

## The role of social vitality on the impact of sports activities on public health based on the theory of planned behavior

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Article Info	Abstract
<p>Original Article</p> <p><b>Article history:</b></p> <p>Received: 22 July 2020</p> <p>Revised: 29 July 2020</p> <p>Accepted: 1 August 2020</p> <p>Published online: 1 January 2021</p> <p><b>Keywords:</b></p> <p>planned behavior, popular health, sport activities.</p>	<p><b>Background:</b> There are relationships between exercise effect on mental health, especially negative emotions such as anxiety and stress.</p> <p><b>Aim:</b> The aim study was the effect of participation in public sports activities based on the theory of planned behavior on the public health.</p> <p><b>Methods:</b> This study is a descriptive correlation study with confirmatory factor analysis approach. Data was collected from 288 public sports participants of Tehran Municipality. Three standard questionnaires, including Goldberg General Health (1979) with 28 questions were used for collecting data.</p> <p><b>Results:</b> Construct Variance extracted was 0.4, composite reliability 0.9 and Cronbach's Coefficient Alpha 0.7. As a result, the convergence validity and reliability of the model were acceptable. Divergent validity, convergent validity and discriminant validity of the model were confirmed by first order and second order confirmatory factor analyses. The positive validity of all subscriptions for latent variables indicated the appropriate quality of the measurement model. In this model, it was found that regular physical activity combined with planned behavior had a direct effect of 53% (correlation 0.729) on general health.</p> <p><b>Conclusion:</b> According to the structural equation model, it was found that regular physical activity combined with planned behavior has a direct effect of 58% on general health.</p>

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## 1. Introduction

Individual and collective health is the most important issue in life [1]. Recently, health has been recognized as a human law and social goal in the world. Providing health as the basis for satisfying basic human needs has become a major concern. It is influenced by many factors, such as heredity, physical activity, living environment, individual patterns and habits, medical care and lifestyle. Several other factors such as family, cultural, economic and social contexts can affect human health [2].

Due to the special role of sports activities in reducing anxiety and depression, coping with stress, increasing self-esteem, and improving mood, these activities can be used as effective ways to reduce mental disorders and increase health [3]. The World Health Organization (WHO) has defined health as a state of complete physical, mental and social well-being [4]. Health is a relatively flexible concept that may be defined as the disease-free or disability, or more positively as defined in the 1948 by the WHO as: “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” [5].

Along with the decline in dynamic activity in recent years, there has been a significant increase in mortality, cardiovascular disease and the prevalence of neurological and psychiatric disorders in industrialized and developing societies [6]. Most of today's affluent citizens suffer from organic, muscular and joint problems, and such complications due to technological growth are increasing [7]. According to the previous studies, the public health situation is not suitable in Iran [8]. This claim is based on national and global health statistics. In a cross-sectional study on 7886

people aged 15 to 64 years living in Iran, depression, stress and aggression were reported as the first, second and third most common mental disorders, respectively [9].

Another report is related to the United Nations in 2016. Its data was collected between 2017 -2019 from 157 countries with economic indicators, entrepreneurship and opportunities, perceptions of corruption, generosity, health, security and individual liberties [9, 10]. This issue can be related to social class and its basic characteristics such as salary, job and level of education [10]. The social class can lead to differences in shared values, prestige, social activities, wealth, other personal belongings, as well as customs and even religion, nationality, gender, place of residence and family background [11]. On the other hand, physical activity is a method of inhibiting obesity and preventing sedentary diseases, and it can increase the level of mental health and general happiness [12]. Most of previous studies have focused on the role of physical activity through participating in various sports, and regular and organized exercises. The role of recreational participation in sports on the level of mental and general health has received less attention [13].

Numerous studies have also examined the relationship and exercise effect on mental health, especially negative emotions such as anxiety and stress [14]. While, few studies have evaluated the role of positive emotions such as happiness and social vitality on mental health. Due to the increase in public awareness of the beneficial effects of sports and recreational activities, it seems that municipalities can increase the level of health and vitality by developing sport clubs [15].

In this regard, the present aimed to determine the effect of participation in

municipal sports activities on the level of mental and general health of Tehran citizens based on the theory of planned behavior [16]. The various factors such as human (individual attitude), social (mental norms) and environmental (perceived behavioral control) factors have been effective on patterns of participation in recreational sports activities. The theory of planned behavior is one of the models that expresses and evaluates these factors [17]. As municipalities are in charge of public sports and are responsible for the prosperity of neighborhood sports, the importance of paying attention to municipal sports becomes more and more apparent.

Therefore, this research aimed at designing communication model based on the theory of planned behavior. In this study, the meaning of planned behavior is to change the behavior that has been achieved with educational programs and awareness of Tehran Municipality about the effects of participating in sports activities in citizens and has caused citizens to participate in sports activities programs of municipal sports complexes.

In this theory, in addition to direct behavior, the intent of a behavior that is closely related to the behavior can be evaluated [18]. The results of this study can raise the level of awareness of city managers and the general public about the effects of the development of sports and recreational activities on the level of public health in the 22 districts of Tehran Municipality and also can be available to pragmatic organs in the health field.

## 2. Materials and Methods

The research method was descriptive-correlation with applied purpose. The study population was all participants in public sports activities (physical fitness) of Tehran

Municipality. They had at least 3 years of work experience with a minimum degree of diploma. A total of 384 people (female/men) between 25 to 50 years old, were identified as the sample size. They were randomly selected by cluster sampling from the parks of 5 municipal areas in the north, south, west, east and center. 288 questionnaires were completed with repeated visits. The standard measuring questionnaires included Goldberg with 28 questions [19]. The validity of this measure was 92% for whole items, and its reliability coefficient was 91% [20]. In a pilot study, the reliability of the questionnaires was estimated using Cronbach's alpha coefficient (General health= 0.89, Happiness= 0.88 and Planned behavior= 0.73). Due to the skewness and elongation results, the data had a natural distribution [21]. Descriptive and inferential statistical methods as well as structural equation modeling were used to analyze the data. Data analysis was performed using SPSS and Smart PLS software.

## 3. Results

The results of descriptive findings showed that 44.8% of the participants were male and 55.2% were female. Most of the participants were in the age range of 35 to 44 years (39.6%) and the lowest age range was 15 to 24 years (4.2%). Most of the participants (42%) had a master's degree.

Based on the exercises duration, the maximum time was up to 60 min (46.2%) and the lowest time was up to 30 min (17.9%).

Figure 1 showed that the variance derived from the structures ( $P > 0.40$ ), combined reliability ( $P > 0.90$ ) and the Cronbach's alpha coefficient ( $P > 0.70$ ). Hence, the convergence validity and reliability of the model are acceptable.

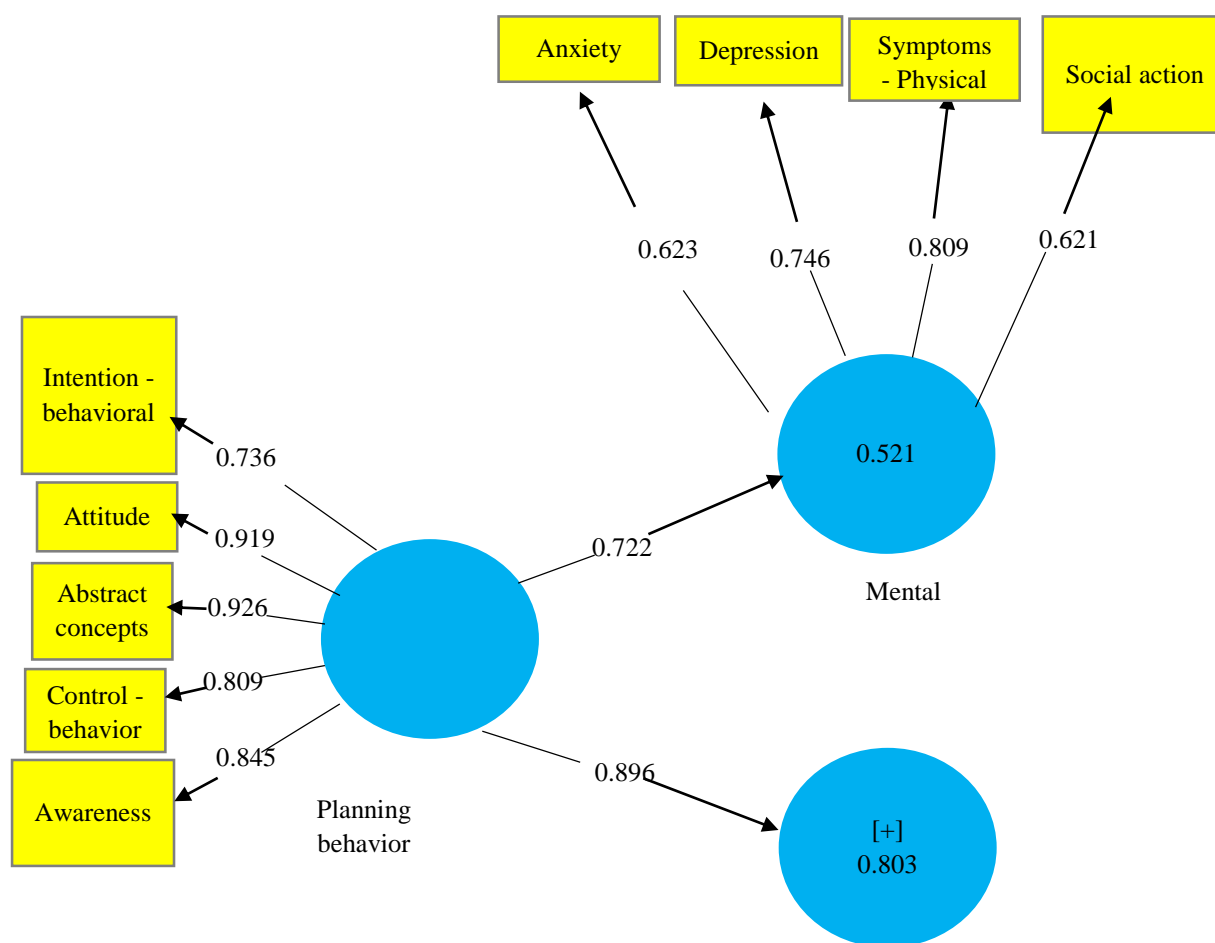
Another indicator that can be considered in divergent or differential validity of the model is the ratio of single value to multi value or HTMT ratio. This ratio is mentioned in various sources to be below 0.90 and even 0.85. One of the fit indicators of the structural model is the determination coefficient. In other words, several percent of the endogenous variable variance is explained by the exogenous variable (Figure 2).

The Communality Index is used to

evaluate the quality of measuring instruments. This index is obtained by dividing the sum of squares of prediction errors of latent variables by the sum of squares of observations of latent variables minus one. The obtained values of this index for all latent variables should be positive values. According to the results reported in Table 3, and the positive values of all subscription validity values for latent variables, it can be said that the measurement model had a good quality.

**Table 1.** Variance derived from structures and their reliability

Indicators of variables	Combined reliability	Cronbach's alpha coefficients	Extracted variance of structures
Planned behavior	0.928	0.902	0.804
public health	0.975	0.70	0.496



**Figure 1.** Causal relationship of variables in standard state

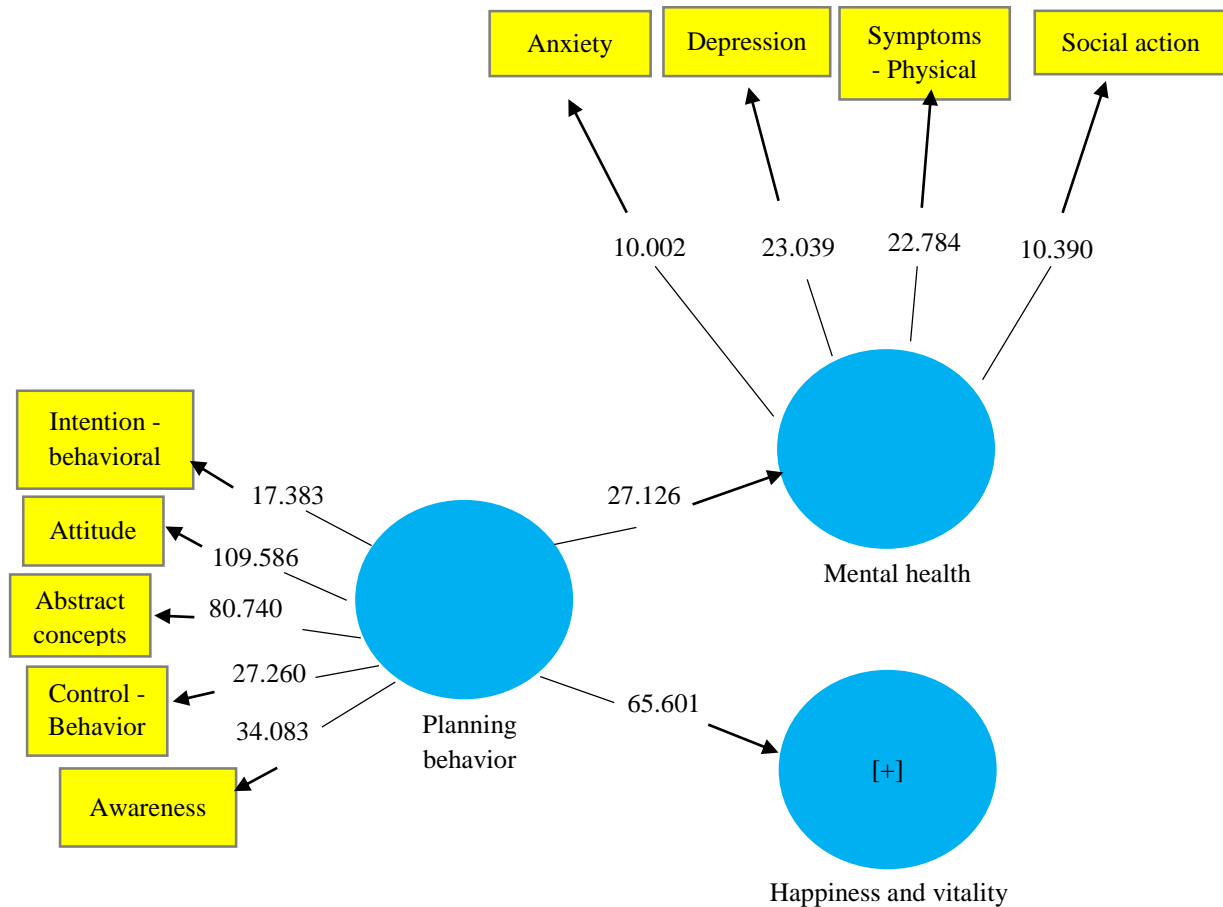


Figure 2. Causal relationship of variables in a significant state

Table 2. The value of the model determination coefficient

Result	Criterion	The coefficient of determination
	0.19	
Structural model fit in relatively strong	0.33	Public health (0.521)
	0.67	

Table 3. The validity index of the share of research structures

Statistics structure	SSO	SSE	1-SSE/SSO
Planned behavior	1060.000	1060.000	
Public health	848.000	6628.804	0.218

SSO: total squares of observations for hidden variables; SSE: total squares of predictive errors for hidden variables; 1-SSE/SSO: subscription validity check index.

According to the results obtained from Table 3, the designed model was approved. In this model, it was found that regular physical activity combined with planned behavior has a direct effect on public health by 53% (correlation 0.729).

#### 4. Discussion

The results of the present study indicated that participation in public sports combined with planned behavior and regular activity, at least five times a week for 30 min, conducting essential medical tests, satisfaction and companionship of family

members, and with providing appropriate equipment can result, in a feeling of physical and mental health, reducing stress and anxiety, and increasing good mood and appetite, which are examples of general health. The results of the present study are consistent with the findings of Raeesi et al. (2018) [22]. They reported that holding and increasing the number of competitions for high-school students improved the level of mental health. Also, our findings are consistent with the results of Amirpour, Zavar and Ramezani Nejad (2017) [23] on the better physical and mental health status of people participating in public sports. Chalak Qazani et al. (2014) [24] and Akhtar et al. (2016) [25] had near results. These studies have also confirmed a positive and significant effect of regular physical activity on mental health, as it reduces the risk of psychological and physical disorders and increases mental health. In this regard, Kriščiūnaitė and Kern (2014) believe that a person with mental health has the strength and courage to act and achieve his/her goals [26]. This person is attractive, cheerful and optimistic and has constructive and positive social relationships with others. Eric Byrne describes a mentally healthy person as having the ability to reorganize his/her personality. As a result, such person is aware of his/her inner state, the ability to deal with severe internal conflicts, more freedom of choice, conscious behavior based on intimacy and interest. Moreover, Silverman and Deuster (2014) defines a mentally healthy person as resilient, able to reduce tension with others, and less anxious [27]. According to Freud's theory, a person with mental health has defense mechanisms and as a result, a kind of friendship and humor increases in him/her [28]. In Mori's theory, a person with mental health is free from cluster complexes such as the

remnants of prenatal experiences and memories such as anxiety, aggression, the need for praise, and oral aggression such as biting when angry, and projecting, etc. [29]. On the other hand, the problem of inactivity and increasing psychological pressure in the community, especially during the Corona virus epidemic, has caused many diseases such as obesity, anxiety, depression, etc. [30]. Therefore, physical activity planning is very important and requires extra effort. According to the results, physical activity planning can lead to the health and development of the community by increasing the mental health of people. On the other hand, the results showed that planned regular physical activity indirectly increases general health by creating happiness and vitality.

Therefore, more attention should be paid to community sports in order to educate and develop awareness of the physical activity effects, encourage families to support these activities and equipment of sports facilities, etc. Also, community sports, as a strategic action, should be coordinated and integrated with the set of visions, objectives and policies of the Ministry of Sports and Youth throughout the country [31].

Given the objectives of the 20-Year Transformation Plan Document, and considering the unfavorable economic conditions, inflation, lack of financial resources, lack of work force, the need for entrepreneurship and reducing other bottlenecks, it is recommended to use the community sports as a valuable opportunity for raising mental health. Further studies are required to evaluate the status of employee empowerment interaction, organizational agility, and outsourcing in relation to other mediating and moderating variables in order to provide a comprehensive model. It

is also recommended to conduct further researches on the effects and consequences of the implementation of community sports in various organizations. One of the limitations of this study was the low willingness of the subjects to participate in the interview and complete questionnaires.

## 5. Conclusion

Providing the ground for improving the level of public health by emphasizing the theory of planned behavior can provide a better attitude towards participation in sports activities and its impact on improving the quality of people life.

## Conflict of interest

The authors declared no conflicts of interest.

## Authors' contributions

All authors contributed to the original idea, study design.

## Ethical considerations

The study was approved by the Research Ethics Committee of Sport Science Research Institute of Iran (Code No.: SSRI.REC-2106-1060 (R1)).

## Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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