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## Examining the Impact of Quality of Life on Satisfaction and Intent to Return for Marathon Runners

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**Abstract:** Marathon is one of the popular physical activities in Taiwan. The Physical activities also play an important role in promoting quality of life (QoL). The distance running enhances participants' life satisfaction and provides positive experiences in physical activity. This study aims to measure the perception of QoL and to find the effect on satisfaction and intent to return for Marathon runners. Exploratory factor analysis was carried out to extract four major factorial dimensions of QoL, including multiple functions, spiritual, physical and cognitive factors. The main factors of QoL were introduced into the regression function on satisfaction and return intention. The results shown that the QoL factors including multiple functions, spiritual, physical and cognitive factors, and had positive and significant impacts on satisfaction for participants. The multiple functions and physical factors were also significantly positively correlated to the intent of return for runners.

**Keywords:** Quality of life; Physical activity; Marathon; Satisfaction.

### 1. Introduction

Physical activity has a positive influence on individual's bodies and their quality of life (QoL) for sport event participants (Funk *et al.*, 2011; Giacobbi *et al.*, 2006; Sato *et al.*, 2014). Mass participation of sport events have the capacity to promote physical activity and could produce the sufficient level of physical activity for health benefits (Bauman *et al.*, 2009). The distance running enhances participants' life satisfaction and provides positive experiences in physical activity (Sato *et al.*, 2014).

Galambos (1997) defined QoL as goodness of life related to perceived psychological, spiritual, socio-cultural, biological and environmental well-being. In advance, World Health Organization (WHO) had detailed to define QoL as follow, "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment" (World Health Organization, 1998).

Since QoL is difficult to make objective measurements and is dependent on objective or subjective of their lives. Marinelli and Plummer (1999) comprised physical, social, emotional, intellectual, spiritual and environmental dimensions to conceptualize QoL. Kelley-Gillespie (2009) constructed the conceptual model includes six major life domains to explain QoL: social, physical, psychological, cognitive, spiritual and environmental. Gill *et al.* (2011) had extracted 70 items of QoL into 5 main factorial dimensions, including emotional, cognitive, physical, spiritual and functional factors. They tried to demonstrate the relationship between QoL and physical activity clearly.

Based on the literatures discussed above, QoL is a subjective and multidimensional conception, and integrative constructs optimal well-being and positive health for who engages in physical activity. We decided to explore the QoL of participants in marathon event. Marathon event is one of the popular physical activities in Taiwan. There were 923 running events in 2015, which revealed high density activities in Taiwan area. We found most research were focus on the connection between physical activity and the health of life quality (Funk *et al.*, 2011; Gill *et al.*, 2011; Sato *et al.*, 2014). The purpose of this study aims to explore the perception of QoL for Marathon runners. Meanwhile, the main factors of QoL will be introduced into the regression function to examine the impact on satisfaction and return intention for participants.

## 2. Material and Method

### 2.1. Study Site and Data Collection

Kinmen is a paradise for runners, and the island has rich historical heritage, and is positioned to be a “SPORTS ISLAND”. The runners run on the memorial hero island, and challenge to move excellence. The Kinmen Marathon hosted since 2008. Kinmen County owns excellent sports environment and has been endeavoring to sports promotion.

### 2.2. Sampling and Questionnaire

The sample size can be 10 times of main questionnaire items (Hair *et al.*, 2010). In this study, there were 22 items of QoL. Therefore, 300 people were asked to complete a questionnaire. In total, 247 complete replies were obtained, yielding a response rate of 82.33%. The questionnaire on QoL and satisfaction of marathon event evaluated all of the statements on a five-point Likert scale (1=Strongly disagree and 5=Strongly agree). The main items of questionnaire for the participants' perceptions of QoL were generated and revised from Gill *et al.* (2011). On-site samples were conducted on 18 Jan. 2015 for participants to Kinmen Marathon. Interviews were completed face to face by trained interviewers.

## 3. Results

### 3.1. Quality of Life on Physical Activity

This study used exploratory factor analysis to extract the major factorial dimension. Bartlett's test of sphericity and the KMO (Kaiser Meyer Olkin) test were used to examine the appropriateness of the sample data (Kaiser, 1974). The KMO value was 0.94, and the Bartlett test of sphericity had a p value smaller than 0.01. The results indicated that the variables were correlated and the factor analysis was appropriate.

The principal component method and varimax rotation were performed to extract 22 items of consumer behavior into fewer factor dimensions. Calculation of the factor scores enables extraction of the interrelated variables and a smaller number of the uncorrelated variables. Table 1 lists the results of factor analysis, which revealed four dimensions with factor loadings exceeding 0.5, indicating a high correlation between the delineated factors and individual items. The factors with Eigen-values exceeding 1 together explained 70.00% of the total variance.

The first dimension was 'multiple functions', which accounted for 54.69% of the total variance with a reliability of 0.93. This factor explained a relatively large proportion of the total variance. The other dimensions were 'spiritual', 'physical' and 'cognitive' attributes, which accounted for total variances of 9.95%, 5.39% and 4.97%, respectively. The reliabilities of the coefficients are 0.94, 0.91 and 0.89. The QoL factors will be introduced to the demand model to examine its impact.

Table-1. Perception of quality of life for marathon participants

Variables	Factor Loading			
	Multiple Function	Spiritual	Physical	Cognitive
Faith	0.87			
Happy in general	0.85			
Physical fitness	0.81			
Personal relationship	0.81			
Ability to get around	0.80			
Level of physical activity	0.61			
Spiritual belief	0.63			
Emotional relationships with others	0.52			
Social relationship	0.50			
Sense of claim and peaceful		0.78		
Spiritual growth		0.76		
Ability to concentrate		0.74		
Peace of mind		0.73		
Feeling of happiness		0.72		
Ability to think		0.68		
Bodily Appearance			0.83	
Body shape			0.82	
Physical health and well-being			0.72	
Ability to do activities of daily living			0.57	
Ability to solve problems				0.87
Memory				0.76
Ability to continue learning				0.75
Eigenvalues	12.03	2.19	1.19	1.09
Cumulative explanatory variance (%)	54.69	64.64	70.32	75.00
Reliability (Cronbach's $\alpha$ )	0.93	0.94	0.91	0.89

### 3.2. Satisfaction and Intent of Return

This study adopted ordinary least squares estimation, regressed on the independent variable, which can explain the satisfaction of participants. The dependent variables were overall satisfaction and intent to return. The independent variables were multiple functions, spiritual, physical and cognitive factors.

The regression models passed the goodness of fit test at a one percent significance level (F value is 35.4 and 4.43), which indicated that the null hypothesis could be rejected for all coefficients of independent variables were not equal to zero. The variance inflation factors (VIF) were calculated to test for collinearity of the independent variables, and shown that the independent variables were linearly independent for VIF equal to 1. The results presented that all four QoL factors were positive and significantly related to satisfaction for participants (Table 2). The four QoL factors predicted 35.4 percent of the variance on satisfaction. The QoL factors were also positive related to intent to return. But, only multiple functions, spiritual, and physical factors were significantly related to intent to return.

**Table-2.** Regression analysis of the overall factors on satisfaction and intent of return

Independent variable	Satisfaction	Intent to return	VIF
Constant	3.91*** (103.92)	190.46*** (55.82)	
Multiple functions	0.31*** (8.11)	0.04** (20.9)	1.00
spiritual	0.17*** (4.59)	0.03* (1.86)	1.00
physical	0.21*** (5.61)	0.05*** (3.98)	1.00
cognitive	0.14*** (3.81)	0.01 (0.53)	1.00
F	33.22***	4.43***	
R <sup>2</sup> (%)	35.4	6.8	

1. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

2. t values in parentheses.

### 4. Discussion

This study used exploratory factor analysis to extract the major factorial dimension. The main perceived quality of life were four factorial dimensions, 'multiple functions', 'spiritual', 'physical', and 'cognitive'. The result is similar to the research of Gill *et al.* (2011). One reason may be that we had revised the questionnaire items to meet Kinmen marathon. The perception of participants in the different events differed considerably (Scott, 1996). Gill *et al.* (2011) also shown that the sources of integrated QoL may well vary among people as well as over changing times and conditions.

The regression models revealed that all the QoL factors were positive influence on satisfaction. The QoL factors also had positive impacted on intent to return for participants, except for the "cognitive" factorial dimension. The results indicated that physical activity contributes a positive influence to QoL for runners and meets their satisfaction and intent to return.

### 5. Conclusion

The QoL factors had a significant level of impact on the satisfaction of the participants. The factors of 'spiritual', 'physical', and 'cognitive' also influenced the intent to return for runners. A high QoL increases the satisfaction and return intention of runners. The results are consist with Giacobbi *et al.* (2006), Funk *et al.* (2011), and Sato *et al.* (2014). Overall, the results suggested that the higher perceived QoL was associated with greater levels of participants' satisfaction. Marathon physical activity enhances people's QOL and contributes to overall life satisfaction for runners. People can achieve higher levels of QOL through hosting participant sport events well by managers.

Hosting a Marathon event provides positive experience to promote participants' QOL in the community. Manager should thus enhance the attributes of QoL for participants and provides event participants with goal-setting opportunities through event preparation. These activities may provide participants with additional meaning and greater symbolic value concerning the activity, which are likely to enhance participants' QOL.

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