a study conducted by Dickson et al. (2015). Altruism has been defined as human behavior that "promotes the welfare of others without conscious regard for one's own self-interests" (Hoffman, 1981, p. 124). In the Chinese context, Chou (1998) redefined altruistic behavior as "voluntary, intentional behavior that benefits another and that is not motivated by the expectation or external rewards or avoidance of externally produced punishment" (p. 195). Therefore, altruistic motives are not grounded in notions of self-benefit.

The importance of altruism has been emphasized by previous researchers from various perspectives ranging from development of cognition and social norm to psychoanalytic and social learning (Bussell & Forbes, 2002; Caldwell & Andereck, 1994; Wearing, 2001). Cialdini, Eisenberg, Shell, and McCreath (1987) found a positive correlation between volunteer activity participation and altruistic/helping behavior. The positive association between adolescent volunteer activities and altruistic behavior was also confirmed by Chou

(1998), who found a positive relationship between self-reported altruism and frequency in participating in extracurricular volunteering activities. In some other cases, altruism can also be encouraged by peers' or relatives' prosocial or philanthropic behavior (Chou, 1998).

Fulfilling altruistic motives can raise perceived level of behavioral satisfaction and result in sustained volunteerism (C. Lee et al., 2014; Reeser, Berg, Rhea, & Willick, 2005). Moreover, a positive relationship has been found to exist between volunteer altruism fulfillment and volunteer satisfaction (C. Lee et al., 2014; Reeser et al., 2005). Reeser et al. (2005), in their study of the Olympic Games, found a positive relationship between volunteer altruism fulfillment and satisfaction. Hence, the notion of altruism represents an interesting perspective on an individual's satisfaction with outcomes (Lehmann, 2001). Dulin, Hill, Anderson, and Rasmussen (2001) examined the impact of altruism on 137 senior adults' life satisfaction. The authors found that seniors who were involved in community service for altruistic reasons experienced higher levels of satisfaction than those who participated for economic reasons. Therefore, based on previous research exploring volunteer altruism and satisfaction relationships, the following hypothesis was formulated:

H2: Volunteers' altruistic need fulfillment will have a positive effect on their overall satisfaction with the volunteering experience.

Perceived External Attractiveness

External factors are motives that exist outside individuals' direct control, like "family traditions and significant others" (Strigas & Jackson, 2003, p. 119). Volunteering is based on reciprocal relationships and include both internal and external motivations (Holmes & Smith, 2009). Therefore, external attributes or stimuli should be taken into consideration in the assessment of volunteer satisfaction (Strigas & Jackson, 2003). Strigas and Jackson (2003) ranked external factors as the third group of factors in their five-dimensional structural motivation model (purpose, leisure, external influences, material, and egoistic), which explained marathon running volunteers' motivation. In a volunteer tourism context,

Lyons and Wearing (2008) identified 10 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.

To date, few (if any) researchers have explored the relationships between perceived external attractiveness and volunteer satisfaction in Chinese event volunteering contexts. Indeed, research would benefit from more holistic models of volunteer satisfaction and intention, which consider factors both internal and external to the individual. The particular external factor of interest in the current study is that of perceived external attractiveness. Extant research (e.g., Auld, 2004) has highlighted external organizational factors such as management, training, and hosting destination as crucial factors that can frequently influence sports volunteers' satisfaction and event success. Both pride and respect for volunteer work are associated with organizational commitment (Boezeman & Ellemers, 2009). Cnaan and Goldberg-Glen (1991) found that the perceived attractiveness of the volunteer work was associated with their sustained willingness to volunteer. Based on the aforementioned review of the literature, the following hypothesis was proposed:

H3: Volunteers' perceived external attractiveness will have a positive effect on their overall satisfaction with the volunteering experience.

Volunteer Satisfaction

Satisfaction is often associated with notions of being fulfilled (Oliver, 2009). Previous research has found that motive fulfillment sustains helping behavior and volunteerism (Davis, Hall, & Meyer, 2003). Several studies have demonstrated the different roles of autonomy, competence, and relatedness motive fulfillment in constituting volunteer satisfaction (Ryan & Deci, 2004). For instance, Boezeman and Ellemers (2009) suggested that relatedness motive fulfillment is the principal predictor of volunteer satisfaction and future participation intention. Volunteers' intention to quit current voluntary jobs correlates negatively with autonomy motivation (Millette & Gagné, 2008).

Although a great deal of previous research (Boezeman & Ellemers, 2009; Farrell et al., 1998; Finkelstein, 2008; Galindo-Kuhn & Guzley, 2001; Millette & Gagné, 2008) have explored the relationship between volunteer motivation and satisfaction in various event contexts, little is known about Chinese event volunteers' motivation and satisfaction. Thus, the relationships between Chinese volunteers' motivation and satisfaction remain largely unexplored. Moreover, volunteer satisfaction (as predicted by intrinsic motive fulfillment, altruistic motive fulfillment, and perceived external attractiveness) may be an important predictor of intention to volunteer for a future MSE.

Volunteer Participation Intention

Behavioral intentions reflect readiness/likelihood to conduct certain actions (J. Lee, Hsu, Han, & Kim, 2010). Although discrepancies or inconsistencies may exist between behavioral intention and action, behavioral intention is often thought of the most proximal predictor of future behavior (Ajzen, 1991). Volunteers' participation intention in various Western event contexts has been well explored (Caldwell & Andereck, 1994; Hidalgo & Moreno, 2009). However, few researchers have explored

antecedents of volunteer intention in Chinese sport event contexts.

Organizational indicators, such as good social relationships within the volunteer organization and positive assessment of the job, can, to some extent, predict volunteers' intention to stay in a voluntary organization (Hidalgo & Moreno, 2009). Moreover, high levels of satisfaction have been found to enhance intention to volunteer for future events (Kim, Hong, & Andrew, 2013; Shen, 2012).

Based on this previous research, the following hypothesis was formulated:

H4: Overall satisfaction with the volunteer experience will have a positive effect on intention to volunteer for future MSEs.

Hypothesized Model

We hypothesized that intrinsic motive fulfillment, self-report altruism, and perceived external attractiveness would emerge as significant positive predictors of volunteer satisfaction with the event. Next, we anticipated that volunteer satisfaction would positively influence intention to volunteer for future MSEs. These hypothesized relationships are depicted in Figure 1.

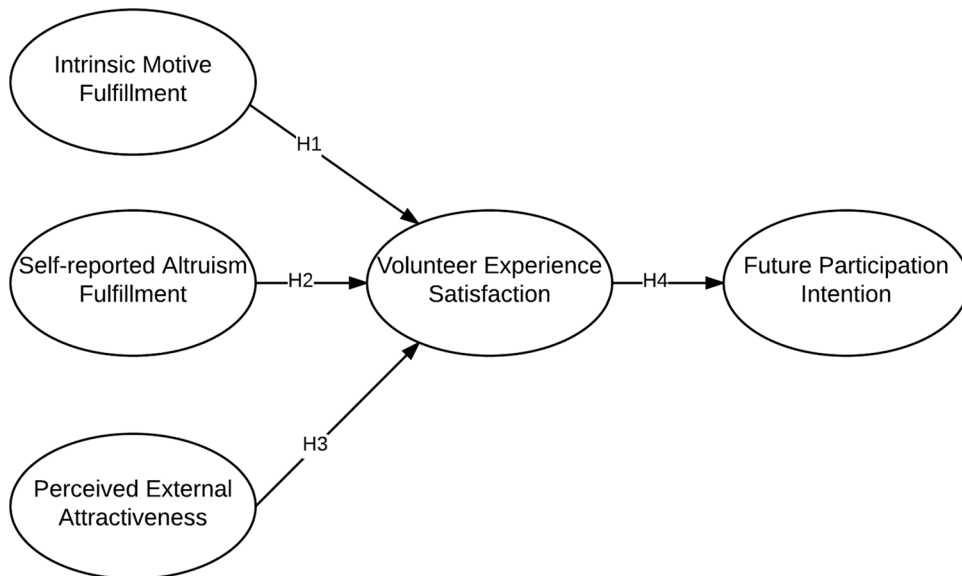


Figure 1. Hypothesized model of antecedents of MSE volunteer participation.

Method

Event Context

The Universiade is an elite international multi-sport event, organized by the International University Sports Association. After the 2008 Beijing Summer Olympics, the 2011 Summer Universiade was once again held in mainland China in August 2011, attracting approximately 160,000 volunteers and 13,000 athletes and team officials from more than 180 countries and/or regions (FISU, 2013). The official website of the Universiade SHENZHEN 2011 indicated that the Universiade SHENZHEN 2011 Organizing Committee (USZOC) intended to recruit 1.27 million voluntary workers (including city volunteers, stadium volunteers, and social volunteers) to help during this event. In terms of the scale of participation and number of volunteers involved, the 2011 Summer Universiade serves as an ideal case to study volunteer participation in MSEs. The event began on August 12, 2011 and ended on August 23, 2011.

Data Collection

Location-based convenience sampling was followed for questionnaire distribution. In order to expand the generalizability of research findings, U-stations and five gymnasiums—the Athletes' Village, the Complex Gymnasium of Longgang

Sports Centre, the Gymnasium of Shenzhen Second Senior High School, Shenzhen Bao'an Gymnasium, and Shenzhen Swimming and Diving Gymnasium—were selected for the data collection over the 11-day duration of the XXVI Summer Universiade. The mix of survey locations allowed volunteers working on various types of positions to be approached and investigated. Table 2 displays the dates of survey and the number of valid questionnaires collected at each location. Two different distribution methods were employed: on-site survey and take-away survey. Respondents were allowed to either complete the questionnaire on site or take the questionnaire home for completion and then bring it back the next day.

According to Krejcie and Morgan's (1970) method for establishing a suitable sample size to reflect a given population, a sample of at least 384 is required to be representative of the volunteer body of 160,000 during the 2011 Summer Universiade. Stevens (1996) also suggested that in order to avoid misspecification errors, a sample of at least 400 should be collected. However, the larger the sample size, the better the generalizability of the results. In the main survey, the authors distributed 1,400 questionnaires to the Universiade volunteers at the final stage of their volunteer service, and after they had accomplished much of their volunteering commitment. A total of 1,024 questionnaires were returned, with a satisfactory response rate of 73.1% (Babbie

Table 2
Venues for Data Collection (Alphabetical Order)

Questionnaire Distribution Venue	Function	Date of Survey	No. of Valid Questionnaires Collected
Complex Gymnasium of Longgang Sports Centre	Basketball gymnasium	August 15–24, 2011	167
Gymnasium of Shenzhen Second Senior High School	Volleyball gymnasium	August 10–25, 2011	175
Shenzhen Bao'an Gymnasium	Football and Artistic gymnasium	July 28, 2011 to August 28, 2011	155
Shenzhen Swimming and Diving Gymnasium	Swimming and diving Gymnasium	August 8–22, 2011	189
The Athletes' Village	Catering, accommodation, recreation, transportation, media reception, and other services	August 12–23, 2011	127
U-stations	On-site inquiry, first aid, and other instant help	July 15, 2011 to August 28, 2011	202

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

& Halley, 1995). Among them, 1,015 questionnaires were confirmed valid and used for analysis.

Measures of Questionnaire Variables

Intrinsic motive fulfillment (IMF) consists of autonomy and relatedness motivation fulfillment. Three 5-point Likert scale indicators (1 = *totally disagree*; 5 = *totally agree*) of intrinsic motive fulfillment were refined from Boezeman and Ellemers (2009) to fit into the Universiade setting. Sample items include “I get along well with other volunteers in my volunteer work” and “In the volunteer team, I knew some friends and feel happy for our friendships.”

Self-reported altruism fulfillment (SAF) measures the extent to which volunteers perceived the experienced offered opportunities to satisfy needs for altruistic behavior. Three 5-point Likert scale items (1 = *never*; 5 = *very often*) were used to assess altruism, which were modified from Rushton, Chrisjohn, and Fekken (1981). Sample items include “I have offered to help an athlete or someone in need during Universiade” and “I have given directions to an attendee or other people during the Universiade.”

Perceived external attractiveness (PEA) assesses organizational-related factors that might influence the event experience. We employed three 5-point Likert scale indicators (1 = *totally disagree*; 5 = *totally agree*) of this construct, which have been tested and validated by previous researchers (Pauline & Pauline, 2009; Strigas & Jackson, 2003). Sample items include “I adhere to the organizational committee’s specific goals” and “the recruitment and training procedures of USZOC are good.”

Volunteer experience satisfaction (VES) was assessed using seven selected items initially developed by Farrell et al. (1998). These original items were measured on a 5-point Likert scale (1 = *highly satisfied*; 5 = *highly dissatisfied*). In this study, the sequence was reversed (1 = *highly dissatisfied*; 5 = *highly satisfied*) to be consistent with other items under investigation. Sample items include “Please indicate the degree to which you are satisfied with your volunteering experience in general during this Universiade” and “Please indicate the degree to which you are satisfied with the training and mentoring.”

Four items assessed *volunteers’ future participation intention* (FPI). These items were modified based on Hidalgo and Moreno (2009), and Um, Chon, and Ro (2006), and used 5-point Likert Scales (1 = *not important at all*; 5 = *extremely important*). Sample items include “I would like to be part of volunteer programs in future MSE opportunities” and “I would like to provide voluntary service in future MSEs after the Universiade SHENZHEN 2011.”

Back Translation

Cross-cultural applications of questionnaire items are difficult. Thus, researchers need to ensure indicators’ correctness and equivalence in the translation stage (Brislin, 1970). In the current study, most of the selected items originated from Western research contexts. Universiade volunteers’ first language is simplified Chinese. To ensure the language equivalence, Brislin’s (1970) back translation approach was employed. The process involved recruiting a translation panel of two bilingual (English and simplified Chinese) researchers who had not seen the original indicators and the questionnaire. The first author translated the questionnaire from English to Chinese, and the second author translated the questionnaire back from Chinese to English. The authors then had two versions of English questionnaires for comparison. After several rounds of comparisons and minor revisions, the two English questionnaires turned out to be virtually identical. Consequently, the back translated Chinese questionnaire was ready to be used in the following research stages.

Pilot Study

Prior to the Universiade event, a 1-week pilot study was conducted. A total of 49 valid questionnaires were collected from Universiade volunteers who had already started their pre-Universiade volunteering service at U-stations (temporary service stations set up before the event to deal with enquiries from participants/stakeholders). The purpose of the pilot study was to test indicators’ reliability and validity and to refine them if necessary. Cronbach’s alpha demonstrated a satisfactory overall reliability coefficient of 0.888 for all the indicators

in the Chinese questionnaire (Hair, Black, Babin, & Anderson, 2010). After the reliability test, confirmatory factor analysis (CFA) was conducted to assess items' validity and standardized regression weights using AMOS 18.0. No items in this study were reverse scaled, and only those items with Cronbach's alpha greater than 0.6 were retained for subsequent analyses (Hair et al., 2010).

Data Analyses

After data entry in SPSS18.0, a series of data screening procedures were performed in order to check missing data, characteristics of data dispersion, and outliers. The absolute value of skewness ranged between 0.342 and 1.589, implying the normal distribution of the sample (Hair, Ringle, & Sarstedt, 2011). The visual examination using simple box plot did not identify any obvious outliers, thus all the items were retained (Hair et al., 2011).

SEM is a useful for testing "cause-effect relations between latent constructs" (Hair et al., 2011, p. 139) and is widely applied in multivariate data analysis (MacCallum & Austin, 2000). SEM is advantageous because the approach can calculate multiple regression relationships simultaneously with item errors included (Hair et al., 2010). This research employed covariance-based SEM (CB-SEM) and partial least squares SEM (PLS-SEM) for model analyses. The former modeling approach aims at theory testing and theory confirmation, while the latter's goal is to predict key constructs and structural relationships (Hair et al., 2011). The aim of this research was to confirm relationships between latent constructs based on previous theories/findings. Moreover, the nature of the study was confirmatory rather than exploratory. Thus, CB-SEM was selected as the analytic method. The two analytic steps suggested by Hair et al. (2010) were followed. First, the measurement model was analyzed through a CFA model using AMOS 18.0 to evaluate factor loadings. CFA can differentiate random errors and identify systematic errors more accurately than exploratory factor analysis (EFA) (Hair et al., 2010). The measurement model was identified according to the three-indicator rule suggested by Blunch (2008): 1) every factor has at least three indicators; 2) no manifest variable is an indicator for more than one factor; and 3) the

error terms are not correlated. Second, path loadings among specified latent constructs in the structural model were examined, and the four research hypotheses were tested (Fig. 2). The measurement items in the current study have already been refined by previous studies and all of them were grouped into three exogenous latent variables based on solid theoretical underpinnings. Thus, EFA was not necessary as EFA's main purpose is scale refinement (Hair et al., 2010).

Results

Descriptive Statistics of Respondents

The sample of 1,015 respondents was highly representative of the Chinese youth population aged between 18 and 28 (91.0 %). The majority of the sample (89.8 %) had a university degree, and had had an annual household income per capita of lower than RMB40,000 or US\$6,458 (79.7 %). The sample characteristics to a large extent represent the composition of the volunteer population in the event being researched—university student volunteers comprised the majority of volunteers working in and around sports arenas (FISU, 2013). Respondents' duration of volunteer participation ranged from 1 day to 120 days, with the average length of 21 days. Table 3 displays the demographic profile of the respondents.

Validity and Reliability Testing

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 et al., 2010) and average variance extracted (AVE) of 0.5 or higher (Fornell & Larcker, 1981). Table 4 reveals that AVEs for all the five constructs surpassed the threshold of 0.5 (Fornell & Larcker, 1981), thus convergent validity was confirmed to be sound. Discriminant validity was also supported in that the congeneric measurement model did not contain any cross-loadings among variables or error terms, and AVE estimates for each construct surpassed the corresponding interconstruct squared correlations (Fornell & Larcker, 1981). The overall reliability coefficient was 0.922. All the construct reliability

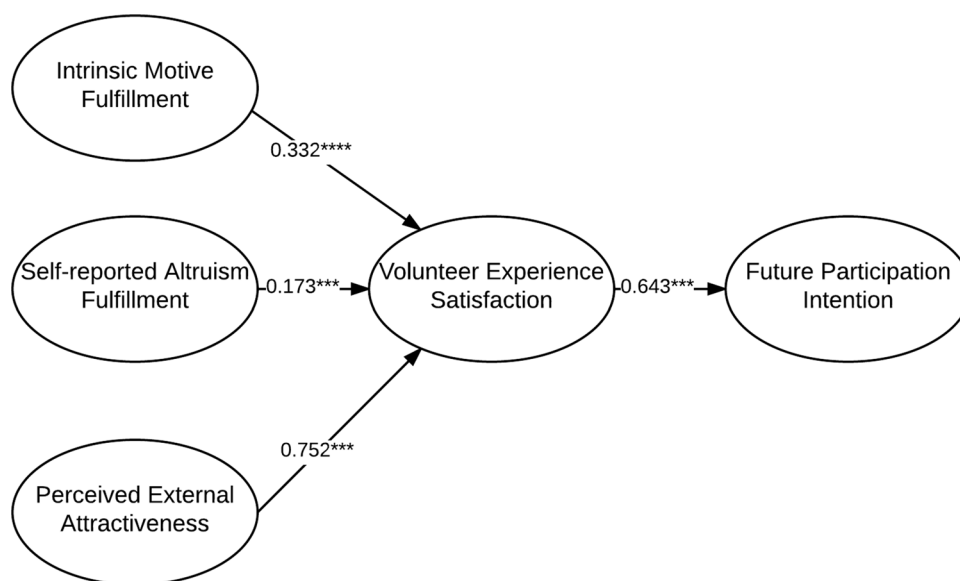


Figure 2. Path analysis results (structural model). The numbers in the figure are betas/parameter estimates. *** $p < 0.001$.

Table 3
Demographic Information of the Respondents

Characteristics	Frequency (%)
Sex ($n = 1,015$)	
Male	517 (50.9)
Female	498 (49.1)
Age ($n = 1,002$, $SD = 0.418$)	
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)
Household annual income per capita (RMB) ($n = 1,015$, $SD = 1.129$)	
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 ($n = 993$, $SD = 0.985$)	
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 ($n = 1,015$, $SD = 1.203$)	
Student	797 (78.5)
Teaching staff	34 (3.3)
Medical staff	38 (3.7)
Government staff	101 (10.0)
Others	45 (4.4)

Table 4
Correlations (Squared Correlations), Reliability, AVE, and Mean

	IMF	SAF	PEA	VES	FPI
IMF	1.00				
SAF	0.383 (0.147)	1.00			
PEA	0.460 (0.211)	0.451 (0.203)	1.00		
VES	0.545 (0.297)	0.445 (0.198)	0.556 (0.309)	1.00	
FPI	0.453 (0.205)	0.458 (0.210)	0.589 (0.346)	0.60 (0.436)	1.00
Reliability	0.872	0.770	0.792	0.906	0.891
CR	0.930	0.770	0.768	0.922	0.942
AVE	0.697	0.579	0.591	0.549	0.730
Mean	4.445	3.923	3.929	3.953	4.216
SD	0.520	1.232	0.820	0.708	0.664

Note. Overall Cronbach's alpha: 0.922. IMF, intrinsic motive fulfillment; SAF, self-reported altruism fulfillment; PEA, perceived external attractiveness; VES, volunteer experience satisfaction; FPI, future participation intention; AVE, average variance extracted; CR, construct reliability. Mean values are based on 5-point Likert scales. All correlations are significant at $p < 0.001$.

surpassed the threshold of 0.7 (Hair et al., 2010); therefore, construct reliability was also within an acceptable range.

Measurement Model Analysis

First, the model was analyzed as a measurement model (also known as covariance matrix), aiming to test the validity of each item (Hair et al., 2010). After that, a CFA was performed of all the items to generate specific factor loadings (Hair et al., 2010). Table 5 presents the results of measurement model testing by CFA. All of the manifest indicators displayed statistically significant p values ($p < 0.001$), with t values ranging from 13.786 ($p < 0.001$) to 30.699 ($p < 0.001$), and factor loadings from 0.690 ($p < 0.001$) to 0.873 ($p < 0.001$), thereby confirming the adequacy of the measurement model.

The measurement model produced satisfying fit indices (Table 5), exceeding the cut-off criteria suggested by Hair et al. (2010) and MacCallum, Browne and Sugawara (1996): [$\chi^2(149) = 660$, $p < 0.001$], comparative fit index (CFI) = 0.959, goodness of fit index (GFI) = 0.937, root mean square residual (RMR) = 0.037, root mean square error of approximation (RMSEA) = 0.058, normed fit index (NFI) = 0.947. Collectively, the statistics proved reasonable goodness of fit (GoF) indices for the measurement model (Hair et al., 2010).

Structural Model Analysis

The results demonstrated satisfactory standardized coefficients for each item. At the same time, our model fit the data well. Fit indices such as GFI (0.904), CFI (0.930), RMSEA (0.074), and NFI (0.918) all surpassed their threshold level (Hair et al., 2010; MacCallum et al., 1996) (see Table 6).

After measurement model testing, the proposed four hypotheses were tested in the structural model (Fig. 2). Table 6 demonstrates that within the structural model, all four hypotheses under investigation were statistically supported based on path loadings (β s) and in the direction predicted. Intrinsic motive fulfillment (IMF) ($\beta = 0.332$, $t = 10.690$, $p < 0.001$), self-reported altruism fulfillment (SAF) ($\beta = 0.173$, $t = 5.483$, $p < 0.001$), and perceived external attractiveness (PEA) ($\beta = 0.752$, $t = 20.724$, $p < 0.001$) all emerged as significant positive predictors of MSE volunteer satisfaction. In turn, satisfaction predicted future MSE volunteer intention ($\beta = 0.643$, $t = 20.836$, $p < 0.001$).

First, the parameter estimates for the impact of IMF on MSE volunteer experience satisfaction (H1) was statistically significant with a path loading of 0.332 ($t = 10.690$, $p < 0.001$). Specifically, the standardized regression weights of the three manifest indicators under construct IMF were 0.833 ($p < 0.001$), 0.866 ($p < 0.001$), and 0.804 ($p < 0.001$), respectively. Therefore, IMF was a positive predictor of satisfaction in the present MSE

Table 5
Confirmatory Factor Analysis Results (Measurement Model)

Constructs (Indicators)	Factor Loadings	t Value	Squared Multiple Correlations (SMC)	p Value
Intrinsic motive fulfillment				
I get along well with other volunteers in my volunteer work	0.833	NA	0.702	NA
People in my volunteer work are pretty friendly towards me	0.866	30.699	0.750	***
In the volunteer team, I knew some friends and felt happy for our friendships	0.804	27.962	0.637	***
Self-reported altruism fulfillment				
I have given directions to an attendee or other people during the Universiade.	0.797	14.877	0.514	***
I have helped people without being paid.	0.745	13.786	0.410	***
I have offered to help an athlete, the handicapped, or the elderly in this Universiade	0.740	NA	0.697	NA
Perceived external attractiveness				
I adhere to the organizational committee's specific goals	0.761	17.583	0.325	***
The organizing committee of the Universiade (USZOC) is highly trustworthy	0.710	25.654	0.446	***
The recruitment and training procedures of USZOC are good	0.792	NA	0.483	NA
Volunteer experience satisfaction				
Volunteering experience in general	0.796	NA	0.566	NA
Recognition you received	0.773	26.134	0.507	***
Support you received in do your job	0.776	26.120	0.533	***
Notice and information you received during your service	0.735	24.075	0.484	***
Notice and information you received before your service	0.710	23.025	0.451	***
Training and mentoring during your service	0.700	22.604	0.438	***
Communication with other volunteers	0.690	22.631	0.417	***
Future participation intention				
I would like to go on collaborating with MSE volunteer programs in future Chinese MSE opportunities.	0.867	26.267	0.257	***
I would like to provide voluntary service in future MSEs after the Universiade SHENZHEN 2011.	0.873	28.666	0.279	***
I will recommend my friends and relatives to participate in volunteer programs during other MSEs.	0.821	25.573	0.306	***
After the Summer Universiade SHENZHEN 2011, I would like to help promote more volunteering information.	0.860	NA	0.365	NA

Notes. All factor loadings are significant at $p < 0.000$. Parameter fixed at 1.0 for the maximum-likelihood estimation. *T*-values were not obtained (NA) for those fixed to 1 for identification purpose. $\chi^2(149) = 660.100$, CFI = 0.959, GFI = 0.937, RMR = 0.037, RMSEA = 0.058, NFI = 0.947.

*** $p < 0.001$.

Table 6
Hypothesis Testing Results and Structural Model Fit Indices

Structural Relations	Standardized Coefficient ()	p Value	CR
H1: Intrinsic motive fulfillment (IMF) Volunteer experience satisfaction (VES)	0.332	***	10.690
H2: Self-reported altruism fulfillment (SAF) Volunteer experience satisfaction (VES)	0.173	***	5.483
H3: Perceived external attractiveness (PEA) Volunteer experience satisfaction (VES)	0.752	***	20.724
H4: Volunteer experience satisfaction (VES) Future participation intention (FPI)	0.643	***	20.836

Note. $\chi^2(155) = 1024.946$, GFI = 0.904, CFI = 0.930, RMSEA = 0.074, NFI = 0.918.

*** $p < 0.001$.

volunteering context. Volunteers who felt a sense of competence and friendship were more likely to be satisfied with their experience.

Second, H2 proposes that SAF has a positive effect on MSE volunteer satisfaction. This hypothesis was also fully supported ($\beta = 0.173, t = 5.483, p < 0.001$). SAF items had significant standardized regression coefficients of 0.797 ($p < 0.001$), 0.745 ($p < 0.001$), and 0.740 ($p < 0.001$), respectively. However, compared with IMF and PEA, SAF was the least powerful exogenous variable ($\beta = 0.173, t = 5.483, p < 0.001$). As expected, volunteers who perceived more opportunities to engage in altruistic behaviors (e.g., helping people with directions) tended to be more satisfied with their volunteer experience.

Third, the parameter estimate confirmed that the effect of perceived external attractiveness on volunteer satisfaction (H3) is positive ($\beta = 0.752, t = 20.724, p < 0.001$). Thus, PEA emerged as the most powerful predictor of volunteer satisfaction. This result suggests that perceived external attractiveness is a strong predictor of volunteers' satisfaction.

Finally, the structural model analysis revealed that volunteer satisfaction had a significant and positive effect on intention to volunteer in future MSE event ($\beta = 0.643, t = 20.836, p < 0.001$). Respondents that perceived higher overall satisfaction with the event experience had stronger intentions to participate as a volunteer in a future MSE event context. Thus, our last hypothesized relationship between VES and FPI (H4) was also fully supported in the structural model.

Discussion

Our findings suggest that intrinsic motive fulfillment (H1), altruistic motive fulfillment (H2), and perceived external attractiveness (H3) all play important roles in determining volunteer satisfaction. In turn, satisfaction predicts intention to volunteer for a future sport event (H4). Thus, all four research hypotheses were supported. For example, if participants attained valued benefits from volunteering in the form of a feeling sense of accomplishment/belonging; perceived their volunteering in terms of helping others or "giving back" to the community; and perceived event organizers in favorable terms; they were more likely to experience satisfaction

with the volunteer experience and intend to volunteer for future MSEs in China. The more satisfaction Chinese MSE volunteers perceive in relation to the current event context, the more likely they will participate in MSE volunteer programs in the future. This finding suggests that satisfaction from previous and/or current voluntary experience can predict future volunteering behavior. In other words, a key determinant in sustaining volunteer capital may be enhanced satisfaction.

Reasons why people become involved in MSE volunteering programs and how organizations can sustain MSE volunteering commitments are not well understood in the literature. Our results suggest that sport event volunteers tend to be most satisfied from the experience when intrinsic and altruistic motives are fulfilled. This finding is aligned with SDT (e.g., Roca & Gagné, 2008). Volunteers have intrinsic needs for autonomy and relatedness that should be met from the experience (Allen & Shaw, 2009; Roca & Gagné, 2008).

Perceived external attractiveness emerged as the strongest predictor of volunteer satisfaction. This finding suggests that volunteers must perceive the organization favorably in terms of the adherence to organizational committee's specific goals, the organizing committee's trustworthiness, and the recruitment and training procedures. Thus, to build and sustain a strong base of volunteers requires volunteer empowerment, input, and the provision of appropriate training programs (Allen & Shaw, 2009).

Findings of the current study demonstrate one distinct characteristic of the Chinese volunteer context. In the Chinese context, people join volunteer programs because of both societal drivers and personal motives. Compared with the deeply-rooted Western mode of "self-initiated" volunteerism (Hustinx & Lammertyn, 2003, p.180), to some extent, the Chinese mode of volunteering is more embedded in organizations' promotion, government's encouragement, and social encouragement.

Volunteers have certain intrinsic motivations, but statistically they appeared to be slightly weaker at predicting overall satisfaction compared with external attractiveness. Considering this finding, governmental bodies and event organizing committees can play a key role in stimulating people's interest in volunteering. The more satisfied volunteers are with volunteer organizations, the more

likely they will intend to participate in future MSE volunteering.

Furthermore, the results of the current study differ from Caldwell and Andereck's (1994) finding that volunteers' strongest motive tended to be altruistic in nature; as well as from Hallmann and Harms's (2012) finding that the strongest volunteer motivations are related to value expression and personal growth. These discrepancies suggest volunteer motivations may vary greatly across ethnicities, research settings, and cultural backgrounds. To this end, research into cultural perspectives on sport event volunteer motivation is scarce, and the existing studies focus primarily on Western contexts (e.g., Allen & Shaw, 2009; Clary et al., 1998; Getz, 1989). The current study serves as the initial attempt to explain antecedents of volunteering satisfaction and future MSE volunteer intention in the Chinese context.

Implications for Research

Results from the current study add to the body of knowledge dedicated to event volunteerism. Specifically, they contribute to extant literature and management practice related to understanding volunteer motivation and satisfaction. For instance, our findings support the matching strategy proposed by Allen and Shaw (2009), which suggests that decisions to place volunteers in certain roles should take into account volunteers' capability, needs, and expectations. Ensuring that volunteer experiences fulfill particular motivations and expectations can enhance perceived satisfaction, which might ultimately result in sustained and committed volunteering over the life course (Esmond & Dunlop, 2004). Understanding why people show great interest in volunteering can help organizers recruit volunteers, set program specification, and combine volunteer needs with appropriate work categories (Allison et al., 2002). Indeed, if an event volunteer's responsibilities and roles are unclear, or do not match motivations, they may become frustrated and eventually quit the role.

A unique contribution of our study is that few researchers have included a construct of altruism when predicting MSE volunteer satisfaction and intention. Respondents in this study reported that the more they offered help for other people's

benefit, the greater their perceived satisfaction. Moreover, this study demonstrates that perceived external attractiveness is the most salient contributing factor in constituting Chinese volunteer satisfaction. In addition, the importance of the congruence between volunteer motives and volunteer organizations' attributes and incentives (Puffer & Meindl, 1992) is reinforced in this research. In the Chinese context, people's motivation for MSE volunteerism will be enhanced when the objectives and goals of organizations are aligned with volunteers' expectations.

Implications for Practice

Recruiting, retaining, and satisfying volunteers are emerging needs for event organizations to enhance volunteer satisfaction (Costa, Chalip, Green, & Simes, 2006). Many sport event organizations could not survive without the joint efforts of volunteers, whose continued commitment is vital to the success of the event (Finkelstein, 2008). Although not easily manipulated, effective volunteer recruiting and retention are key concerns for event managers (Finkelstein et al., 2005). For sustained volunteerism, MSE organizations should seek to continually improve their strategies in terms of volunteer recruitment and training to enhance volunteers' perceived level of satisfaction.

Findings from the present study contribute to understanding of the distinctive roles that volunteer intrinsic motivation, altruism, and perceived external attractiveness play in affecting MSE volunteer satisfaction and intention. The significant roles that autonomy and relatedness play in fostering volunteer satisfaction are highlighted. Additionally, it is suggested that future event programs be designed to fulfill these psychological needs by offering volunteers greater opportunities to experience self-determination and teamwork. In terms of factors external to the individual, more resources can be dedicated to improve the attractiveness of MSE volunteer organizations. Recommended areas to concentrate on include: managerial mechanisms for volunteer capital, for instance, recruitment, training policies, and procedures; the organizing committee's perceived trustworthiness. Moreover, volunteer recruitment and communication efforts might use language and messaging consistent with the

intrinsic motive fulfillment, self-reported altruism fulfillment, and perceived external attractiveness constructs. For example, in event volunteer training sessions, team-building activities can be implemented to help facilitate the fulfillment of relatedness or social bonding motives.

Limitations and Future Research

Perceptions of previous volunteer experiences may, to some extent, influence volunteers' intention to volunteer for future MSE. For example, some respondents may have had previous volunteer experience at the 2008 Beijing Summer Olympic Games or the 2010 Guangzhou Asian Games. These previous experiences (outside of the Universiade context) may play a key role in explaining future volunteer intention. The aim of our study was to explore volunteer motivations and perceptions in the context of one particular event. Future research might consider including a more robust measure of previous event experience when modeling volunteer motivations, intention, and behavior.

Additionally, our study was cross-sectional in nature. We only assessed intention to volunteer. Insights into extent to which intention translated into future behavior were not gleaned in the current study. Thus, future research would benefit from longitudinal designs that track future volunteer behavior over several years.

Given that the overwhelming majority of published research on MSE volunteering has been conducted in Western contexts (e.g., Lee et al., 2014), measurements and instruments built on previous studies need to be examined and refined in diverse cultural contexts. Indeed, future studies should also explore similar models to that which was proposed in the present study among volunteers from regions of the world.

Future research can also expand the measurement scales of social demographics and other related psychological factors, especially those that may affect motivation and satisfaction. Moreover, a comparative study to examine behavioral characteristics of Chinese volunteers versus volunteers from a different cultural/ethnic background could be a worthwhile topic in future event studies.

Conclusion

In conclusion, our study found that volunteers who believed that the event satisfied their motivational needs (i.e., intrinsic and altruistic motive fulfillment) and perceived event organization in favorable terms were more likely to be satisfied with their experience. In turn, this perceived level of satisfaction predicted intention to volunteer for a future MSE. Event researchers should continue to investigate and augment the hypothesized model proposed in the present study, especially in different cultural and event contexts such as festivals, trade shows, political events, conferences, and private events.

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