Committed Sport Event Volunteers

by Keunsu Han, Towson University; Jerome Quarterman, Benedict College; Ethan Strigas, Indiana State University; Jaehyun Ha, Keimyung University and Seungbum Lee, University of Akron

Abstract

The purpose of this study was to investigate the relationships among selected demographic characteristics (income, education and age), motivation and commitment of volunteers at a sporting event. Three-hundred and five questionnaires were collected from volunteers in a marathon event and analyzed using structural equation modeling (SEM). Based on the results, the structural model illustrated that the paths of selected demographic characteristics, volunteer motivation, and volunteer commitment were statistically significant. The results of this study will contribute not only to an extension of the knowledge base of sport volunteerism, but also to practical applications for volunteer coordinators and event marketers.

Keywords: volunteerism, commitment, motivation, marathon

In the sport industry, the importance of volunteerism has been raised in economic as well as non-economic aspects. Chelladurai (2006) appraised that the economic value of volunteers in sport exceeds $50 billion. It can be surmised that about 20% of all volunteers in America were in sport and recreation. Sport volunteers are a critical part of the overall success of many major sporting events (Warner, Newland & Green, 2011) and play a key role in the provision of sport participation opportunities (Hoye& Doherty, 2011; Mihajlovic, Komnenic, Kastratovic & Cilerdzic, 2010). Several financial benefits result from the retention of volunteers: (a) organizations benefit financially from the use of well-trained volunteers in place of paid staff; (b) volunteers come from various backgrounds and possess different aptitudes, thus are able to serve in various job positions and responsibilities; (c) volunteers can be used again in future sporting events, making their financial impact even greater. Chelladurai discussed the non-economic significance of volunteers. According to him, volunteers can provide an objective evaluation because they are not tied to any financial benefits and/or incentives. This role of volunteers can help the organization stay on the right track.

Following these views about the significance of sport volunteerism, Farrell, Johnson, and Twynam (1998) suggested that managers should understand volunteer motivation along with the volunteering experience, in order to effectively respond to management needs in the areas of recruitment, retention, and daily operations of sport events. Therefore, research of volunteerism in the context of sport events has been focusing on motivation and management relating to the recruitment and the retention of volunteers.

Motivation to volunteer is instrumental in explaining the differences between volunteers and non-volunteers as well as differences between volunteers that continue serving an organization and those that abandon their activities (Omoto & Snyder, 1995). Employee motivation studies have been focused on job performance, absenteeism, tenure, and productivity, while most motivation studies for volunteers have been focused on the decision to volunteer (Cnaan & Cascio, 1999). Understanding the motives that cause volunteers to work in major sport events can help sport associations set up successful recruiting and training programs for such individuals.

Commitment has been identified as a significant variable associated with other employee outcomes in the field of Organizational Behavior (OB) and sport. From the studies by Reichheld (1996) and Pfeffer (1998), it is assumed that commitment could contribute to organizational effectiveness, although there is no empirical evidence in the field of sport management. Reichheld (1996) mentioned that loyalty to customers, employees, and investors is critical and thus an important source of growth, profits, and competitive advantage. He focused on the reasons that make loyal employees valuable to companies. In his argument, he suggested that loyal employees (a) develop higher quality relationships with customers (as a result, employees' loyalty contribute to customer loyalty), (b) seek opportunities to learn and grow professionally, (c) increase organizational efficiency, and (d) reduce recruiting and training costs, releasing resources that can then be reinvested in other parts of the business. Reichheld (1996) asserted that loyalty of employees can create a powerful competitive advantage for the company. His view is also supported in Pfeffer's work. Pfeffer (1998) discussed that "firms that have pursued high involvement, high performance, and high commitment management practices have produced superior economic returns over the long-term" (p. 394).

The purpose of this study was to investigate the relationship among selected demographic characteristics (income, education and age), motivation and commitment of volunteers at an amateur sporting event (see figure 1). The specific aims of this investigation were to: (a) confirm the multidimensionality of commitment (i.e., four bases of volunteer commitment) and motivation (i.e., five-factor model of volunteer motivation) among volunteers in a marathon running event, and (b) explore the relationships

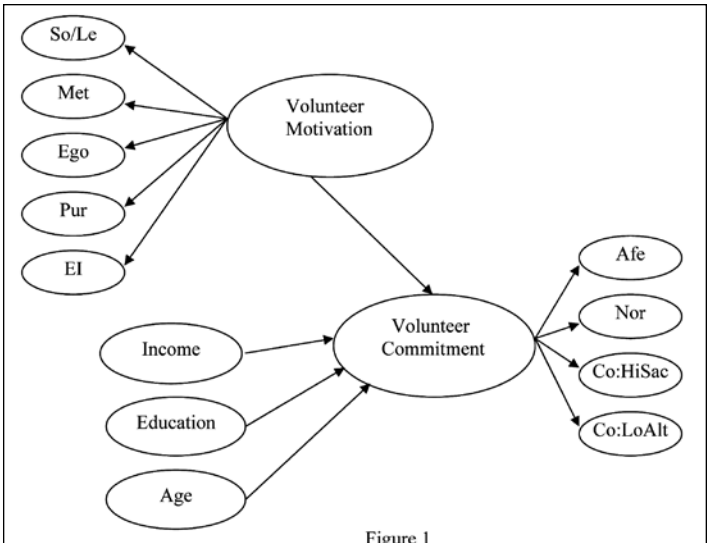

Figure 1

The potential relationship between selected demographic characteristics, volunteer motivation and volunteer commitment

among the selected demographic characteristics, motivation and commitment among volunteers in a marathon running event.

Committed volunteers can be an important asset to enhance the effectiveness of sport event organizations and to recycle as human resources for future events (Chelladurai, 2006). Cuskelly, MaIntyre and Boag (1998) suggested that the commitment of volunteers is critical to the effective organization and delivery of community-based sport. Why is understanding volunteer commitment important for people who may only volunteer on an annual basis? It is important for administration of such types of events to understand commitment of the volunteers for better enticing them to return the next year. If existing committed volunteers return next year, the effectiveness of event organization will be enhanced in economic and non-economic aspects. For example, event marketers and managers can monitor individual levels of volunteer commitment through surveys and use the information as a basis for volunteer retention. In spite of the need for studies of volunteer commitment, few studies have focused on volunteer commitment in sport events.

Review of Literature

Volunteer Motivation in the Sport Setting

Volunteer motivation in the sport setting has been a subject of study for several years. Several studies have occurred in the past decade, of which two have dealt with instrument development (Farrell, Johnston, & Twynam, 1998; Strigas, 2001).

In Farrell, et al., a 28-item scale instrument was adapted from the scale developed by Cnaan and Goldberg-Glen and tested by factor analysis. This study divided volunteer motivation into four dimensions: 1) purposive, 2) solidary, 3) external traditions, and 4) commitments. Purposive motivation (desire to contribute to society) ranked highest in importance and solidary factors (social interaction, group identification, networking) paralleled those described by Caldwell and Andereck (1994). Farrell et al. identified two new dimensions, which ranked lowest in importance: external traditions (extrinsic motivations) and commitments (the expectations of others when volunteering). Farrell et al. suggest that those who volunteer for special events have different motivations than that of other volunteers, citing that "Managers need to be prepared to address the variety of motivations when seeking volunteers for special events" (p. 298). This cornerstone work models how theories on volunteer motivation can be used for future human resources studies in sports organizations.

Strigas (2001) studied the development of a new and reliable scale to measure primary volunteer motives. Through exploratory and confirmatory factor analyses, he concluded that five factor models described volunteer motivations for sporting events: 1) social/leisure (need for social interaction, interpersonal relationships and need for relaxation and recreation); 2) material (pertaining to monetary value monetary or anticipated utility gain); 3) egoistic (self-actualization and esteem); 4) purposive (contribution to sport event and community); 5) external (the influence of others for volunteering).

Research Questions 1: Do the factors of motivation for volunteers in a marathon running event include social/leisure, material, egoistic, purposive and external influence?

Foci and Bases of Commitment

Recent studies on the commitment of volunteers to sport events have taken two different paths: foci of commitment (Reichers, 1985) and bases of commitment (O'Reilly & Chatman, 1986). Foci of commitment includes individuals and groups to whom employees are attached within an organization or occupation (Becker & Billings, 1993). "Employees who are relatively uncommitted to the organization might nevertheless perform effectively because of a commitment to the work group, profession, or clients" (Meyer, Allen, &Topolnytsky, 1998, p. 84). Bases of commitment are motives that result in attachment to foci of commitment (Becker & Billings, 1993), which include: affective commitment, normative commitment, continuance commitment-low number of alternatives (CC: LoAlt) and continuance commitment-high personal sacrifice (CC: HiSac) (Meyer & Allen, 1997; Turner, 2001).

According to Meyer and Allen: "Affective commitment refers to an employee's attachment to, identification with, and involvement in the organization" (1997, p. 11). Meyer and Allen (1991) found that the best predictor of affective commitment was work experience, and that employees whose basic expectations and needs are met have a stronger level of affective commitment.

Meyer and Allen (1997) describe continuance commitment as "awareness of cost associated with leaving the organizations" (p. 11). Such employees recognize the financial detriments in leaving the organization (loss of pension plans and investment, inability to acquire other employment, loss of personal and professional relationships and standing in the company). Originally a unitary dimension, further research (McGee & Ford, 1987) has resulted in the subdivision of continuance commitment into 1) continuance commitment-low number of alternatives (CC: LoAlt), relating to commitment due to lack of other employment opportunities; and 2) continuance commitment-high personal sacrifice (CC: HiSac), relating to commitment because of personal loss incurred by separation from the organization. Strong continuance commitment to an organization implies the necessity to remain with the organization. Further research has confirmed the two-dimensionality of continuance commitment (Allen & Meyer, 1990; Dunham, Grube, & Castaneda, 1994; McGee & Ford, 1987; Meyer & Allen, 1997).

Normative commitment refers to an employee's feeling of "obligation to continue employment" (Meyer & Allen, 1997, p. 11). The employee may feel a sense of moral obligation because of the investment the company has made in the employee.

Each of the studies on commitment of volunteers in a sports event is unique, particularly in regard to such variables as volunteer motivation and demographic characteristics. Due to the characteristics of participants in this particular study, occupational commitment refers to volunteer commitment and is only used as a variable of the foci of commitment. The ING running marathon is held annually, and no permanent volunteer organizations are attached to this event; therefore, commitment in this study is defined according to the four bases of volunteer commitment.

Research Questions 2: Do the bases of commitment for volunteers in a marathon running event include affective commitment, normative commitment, continuance commitment–high personal sacrifice, and continuance commitment-low number of alternatives?

Antecedents and Consequences of Commitment

Figure 2 is a model of related antecedents and consequences of organizational commitment. The proposed model has been proven empirically that organizational commitment is positively associated with job satisfaction and performance, and negatively associated with turnover intention, job stress, and burnout.

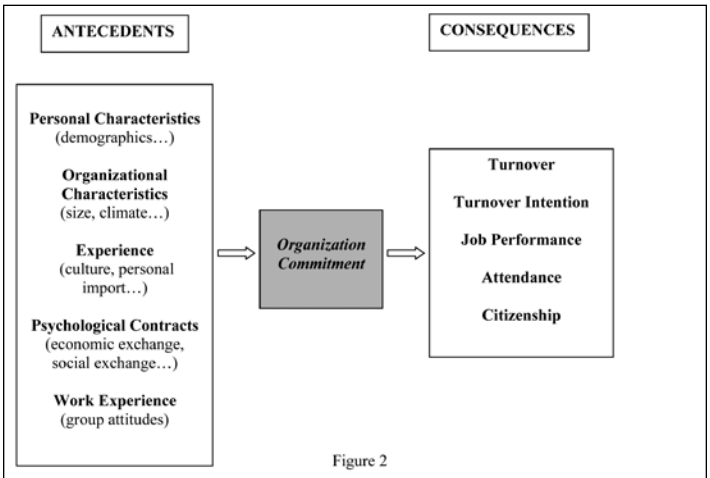

Figure 2

Summarized model of antecedents and consequences of organizational commitment (based on Meyer & Allen, 1997; Steers, 1977)

Relationship among Demographics, Motivation and Commitment Researchers (Dunham, Grube & Castaneda, 1994; Mathieu & Hamel, 1989; Meyer & Allen, 1997) have found that factors influencing commitment are: (a) personal characteristics such as demographic characteristics and personal motivation (personality); (b) job satisfaction; (c) job involvement; (d) organizational characteristics such as organization size, structure, and climate; and (e) environmental conditions such as family responsibility, family support.

Dailey (1986) used four factors (personal characteristics, job characteristics, job involvement, and job satisfaction) to predict volunteer commitment. He measured personal characteristics by assessing only personal motivation; he did not use demographic characteristics as a variable. Daily assessed personal motivation as an important predictor for commitment of volunteers, arguing that highly motivated volunteers have high commitment, which contributes to an organization's effectiveness.

Hsieh (2000) sought to identify the best predictors for commitment and developed the model that explains the relationships between motivation and commitment of volunteers. Among the variables of volunteer motivation, demographic characteristics, volunteer involvement, and volunteer satisfaction, results indicated that the best predictors of commitment were volunteer involvement and volunteer satisfaction. Among demographic characteristics, annual family income, age and education level were the best predictors of commitment, with the greatest commitment coming from older volunteers of high income and education. Hsieh also found that when the six volunteer motivation factors by Clary et al. (1998) were used to replace overall volunteer motivation, career motivation was the only predictor of commitment. He concluded that knowledge of relationships between demographic profile and commitment of volunteers plays an important role in recruiting and retaining volunteers.

Research Questions 3: Are there any relationships among the selected demographic characteristics, motivation and commitment of volunteers in a marathon running event?

Methods

Research Design

This study was designed as a non-experimental cross-sectional descriptive study. A cross-sectional study is defined as an examination of a phenomenon that occurs at one point in time (Depoy & Gitlin, 1994). For the current study, data were collected at one point in time from volunteers in a Georgia marathon running event. The survey method was employed in this particular study because of the economy of the design and the quick turnaround in collecting the data.

Instrumentation

From a review of literature on motivation and commitment relating to sport volunteerism, the Motivation of Sport Volunteers questionnaire and the Commitment of Sport Volunteers questionnaire was constructed. Elements of the survey instrument for this study were modified from existing scales and a panel of experts, including sport management professors (n=3), volunteer coordinators in the ING Georgia marathon running event (n=2), and researchers on sport volunteerism (n=2), examined the questionnaires for content validity.

Demographic Characteristics

Demographic characteristics were made up of: (a) basic personal information, such as gender, race, age, income, and level of education; (b) information relating to hours of service per month, years of service, volunteers' title; and (c) employment status, whether part-time or full-time.

Volunteer Motivation

Strigas' (2001) 5-factor and 30-item motivation scale, which included social/leisure, material, egoistic, purposive and external influences, was modified to measure volunteer motivation in a marathon running event. A panel of experts checked content validity. Respondents indicated level of agreement on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Volunteer Commitment

Two foci (organization and occupation) and four bases (AC, NC, CC: HiSac and CC: LoAlt) of commitment concerned this study. Turner's 12-item scale (2001), which he had adapted from a three-component 18-item scale of Meyer, Allen, and Smith (1993) to measure coaches' commitment, was adapted to measure commitment of volunteers in a marathon running event. Turner's scale, included four bases of commitment: (a) affective commitment (3 items), (b) normative commitment (3 items), (c) continuance commitment–high personal sacrifice (3 items), and (4) continuance commitment–low number of alternative (3 items). Respondents were asked to indicate their level of agreement with each of the 12 items on a Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The author used Turner's four bases scale of commitment for the following reasons: (a) OCQ has often loaded as a two-factor

solution and has focused on affective commitment; (b) although the discriminant validity between affective and normative commitments has drawn criticism, many studies still support the differences between the two dimensions (Meyer & Allen; 1991; 1997), and Meyer and Allen (1997) indicated that normative commitment was a better predictor than affective commitment in different cultures; (c) two separated continuance commitments were associated independently with the other outcome variables. For example, CC: LoAlt was positively associated with the intention to leave the organization, while CC: HiSac was negatively correlated to a turnover intention (Turner & Chelladurai, 2005).

Occupational commitment refers to volunteer commitment in this study and is only used as a variable of the foci of commitment due to the characteristics of the participants in the study.

Participants

Three-hundred and five volunteers participated in an annual Georgia Marathon, an event with international participation held in Atlanta, Georgia, as part of the Health and Fitness Expo. Some 1,000 people volunteered as coordinators, runner assistants, registration and accreditation aids, medical staff, race coordinators, holding fans, set-up and cleaning crews, security staff, etc. Commitment of their time depended on the task to which they were assigned.

Sampling Method

Participants in the study were recruited based on a non-probability sampling method. A convenience sampling technique was used to select subjects for the study. Convenience sampling is a non-random sampling technique, which is typically conducted in a non-probability sampling method. The sample for the study was drawn from volunteers participating in an annual Georgia Marathon event.

Data Collection

The volunteer coordinators of the Georgia Marathon event were contacted via e-mail, providing information and an attached proposal. The volunteer coordinators agreed to participate in and permit an on-site survey.

The Georgia Marathon event continued for three days and included a Health and Fitness Expo and marathon day. There were more than 1,000 volunteers. All volunteers stopped by the volunteer office to sign in before they served as a volunteer, and the surveys were distributed in the office. Each volunteer were able to have enough time to fill out the survey because they waited for volunteer orientation in the office.

The instruments were coded to protect the anonymity of the respondents. The participants were assured that all information gathered would be held confidential, presented in group form and only used in this study.

The surveys distributed included a) a letter explaining the project and requesting the participation, b) the instrument, and c) a self-addressed stamped envelope in case participants wished to respond by mail. Finally, participants expressing an interest in the results will receive a summary of the findings and their interpretations upon their request.

Data Analysis

The data were analyzed using the Statistical Package for the Social Science (SPSSPC 14.0) and Analysis of Moment Structures (AMOS 7.0). Data received from the returned questionnaires were screened through descriptive analysis. In order to assess psychometric properties of the measures, confirmatory factor analyses (CFA) were conducted using the computer program Analysis of Moment Structures (AMOS 7.0).

Each research question is analyzed in the following way:

RQ 1) Do the factors of motivation for volunteers in a marathon running event include social/leisure, material, egoistic, purposive and external influence? Confirmatory Factor Analysis (CFA) provided the answer to the first research question.

RQ 2) Do the bases of commitment for volunteers in a marathon running event include affective commitment, normative commitment, continuance commitment–high personal sacrifice (CC: HiSac) and continuance commitment-low number of alternatives (CC: LoAlt)? Confirmatory Factor Analysis (CFA) provided the answer to the second research question.

RQ 3) Are there any relationships among the selected demographic characteristics, motivation and commitment of volunteers in a marathon running event? Structural Equation Modeling (SEM) was utilized to examine paths identified in this research question. In this design, exogenous variables are the selected demographic characteristics, including income, education and age, and motivation of volunteers while an endogenous variable is volunteer commitment.

Results

Descriptive Statistics

Preliminary analyses were conducted to identify any missing data, outliers and possible violations of the multivariate normality assumption associated with maximum likelihood estimation. The skewness and kurtosis statistics were examined to determine whether the observed variables were normally distributed. According to Kline's guideline (2005), data with absolute values in a univariateskewness index greater than 3.0, are considered to be extremely skewed. His guidelines also indicate that absolute values of the univariate kurtosis index over 8.0 appear to be extreme kurtosis. All skewness and kurtosis values ranged from -1.585 to 2.218. Based on Kline's guideline, it was assumed that all variables in the data set achieved multivariate normality.

Reliability

The reliability estimates (Cronbach's alpha) for the four bases of commitment and the volunteer motivation by five dimensions are reported in Table 1. The results revealed that Cronbach's α coefficients of volunteer motivation scales ranged from .7082 to .8726 and volunteer commitment scales ranged from .7274 to .7907. The reliability test indicates that the items are internally consistent since the items are considered to be reliable when a Cronbach'sα coefficient is more than .70 (Nunnally & Bernstein, 1994).

Table 1. ***Reliability Estimates***

Dimension	Cronbach's α
Volunteer Motivation	
Social/Leisure	.8595
Material	.8726
Egoistic	.7127
Purposive	.7453
External Influence	.7082
Volunteer Commitment	
Affective Commitment	.7513
Normative Commitment	.7431
Continuance Commitment-High Sacrifice	.7907
Continuance Commitment-Low Number of Alternatives	.7274

Dimensionality of Volunteer Motivation and Commitment (RQ 1 and 2)

· RQ 1: Do the factors of motivation for volunteers in a marathon running event include social/leisure, material, egoistic, purposive and external influence?

· RQ 2: Do the bases of commitment for volunteers in a marathon running event include affective commitment, normative commitment, continuance commitment–high personal sacrifice (CC: HiSac) and continuance commitment-low number of alternatives (CC: LoAlt)?

Confirmatory factor analysis (CFA) was conducted in order to examine the adequacy of the measurement relationship of the proposed model. Three types of fit indices, absolute, comparative, and parsimonious fit index, were recommended to assess overall model fit (Kelloway, 1998). The root mean square error of approximation (RMSEA) and χ^2 test were used to measure absolute fit; the comparative fit index (CFI) was used to measure comparative fit; and the parsimonious normed fit index (PNFI) was used to measure parsimonious fit. Browne and Cudeck (1993) suggested that an RMSEA value of .08 or less would indicate acceptable model fit. In addition, Hu and Bentler (1999) recommended that CFI values greater than .95 and PNFI values greater than .60 are threshold values for reasonable model fit. However, because of χ^2 statistics' sensitivity to sample size, the normed chi-square (χ^2/df) was recommended as a measure of model fit (Kline, 2005). Bollen (1989) proposed that values of normed chi-square (NC) of 2.0, 3.0, or even as high as 5.0, have been considered as indicators of reasonable fit.

Average variance extracted (AVE) were utilized to assess the reliability of each construct. Fornell and Larcker (1981) recommended that the value exceeding .50 and AVE scores are considered acceptable levels of reliability.

Average variance extracted (AVE) was suggested by Fornell and Larcker (1981) to be an indicator of the overall convergent validity of a subscale and the value should exceed .50. Anderson and Gerbing (1988) suggested that convergent validity can be investigated by identifying whether each indicator's loading on its posited construct was greater than twice its standard error, and whether each factor loading was over .707. Discriminant validity was evidenced based on whether the AVE for each construct was greater than the squared correlation between the construct and any other construct (Fornell & Larcker, 1981). Additional evidence of discriminant validity was that estimated correlations among factors were less than the recommended value of .85 (Kline, 2005).

Table 2. ***First-Order CFA Measurement Model of Volunteer Motivation: Item Loading (β), Standard Errors (SE), t-values (t), and Average Variance Extracted (AVE)***

Subscale	β	SE	T	AVE
Social/Leisure				.62
1. I wanted to discover new interests	.819	.066	16.331	
2. I wanted to experience the feeling of being absorbed by what I do	.811	.058	16.095	
3. Volunteering is a good escape from my daily routine	.786	.094	14.022	
4. I wanted to slow down the pace of life	.744	.118	13.562	
5. I have more free time than I used to have	.721	.093	13.174	
6. I wanted to relieve the stress and tension of everyday life	.930	.063	20.354	
7. I wanted to develop friendships with other volunteers	.611	.109	10.759	
8. I wanted to interact with other volunteers	.585	.079	10.211	
9. I wanted to provide me the excitement I crave	.802	.069	15.850	
Material				.57
10. I wanted to make new contacts that might help my business or career	.798	.064	15.701	
11. I wanted to be recognized for doing this volunteer work	.859	.139	20.458	
12. Volunteering my services for this event is considered prestigious	.686	.085	12.563	
13. Volunteering experience will look good on my resume	.751	.114	10.444	
14. I wanted to gain some practical experience toward paid employment (or a new career)	.727	.091	10.190	
15. My employer/school is going to give me an extra bonus/credit for volunteering	.725	.126	10.185	
16. Complimentary items	.781	.084	14.984	
Egoistic				.62
17. I wanted to improve my skills and abilities through my volunteer assignments	.647	.190	11.235	
18. I wanted to challenge my abilities.	.909	.062	19.306	
Table 4.6-continued				
19. Volunteering makes me feel better about myself/helps my self esteem	.797	.093	15.240	
20. Volunteering in this sport event is worthy of my efforts and attention	.809	.090	15.659	
21. It is fun and exciting to volunteer for this sport event	.953	.120	24.098	
22. Volunteer activities energize me	.889	.154	19.028	
Purposive				.63
23. Volunteering for this sport event enables the organizational committee to provide more services for less money	.803	.061	14.579	
24. I wanted to volunteer because I am genuinely concerned about this sport event and the participants of this sport event	.828	.057	15.100	
25. I adhere to the organizational committee's special goals.	.782	.065	14.088	
26. I wanted to put something back in to the community.	.727	.091	10.190	
27. I wanted to volunteer because this sport event promotes our national values, image, or heritage	.799	.063	14.452	
External Influence				.81
28. Because I was asked by others to volunteer in these games	.775	.111	14.340	
29. I wanted to be appreciated by my significant other/family/community members	.771	.090	14.243	
30. My friends /family/ significant other are also volunteering at these events	.801	.120	14.971	

First-Order CFA Measurement Model of Volunteer Motivation

The five-factor (social/leisure, material, egoistic, purposive and external) CFA model for volunteer motivation had 395 degrees of freedom. The model fit results for the five-factor CFA model for volunteer motivation revealed acceptable model fit to the data (χ^2[395] = 931.3219; $p < .05$; $\chi^2/df = 2.35$;CFI = .98; PNFI = .68; and RMSEA = .061). All of the model fit indices were satisfactory within recommended thresholds. Upon estimation of the model fit indices, construct validity (e.g., standardized loadings and the estimated correlations) were measured. Construct validity was supported by the results of the standardized solution for convergent validity and the results of the estimated correlation among factors for discriminant validity.

As shown in Table 2, convergent validity was assessed by examining whether each indicator's loading on its posited construct was greater than twice its standard error, and whether each factor loading was over .707 (Anderson & Gerbing, 1988). For the five constructs, all items loaded significantly on their designated construct (t-values ranged from 10.185 to 24.098). All factor loadings were greater than twice its standard error. Factor loadings exceeded .707 except for items 7, 8, 12, and 17. The values of average variance extracted (AVE) all exceeded the recommended value of .50, ranging from .57 to .81. These results evidenced convergent validity for the hypothesized measurement model.

For discriminant validity, the estimated correlations among the five factors ranged from .431 to .687 (see Table 3) and were statistically significant ($p < .05$), less than the recommended value of .85 (Kline, 1998). The results supported the discriminant validity of the constructs in the measurement model.

Table 3. ***Correlations among Five Factors***

	So/Le	Material	Egoisitc	Purposive	EI
So/Le	1				
Material	.488**	1			
Egoistic	.623**	.472**	1		
Purposive	.435*	.512**	.431*	1	
EI	.681**	.435*	.687**	.548**	1

** Correlation is significant at the .01 level (2-tailed)
*Correlation is significant at the .05 level (2-tailed)

First-Order CFA Measurement Model of Volunteer Commitment

The four-bases (affective, normative, continuance-high sacrifice and continuance-low number of alternatives) CFA model for volunteer commitment had 62 degrees of freedom. The results of the model fit indicated acceptable model fit (χ^2 [62] = 155.3722; $p < .05$; $\chi^2/df = 2.50$; CFI = .98; PNFI = .63; and RMSEA = .064). All of the model fit indices were satisfactory within recommended thresholds.

As shown in Table 4, all standardized loadings were relatively high, ranging from .722 to .905 and statistically significant, indicating convergent validity for the four bases CFA model of volunteer commitment. The value of average variance extracted (AVE) ranged from .56 to .71 and all exceeded the criteria of .50 by Fornell and Larker (1981). For discriminant validity, the estimated correlations between the four bases were from .312 to .624 (see Table 5), which is less than the recommended value of .85 (Kline, 1998).

Table 4. ***First-Order CFA Measurement Model of Volunteer Commitment: Item Loading (β), Standard Errors (SE), t-values (t), and Average Variance Extracted (AVE)***

Subscale	β	SE	T	AVE
Affective				.66
1. I dislike being a volunteer (R)	.750	.115	10.512	
2. I am enthusiastic about volunteering	.727	.091	10.190	
3. I regret doing volunteering (R)	.725	.126	10.185	
Normative				.56
4. I feel a responsibility to volunteering to continue in it	.905	.049	19.549	
5. I am volunteering because of a sense of loyalty to it	.792	.081	15.970	
6. People in my community appreciate the contributions that I make to it	.773	.082	15.430	
Continuance-HiSac				.71
7. It would be very hard for me to quit volunteering right now, even if I wanted to	.787	.068	14.168	
8. Too much of my life would be disrupted if I decided I wanted to quit volunteering right now	.811	.071	14.788	
9. If I had not already put so much of myself into volunteering, I might consider quit volunteering.	.740	.105	13.922	
Continuance-LoAlt				.63
10. Right now, continuing as a volunteer is a matter of necessity as much as desire	.722	.090	13.105	
11. I believe that I have too few options to consider quitting volunteering	.734	.088	13.396	
12. One of the few negative consequences of quitting volunteering would be the scarcity of available alternatives	.801	.120	14.971	

Table 5. ***Correlations among Four Bases***

	Affective	Normative	Co-HiSac	Co-LoAlt
Affective	1			
Normative	.525**	1		
Co-HiSac	.624**	.312*	1	
Co-LoAlt	.415**	.433**	.422**	1

** Correlation is significant at the .01 level (2-tailed)
*Correlation is significant at the .05 level (2-tailed)

Second-Order Model of Volunteer Motivation

Based upon the acceptable results of the first-order CFA measurement model for volunteer motivation, a second-order model of volunteer motivation was tested to determine whether five first-order latent variables could be explained by a higher order structure, which is a single second-order latent variable of the global construct of volunteer motivation. The model for this study is a hierarchical factorial structure composed of first-order factors (social/leisure, material, egoistic, purposive and external) labeled as unobserved endogenous variables and one independent second-order factor (volunteer motivation) labeled as an unobserved exogenous variable.

The second-order model for the volunteer motivation was needed to test whether five first-order latent variables could be explained by the higher order structure. Based on the results of the first-order model test, four problematic items (item 7, 8, 12 and 17) for which the loading value was below .707 were discarded before conducting the test.

The results indicated that the hypothesized second-order model

evidenced an acceptable model

fit to the data (χ^2[278]= 722.0901; $p < .05$; $\chi^2/df = 2.59$; RMSEA= .072; CFI= .98; and PNFI= .69). The factor loading between the five first-order latent variables and the second-order factor were .916, .823, .712, .638, and .574, respectively, which were statistically significant ($p < .05$). The values of average variance extracted (AVE) were ranged .55 to .74 and all exceeded the recommended value of .50. These results evidenced relatively high convergent validity for the measurement model.

In addition, the results indicated that the correlations between the five constructs were .372 to 671 and did not exceed the criteria of .85 by Kline (1998). All of the five constructs satisfied this test for discriminant validity. The results supported for the discriminant validity of the measurement model. Figure 3 provides the results of CFA for second-order model volunteer motivation.

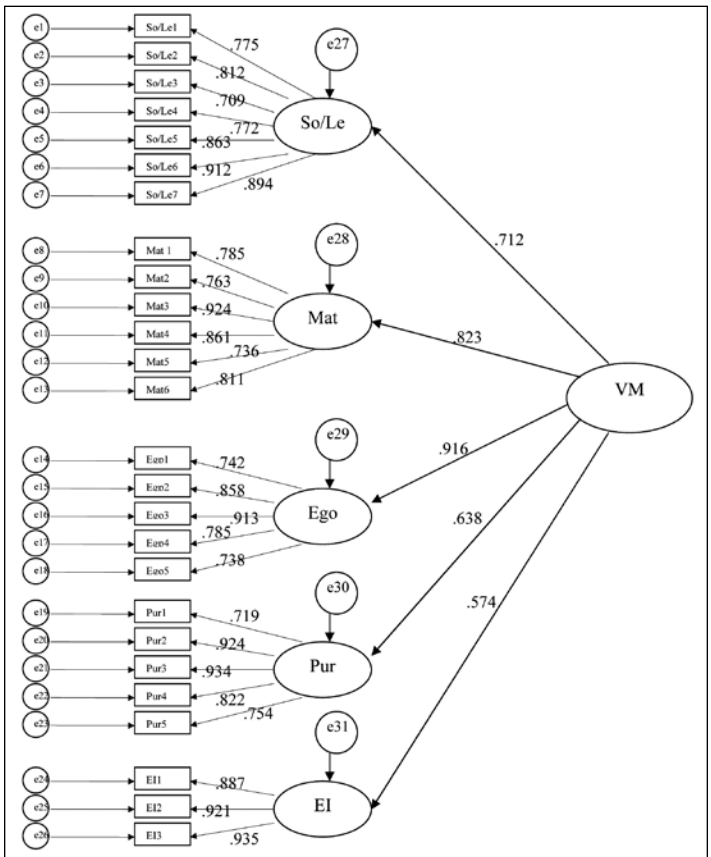

Figure3

Second-Order model of volunteer motivation

Second-Order Model of Volunteer Commitment

As represented in the conceptual framework, the concept of volunteer commitment was designed, to be illustrated as a hierarchical factorial structure composed of four first-order factors (Affective, Normative, Continuance-HiSac, and LoAlt) and a single second-order factor (Volunteer Commitment).

The results showed that all model fit indices of the model exceeded their recommended thresholds (χ^2[55] = 119.1481; $p < .05$; $\chi^2/df = 2.16$; RMSEA= .056; CFI= .99; and PNFI= .67). The results indicated that the second-order measurement model for the volunteer motivation construct fit to the sample data. The first-order factors loaded significantly on the second-order volunteer motivation construct. The factor loadings between the four first-order factors and the second-order factors were .931, .881, .837 and .813, respectively. The values of average variance extracted (AVE) all satisfied the recommended value of .50, which are .61, .66, .72 and .78. The measurement model indicated relatively high convergent validity. The correlations between the four constructs were .542 to 783 and below the criteria of .85 by Kline (1998). The results supported for the discriminant validity of the measurement model. Figure 4 is the results of second-order model of volunteer commitment.

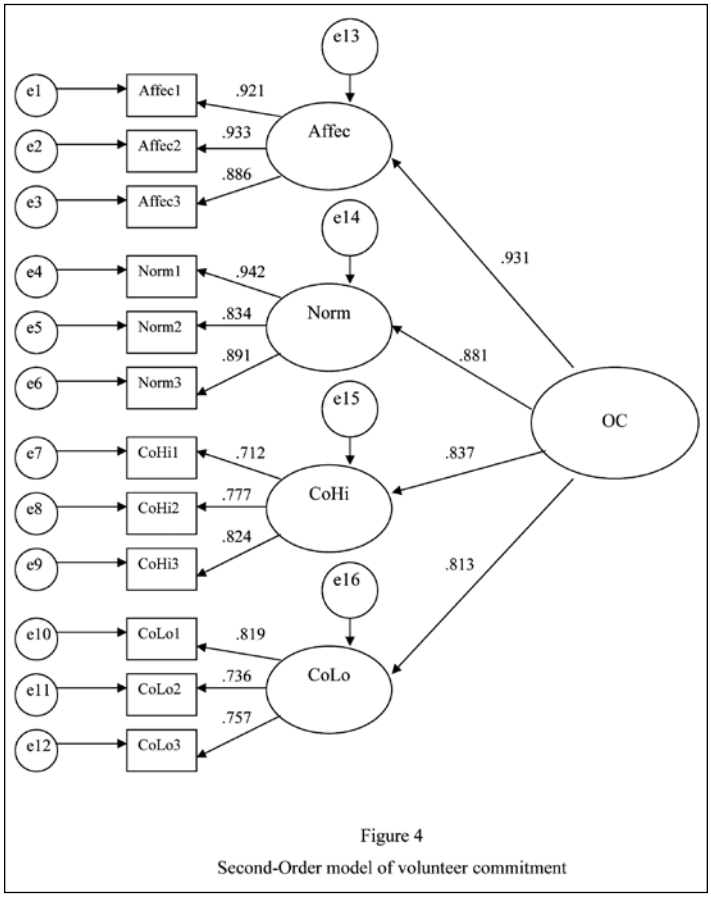

Figure 4

Second-Order model of volunteer commitment

Structural Model (RQ 3)

· RQ 3: Are there any relationships among the selected demographic characteristics, motivation and commitment of volunteers in a marathon running event?

The hypothesized structural model was tested to identify the relationships among selected demographics (income, education and age), volunteer motivation and volunteer commitment. The hypothesized structural model consisted of a single endogenous variable (volunteer commitment) and four exogenous variables (income, education, age and volunteer motivation), which implied that the hypothesized structural model illustrated the direct effects of volunteer commitment upon income, education, age and volunteer motivation.

The results indicated satisfactory model fit to the sample data ($\chi^2_{[637]}$ = 1338.1816; $p < .05$; $\chi^2/df = 2.10$; CFI = .99; PNFI = .71; and RMSEA = .051). The factor loadings indicated that the five indicators of volunteer motivation were between .771 and .952

and the four indicators of volunteer commitment were between .825 and .942. The coefficients between the selected demographics (income, education and age) and volunteer commitment were .714, .511, .408, respectively. In addition, the path coefficient value between the volunteer motivation and volunteer commitment was .526. All results of path coefficient were statistically significant ($p < .05$). The sample data clearly showed that selected demographics (income, education and age) and volunteer motivation antecedes volunteer commitment (see Figure 5).

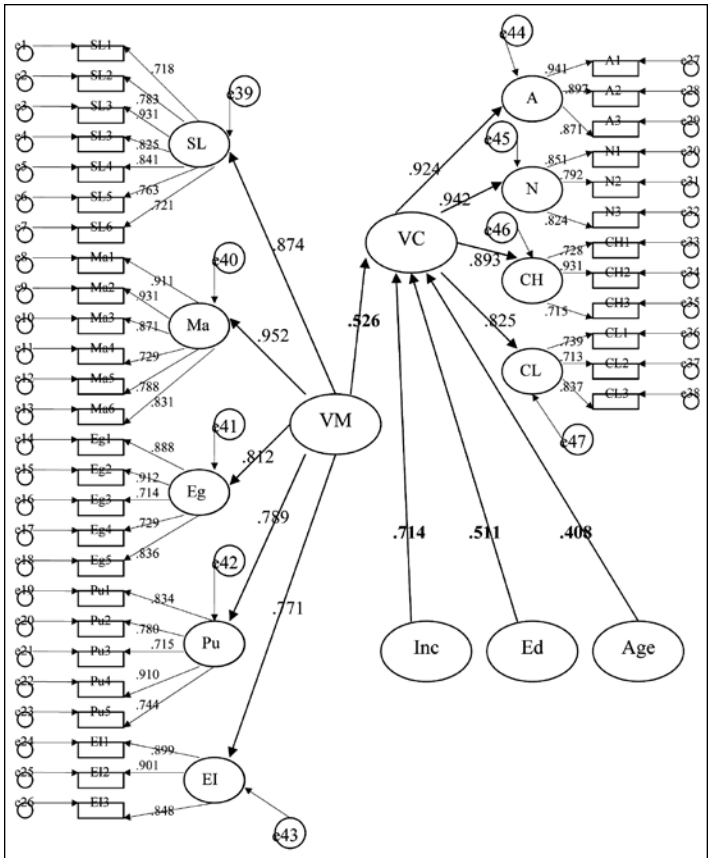

Figure 5

Structural model of selected demographics, volunteer motivation and volunteer commitment

Summary and Discussion

The purpose of this study was to confirm the major constructs (dimensions) of volunteer motivation and commitment from previous research. The establishment of major constructs plays an important role in broadening knowledge regarding the motivation and commitment of volunteers in marathon events, as well as to make a significant contribution to future studies of volunteers at sport events. The results of CFA tests in order to examine the adequacy of the five-factor volunteer motivation scale and the four bases volunteer commitment scale indicated that measurement model satisfactorily fit the sample data and also supported the reliability and validity of the measurement model. In other words, the CFA provided an obvious support for a five-factor model of volunteer motivation and four bases model of volunteer commitment. In order to measure commitment of volunteers, most research includes only affective and normative commitment because of the assumption that volunteers are not associated with monetary or material benefits. However, this study supported a four bases measurement model, including CC: HiSac and CC: LoAlt for volunteer commitment. In spite of the similar characteristics of CC: HiSac and CC: LoAlt, the results satisfied the construct and discriminant validity. To support this result, it can be discussed that volunteers in this marathon running event had two different kinds of continuance commitment. In other words, volunteers can be both committed due to a low number of alternatives in other volunteer opportunities and high personal sacrifice in quitting the volunteer service in this marathon event.

The analysis of fit indices provided support for the second-order measurement models of volunteer motivation and volunteer commitment. The results proved that volunteer motivation is a multidimensional construct composed of five sub-dimensions, and egoistic ($\lambda = .916$) and material ($\lambda = .823$) factors were the strongest predictors of volunteer motivation. From these findings it can be explained that two factors are conceptually similar in that both factors tend to orient selfish motives for the benefit of volunteers.

The results of the second-order measurement model for volunteer commitment indicated that volunteer commitment is a multidimensional construct composed of four bases. The finding suggests different views from previous studies related to the commitment of volunteers. Most research did not insert continuance commitment to measure the commitment for volunteers because continuance commitment is related to job payment; a volunteer position is not a paid position (Hsieh, 2000). People are still involved in volunteer service because of many monetary benefits. For example, material factor ("I want to gain some practical experience toward paid employment"; "my employer/school is going to give me an extra bonus/credit for volunteering"; "complimentary items [t-shirts, goodie bags, free tickets] played a very important role in my decision to volunteer for this sport event") and egoistic factor ("I want to challenge my ability") of volunteer motivation are related directly to monetary benefits. These reasons to volunteer might result in continuance commitment of volunteers. Adding continuance commitment for volunteers was a major rationale, confirmed by CFA.

Another purpose of this study was to explore the relationships among the selected demographic characteristics, with motivation and commitment among volunteers at a marathon running event. The SEM results indicated that the standardized regression path between selected demographics (income, education and age), volunteer motivation and volunteer commitment were statistically significant ($\lambda = .714, .511, .408, .526$, $p < .05$). There was a positive association among three variables. It might be assumed that higher income, education and age influence higher volunteer commitment. Moreover, volunteer commitment increases when an individual's volunteer motivation increases. These results were consistent with the previous studies about antecedents of commitment (Dailey, 1986; Hsieh, 2000; Meyer & Allen, 1997). These studies showed that demographics and motivation were the predictors of commitment. Even though all previous studies focused on organizational commitment, the results were consistent with this study. It might be said that commitment toward organization of volunteers is closely correlated with commitment toward volunteer work itself among volunteers. However, further

research is needed to generalize because sample of studies was still different. Most commitment studies focused on employees (i.e., paid employees in general company) or volunteers (i.e., 4-H volunteers) in a permanent organization, while the participants of this study were limited to the volunteers in a single sport event on an annual basis.

Implications

The current study contributes an integrated and detailed perspective to advance the knowledge of volunteer commitment in sport events; it confirms four bases believed to comprise the construct of volunteer commitment. While the five-factor model for volunteer motivation has been confirmed in a previous study, the four bases model for volunteer commitment has not been used in any studies.

By conducting an empirical analysis, the results of this study demonstrated that these four constructs fit data fairly well, indicating that the measurements are psychometrically sound and appropriate for representing the concepts. Although the four bases volunteer commitment model was acceptable for a marathon event, it is expected that other researchers may express a variety of quite different views about the sub-dimensions and primary dimensions of the volunteer commitment. Since no study has examined volunteers' commitment with regard to the four bases used in this study, no direct comparison with previous studies can be made. In many previous studies of commitment for volunteers, continuance commitment has not been used due to its attribution that it focuses on monetary aspects; volunteer commitment is not a paid position. Therefore, it can be said that some researchers may disagree with the findings in this study regarding the four dimensions of volunteer commitment. However, many volunteers are still concerned about their egoistic benefits, especially sport volunteers, and it is connected to continuance commitment. This study has confirmed the conceptual validity of four bases volunteer commitment model, including continuance commitment. It is believed that the current study has contributed important implications in the academic area.

The hypothesized structural model was tested to explore the relationships among selected demographics (income, education and age), volunteer motivation and volunteer commitment. The model implied that the hypothesized structural model illustrated the direct effects of volunteer commitment upon income, education, age and volunteer motivation. In the test result, there was a significant relationship between the selected demographics (income, education and age) and volunteer commitment and between volunteer motivation and volunteer commitment. The sample data in this study indicated that selected demographics (income, education and age) and volunteer motivation antecedes volunteer commitment. It is believed that the findings from concepts of both motivation and commitment for volunteers in the current study represent a starting point for researchers to deeply investigate these two significant variables that are believed to affect volunteers' participation and affiliation with sport events.

Useful implications important in relation to administrators, managers, marketers and volunteer coordinators in the sport event emerge from the results of this study. As it is widely known, volunteers are significant assets for economic and non-economic aspects of sport event management. Understanding the broad and diverse spectrum of volunteers and what will motivate them to be involved will be critical to ensure financial stability in event management. Recruiting and retaining volunteers are primary issues: (a) event management companies or sport organizations could use the information from this study to design their marketing efforts in a way that could appeal persuasively to this free labor during recruitment time; (b) when volunteer opportunities for involvement appeal to the individual's motives, then that volunteer tends to be more effective at his/her assigned tasks, more committed to volunteer work, and more satisfied with the whole experience; (c) different kinds of motivation sets have proven to be strong predictive factors of volunteer retention; and (d) if the advantages taken from the experience match their initial motivation, volunteers tend to offer their services again in the future.

First, the reliable and valid scale developed for the study will prove useful in determining levels, among volunteers, of volunteer participation in sport events. For example, the scale of volunteer motivation may serve as a valuable tool in understanding volunteers, which will provide administrators and managers with a basis for segmentation of the existing motivation base. In addition, a clear understanding of the dynamics of volunteer commitment to a sport event is a critical component in both managing and increasing the potential revenues of a sport event. With this knowledge, marketers and managers can more effectively develop strategies and programs to both maintain and expand the motivation base.

Secondly, sport event marketers and managers can monitor levels of volunteer commitment through surveys and use the information as a basis for volunteer retention. Information relating to individual levels of volunteer commitment to a sport event can be electronically stored for use in developing and maintaining a large motivation base through individualized marketing; such information would provide an essential basis for developing programs customized for the volunteer commitment levels of spectator groups. In order to maintain high psychological-commitment levels in the volunteer base, marketers and managers should use reinforcement strategies that include reinforcing volunteer commitment through personalized encouragement, such as sending newsletters focused on reinforcing existing cognitions to avoid the possibility of losing committed volunteers, asking volunteer clubs to actively maintain the identification between a sport event and such volunteers, and treating such volunteers as significant because they may decrease their commitment level slowly over time if they are ignored by sport team marketers and managers.

Limitations and Recommendations for Future Study

This study focuses on volunteerism in a marathon event, and major variables used in this study include the selected demographics, motivation and commitment for volunteers. The generalizability of the results in the current study is limited to volunteers merely from the sample of one marathon event. The current study is a first attempt to conduct empirical tests in developing the measurement of the four bases of volunteer commitment. Some questions need to be answered regarding the findings of the study by using the same measures. Can the current findings be generalized to the population of sport volunteers? Does the scale demonstrate reliability and validity when employing the sample from different marathon

events, sport events and countries? Due to the complexities of volunteer behavior, it is recommended that future research should be undertaken with more diverse samples of sport volunteers.

This study was designed to examine the relationships between motivation and commitment of volunteers. A future study might test various models associated with different variables, including satisfaction, involvement and future intention of volunteers, as well as motivation and commitment of volunteers. These diverse models will suggest ideas for volunteer coordinators, event managers and marketers to retain qualified volunteers.

It would also be useful for future studies to polish the written instrument by delineating among altruism, egoism, external influence, leisure and social obligation motivation in order to more clearly elicit the true reasons to volunteer. In other words, future research may employ a qualitative approach to acquire ideas suggested by managers and volunteers to develop items so that the validity and reliability of the scale are improved.

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