



## A Study of Recreation Flow Experience and Spiritual Health in Road Running Participants

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### ABSTRACT

**Objective** - The purpose of this study is to investigate the relationship between the flow experience in road running participants and spiritual health.

**Methodology/Technique** - The questionnaires were issued in purposive sampling and measured by intentional sampling. The participants are road runners in Taiwan. A total of 350 questionnaires were distributed and 300 were returned. Six invalid questionnaires were removed, and a total of 294 valid questionnaires were obtained, with a response rate of 98%. Then, the data was obtained and analyzed using exploratory factor analysis (EFA), descriptive statistics, and multiple regression analysis.

**Findings** - The research results show that the flow experience in each dimension significantly and positively affects spiritual health, and the higher the degree of flow experience, the higher the degree of spiritual health. Based on the conclusions of this study, suggestions are made for further research in the future. (Mistry of Education, 2013).

**Type of Paper:** Empirical.

**Keywords:** Flow Experience; Spiritual Health; Road Running.

**JEL Classification:** I10, I19

### 1. Introduction

Since the introduction of the 'two days off a week' policy by the Taiwan government in 2001, people in Taiwan have enjoyed more days off to relax and enjoy leisure activities without any restriction or control (Lin and Wu, 2012). Since people have been aware of the importance of health and sports, the quality of life and the importance of leisure time gained considerable importance in modern times. Sports Administration, Ministry of Education (2016) has planned, executed, and promoted national sports programs to improve national physical fitness through the "Sunshine Fitness Program", the "Multiplication of Sports Population", and "Creating Sports Island".

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Government, non-governmental organizations, schools, and individuals at various levels have begun to increasingly participate in recreational activities. Further, awareness, demand and participation in recreational sports has increased year by year. With the efforts from Sports Administration, Ministry of Education, the numbers of the population participating in sports has grown remarkably year by year in Taiwan. According to a survey of sports cities, the proportion of people exercising regularly has increased from 20.2% in 1996 to 33.4% in 2015.

Among the many leisure activities one can participate in, jogging is relatively easy to get started. It requires no companion and is not limited by time, space, equipment, technologies, and so on. It requires only simple equipment to achieve the positive effect of exercise. Therefore, jogging has become one of the most popular activities for people engaged in recreational sports in Taiwan. According to the survey from Sports Administration, Ministry of Education (2016), the most popular sports activity for people is strolling or walking (42.4%), followed by jogging (27.8%). Therefore, this study focuses on the prevalence of running as a leisure sport.

Whilst running, people typically ignore other people and the distractions that surround them and enjoy the happiness that running brings them. The concept of “flow experience” was first proposed by Csikszentmihalyi in 1975; a U.S. psychologist who studied hundreds of participants through interviews and questionnaires, postulating that the participants were fully involved in the activity while participating in the activity, known as the “flow”. Flow experience is the feeling of happiness that people experience after being engaged in leisure activities (Chen, 2011). However, flow occurs when individuals are challenged to their limits (Jackman, Swann, and Crust, 2016). Chiu, Lin, and Chang (2010) studied mountain bikers and found that recreational specialization has a positive and significant affect on the flow experience. Further, Kuo (2012) shows that recreational specialization has a positive influence on flow experience and Lo (2017) states that flow experience is pleasant and rewarding and that athletes feel strong and unafraid when they experienced flow.

Hsu (2010) points out that the involvement of leisure activities may satisfy an individual's psychological and social needs. Coleman (1993) states that the involvement of leisure activities may help to maintain good health because they can reduce the adverse effect of stress. In addition, leisure may also eliminate stress temporarily and improve overall health. Other scholars have identified the contribution of leisure to health and some studies have demonstrated that spirituality can also regulate and cushion stressful events from depression and anxiety (Graham, FurrFlowers, Burke, 2001; Young Cashwell, Scherbakova, 2000). Frochot, Elliot and Krezial (2017) found that social cohesion and landscape beauty provided an equally strong flow. The flow experience can bring joy and a sense of accomplishment, therefore, previous studies have examined whether flow experience in road running has an impact on spiritual health.

## **2. Literature Review**

### **2.1 The Development of Road Running**

With the help from Chinese Taipei Athletics Association, road running was developed in Taiwan in 1978 (Chiu and Pi, 2005). Since road running can be carried out at minimal cost and without the need for equipment, it has become extremely attractive to many people in Taiwan. According to the survey from Sports Administration, Ministry of Education, most people in Taiwan are engaged in the leisure sports program participate in road running, with the rate of participation growing from 22.2% in 2012 to 25.7% in 2013. However, when compared with other countries, the the popularity of road running ranks first in the world (Sports Administration, Ministry of Education, 2013; Times Weekly, 2013; Chang, Lin and Yu, 2004; Lien, Tang and Teng, 2015). According to statistics from Running BiJI (2015), the numbers of road running

races that have been held in Taiwan rose from 99 in 2010 to 256 in 2013. Further, in 2014, 256 road running races were held in Taiwan (Running BIJI, 2015; Runners' Plaza, 2014; Lin and Tang, 2015).

Given the popularity of road running in Taiwan, many units in Taiwan have organized their own road running activities and industrial and commercial enterprises are becoming more and more willing to sponsor difference races, to improve tourism and to highlight the unique culture of Taiwan; runners will have a deeper understanding of the cultural landscape of the area by participating in road running races (Liu, 2007; Lien, 2013).

Various road running races combine local cultures and themed road running races to attract more participants, such as the Fubon International Marathon, the Color Run, Zombie Road Running, and Wine Road Running. Road running races can promote urban culture, tourism, the economy, and related industries (Huang and Wang, 2012). Running races are divided into marathons, half marathons, 10 kilometer races, 5 kilometer races, and 3 kilometer races. Various types of themed runs include the Puma fluorescent night running and the Nike Woman road running competition. In fact, themed runs are now one of most popular leisure activities in the world, which also brings about new business opportunities (Lien, Tang and Deng, 2015).

## 2.2 The Study of Flow Experiences

Flow theory was first proposed by the American psychologist Csikszentmihalyi (1975) and was originally formulated to analyze the feelings of happiness in human activities. Csikszentmihalyi studied artists, composers, athletes, musicians, chess players, and surgeons through the use of interviews and questionnaires and found out that when participants were engaged in leisure activities, they would be fully absorbed in their task, ignoring time and the changes in their surroundings. When people engage in certain activities and pursue the happiness that the activity brings, they achieve what is known as the optimal experience, which is called "flow". Csikszentmihalyi and colleagues (Kawabata and Mallett, 2011; Csikszentmihalyi 2000) identified nine major components of flow experience: challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration on the task at hand, sense of control, loss of self-consciousness, transformation of time, and autotelic experience.

The flow experience has been applied in many fields, and many scholars have provided different definitions of the phenomenon. Csikszentmihalyi (1990) believes that flow experience refers to the ability of people to fully engage in a situation and filter out all unrelated perceptions when they are performing an activity. Lo, Fang, and Hsu (2016) believe that flow experience is likened to the feeling of ecstasy. Vittersø et al. (2001) expresses flow experience in the following way: "when people are involved in the flow state, their attention is attracted by the activities and activity goals, and the tools required to accomplish them will not be sensed by the participants". Wu and Liang (2010) state that one's personality is the most influential factor on the flow experience. Therefore, this study defines the flow experience as an individual who is completely immersed in the context of a particular activity, so that the individual can achieve balance with the inherent skills and external challenges, and experience positive emotions, a sense of accomplishment, and a spontaneous feeling of pleasure.

## 2.3 The Study of Spiritual Health

Spiritual health is mainly used in religious and nursing disciplines, and many scholars have different definitions of spiritual health. Hsieh and Huang (2005) point out that spiritual health refers to the integration of physical, psychological, social, emotional, and spiritual factors, and is linked to the foundation of other health aspects, providing life force to initiate behavior and motivate to help individuals achieve meaningful lives. Michaelson, et al. (2015) states that self-rated importance of spiritual health declines as young people age, and most remarkable is the domains of "connections with nature" and "connections with the transcendent". Ho, Lee, and Hsu (2015) take the spiritual health of the cyclist as an example to point out the

essential components of life and the deepest energy in the heart, which improves the inner potential of the self and enables us to constantly surpass ourselves. Therefore, this study refers to the definition of the spiritual health from Ho, Lee, and Hsu (2015). This study defines spiritual health as the purpose of individuals seeking meaning and value of life from their own will, through the self, others, and the external environment to establish a good interactive relationship, or through their connection with nature, to make life more fulfilling and meaningful, to achieve balance between the inner and the outer mind, to produce the strength to deal with external situations, and finally to achieve a spirit level of harmony.

### **3. Research Methods**

#### **3.1 Sampling Methods and Data Collection**

In this study, questionnaires were issued in the purposive sampling stage. The questionnaire was transformed into an online questionnaire to be distributed by schools and or members of the running community. The purpose of sampling is to provide a basis for estimating the population parameter. The sample size not only affects the accuracy of the results, but also the reliability and variability of the sample's characteristics, etc. Therefore, based on an error value of 5% or less, and a confidence interval of 95%, the pre-test questionnaire was completed between February 5, 2017 to February 20, 2017. According to Wu and Tu (2009), the subscales of the items in the questionnaire were selected.

Three times the number of people completed the pre-sample of this study. The number of dimensions in this study is up to 16, therefore at least 48 people were needed for the sample of the study. To be rigorous in this study, 50 participants completed the questionnaire. The official questionnaire was completed between March 5, 2017 to April 5, 2017. The number of samples recommended by Gorsuch (1983) is at least five times the number of items, and greater than 100. The total number of items in this study was 55; therefore, at least 275 people were needed to form the sample of the study. In light of this, 350 respondents were used. After the survey questionnaire was completed, the questionnaire was reviewed and coded, and invalid questionnaires with missing answers were deleted. A total of 350 questionnaires were issued of which 300 were valid. The questionnaire return rate was 85.7%, of which 294 were valid questionnaires, and the valid questionnaire rate was 98.0%. Data processing and statistical analysis was performed using the computer statistical software SPSS for Windows version 19.0.

#### **3.2 Research Tools**

##### **3.2.1 Flow Experience Scale**

The items of flow experience referred to Jackson and Marsh (1996), Chiu, Lin, and Chang (2010), and Yang, Liu, and Tang (2015), using a revised scale that is suitable for road runners. This scale included feedback, senses of control, challenges and technique, perceived sense of time, spread across a total of 16 questions. The questionnaire items were measured by using a Likert 5-Level scale. Each question was divided into five criteria, namely, "strongly agree", "agree", "normal", "disagree" and "strongly disagree", given 5 points, 4 points, 3 points, 2 points, and 1 point respectively. The higher the score presented, the higher degree of agreement for flow experience.

The reliability and validity of the scale was analyzed by the exploratory factor analysis (EFA) and Internal consistency reliability test (Cronbach's alpha coefficient). The KMO of the flow experience scale was .955, the  $\chi^2$  value of Bartlett's Sphericity test was 3520.977, and the degree of freedom was 120 - a significant level - which mean that there are common factors in the subjects. Two test values show that the scale was suitable for factor analysis. A total of 4 factors were gained using 16 questions, and the cumulative variance of factor analysis approached 75.373%. The first factor was named "feedback", the factor analysis for validity testing was between 543-.747, and the variance was 59.409%. The second factor was named

"challenges and techniques", the factor analysis for validity testing was between .553-.699, the variance was 6.162%. The third factor was named "manipulation", and the factor analysis for validity testing was between .564-.859, the variation is 5.814%; The fourth factor was named "perceived sense of time", and the factor analysis for validity testing was between .577-.868, the variance was 3.987%.

In this study, Cronbach's  $\alpha$  coefficients were used to test the reliability and the stability of the scale. The results of the Cronbach's  $\alpha$  for each dimension are: feedback: .877; challenge and technique: .831; manipulation: .891, perceived sense of time: .854, and the reliability in overall flow experience: .952. This shows that flow experience has a good relationship with each dimension.

### 3.2.2 Spiritual Health Scale

The items of spiritual health refer to the Cyclists' Spiritual Health Scale by Ho, etc. (2015). The items were modified for road running and is called the "road running activity flow experience scale." This scale is divided into 4 subscales: the purpose and significance of life, resilience, all in one, and transcendence, with a total of 19 questions. The questionnaire items were calculated using the Likert 5-point scale. Each question was divided into 5 criteria, named "strongly agree", "agree", "normal", "disagree", and "strongly disagree", given 5 points, 4 points, 3 points, 2 points, and 1 point respectively. The higher the score presented, the higher the degree of agreement for spiritual health.

The reliability and validity of the scale was tested by the exploratory factor analysis (EFA) and Internal consistency reliability test (Cronbach's alpha coefficient). The KMO of the flow experience scale was .949, the  $\chi^2$  value of Bartlett's Sphericity test was 4627.686, and the degree of freedom was 136 - a significant level - which means that there are common factors between the subjects. Two test values showed that the scale was suitable for factor analysis. According to the results of exploratory factor analysis, using the principal component method, 4 dimensions and 17 questions were extracted, and the cumulative explanatory variation was 79.274%. The first factor was named "everything as the same", the factor analysis for validity testing was between .712-.793, the variance was 63.023%. The second factor was named "transcendence", the factor analysis for validity testing was between .660-.756, which variation was 7.553%. The third factor was named "the purpose and meaning of life", the factor analysis for validity testing was between .667-.772, the variation was 4.589%. The fourth factor was named "inner strain", the factor analysis for validity testing was between .607-.780, which variation was 4.109%.

In this study, Cronbach's  $\alpha$  coefficients were used to test the reliability and the stability of the scale. The results of Cronbach's  $\alpha$  for "the purpose and meaning of life" was .922, "inner strain" was .857, "everything as the same" was .917, and "transcendence" was .928. This means that the reliability of spiritual health was .964 and every dimension has good reliability.

## 4. Research Results

### 4.1 The Effect of Feedback from the Impact On Spiritual Health

The variable placed first in the flow experience was "feedback" and the coefficient of determination ( $R^2$ ) was .552. According to the Analysis of Variance (ANOVA), the F value was 359.610 and the significance was .000. The regression model was established and has a significant impact, and feedback had an explanatory power for spiritual health. In addition, the feedback coefficient was .691, which has a positive effect on spiritual health. The higher the degree of feedback for the road runners, the higher degree of spiritual health. The regression equation was  $y = 1.127 + .691x$ .

Table 4.1.1 The regression of feedback on spiritual health

Pattern	R	R2	Adjusted R2		Std. error of estimate
1	.743a	.552	.550		.41322
		Unstandardized Coefficients	Standardized Coefficients		t
		B	Std. Error	Beta	
	(Constant)	1.127	.144		7.824*
	Feedback	.691	.036	.743	18.963*

\*p&lt;.05

#### 4.2 The Effect of Control on Spiritual Health

The variable placed first in the flow experience was "manipulation" and the coefficient of determination ( $R^2$ ) was .434, the F value was 223.578 and the significance was .000. The regression model was established and had a significant impact, which means that manipulation has a positive relationship with spiritual health. In addition, the coefficient of "manipulation" was .648 which indicates that manipulation has a positive effect on spiritual health. The higher the degree of manipulation for road running activities presented, the higher the degree of spiritual health. The regression equation was  $y=1.350+.648x$ .

Table 4.2.1 The Regression of Manipulation on Spiritual Health

Pattern	R	R2	Adjusted R2		Std. error of estimate
	.659a	.434	.432		.46454
1		Unstandardized Coefficients	Standardized Coefficients	t	
		B	Std. error	Beta	
	(Constant)	1.350	.167		8.072*
	Manipulation	.648	.043	.659	14.953*

\*p&lt;.05

#### 4.3 The Effect of Challenges and Techniques On Spiritual Health

The variable placed first in the flow experience was "challenges and techniques " and the coefficient of determination ( $R^2$ ) is .449, the F value is 237.696 and the significance is .000. The regression model is established and has a significant impact, which means that challenges and techniques has a significant relationship with spiritual health. In addition, the coefficient of "challenges and techniques" is .529 which indicates that challenges and techniques has a positive effect on spiritual health. The higher the degree of challenges and techniques for road running activities, the higher the degree of spiritual health. The regression equation is  $y=2.028+.529x$ .

Table 4.3.1 The Regression of Challenges and Techniques on Spiritual Health

Pattern	R	R2	Adjusted R2		Std. error of estimate
	.670a	.449	.447		.45831
		Unstandardized Coefficients	Standardized Coefficients	t	
1		B	Std. error	Beta	
	(Constant)	2.028	.119		17.026*
	Challenges and techniques	.529	.034	.670	15.417*

\*p&lt;.05

#### 4.4 The Effect of Perceived Sense of Time On Spiritual Health

The variable placed first in the flow experience was “perceived sense of time” and the coefficient of determination ( $R^2$ ) was .409, the F value was 201.816 and the significance was .000. The regression model was established and had a significant impact, which means that challenges and techniques has a significant effect on spiritual health. In addition, the coefficient of “perceived sense of time” was .493 which indicates that challenges and techniques has a positive effect on spiritual health. The higher the degree of perceived sense of time for road running activities, the higher the degree of spiritual health. The regression equation was  $y=2.114+.493x$ .

Table 4.4.1 The Regression of Perceived and Sense of Time on Spiritual Health

Pattern	R	R2	Adjusted R2		Std. error of estimate
	.639a	.409	.407		.47467
		Unstandardized Coefficients	Standardized Coefficients	T	
1		B	Std. error	Beta	
	(Constant)	2.114	.123		17.162*
	Perceived and sense of time	.493	.035	.639	14.206*

\*p&lt;.05

#### 5. Conclusion and Suggestions

The flow experience and its various dimensions all have a positive effect on spiritual health, which means that flow experience has a positive effect on spiritual health. From the analysis results of the regression, it is known the flow experience has a significant effect on participants in road running activities, and the flow experience has a significant relationship to spiritual health. If running can effectively improve the flow experience on road running participants, then their spiritual health will also be improved. Therefore, to improve the spiritual health, people should be encouraged to engage in road running activities, or to organize community-based activities, such as mileage exchange presents. Small activities allow participants to have fun in road running activities and provide people with the correct road running knowledge and concepts, such as the benefits of road running, etc. The more encouragement there is for road running activities, the more people will engage and the more popular these activities will become.





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