Motivation of South Korean Volunteers in International Sports: A Confirmatory Factor Analysis

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Abstract

The number of volunteers required for sport events continues to rise each and every year because of the growing popularity of amateur and professional sports (Bae, Lee, & Massengale, 2011). As volunteers have become more and more important to national and international sporting events (Pauline & Pauline, 2009), there is a growth in the amount of research related to the motivation of volunteers or volunteering. Nevertheless, there has been a lack of investigation on volunteer motivation factors of the Korean population. The main purpose of the study reported here was to examine and identify the volunteer motivation factors of the Korean population and validate the Volunteer Motivation Scale (VMS). Participants of the study were 132 male and 142 female volunteers of the International Association of Athletics Federations World Championships. Results of the MANOVA analysis indicated the overall VMS model was marginal nonsignificant (Wilks' $\Lambda = 2.170$, p = .058). Univariate ANOVAs showed no gender differences in Networking and Social Interaction, but males had significantly (p < .05) higher scores than females in Work Experience, Self-Determination, and Volunteering Abroad. Results of the confirmatory factor analysis indicated that the revised 29-item VMS provided a good fit to the data (e.g., CFI = .97, SRMR = .061) and has sound psychometric properties that can be used to assess the motivation of volunteers in an international setting. It is concluded that males have a stronger belief than females that volunteering can give them opportunity for personal growth, and different strategies are necessary when recruiting volunteers.

Key words: volunteering; motivation; composite reliability; variance extracted

Introduction

Volunteering is a key component to make an event happen – successfully and smoothly. Sport organizations have long recognized the contributions of volunteers, mainly because of the additional support to their full-time staff and the reduction of their operation budget (Cemalcilar, 2009; Wong, Chui, & Kwok, 2011). Even without receiving any incentives from the sport organization, volunteers are willing to spend their valuable time in helping profit or nonprofit organizations whenever they are available (MacNeela, 2008). The number of volunteers required for sport events continues to rise each and every year because of the growing popularity of amateur and professional sports (e.g., Bae, Lee, & Massengale, 2011; Hayton, 2016). These events could not take place without the support of volunteers, particularly from their own local communities. For this reason, it is important for colleges and sport companies to continue recruit and train new volunteers to their programs. As volunteers have become more and more important to national and international sporting events (Pauline & Pauline, 2009), there is a growth in the number of research that is related to the motivation of volunteers or volunteering (e.g., Bae et al., 2011; Boraas, 2003; Chelladurai, 2006; Cho & Kwon, 2011; Costa, Chalip, Green, & Simes, 2006; Cuskelly, McIntyre, & Boag, 1998; Cunningham, Sagas, Dixon, Kent, & Turner, 2005; Green & Chalip, 1998; Hardin, Koo, King, & Zdriok, 2007; Hu & Jung, 2013; Kim, 2010; Kim, Chelladurai, & Trail, 2007; Kim, Trail, Lim, & Kim, 2009; Lee, 2011; Lee, Nam, Han, & Lee, 2010; Strigas & Jackson, 2003). The following section is a review of related literature that pertains to the motivations of volunteers.

Motivations

The motivations that drive individuals to volunteer an event vary from person to person. Meanwhile, the volunteers' motivations could be focused differently depending on whether the involvement is a sporting event or non-sporting event. Clary, Synder, Ridge, Copeland, Stukas, Haugen, & Meine (1998) as well as Omoto and Snyder (1995) found eight different volunteer motives (e.g., values, understanding, career, social, community concern, and esteem enhancement) from non-sporting events. Motivation of volunteering in sporting events can range from helping the community, helping others, social interaction, recognition, cultural norms, diversion, career advancement, and obligation (Dorsch, Riemer, Sluth, Paskevich, & Chelladurai, 2002) to a love for the sport, personal growth, and expression of values (Kim, Zhang, & Connaughton, 2010). Most volunteers feel a sense of accomplishment after volunteering and may choose to continue in the future (MacNeela, 2008).

Kim (2010) examined voluntary service activities based on metropolitan citizens in Korea and found that the motivation of Korean volunteers are based on the following reasons: self-satisfaction (about 23%), humanism (about 36%), world experience (about 22%), social interaction (about 13%), and work experience (about 7%). In examining the relationship between sport volunteerism and social capital of Korean university students, Cho and Kwon (2011) found that college student volunteers are able to develop networking and to improve their knowledge and skills, to have new social interaction, and to foster self-determination through sporting events. Moreover, Korean college students had established self-development during the volunteer activities for abled and disabled sporting events (Hu & Jung, 2013; Kang, Seo, & Cho 2010). A study from the International Year of Volunteers by Dorsch et al. (2002) noted that there were eight main motivational factors: helping the community, helping others, social interaction, recognition, cultural norms, diversion, career advancement, and obligation. Of those factors, they found the highest rated motivational factor was "helping the community" whereas the lowest rated motivational one was "obligation." MacNeela (2008) mentioned that volunteers are interested in their career development and that was a primary reason for becoming involved. Kim et al. (2010) applied six motivation functions to the Special Olympic volunteers. The motivation are values, understanding, social, career, enhancement, and protective functions. According to the results, the first and second highest ranked motivation factors were "value" and "understanding," respectively, among four groups of volunteers in youth sports: Group 1 (n = 515; Group 2 (n = 259); Group 3 (n = 224); and Group 4 (n = 98).

So far, most studies concentrated on volunteerism in amateur or professional sporting events, and there is very little research on college sports. For this reason, Bae et al. (2011) developed the Volunteer Motivation Scale (VMS) to examine the motivation of volunteers in college sports. The VMS has five volunteer motivation factors: work experience, networking, self-determination, volunteering abroad, and social interaction. All these motivational factors are the driving force for volunteers who actually act on volunteering of sporting events (Bae et al., 2011). The following sections provide a brief description of these factors.

Work Experience

Work experience is one of the most important factors when applying for a job in sports (Bae & Miller, 2008). Work experience at job is able to influence an individual's intentions and behaviors directed towards the occupation (Cunningham & Sagas, 2004; Cunningham et al., 2005; Dorsch et al., 2002) as well as to improve a person's skills, knowledge, and mental health (Becker, 1964; Clary et al., 1998). People want to be more marketable and improve their skills based on their work experience (Bae et al., 2011). Individuals are more likely to be hired by an organization based on their skills acquired and contributions made during their work experiences (Seibert & Sypher, 1989). According to Phillips and Phillips (2000) and Bae et al. (2011), employers are more likely to work with candidates who have responsibility, honesty, integrity, decision-making, initiative, and communication skills. Most employers select to interview applicants who have a minimum of two years' experience with the required knowledge and skills that are related to the field (Bae & Miller, 2008; Holley, 1999). Because of those requirements, people prefer to gain or develop their job-related skills and personal development by means of different volunteer experiences (Wang, 2004). MacNeela (2008) found that most people who have been serving as volunteers are actually looking for career opportunities rather than just for the sole purpose of doing volunteer services. Volunteers are willing to serve a particular organization if they feel that their beliefs and values match well with the organization's mission and values, and that their abilities are well-matched with the job requirements (Kim et al., 2009). MacNeela (2008) found that volunteers can benefit themselves while volunteering. For example, volunteering is associated with strong interpersonal development (Brehm & Rahn, 1997) and better mental health (Musick & Wilsion, 2003).

Self-Determination

The motivation of volunteers can be explained by the self-determination theory (SDT; Deci & Ryan, 2000). According to the SDT, there is a distinction between the autonomous motivation and controlled motivation of individuals (Deci & Ryan, 2008). Autonomously motivated individuals act with a sense of volition and choice on their intrinsic interests and fun with an underlying personal value. Such autonomy is positively related to self-actualization, private self-consciousness, ego development, interest and self-esteem (Deci & Ryan, 1985) and greater work effort (Bidee, Vantilborgh, Pepermans, Huybrechts, Willems, Jegers, & Hofmans, 2013) as well as higher job satisfaction (Millette & Gagné, 2008). On the other hand, controlled

motivated individuals act on feeling of external pressure and engage in activities to obtain reward or to avoid negative consequence or feelings of guilt (Deci & Ryan, 1985). Controlled motivation is positively related to the external locus of control, private and public selfconsciousness, hostility and ego involvement (Deci & Ryan, 1985; Knee, Neighbors, & Vietor, 2001; Neighbors, Vietor, & Knee, 2002). Both autonomous and controlled motivations are intentional (Gagne & Deci, 2005) and consist of a series of behavioral regulations with different degree of internalization, varying along a continuum that reflects autonomous motivation (i.e., intrinsic motivation, integrated regulation, and identified regulation) on one end and controlled motivation (i.e., external regulation and introjected regulation) on the other (Deci & Ryan, 2000). Both autonomous motivation and controlled motivation indicate an individual's intention to act; whereas amotivation indicates a lack of intention to act (Deci & Ryan, 2008). Research studies in the context of volunteering usually omitted amotivation since their focus is only on active and intentional types of motivation (Oostlander, Güntert, van Schie, & Wehner, 2014).

Networking

Being successful at networking is another critical factor when people are looking for a job. To be a successful networker, Haggerty (1999) emphasized four important factors: personal experience, process, place, and practice; and stressed that creating a good first impression is the most important factor when people start developing a strong relationship. It is likely that people are able to improve their professional working relationship with at least one member, and generally with two or more members, of that organization (Seibert & Sypher, 1989). Moreover, people within a network are able to share or provide favorite information on departments and companies (Demers, 2002). According to Seibert and Sypher (1989), volunteers and interns are interested in the work due to the networking with professional contacts. Dorsch et al (2002) found that young adults (the aged of 15 and 34) are more interested in meeting new people and making new friends. Furthermore, Cunningham and Sagas (2004) and Cunningham et al. (2005), college students who took part in an internship as an undergraduate had a greater career success than students who did not. Meeting the right people can help students gain jobs after graduating and develop a network with other areas (Dorsch et al., 2002).

Volunteering Abroad

People are interested in volunteer abroad although females manifested a greater tendency toward volunteer abroad than males (Bae et al., 2011). Traveling abroad to volunteer can be very beneficial since the individuals can learn new cultures and have new experiences that may not be found in their local communities. Such internships or volunteering opportunities are very common for international sporting events (Gregory, 2010). For example, Sochi 2014 Olympic and Paralympic Games Committee had approximately 25,000 volunteers (Paralympic.org, 2014). Of those volunteers, around 2,000 volunteers were come from overseas such as the United States (10%), Ukraine (9%), Canada, UK and Kazakhstan (8%), and other regions like Japan, New Zealand, Cameroon, Congo, and New Zealand (Olympic.org, 2013). In 2003, Korean college students who participated in abroad volunteering had increased by 56% since the 1990s (Korea University Council for Social Service, 2006). Fairley, Kellett, and Green (2007) investigated the motives of people who volunteered in the 2000 Sydney Olympics and were planning to volunteer in the 2004 Athens Olympic Games. They discovered four main motivations to volunteer in two different samples: Nostalgia (memories of all facets of a previous experience volunteering at the Olympics), Camaraderie and Friendship (relationships formed with fellow volunteers), Olympic Connection (a desire to be a part of the ultimate sporting event), and Sharing and Recognition of

Expertise (repeat volunteers wanting to share their experience and acquired skills with new volunteers). Wearing (2001) examined the Youth Challenge International Program and found volunteers had the following motivations: altruism, travel and adventure, personal growth, cultural exchange and learning, professional development, and so on. Unstead-Joss (2008) emphasized two key values of international volunteer motivation: "one was the moral issue of earning a lot of money in a developing country" and the other one was "to learn about new culture and a different way of life" (p. 11).

Social Interaction

Social interaction is one of the important factors to make volunteers satisfied and to retain them volunteering for future sporting events (Clary et al., 1998; Cleave & Doherty, 2005; Doherty, 2006; Green & Chalip, 1998). Most repeated volunteers appreciate the social benefits associated with the events they work with (Fairley et al., 2007; Morrow-Howell & Mui, 1989). However, younger adults do not look at volunteering the same way as older adults do (Clary et al., 1998). The major social goal for youths and younger adults is to expand their horizon, whereas in middle and late adulthood, the first priority is to maintain their emotional well-being (Okun and Schultz, 2003). Dorsch et al. (2002) indicated that young volunteers (15-34 years old) show a strong motivation of "hand-on" volunteering and are more interested in meeting new people and making new friends as well as want to gain more recognition and status in the community. On the other hand, older volunteers (over 35 years old) are more likely to share their skills or help a case because someone close to them has personally been affected by the organization (Doherty, 2006). Musick and Wilson (2003) further explained that one of the goals for senior citizens to volunteer is to improve social connectedness, and social development is strongly embedded when they volunteer (Principi, Lindley, Perek-Bialas, & Turek, 2012). Nevertheless, older adults are more adept than younger adults at sustaining highly positive emotional state and are more skilled at maintaining the absence of negative affective states (Okun & Schultz, 2003). Okun and Schultz (2003) also predicted that older volunteers will have higher values than younger volunteers because of displaying strong leadership during volunteering.

Volunteerism has drawn the attention of most citizens in South Korea after the 1986 Asian Games, the 1988 Seoul Olympic Games, and the 2002 FIFA World Cup (Lee, 2011; Lee et al., 2010). Through these mega sporting events, volunteerism has been well-established and systematically managed by The Korea Society (Lee, 2011). Because of this Society, many Korean people have the opportunities to work as a volunteer in the areas of sports, environment, education, culture, art, or consumer protection. In spite of this, there has been a lack of investigation on volunteer motivation factors of the Korean population. Therefore, the main purpose of this study was to examine and identify the volunteer motivation factors of the Korean population based on the 2011 International Association of Athletics Federations (IAAF) World Championships. Another purpose of this study was to validate the VMS, which was developed based on a sample from the United States.

METHODOLOGY

Participants

The participants for this study were defined as individuals who had volunteered during 2011 Daegu World Championship in Athletics in Daegu, South Korea. Of the 300 participants, 274 volunteers (a response rate of 91%) completed the questionnaire and the data were deemed

usable. The participants consisted of 132 males (48%) and 142 females (52%). Over 82% of the participants were 20-29 years old, approximately 7% each for those who were 30-39 or 40-49 years old, and the remaining were those who were 50-59 years old (2%) and 60 years and older (2%). Prior to distribution of the questionnaires, the participants were informed about the purpose of this study and explained how to complete the survey.

Instrument

The questionnaire consisted of two main sections. The first section focused on demographics. There were six questions pertaining to age, gender, employment, marital status, household income, and frequency of volunteers. The second section was the VMS, which was used to assess volunteer motivation using a 5-point Likert-type scale (e.g., 1 = Strongly Disagree and 5 = Strongly Agree). The instrument was adapted and revised from the original instrument developed by Bae et al. (2011) that was used to measure the motivation of Korean volunteers. Originally, the instrument was composed of 32 items under 5 dimensions: Work Experience (5 items, $\alpha = .85$), Networking (4 items, $\alpha = .87$), Self-determination (10 items, $\alpha = .90$), Volunteering Abroad (6 items, $\alpha = .81$), and Social Interaction (7 items, $\alpha = .74$).

The questionnaire was distributed between August 27 and September 4, 2011 during the IAAF World Championship. A professor and five trained doctoral students assisted with the administration of the study. Prior to the distribution of the questionnaires, participants were informed about the purpose of this study. Then, the trained assistants distributed the questionnaires to the participants and collected them upon completion. Participation in the survey was voluntary.

Statistical Analysis

The purposes of this study were to examine and identify the volunteer motivation factors of the Korean population and to validate the VMS. In order to compare the motivation factors between male and female participants, a one-way multivariate analysis of variance (MANOVA) was used to examine the mean vector of scores on the five dimensions of VMS. Wilks' Lambda was used as a test of significant difference between the vectors of means. Univariate analysis of variance (ANOVA) was used to compare gender differences among each of the five dependent variables. To examine the psychometric properties of the VMS developed by Bae et al. (2011), confirmatory factor analysis (CFA) was used to confirm the factor structure of the scale. The PRELIS 2 (Jöreskog, & Sörbom, 2006) program was utilized to test for the degree of skewness and kurtosis as well as multivariate normality; while the LISREL 8.80 (Jöreskog, & Sörbom, 2006) computer program was used for data analysis. Because of its robust procedures, the Maximum Likelihood (ML) estimation method was selected to conduct the CFA.

As suggested by Bollen and Long (1993), the application of the CFA includes: (1) model specification, (2) identification, (3) estimation, (4) testing fit, and (5) respecification. When doing model specification, an initial model is generated prior to estimation. The formulation of this model is based on theory or past research. Then the model is identified to see whether it is possible to find unique values for the parameters of the specified model. Once a model is identified, an estimation method is selected. The selected estimation technique is based on the distributional properties of the variables being analyzed. After obtaining the estimates, the model is tested as to whether it is consistent with the data. If so, the process can be stopped; if not, the model could be improved through respecification. In doing so, steps (2) through (5) may be repeated, usually many times to achieve the final outcome (Bollen & Long, 1993). The entire

procedures (i.e., from model specification to respecification) should be conducted with the same data set, and one way to improve model fit is to remove items with the lowest lambda values (Lam & Bae, 2014; Lam, Zhang, & Jensen, 2005).

The following fit indices were used to examine the fit of the models: the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), the Standardized Root Mean Square Residual (SRMR; Bentler, 1995), the Comparative Fit Index (CFI; Bentler, 1990), and the relative /normed chi-square (γ^2/df ; Wheaton, Muthén, Alwin, & Summers, 1977). As indicated by Steiger (1990) and Byrne (1998), values of the RMSEA less than .05 indicate a very good fit, and values up to .08 indicate reasonable errors of approximation in the population. Byrne (1998) commented that the SRMR ranges from zero to 1.00 and "in a well-fitting model this value will be small – say, .05 or less" (p. 115). Values of the CFI also range from zero to 1.00, with values larger than .90 indicating an acceptable fit, and values greater than .95 indicating a good fit (Bentler, 1990, 1992; Hu & Bentler, 1999; Marsh, Balla, & McDonald, 1988, Steiger, 1990). West, Finch, and Curran (1995) further commented that the CFI has "only small downward bias (3% to 4%), even under severely nonnormal conditions" (p. 74). Since chisquare is too sensitive to sample size differences, especially when the samples sizes are large (e.g., N > 200). Therefore, a chi-square per degrees of freedom is used instead (Bagozzi & Yi, 1988). On the other hand, the Expected Cross-Validation Index (ECVI; Browne & Cudeck, 1989) was used to measure the fit across models. The ECVI is used to assess, in a single sample, the likelihood that the model cross-validated across samples with similar size from the same population (Browne & Cudeck, 1989). When comparing different models, the ECVI index is computed for each model and the model having the smallest ECVI value denotes the largest potential for replication. Because it can take on any value, the ECVI has no predetermined range of values (Byrne, 1998).

RESULTS

A one-way MANOVA was used to examine gender differences in the mean vector of scores on the five dependent variables (i.e., Work Experience, Networking, Self-Determination, Volunteering Abroad, and Social Interaction). Results of the MANOVA analysis indicated the overall VMS model was marginal nonsignificant (Wilks' $\Lambda_{5, 269} = 2.170$, p = .058). The purpose of the MANOVA analysis was to provide an overall assessment of the five aforementioned variables as a group. However, the interest of this study is more on each individual factor. Therefore, univariate ANOVAs were also performed to examine gender differences in Work Experience, Networking, Self-Determination, Volunteering Abroad, and Social Interaction separately. Results indicated that there were no gender differences in Networking ($F_{1, 273} = 3.389$, p = .067) and Social Interaction ($F_{1, 273} = 2.515$, p = .114). However, significant gender differences were found in Work Experience ($F_{1, 273} = 9.829$, p = .002), Self-Determination ($F_{1, 273} = 5.630$, p = .018), and Volunteering Abroad ($F_{1, 273} = 4.981$, p = .026). Mean scores of the five factors between male and female participants are depicted in Table 1.

	Male Mean ±SD	Female Mean ±SD	F	р
Work Experience	4.19 ±.64	3.94 ±.68	9.829	.002**
Networking	3.93 ±.75	$3.76 \pm .75$	3.389	.067
Self-Determination	3.94 ±.72	3.75 ±.60	5.630	.016*
Volunteering Abroad	4.08 ±.69	$3.89 \pm .68$	4.981	.026*
Social Interaction	3.50 ±.58	$3.38 \pm .63$	2.515	.114

Table 1: Mean Scores of the Five Factors Between Male (n = 132) and Female (n = 142) Participants

* *p* < .05; ** *p* < .01

In order to validate the VMS, LISREL 8.80 (Jöreskog, & Sörbom, 2006) computer program was used to analyze the five-factor model. Maximum Likelihood estimation method was utilized since the distribution of data was not deviated from normal. Most researchers favor the Maximum Likelihood estimation method since it is almost always acceptable because of its robustness, even when data are nonnormally distributed (Harlow, 1985; Hoyle & Panter, 1995; Muthén & Kaplan, 1985; Tanaka & Bentler, 1985; West et al., 1995). Descriptive statistics of the 32 items is presented in Table 2. Results of the CFA indicated that the chi-square statistics of the model was significant (i.e., $\chi^2 = 1,414, df = 454, p < .01$). However, the goodness-of-fit indexes of the model were all acceptable (e.g., CFI = .96, SRMR = .066), indicating the model provided reasonable fit to the data. In order to improve the model, items with the lowest lambda values (i.e., less than .50) were eliminated from the model (Lam & Bae, 2014; Lam et al., 2005). Three items were removed during this process (the first item from Self-Determination, and the first and last items from Social Interaction). Then the revised model (29 items) was reanalyzed using the previous procedures. As a result, the 29-item model was significantly (p < .001) improved when examining the changes in chi-square and the changes in degrees of freedom (i.e., $\Delta \chi^2 = 277$, $\Delta df = 87$, p < .001). In addition, the ECVI also supported the 29-item revised model. The changes in the goodness-of-fit indexes and model-fit statistics of the nine-factor model from 32 items to 29 items are depicted in Table 3. The parameter estimates between the indicators and latent variables ranged from .52 (e.g., Social Interaction) to .87 (e.g., Work Experience). The interfactor correlations ranged from .70 (e.g., between Volunteer Abroad and Social Interaction) to .88 (between Work Experience and Self-Determination). The factor structure coefficients, errors of measurement, and inter-factor correlations estimated by the CFA are presented in Figure 1.

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	Mean	SD	Skewness	Z.	р	Kurtosis	Z.	р
Work Experience 1	4.32	0.73	-1.08	-6.22	0.00	1.63	3.52	0.00
Work Experience 2	4.14	0.78	-0.77	-4.77	0.00	0.43	1.40	0.16
Work Experience 3	4.09	0.77	-0.44	-2.93	0.00	-0.39	-1.53	0.13
Work Experience 4	4.06	0.91	-0.80	-4.91	0.00	0.19	0.75	0.46
Work Experience 5	3.70	0.94	-0.29	-1.99	0.05	-0.54	-2.45	0.01
Networking 1	3.81	0.88	-0.43	-2.87	0.00	-0.13	-0.35	0.73
Networking 2	3.95	0.91	-0.49	-3.21	0.00	-0.58	-2.72	0.01
Networking 3	3.52	0.97	-0.10	-0.66	0.51	-0.65	-3.22	0.00
Networking 4	4.11	0.85	-0.84	-5.12	0.00	0.62	1.83	0.07
Self-Determination 1	3.70	0.93	-0.17	-1.30	0.26	-0.85	-5.05	0.00
Self-Determination 2	3.82	0.83	-0.39	-2.63	0.01	-0.09	-0.21	0.83
Self-Determination 3	4.14	0.82	-0.75	-4.68	0.00	0.28	1.00	0.32
Self-Determination 4	3.54	0.97	-0.12	-0.82	0.41	-0.64	-3.13	0.00
Self-Determination 5	3.81	0.88	-0.46	-3.07	0.00	-0.08	-0.17	0.86
Self-Determination 6	4.04	0.91	-1.00	-5.90	0.00	1.08	2.71	0.01
Self-Determination 7	3.63	1.00	-0.39	-2.62	0.01	-0.31	-1.14	0.26
Self-Determination 8	3.92	0.91	-0.69	-4.38	0.00	0.33	1.15	0.25
Self-Determination 9	3.84	0.89	-0.65	-4.15	0.00	0.41	1.35	0.18
Self-Determination 10	3.99	0.87	-0.73	-4.57	0.00	0.22	0.82	0.41
Volunteering Abroad 1	4.03	0.89	-0.70	-4.41	0.00	0.22	0.83	0.41
Volunteering Abroad 2	3.94	0.91	-0.46	-3.02	0.00	-0.52	-2.30	0.02
Volunteering Abroad 3	3.72	0.98	-0.45	-3.00	0.00	-0.27	-0.97	0.33
Volunteering Abroad 4	4.13	0.78	-0.69	-4.33	0.00	0.38	1.27	0.20
Volunteering Abroad 5	4.23	0.76	-0.92	-5.54	0.00	1.12	2.78	0.01
Volunteering Abroad 6	3.86	0.91	-0.45	-3.00	0.00	-0.27	-0.94	0.35
Social Interaction 1	3.10	1.26	-0.14	-0.93	0.35	-1.01	-7.36	0.00
Social Interaction 2	3.34	1.01	-0.21	-1.45	0.15	-0.35	-1.33	0.18
Social Interaction 3	3.52	0.93	-0.25	-1.71	0.09	-0.20	-0.65	0.52
Social Interaction 4	3.87	0.91	-0.44	-2.90	0.00	-0.32	-1.20	0.23
Social Interaction 5	3.83	0.91	-0.49	-3.20	0.00	-0.21	-0.69	0.49
Social Interaction 6	4.10	0.86	-0.74	-4.64	0.00	0.12	0.53	0.60
Social Interaction 7	2.34	1.36	0.54	3.53	0.00	-1.08	-8.73	0.00

Table 2: Descriptive Statistics, Skewness, and Kurtosis of the 32-Item Volunteer Motivation Scale

Model	RMSEA	SRMR	CFI	ECVI	χ^2	df	χ^2/df	$\Delta \chi^2$	Δdf
32-Item Model	.091 (.086097)	.066	.96	5.99 (5.58-6.43)	1414	454	3.11		
29-Item Model	.090 (.084096)	.061	.97	4.79 (4.43-5.18)	1137	367	3.10	277	87 φ

Table 3: A Comparison Between the 32-Item and the 29-Item Models

 $\phi p < .001$



Figure 1: Factor structure coefficients and errors of measurement of the five-factor 29-item model.

Composite Reliability and Variance Extracted

The composite reliability (CR) for the final version of the five-factor 29-item VMS ranged from .895 (Social Interaction) to .93 (Work Experience) which were considered very good when CR > .70 was considered acceptable (Fornell & Larcker, 1981). On the other hand, reasonable variances were extracted by the constructs. According to Fornell and Larcker (1981), variance extracted (VE) is the "amount of variance captured by the construct in relation to the amount of variance due to measurement error" (p. 45). The VE of the five constructs ranged from .64 (Social Interaction) to .73 (e.g., Work Experience) which were all greater than the acceptable standard (Fornell & Larcker, 1981). The CR and VE of the scale are shown in Table 4.

Table 4: Composite Reliability and Variance Extracted of the Five-Factor 29-Item Model

	Work Networking Experience		Self- Determination	Volunteering Abroad	Social Interaction	
Composite Reliability	0.93	0.91	0.95	0.92	0.89	
Variance Extracted	0.73	0.73	0.66	0.67	0.64	

DISCUSSION

The main purpose of this study was to examine and identify the volunteer motivation factors of the Korean participants. According to the results of gender comparisons, male and female volunteers displayed similar motivations in Networking and Social Interaction. The finding was concurred with previous studies (Bae et al., 2011; Pauline & Pauline, 2009; Strigas & Jackson, 2003). However, male participants had higher mean scores than female participants in the following factors: Work Experience, Self-Determination, and Volunteering Abroad. This finding supported previous studies that male displayed different volunteer motivation for volunteer activities than females (Bae et al., 2011; Hardin et al., 2007; Helms & McKenzie, 2014; Pauline, Pauline, & Mulvihill, 2008; Taniguchi, 2006). According to Bae et al. (2011), males exhibited higher volunteer motivation than females on work experience and volunteer abroad. However, Helms and McKenzie (2014) found that females participated in more volunteer work than male because women were more likely to help neighboring households in both formal and informal ways than males. Moreover, females are exhibiting more strong motivation on enriching personal development, eliminating from negative feeling, adapting new skills, and expressing values than males (Burns, Reid, Toncar, Anderson, & Wells, 2008; Helms & McKenzie, 2014).

One of purposes of this study was to validate the VMS using confirmatory factor analysis. The original VMS has 32 items. After model respecification, three items were removed and the final VMS model included 29 items under five dimensions: Work Experience (5 items), Networking (4 items), Self-Determination (9 items), Volunteering Abroad (6 items), and Social Interaction (5 items). Overall, the CR of all five factors was above the .70 standard.

This indicated that all items collectively contributed a good overall reliability of each factor. Likewise, the VE showed that reasonable variances were extracted by each factor. In fact, the VE indicates the proportion of variance that is explained by an underlying factor in relation to that due to measurement error. For instance, the VE of the Work Experience factor was 0.73, meaning that 73% of the variance is explained by the Work Experience factor, while only 27% is due to measurement error. Nevertheless, the VE is a rather conservative estimate, it is sometimes acceptable even if the value is below .50 (Hatcher, 1994).

Based on the goodness-of-fit indices of the CFA, the 29-item modified VMS (see Table 2) provides reasonable fit to the data. In spite of this, the model is still not perfect; and there is room for improvement. Previous researchers indicated that the fit of a model is affected by, among other things, its complexity and specification (Bollen & Long, 1993; Gerbing & Anderson, 1993; Kaplan, 2000). Fan, Thompson, and Wang (1999) classified their four-latentvariable model (with three to four indicators per latent variable) as "moderate complexity" (p. 63). In fact, most researchers using structural equation modeling involved two to six latent variables, with about two to six indicators for each latent variable (Gerbing & Anderson, 1993). Based on this standard, the five-factor 29-item VMS model can be considered as high complexity, which may hamper its model fit. On the other hand, using too few indicators per latent variable is inappropriate. In their Monte Carlo study, Anderson and Gerbing (1984) found a greater chance of nonconvergence and improper solutions with two indicators per factor, especially with small sample sizes (e.g., N < 150). MacCallum (1995) pointed out that models with low numbers of parameters relative to the number of measured variable variances/covariances were highly disconfirmable, and that "for such models, bad fit to observed data is entirely possible" (p. 30). On the other hand, the structural parameters were unbiased when the models have three or more indicators per factor (Gerbing & Anderson, 1985). Viewing this, the revised VMS maintains at least three indicators per latent variable during the entire scale development process (Loehlin, 1998).

In conclusion, the results indicate that males are more motivated to become volunteers than females. Specifically, males agree more that volunteering can give them opportunity for personal growth and helpful to their education as well as their career than their counterparts. In light of previous research and the findings of this current study, different strategies are necessary when recruiting volunteers. The modified VMS has sound psychometric properties and can be used to assess the motivation of volunteers in an international setting. However, a fit model does not necessarily mean a correct or best model because there may be many equivalent models as determined by the fit indexes (Jöreskog & Sörbom, 1993). This is true for the VMS model because it is only in its initial stage. Future researchers should reexamine the VMS with samples from different countries to further examine its factor structure and invariance across gender, race, etc. In addition, further examination of the psychometric properties, such as the convergent and divergent validity of the VMS is necessary. For example, the VMS could be compared to other similar motivation scales to see whether they were developed with the same degree of emphasis on scale construction and specificity for the volunteering setting (i.e., convergent validity).

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Appendix A

Modified Volunteer Motivation Scale

Work Experience					
1. Volunteering gives me opportunity to do meaningful work	SD	D	Ν	А	SA
2. Volunteering gives me opportunity for personal development	SD	D	Ν	А	SA
3. I feel a sense of accomplishment from my work	SD	D	Ν	А	SA
4. I enjoy interacting with other professionals	SD	D	Ν	А	SA
5. Volunteering helps me to succeed in my chosen profession	SD	D	Ν	А	SA
Networking					
1. Volunteering can lead me to meet new contacts for future careers	SD	D	Ν	А	SA
2. I can make new contacts who might help my business or career	SD	D	Ν	А	SA
3. Volunteering helps me to explore different career options	SD	D	Ν	А	SA
4. Volunteering leads me to better opportunities for networking	SD	D	Ν	А	SA
Self-Determination					
1. Volunteering enhances my abilities	SD	D	Ν	А	SA
2. Volunteering motivates me to interacting with new people	SD	D	Ν	А	SA
3. Volunteering helps me relieve the stress and tension	SD	D	Ν	А	SA
4. Volunteering makes me more marketable to other organizations	SD	D	Ν	А	SA
5. Volunteering gives me a better understanding of the organization	SD	D	Ν	А	SA
6. Volunteering is considered to be prestigious	SD	D	Ν	А	SA
7. Volunteering helps me with self-esteem	SD	D	Ν	А	SA
8. Volunteering activity energizes me	SD	D	Ν	А	SA
9. Volunteering makes me discover new interests	SD	D	Ν	А	SA
Volunteering Abroad					
1. I could obtain an educational experience	SD	D	Ν	А	SA
2. Volunteering will help with my resume	SD	D	Ν	А	SA
3. Volunteering is required in my degree program	SD	D	Ν	А	SA
Volunteering introduces me to new cultures	SD	D	Ν	А	SA
5. Volunteering opens me up to new experiences	SD	D	Ν	А	SA
6. Volunteering helps me to improve my skills and abilities	SD	D	Ν	А	SA
Social Interaction					
1. People I am close to share an interest in community service	SD	D	Ν	А	SA
Volunteering is an important activity to the people I know best	SD	D	Ν	А	SA
3. Volunteering makes me feel important	SD	D	Ν	А	SA
4. Volunteering makes me feel needed	SD	D	Ν	А	SA
5. Volunteering is a way to make new friends	SD	D	Ν	А	SA