



SCIENTIFIC STUDY OF EFFECTIVE FACTORS ON LEISURE TIME PHYSICAL ACTIVITIES AMONG FEMALE HIGH SCHOOL STUDENTS BASED ON THE THEORY OF PLANNED BEHAVIOR

Ghaleb Echrashzadeh

Department of Science, Petroleum University of Technology, Abadan, Iran

ABSTRACT

Nowadays, by development of technology and urban living, the lifestyle of people is completely changing. The lack of participation in physical activity, inactivity and sedentary lifestyle has put all members of the society at risk. So, participation in physical activity has been proposed as a way of coping with side effects of such a lifestyle. This paper aims to study related factors of physical activity behavior during leisure time among female high school students by using the theory of planned behavior (TPB). To do this, a questionnaire was prepared using the above mentioned theory, and considering the sample size of 425, questionnaires were randomly distributed among female high school students in Tehran, Iran. After collecting data, they were analyzed in SPSS software. The results of this study showed that the theory of planned behavior predicts the intention of participation in physical activity among female high school students very well. According to our findings, there is a strong relationship between “attitude”, “subjective norm”, “perceived behavioral control”, and leisure-time physical activity intention.

Keywords: TPB, physical activity, leisure time, behavior, theory of planned behavior.

INTRODUCTION

Sedentary lifestyle has been introduced as one of the major risk factors for heart disease, and it is estimated that the risk of developing such diseases multiply for inactive individuals. Regular physical activity as an important behavior for health promoter results in preventing and delaying the chronic diseases or early mortality. There are several evidences which show that regular physical activities lead to promote the mental health, decrease the depression and anxiety symptoms, life satisfaction, and life quality improvement.

Physical activity is the cornerstone of a healthy lifestyle and is cited as a key strategy for reducing the risk of chronic conditions and diseases including hypertension, coronary heart disease, diabetes, cancer and obesity (Staten *et al.*, 2005). Regular physical activities are also effective in reducing the risk of brain diseases. Doing regular exercise (30 minutes a day, and 2-3 times a week) is a proven way to reduce total cholesterol, increase High Density Lipoprotein (HDL), decrease Low-Density Lipoprotein (LDL), and improve the general health. Also exercise is effective in improving the blood pressure, and if the individuals who exercise suffer from a myocardial infarction, they will recover quickly, and their blood pressure will remain normal. Among teenagers this training time is higher, and they need 60 min activity, 5

days in a week. Leisure-time physical activities have the most audiences due to the special attractiveness. Public approach as exercise fans and financial supporters has increased social, cultural, and economic values of this phenomenon day to day. Therefore, it is said that youth are the main fans of sports, and most of them are high school students. Expressing creativity is one of the sports characteristics that cause the best individuals to be attracted and to be attractive. The history of sport is full of sad and regrettable events that shows the effectiveness of these neglects to the posterity, and demonstrates well that this is not related to the sport performances. Sport has a very strong and coherent relationship with social structures and institutions. It means that sport achievements and activities can be considered as a general index. Through sport, the level of social and cultural development of a society can be judged. Sport development depends on the social factors which govern the society.

Rapid industrial changes and developments were along with a lot of social and economic consequences, and had important effects on people's leisure times such as mechanization of industry, providing welfare facilities and etc., led to making some changes in people lifestyle such as minimization of family dimensions, making changes in relationships of people with each other. In addition, mechanization of transport vehicles, emergence

*Corresponding author e-mail: echrashzadeh.gh@gmail.com

of cinema, and television invention also affected human leisure times, although technology development is not the only factor; social requirements, the relationships between contemporary social powers, and social and economic environment also strongly affect the amount of free time and choosing the type of leisure facilities. Another change is a special significance which has been made in personal and social life such that work time is completely separated from leisure time, and leisure time has found an intrinsic value. So, nowadays, one of the main characteristics of leisure is that it is not only for privileged classes any longer, and can be generalized to other classes. Leisure time has 4 functions including relaxation, creativity, social participation, and recreation which are required to be studied sociologically and psychologically (Safania, 2000).

Doing physical activity is one of the important factors which can protect individuals against diseases. Physical activity has an inverse relationship with increasing in cardiovascular diseases in adults. So, inactivity or low participation in physical activities are some of the dangerous and known factors for increasing cardiovascular diseases. Also, diseases such as coronary disease, hypertension, hyperglycemia, increasing obesity, hip joint fracture, glands, and depression are some certain types of cancer due to inactivity or lack of participation in physical activity. Thus, exercise can be useful for people's health both physiologically and psychologically, especially when they start it from an early age, internalize it, and show more seriousness in doing and continuing it (Gilliam and MacConnie, 1984). Physical activity includes actions that are associated with one's body. According to Caspersen *et al.* (1985), physical activity is as any bodily movement produced by skeleton muscles that lead to energy expenditure which is the most generally accepted definition of physical activity. Also, this definition includes all the activities performed by the individuals at all the times (e.g. activity in the physical education classes of school and university, and leisure time). Physical activity as a complex set of behaviors, and define it as a spontaneous activity, and significantly intrapersonal and different subject in terms of type of activity, and frequency and continuity of doing an activity (Sallis and Patrick, 1995). As a final definition, physical activity should include all the physical activities which are done during the leisure- time. Individuals' intention toward physical activity can be considered as one of the factors which push them to do physical activity. Intention is important as an individual's motivating factor for learning and improving the methods of applying skills and learned cognitions (Tsang and Cham, 1993). Another study, Ajzen and Fishbein (1980) believe that intention is able to predict the behavior.

Leisure can play a strong and at the same time a dual role in developing the society cultural level. That is to say, it

can be related to the mental and practical needs of human, social compatibility or non- compatibility, and cultural development or backwardness. Through refreshment, leisure-time physical activities can make up physical and psychological injuries due to continuous work excitement and doing social tasks, and provide an opportunity for psychic, mental, physical, and emotional aptitude. Therefore, leisure-time physical activity can result in promotion or down of the behavior in society. As working relieves young people from guilt and depression, leisure in a same manner, can bring them happiness, joy, and freshness, and strengthen their will to continue living. So, instead of passing the time, we should make it fruitful.

Participation in physical activities is proposed as one way to deal with the side effects of this lifestyle. In this regard, researchers are about to detect the related factors of individuals' participation in physical activity. The performed reviews on researches show that several factors determine physical activity level and the amount of participation (Sallis *et al.*, 1992). Main parts of the researches which try to define the level of physical activity participation apply theories such as sport participation motivation (Gill *et al.*, 1983), Sport enjoyment (Scanlan *et al.*, 1993), and the theory of self – efficacy (Saunders *et al.*, 1997). Although these theories have presented acceptable explanations for participation in physical activity and exercise, but in the field of healthcare and hygiene, some other theories such as Theory of Planned Behavior (TPB) have been used to define health related behaviors that provide a stronger prediction from the real behavior using four variables; *attitude, subjective norms, perceived behavioral control, and behavioral intention*. The results of researches on the behaviors related to physical activity (Bruijn *et al.*, 2009; Plotnikoff *et al.*, 2011; Khavari, 2008; Duncan *et al.*, 2012; Shen, 2008; Wang, 2011; Hamilton and White, 2011) and dietary regimen (Conner *et al.*, 2003) supported the efficiency of TPB in the field of health related behaviors. For example, in a longitudinal study in the USA, the theory of planned behavior is used to define the student's level of physical activity, and the results show that beside the subjective norms, two variables of attitude towards physical activity and perceived behavioral control are able to predict students' intention towards physical activity, behavioral intention, and students' level of physical activity (Wang, 2011). However, in Iran, the theory of planned behavior has been used in different fields of health and hygiene, using this theory in the field of leisure-time physical activity has not attracted researchers' attention, and little effort has been done in this regard (Khavari, 2008).

Considering paying attention to the significance of females' participation in physical activity, the present research aims to study factors related to the leisure- time exercise behavior of female high school students, using

the theory of planned behaviors, and answer this question that if attitude towards leisure physical activity, subjective norms, perceived behavioral control, and behavioral intention are able to predict leisure time physical activity of female high school students.

Leisure time

Leisure- time means a period of time when human is awake, and can pass it with his desire and without any obligation. In traditional age, home also was the workplace, and they were not officially distinguished. So, leisure- time did not mean so much. Leisure- time as a new concept which is the result of the separation of work of home, technical developments, and social division of labor makes this opportunity for human to relieve from the limitations and obligations of modern social order (Kivisto, 1998). International Society for the Sociology of Leisure defines the leisure as following: A set of individual' involvements which are completely done by his satisfaction, for rest, recreation, information development, nonprofit education, or social and voluntary participation after being released from the requirements of the job, family and society. According to Lumsden, Leisure does not mean unemployment, because an individual does not have any work to do in the spare time, but he can do a lot of works in leisure time. The difference between leisure time and other times when he is also busy doing a work or activity is the goal of these activities and works. The goal of leisure time activities is to relax and enjoy (Lumsden, 1997).

National youth organization in Iran attempted to study different definitions based on three approaches including:

- (1). Leisure as time: leisure is a time when we choose whatever we can.
- (2). Leisure as activity: leisure is an activity which leads to self expression and self- actualization
- (3). Leisure as an inner experience: paying attention to spiritual and mental status, orientation, tendencies, conditions, and experience are related to leisure (National youth organization, 2002).

Following pointes can be achieved from the above mentioned definitions and theories:

- i. Leisure time is a part of free time not the working time
- ii. With development in industry and technology, leisure becomes a kind of satisfaction, relaxation, and refreshment.
- iii. The way of passing leisure time is a matter of freedom and choice for individuals.
- iv. Satisfaction, relaxation, and refreshment are achieved as a result of passing leisure time.
- v. Leisure time activities are defined according to the leaurist.
- vi. Individuals should be free from any personal, social, family and civil commitments

Theory of Planned Behavior

In this study, the theory of planned behavior is used to define participation level of female high school students. This theory is presented by Ajzen (1985, 1991, 2001). Based on this theory, formation of an individual' intention towards displaying behavior which is one of the signs of the individual' effort to perform the desired behavior, is influenced by three main factors; attitude towards behavior, subjective norms, and perceived behavioral control. *Attitude towards behavior* is the evaluation of an individual of a specific behavior depending on whether the desired behavior is good or bad, useful or harmful, or pleasant or unpleasant. *Subjective norms* refer to the individual' perceptions of others' expectations in relation to a particular behavior, and *perceived behavioral control* refers to people's perception of their ability to perform a given behavior. According to this theory, high behavioral intention towards performing a particular behavior is an indication of actual performance. This theory is schematically presented in Figure 1.

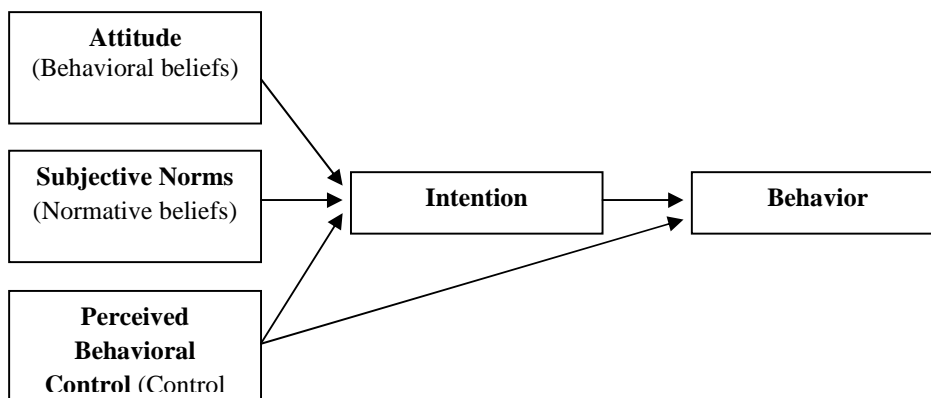


Fig. 1. Theory of Planned Behavior (TPB).

In its simplest form, the theory of planned behavior can be expressed as the following equation:

Behavioral intention = *Attitude towards behavior* + *Subjective norms* + *perceived behavioral control*.

Several researches have attempted to study the physical behavior in different social classes; some of these researches will be presented in this section. There are many studies conducted on physical activities (Walton *et al.*, 1999; Feldman and Barnett, 2003; Prochaska *et al.*, 2002; Kimm *et al.*, 2002; Strauss *et al.*, 2001; Gazizadeh, 2003). Many researchers have used the theory of planned behavior in relation to physical activity. Plotnikoff *et al.* (2011) applied the theory of planned behavior to define the level of physical activity in a large sample of 4073 consisting of Canadian adolescents. The results showed that three variables of attitude, subjective norms, and perceived behavioral control explain 53 percent of the variance in young people' intention towards participation in physical activity. Also, behavioral intention defines 43 percent of the level of Canadian adolescents' physical activity. Duncan *et al.* (2012) applied TPB variables in their research to predict behavioral intention and the level of physical activity among young people of low social classes. There were 197 girls and boys aged 13-14 participated in this research. The results of hierarchical regression analysis showed that attitude towards physical activity and perceived behavioral control explain 25 percent of variance of intention towards physical activity. Also, behavioral intention and perceived behavioral control were the significant level of physical activity in these young people.

Hamilton and White (2011) by using TPB defined the level of regular physical activity of parents and children. 288 mothers and 292 fathers participated in this research with their children. The results showed that each three variables of attitude, subjective norms, and perceived behavioral control play a significant role in defining the behavioral intention and the level of physical activity among parents, and the most significant role is related to the subjective norms. Wang (2011) used TPB to explain the level of physical activity on 517 students in a

longitude research in US. The results showed that except the subjective norms, two variables of attitude towards the physical activity, and perceived behavioral control were able to predict the students' intention towards the participation in physical activity. Another study, Bruijn *et al.* (2009) conducted in Netherlands, applied the theory of planned behavior to assess bicycle use of adults as a means of transportation. The results showed that there is a significant and positive relationship between the attitude towards riding bicycle, subjective norms, perceived behavioral control, and behavioral intention, and the time of riding bicycle.

MATERIALS AND METHODS

Research Methodology

The present study is a descriptive/correlation survey to study the leisure time physical activity by the theory of planned behavior among the female high school students in Tehran. All the female high schools students in district 19 in Tehran were considered as the statistical population of the study. A research sample size of 384 was determined using Morgan table.

The required data are collected using field and library method by using questionnaire. in this regard, Theory of Planned Behavior Questionnaire of Ajzen (2001) was employed. In this questionnaire 18 questions measure attitude towards physical activity, 10 are about subjective norms, 23 questions for evaluating perceived behavioral control, 3 questions for evaluating intention for physical activity, and one question for evaluating the level of participation in physical activity. In this basis, considering the rate of return of 90%, 425 questionnaires were distributed among participants. All the questionnaires were graded based on 5-choice likert scale.

After obtaining data, they were analyzed in SPSS; Pearson correlation coefficient was used to determine the relationship between variables, and Multiple regression analysis was used to predict the level of behavioral intention and physical participation based on the attitude and subjective norms and perceived behavioral control. The conceptual model of our study based on the theory of planned behavior model proposed by Ajzen is shown in Figure 2.

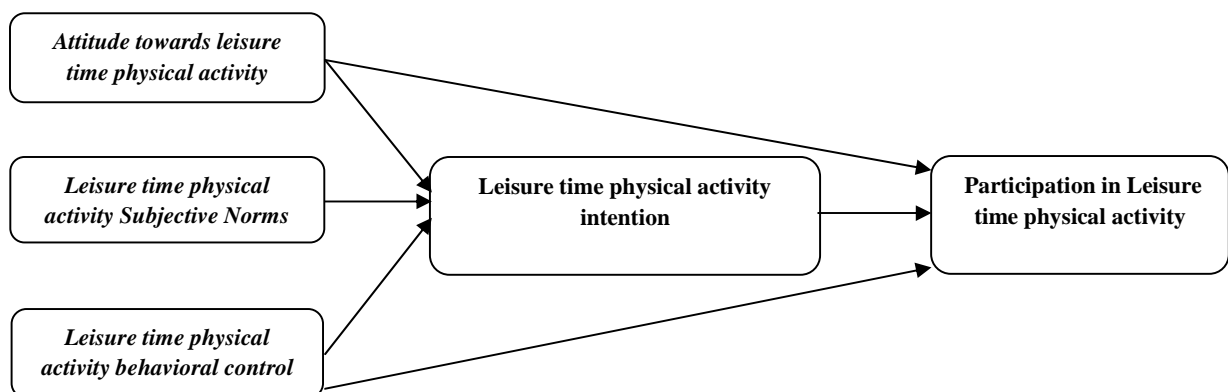


Fig. 2. Conceptual model of the study based on TPB.

According to this model, performing a behavior is predicted by three factors of “attitude towards behavior”, “subjective norms”, and “perceived behavioral control”. Attitude towards behavior is a positive or negative evaluation of performing a behavior, and it is consisted of two infrastructures including behavioral beliefs and evaluation of behavior results which lead to attitudes towards behavior.

RESULTS AND DISCUSSION

In this section, first we present descriptive statistics and then research hypotheses are analyzed.

Descriptive Findings

The descriptive statistics are the frequency values of demographic characteristics and study variables shown in Tables 1-9.

Table 1. Frequency distribution of students based on their age, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
14 years old	19	4.5	Mean	16
15 years old	106	24.9	Average	16.28
16 years old	107	25.2	Variance	1.371
17 years old	140	32.9	Standard deviation	1.171
18 years old	37	8.7	Skewness	0.172
19 years old	16	3.8	Elongation	-0.428
Total	425	100		

Table 2. Frequency distribution of students based on the educational level, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
First high school	118	27.8	Mean	2
			mode	3
Second high school	122	28.7	Variance	0.690
			Standard deviation	0.830
Third high school	185	43.7	Skewness	-0.302
			Elongation	-1.487
Total	425	100		

Table 3. Frequency distribution of students based on their leisure time physical activity sessions per week, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Once a week	133	31.3	Mean	2
Twice a week	191	44.9	Average	2.06
Three times a week	52	12.2	Standard deviation	1.006
Four days a week	39	9.2	Skewness	0.975

More than four days a week	10	2.4	Elongation	0.484
Total	425	100		

Table 4. Frequency distribution of students based on the duration of their leisure time physical activity in a session, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Less than 30 min	52	12.2	Mean	2
30-45 min	196	46.1	Average	2.52
45-60 min	113	26.6	Standard deviation	1.039
60-75 min	34	8	Skewness	0.759
Higher than 75 min	30	7.1	Elongation	0.263
Total	425	100		

Table 5. Frequency distribution of students based on the level of participation in leisure time physical activity, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Very low	28	6.6	Mean	2
Low	223	52.5	Average	2.52
Average	114	26.8	Standard deviation	0.903
High	44	10.4	Skewness	0.859
Very high	16	3.8	Elongation	0.518
Total	425	100		

Table 6. Frequency distribution of students based on their attitude towards leisure time physical activity, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Completely negative attitude	73	2.17	Mean	2.54
negative attitude	149	35.1	Average	2.52
Neutral attitude	151	35.5	Standard deviation	0.784
Positive attitude	44	10.4	Skewness	0.094
Completely Positive attitude	8	1.9	Elongation	-0.171
Total	425	100		

Table 7. Frequency distribution of students based on their subjective norms, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Very low	19	4.5	Median	3
Low	136	32	Mean	2.84
Average	173	40.7	SD	0.709
High	86	20.2	Skewness	0.047
Very high	11	2.6	Elongation	0.248
Total	425	100		

Table 8. Frequency distribution of students based on their perceived behavioral control, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Very low	11	2.6	Median	3
Low	77	18.1	Mean	3
Average	247	58.1	SD	0.587
High	80	18.8	Skewness	-0.011
Very high	10	2.4	Elongation	1.175
Total	425	100		

Table 9. Frequency distribution of students based on their behavioral intention towards leisure physical activity, and their descriptive statistics.

Measures	N	%	Descriptive statistics	
Very low	1	2	Median	3.5
Low	34	8	Mean	3.46
Average	146	34.4	SD	0.621
High	200	47.1	Skewness	-0.003
Very high	44	10.4	Elongation	0.388
Total	425	100		

Inferential statistics: Testing Hypotheses

In this section, first, Pearson correlation coefficient test is used to discover the relationship between variables and intensity of their correlations.

First hypothesis: there is a significant relationship between attitude and intention towards leisure time physical activity among female high schools students.

Table 10. Correlation test results of H1.

	Variables	R	Sig	N
1	<i>Attitude and intention towards leisure time physical activity</i>	0.463	0.000	425

The relationship between attitude and intention towards leisure time physical activity has been measured in table 10. According to the value of Pearson statistics (0.436) and the level of estimated error (0.000), it can be stated that the correlation between the above mentioned variables are significant at 99 % confidence level. In other words, the null hypothesis is rejected, and researcher’s hypothesis is accepted. Also, it can be said that the relationship between two variables is relatively strong in positive direction. In other words, increase in students’ attitude leads to an increase of 0.43% in intention towards leisure time physical activity.

Second hypothesis: there is a significant relationship between subjective norms and intention towards leisure

time physical activity among female high schools students.

Table 11. Correlation test results of H2.

	Variables	R	Sig	N
1	<i>Subjective norms and intention towards leisure physical activity</i>	0.310	0.000	425

In Table 11, the relationship between subjective norms and intention towards leisure time physical activity has been measured. According to the value of Pearson statistics (0.310) and the level of estimated error (sig =0.000), it can be stated that the relationship between the above mentioned variables are significant at 99% confidence level. In other words, the null hypothesis is rejected, and the researcher’s hypothesis is accepted. Also, relationship between two variables is relatively strong, and its direction is positive and direct. In other words, in comparison to the students’ leisuretime physical activity, an increase in subjective norms leads to 0.31% increase in the students’ intention towards leisure time physical activity.

Third hypothesis: there is a significant relationship between perceived behavioral control and intention towards leisure time physical activity among female high school students

Table 12. Correlation test results of H3.

	Variables	R	Sig	N
1	<i>Perceived behavioral control and intention towards leisure time physical activity</i>	0.393	0.000	425

The relationship between perceived behavioral control and intention towards physical activity has been evaluated in Table 12. R= 0.393, and Sig= 0.000;So it can be said the relationship between two mentioned variables is significant at 99% confidence level. Also, the intensity of relationship between two variables is relatively strong, and it has a positive direction. In other words, an increase in perceived behavioral control of students leads to 39% increase in their intention towards leisure time physical activity.

Fourth hypothesis: there is a significant relationship between perceived behavioral control and the level of participation in leisure time physical activity among female high school students in Tehran.

Table 13. Correlation test results of H4.

	Variables	R	Sig.	N
1	<i>Perceived behavioral control and the level of participation in leisure physical activity</i>	0.129	0.008	425

Table 13 shows the relationship between perceived behavioral control and the level of students' participation in leisure time physical activity. Since R=0.129, and sig=0.008, it can be stated that the relationship between two mentioned variables is significant at 99% confidence level. In other words, the null hypothesis is rejected, and the researcher's hypothesis is accepted. Also Pearson correlation coefficient between two variables indicates that the correlation between two above mentioned variables is weak and positive. In other words, an increase in the amount of students' participation in leisure time physical activity leads to an increase of 13% in their participation in leisure physical activity.

Fifth hypothesis: There is significant relationship between the intention towards leisure time physical activity and the level of participation in leisure time physical activity among female high school students

Table 14. Correlation test results of H5.

	Variables	R	Sig	N
1	<i>Perceived behavioral control and the level of participation in leisure time physical activity</i>	0.129	0.008	425

According to the value of Pearson statistics (0.129) and the level of estimated error (sig= 0.008) shown in Table 14, it can be stated that the relationship between the above mentioned variables is significant at 99% confidence level. Also there is a weak and positive correlation between them. In other words, according to the mean value, the level of participation in leisure time physical activity of students is between low and average range.

Sixth hypothesis: students' intention towards leisure time physical activity based on the attitudes towards leisure physical activity, subjective norms, and perceived behavioral control can be predicted.

In this hypothesis, multiple regression analysis is used to evaluate the predictability, and explaining multiple variables of attitudes, subjective norms, and perceived behavioral control, and their relationships with each other.

Table 15. Model summary for H6.

Model	R	R Squared	Adjusted R Squared
Attitude, subjective norms, perceived behavioral control with intention towards leisure physical activity	0.534	0.285	0.280

Table 15 shows the relationships between independent variables (attitude, subjective norms, and perceived behavioral control) and dependent variable (intention towards leisure physical activity). According to this table, multiple correlation coefficient between independent variables and dependent variable are equal to 0.534. Coefficient of determination is equal to 0.285, and adjusted coefficient of determination which is based on the degree of freedom is equal to 0.280. In other words, attitude, subjective norms, and perceived behavioral control explain 28% of variations in intention towards the leisure time physical activity, and the remaining 72% is predicted by the variables which have not been entered in the model.

Table 16. ANOVA for H6.

Model		Sum of squares	Df	Mean square	F	Sig
1	Regression	46.673	3	15.558	56.036	0.000
	Residue	116.885	421	0.278		
	Total	163.558	424			

Table 16 shows that, according to values of the F, significance level of 99%, students' intention towards leisure time physical activity can be predicted by the variables of attitude, subjective norms, and perceived behavioral control.

Table 17. Coefficients of H6.

Model		Unstandardized β	Standardized β	t	Sig
1	Constant	1.674		11.191	0.000
	Attitude	0.270	0.341	7.908	0.000
	Subjective norms	0.120	0.137	2.990	0.003
	Behavioral control	0.254	0.240	5.145	0.000

Table 17 presents the coefficient of each variable. According to this, standardized weight coefficients of

attitude, subjective norms, and behavioral control are respectively 0.341, 0.137, and 0.240. Also, t value and p-value indicate a significant effect at 99% confidence level.

Seventh hypothesis: participation level in leisure time physical activity based on the attitude towards behavior and perceived behavioral control can be predicted.

In this hypothesis, multiple regression analysis was used.

Table 18. Model summary for H7.

	Model	R	R Squared	Adjusted R Squared
1	<i>Participation level, Intention and perceived behavioral control</i>	0.275	0.076	0.071

According to Table 18, the multiple correlation coefficients of independent variables with dependent variable are equal to 0.275. Coefficient of determination and adjusted coefficient of determination are 0.076, 0.071, respectively. In other words, variables of intention and perceived behavioral control explain 7% of variations in participation in leisure time physical activity.

Table 19. ANOVA for H7.

Model		Sum of squares	Df	Mean square	F	Sig
1	Regression	26.134	2	13.067	17.237	0.000
	Residue	319.904	422	0.758		
	Total	364.038	424			

According to F value and significance level shown in Table 19, the predictability and explanation of Participation level by variables of perceived behavioral control and intention is confirmed.

Table 20. Coefficient of H7.

Model		Unstandardized β	Standardized β	t	Sig
1	Constant	1.077		3.922	0.000
	Intention	0.384	0.264	5.188	0.000
	Perceived behavioral control	0.038	0.025	0.488	0.626

According to Table 20, the coefficients values of the variables intention and behavioral control are 0.264 and

0.025, respectively. t value and p-value indicate a significant effect at 99% confidence level

CONCLUSION

This study tried to investigate effective factors on leisure time physical activities among female high school students based on theory of planned behavior. The results of this study showed that the theory of planned behavior predicts the intention of participation in physical activity among high school female students very well. The important role of perceived behavioral control, subjective norms, and individuals' attitudes towards behavioral intention in predicting intention to participate in physical activity can be found out very well. The most important predictor factor is perceived behavioral control. It means that when female high school students feel that there is a control in doing physical activity, they will have more participation in leisure physical activity. Also, subjective norms directly or indirectly predict behavioral intention to participate in leisure physical activity. The managerial role of these findings is that the prediction of using intention and accepting leisure time physical activity should be considered as a multifaceted and prismatic phenomenon.

REFERENCE

Ajzen, I. 2001. Nature and Operation Of Attitudes. Annual Review of Psychology. 52:27-58.

Ajzen, I. 1985. From Intentions To Actions: A Theory of Planned Behavior. In: Action-Control: From Cognition To Behavior (P-39). Eds. Kuhl, J. and Beckmann. Heidelberg, Springer.

Ajzen, I. 1991. The Theory of Planned Behavior. Organizational Behavior and Human Decision Processes. 50:179-211.

Ajzen, I. and Fishbein, M. 1980. Understanding Attitudes and Predicting Social Behavior. Englewood- Cliffs, Prentice-Hall, NJ., USA.

Bruijn, GJ., Kremers, SP., Singh, A., Van Den Putte, B. and Van Mechelen, W. 2009. Adult Active Transportation: Adding Habit Strength to the Theory of Planned Behavior. Journal of Preventive Medicine. 36(3):189-94.

Caspersen, CJ., Powell, KE. and Christenson, GM. 1985. Physical Activity, Exercise, And Physical Fitness: Definitions and Distinctions for Health-Related Research. Journal of Public Health Reports. 100(2):126-131.

Conner, M., Krik, SF. and Barret, JH. 2003. Environmental Influences: Actors Influences: Actors

- Influencing A Woman's Decision to Use Dietary Supplements. *Journal of Nutrition*. 133(6).
- Duncan, MJ., Ravis, A. and Jordan, C. 2012. Brief Report: Understanding Intention To Be Physically Active and Physical Activity Behavior in Adolescents From A Low Socio-Economic Status Background: An Application of the Theory of Planned Behavior. *Journal of Adolescence*. 35(3):761-4, DOI: 10.1016/J.Adolescence.2011.07.017.
- Feldman, DE. and Barnett, T. 2003. Physical Activity Differentially Associate with Different Types of Sedentary and Pursuits? *Archives of Pediatrics and Adolescent Medicine*. 8:797-804.
- Gazizadeh, A. 2003. Effectiveness of Physical Activity Among Woman High School Teachers in an Iranian City. *Annals of Epidemiology*. 13(8):588-589.
- Gill, DL., Gross, JB. and Huddleston, S. 1983. Participation Motivation in Youth Sports. *International Journal of Sport Psychology*. 14:1-14.
- Gilliam, TB. and Macconnie, SE. 1984. Coronary Heart Disease Risk In Children and their Physical Activity Patterns. In: *Advances in Pediatric Sport Sciences*. Ed. Boileau, RA. Champaign, IL: Human Kinetics. 1:171-187.
- Hamilton, K. and White, KM. 2011. Identifying Key Belief-Based Targets For Promoting Regular Physical Activity Among Mothers and Fathers with Young Children. *Journal of Science and Medicine in Sport*. 14:135-142.
- Khavari, Z. 2008. Study of Doing Exercise Related Factors Based on the Theory of Planned Behavior among Students of University of Medical Sciences, and Health and Care Services of Shahid Beheshti in 2007. M.Sc. Thesis. University of Shahid Beheshti, Tehran, Iran.
- Kimm, SYS., Glynn, NW., Kriska, AM., Barton, BA., Kronsberg SHS., Daniels, SR., Crawford, PB., Sabry, ZI. and Liu, K. 2002. Decline in Physical Activity in Black Girls and White Girls During Adolescence. *The New England Journal of Medicine*. 347:709-715. DOI: 10.1056/Nejmoa003277.
- Kivisto, P. 1998. *Key Ideas in Sociology*. (2nd edi.). Thousand Oaks, Pine Forge Press, CA., USA.
- Lumsden, L. 1997. *Tourism Marketing*. London: International Thomson Business Press.
- Plotnikoff, RC., Lubans, DR., Costigan, SA. and Et, Al. 2011. A Test of the Theory of Planned Behavior to Explain Physical Activity in A Large Population Sample of Adolescents From Alberta, Canada. *Journal of Adolescent Health*. 49(5):547-9. DOI: 10.1016/J.Jadohealth.2011.03.006.
- Prochaska, JJ., Rogers, MW. and Sallis, JF. 2002. Association of Parent and Peer Support with Adolescent Physical Activity. *Research Quarterly for Exercise and Sport*. 73(2):206-10.
- Safania, AM. 2000. Leisure Activities of Islamic Azad University Students with an Emphasis on Sport. Ph.D. Thesis. Science and Research Branch, Islamic Azad University, Tehran, Iran.
- Sallis, JF. and Patrick, K. 1995. Physical Activity Guidelines for Adolescents: Consensus Statement. In: *New Horizons In Pdiatric Exercise Science*. Eds. Blimike, CJR. and Bar-Or, O. Campaign. EL: Human Kinetics. 302-313.
- Sallis, JF., Simons-Morton, BG., Stone, EJ., Corbin, CB., Epstein, LH., Faucette, N. and Et, Al. 1992. Determinants of Physical Activity and Interventions in Youth. *Medicine and Science in Sports and Exercise*. 24:S248-S257.
- Saunders, RP., Pate, RR., Felton, G. and Et, Al. 1997. Development of Questionnaires to Measure Pscychocial Influences on Children's Physical Activity. *Preventive Medicine*. 26:241-247.
- Scanlant, K., Carpenter, PJ., Lobel, M. and Simons, JP. 1993. Sources of Enjoyment for Youth Sport Athletes. *Pediatric Exercise Science*. 5: 275-285.
- Shen, B., Mccaughy, N. and Martin, J. 2008. Urban Adolescents' Exercise Intentions and Behaviors: An Exploratory Study of A Trans-Contextual Model. *Contemporary Educational Psychology*. 33:841-858.
- Staten, RR., Miller, K., Noland, MP. and Rayens, MK. 2005. College students' physical activity: Application of an ecological model. *American Journal of Health Studies*. 20(1):58-65.
- Strauss, RS., Rodzilsky, D., Burack, G. and Colin, M. 2001. Psychosocial Correlates of Physical Activity in Healthy Children. *Archives of Pediatrics and Adolescent Medicine*. 155:897-902.
- Tsang, CK. and Chan, TFA. 1993. The Relationship Between Physical Fitness and Attitude Towards Physical Activities of Hong Kong Secondary School Students. 1990-1992. *Synopsis of Local Researches in Sport Science*. 3. Hong Kong: CUHK.

Walton, J., Hoerr, S., Heine, L., Frost, S., Roisen, D. and Berkimer, M. 1999. Physical Activity and Stages of Change in Fifth and Sixth Graders. *Journal of School Health*. 69(7):285-289.

Wang, X. 2011. The Role Of Anticipated Negative Emotions and Past Behavior in Individuals, Physical Activity Intentions and Behaviors. *Psychology of Sport and Exercise*. 12:300-305.

Received: April 5, 2015; Revised: May 4, 2015; Sept 2, 2015