

Development and Validation of Fitness Qigong Satisfaction Scale

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Abstract:

The study developed and validated a scale for measuring the satisfaction of individuals in practicing fitness Qigong. The study followed the common design of scale development which is characterized by the three-phase process consisting of item development, scale development, and scale evaluation. Following the result of the exploratory factor analysis, a survey questionnaire for fitness qigong satisfaction was developed. It has three dimensions; physical and mental wellness, social and emotional wellness, and enjoyment and relaxation. The reliability test result, however, showed that the dimensions of enjoyment and relaxation lack internal consistency.

Keywords: fitness Qigong, satisfaction scale

Introduction

Globally, there has been an increase in traditional medicine because of its relatively low cost and almost zero side effects. Among the traditional medical systems, traditional Chinese medicine (TCM) is one of the most popular alternatives for managing health conditions or improving the quality of life [1]. TCM includes Qigong, which is an integrated mental and physical practice first developed over 5000 years ago in ancient China. Qigong is believed to promote good physical and mental well-being and improve medical conditions. Qigong is also categorized as traditional Chinese exercise, therapeutic exercise, mindfulness-based exercise, mind-body therapy, meditative movement, and movement-based embodied contemplative practice [2]. While Qigong is genuinely Chinese, its scope and appeal extend beyond the confines of Chinese culture [3], especially the fitness Qigong.

Fitness Qigong is a traditional national sports event that combines physical activity, breathing, and psychological adjustment as the main form of exercise. It is an important part of the long Chinese culture. Practicing fitness Qigong plays a unique role in enhancing people's psychological quality, improving people's physiological function, improving people's living quality, and improving moral cultivation. Using physical movements and meditation, Qigong practitioners believe that their body, mind, and spirit are harmonized. It is believed that through gentle body movements with breathing and mindfulness, Qigong facilitates the flow of vital energy or qi. At present there is a variety of fitness qigong exercises. Some are Dao Yin, Wu Qin Xi, Ba Duan Jin, Yi Jin Jing Liu Zi Jue, etc. One of the most widely practiced qigong is Ba Duan Jin. It is a mind-body exercise that is less demanding physically and cognitively [4]. It focuses on breathing, improving flexibility, and strengthening muscles and tendons.

Qigong has been studied in multiple health domains and is emerging as a promising complementary in different disease management [5]. It relieves chronic low back pain and prevents cardiovascular disease

[6]. Parkinson's disease, motor dysfunction, depression, and improves the quality of life [7]. Other randomized clinical trials on Qigong also showed positive results in preventing hypertension [8], chronic pain [9], chronic obstructive pulmonary disease [10], fatigue and sleep [11], and mood disorders [12].

Qigong being a physical exercise has been proven to promote psycho-physical health among both clinical and non-clinical populations [11], [12], [13]. Most of the previous studies on the positive psychological effect of Qigong involved adults [14],[15] but emerging evidence is also showing that Qigong helps adolescents in their depression, anxiety, stress, and self-esteem [16], [17]. In a systemic review of a handful of studies dealing with children and adolescents Qigong practitioners, Riskowski & Almeheyawi, [18] noted encouraging results suggesting improvement in physical health and function. On the other hand, the claims of positive effects on psychological health and behaviors need further evaluation.

Most of the evaluations of Qigong that noted its benefits were conducted in specific disease contexts. Few studies dealt with the outcomes of Qigong in the general population [18]. Knowing the general outcomes of Qigong is important in developing a satisfaction scale for its practice. Information about satisfaction is necessary to improve Qigong further. So far, however, no Qigong satisfaction scale can aid practitioners in evaluating their Qigong programs. Most of the parameters in evaluating qigong programs are tied up to the skills of the master.

Evaluating fitness Qigong practitioners' satisfaction can lead to more enhancement of its delivery. It should be noted that fitness Qigong has gained substantial popularity in the last few years among the general Chinese population. The enthusiasm to practice fitness Qigong can be sustained by continuously improving its implementation. This is where evaluation becomes significant. Evaluating the practitioners' satisfaction will point out the strengths and weaknesses of a fitness Qigong program providing a clear direction for improvement. This process can be simplified with the use of a valid satisfaction evaluation tool. So far, there is no existing tool that can be used to evaluate whether a general fitness Qigong program is attaining its expected outcomes or not. This proposed study aims to develop one. It is hoped that by coming up with a valid evaluation tool, fitness Qigong practice will be enhanced further.

The study is anchored on the theory of planned behavior (TPB) proposed by Azjen and Fishbein in 1975. The theory posits that beliefs, attitudes, intentions, and behavior form a causal chain [19]. Qigong practice can be seen as an exercise behavior in which people can exert self-control. Based on TPB, the regular Qigong practice may be seen as determined by intentions, attitudes, and subjective norms. The continued practice of fitness Qigong of an individual will imply that the intentions and subjective norms related to it are being satisfied. TPB offers a broad understanding of what may constitute satisfaction with Qigong's practice.

Method

The study was conducted in Taiyuan, Shanxi Province, China. It is a place where the practice of fitness Qigong is popular. The study followed the common design of scale development which is characterized by the three-phase process consisting of item development, scale development, and scale evaluation [20], [21]. Scale development is the process of assembling and writing the most appropriate indicators of a latent construct to be measured [22]. After item assembly, a four-point response scale was fitted to the survey items. In the study, this stage also included the validation of the constructed indicators. Five expert Qigong instructors conducted the validation of the generated items. The next phase of the study is geared towards the testing of factorial validity. An exploratory factor analysis was performed to determine the

underlying common factors of Qigong fitness satisfaction. After removing misfit items, the scale was pilot-tested and its reliability was determined using Cronbach's alpha.

The minimum sample size for interviews leading to item development varies from one to fifty [23]. Using this parameter, the study involved fifteen young practitioners. The factorial analysis, however, had a minimum size of more than 200 [24] so the study targeted at least 250 respondents through a random sampling. For the pilot testing of the developed scale, forty young adult fitness Qigong practitioners became the respondents.

Lawshe's content validity ratio (CVR) was used in determining the content validity of the constructed indicators of Qigong satisfaction. According to Baghestani et al., [25] Lawshe's CVR is a widely used index to quantify content validity. For a set of five validators, the acceptable CVT is 0.99. In determining the factors of Qigong fitness satisfaction, exploratory factor analysis was used. The factor analysis was performed to determine the underlying common factors. If factor loading is lower than 0.40, the item would not be included in the analysis. First, it was established that the data were appropriate for factor analysis by running the Keiser-Meyer-Olkin (KMO) measure for sampling adequacy and Bartlett's test of Sphericity. The SPSS calculations yielded a value of .620 for KMO which is within the acceptable range of 0.6 -1.00. For Bartlett's test of Sphericity, the acceptable value is less than .05. The calculated value for Bartlett's test of Sphericity, was .000. This means that the required value for exploratory factor analysis was met and thus, the analysis proceeded. In determining the number of factors to be extracted, the scree plot was used. According to Truong [26], a scree plot helps determine the number of factors to be extracted. Watt et al. [27] point to the elbow of the scree plot as the clue for deciding the number of factors. The elbow is the area where the eigenvalues make the sharp fall and start to flatten out. This line represents the first few factors with the biggest variance in the data set. To determine the latent constructs of the factors, principal axis factoring was used and followed up with Varimax rotation. It is an orthogonal rotation that maximizes the within-factor variance [28] for easier interpretability of the factors. Once the factors and their underlying constructs were extracted, the scale was pilot-tested for its reliability using Cronbach's alpha. The acceptable value for the reliability test is 0.70 and above.

Results and Discussion

Based on the interviews, fifty-four (54) indicators of fitness Qigong satisfaction were generated. After subjecting the indicators to content validation, it was reduced to forty-six (46). The exploratory factor analysis with Varimax factor rotation reduced the indicators further to twenty-four (24). These indicators were clustered into nine factors. The scree plot, however, showed that only the first three factors are the strongest. These are the factors seen in the elbow of the plot.

Table 1: Factors of Fitness Qigong Satisfaction

| | Indicators | Physical and Mental Wellness | Social and Emotional Wellness | Enjoyment and Relaxation |
|---|--|------------------------------|-------------------------------|--------------------------|
| 1 | Fitness Qigong has had a positive impact on my mental growth | 0.847 | | |
| 2 | I am satisfied with the improvement in my endurance. | 0.792 | | |
| 3 | Fitness Qigong improves my blood circulation. | 0.840 | | |

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|----|---|-------|-------|-------|
| 4 | Fitness Qigong promotes mental health. | 0.698 | | |
| 5 | Interactions with fellow fitness Qigong practitioners enhance my interpersonal communication. | | 0.672 | |
| 6 | I experience inner joy in fitness Qigong. | | 0.776 | |
| 7 | I attain peace of mind when doing fitness Qigong. | | 0.765 | |
| 8 | I enjoy doing fitness Qigong. | | | 0.542 |
| 9 | I feel energized by fitness Qigong. | | | 0.408 |
| 10 | Fitness Qigong relaxes my mind. | | | 0.614 |
| 11 | My self-happiness was improved by fitness Qigong. | | | 0.571 |

Table 1 presents the extracted factors, their indicators, and the factor loading. The factor of physical and mental wellness has items 1 to 4 as its indicators. Social and emotional have items 5 to 7 as its indicators while enjoyment and relaxation got indicators 8 to 11. All the indicators have factor loading of more than 0.40.

The eleven indicators describing the three factors of made up the fitness Qigong satisfaction scale. The reliability test showed “physical and mental wellness” has an alpha value of 0.836 and is considered reliable. Likewise, the factor “social and emotional wellness” is considered reliable with alpha = 0.712. On the other hand, “enjoyment and relaxation” has a low alpha (0.348) which shows that its measure is not reliable.

Conclusion

The study developed and validated a fitness Qigong satisfaction scale whose factors are physical and mental wellness, social and emotional wellness, and enjoyment and relaxation. These factors represent the multiple expectations of Qigong practitioners. The scale, therefore, can be used as a tool for evaluating fitness Qigong instruction. The scale however should be improved so that the measure of enjoyment and relaxation becomes reliable.

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