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An examination of the physical activity levels and basic psychological needs of university students

Aydın Ilhan [a] *, Hayrettin Gumusdag [b]

[a]*Pamukkale University, Faculty of Sports Sciences, Denizli 20160, Turkey*

[b]*Yozgat Bozok University, Faculty of Sports Sciences, Yozgat 66100, Turkey*

Abstract

The aim of this research is to examine the physical activity levels and basic psychological needs of university students according to various variables. The survey model, the quantitative research models, was used in the study. The population of the research consists of Pamukkale University students in the 2021-2022 academic year. 41,480 university students, and the sample consists of 558 students determined by the sampling method that can be easily found from the universe. A personal information form created by the researcher to collect data, an international physical activity questionnaire to determine physical activity levels, and a basic psychological needs scale to determine basic psychological needs were used. The normality test of the data was performed with Shapiro Wilk analysis. The normal distribution of the data in physical activity and basic psychological needs scores according to gender was detected and a significant difference was analyzed in independent groups with T-Test. According to the level of physical activity, Mann Whitney U analysis was used in the difference analysis as the data did not show normal distribution. Pearson correlation analysis was used for the relationship between physical activity level and basic psychological level of need. All data were tested at 0.05 significance level. As a result of the research, there was no significant difference in the comparison of the physical activity score and the basic psychological needs score of the university students according to gender. Considering all university students and according to the gender variable, a positive relationship was found except for male students between physical activity score and psychological need score.

Keywords: Physical Activity; basic psychological needs; university Students

1. Introduction

1.1. Introduce the problem

Today, the lifestyle provided by technological developments has begun to spend more time sitting than before, and the place of movement in free time activities has begun to

* Corresponding author name. ORCID ID.: https://orcid.org/ 0000-0001-9717-2746
E-mail address: trainertennis@hotmail.com

decrease gradually. On the one hand, it greatly facilitated our life, on the other hand, it caused the society to adopt a sedentary lifestyle (Norman, 1999).

Physical activity is one of the ways followed to achieve a targeted goal at the point of combating many health problems in children, young people and adults Good for health physical activity at any age. It is important for healthy development especially for children and teenagers. Physical activity is not limited to sporting events. Individuals live at home, work, transportation, in short, in every part of life (Edwards & Thouros, 2006).

Regular physical activity helps children grow and develop in a healthy way and socialize by protecting them from bad habits; It contributes to the prevention of various chronic diseases faced by adults and to the treatment of these chronic diseases or to overcome the disease process more easily, and to the elderly to lead an active, quality and healthy life. As a result, regular physical activity provides significant benefits in increasing the quality of healthy life from birth to death (Bek, 2008).

If physical activity is done regularly, it has positive effects, both physiological and psychological (Haskell et al., 2007). The physical inability of the athlete to show the expected performance is tried to be explained by the psychology of the athlete. According to the coaches in the qualitative studies, at least 50% of the performance of the athletes is provided by the mental structure of the athlete (Cherry, 2005). Physical activity: requiring energy expenditure above the basal level, it is defined as any bodily movement performed by contraction of skeletal muscles (Thompson et al. 2009; Ardic, 2014).

Basic psychological needs are those that are innate in the individual. This statement was coined by the theory of self-determination. It is necessary for the development, health and fulfillment of needs of the individual. For the individual to develop in a healthy way and to increase their level of well-being and therefore to positively support their mental health, the basic psychological needs called competence, autonomy and relationship needs must be met. stated that if a plant cannot develop in a healthy way in the absence of basic substances such as water and air, the health and personal integrity of the human being will be adversely affected in the absence of three basic psychological needs (Deci & Ryan, 2000).

Considering the role of university students in the formation of cultural and social norms in the future, the importance of physical activity habits of these students increases. University life is a period in which important changes are experienced in the lives of individuals. It is known that there is a university youth who spends most of their time in this period with their own personality development and education. Personal development leads to healthy behaviors in life and university education, besides vocational education. Attitudes and behaviors in the field of health are important. With the change, the attitude of the student affects himself, his family and even the society individually in the future. The health level of societies is measured by most healthy

individuals in the society (Ayaz, Tezcan, Akinci, 2005). Therefore, the aim of the study is to examine the physical activity and basic psychological needs of university students according to various variables.

2. Method

2.1. Purpose and Model of Research

The survey model, which is one of the quantitative research models, was used in the study.

2.2. Participants

The population of the research consists of Pamukkale University students in the 2021-2022 academic year. 41,480 university students, and the sample consists of 558 students determined by the sampling method that can be easily found from the universe. Eligible participants were informed that participation was voluntary, and data were confidential, before providing informed consent. The study was conducted in accordance with the Declaration of Helsinki and approved by the research. Since it was a survey study, Committee on Publication Ethics was not obtained.

2.3. Data Collection Tools

Personal information form created by the researcher to collect data, "International Physical Activity Questionnaire (IPAQ)" to determine physical activity levels, developed by Craig et al., (2003), and Turkish validity and reliability (r=76) Ozturk M. (2005) and the “Basic Psychological Needs” scale, developed by Deci and Ryan (2000) and adapted into Turkish by Kesici, Ure, Bozgeyikli, and Sunbul (2003), was used to determine their basic psychological needs.

The International Physical Activity Questionnaire provides information on sitting, walking, moderate-intensity activities, and time spent in vigorous activities. In the evaluation of all activities, the criterion is that each activity is done for at least 10 minutes at a time. A score is obtained as “MET¬minutes/week” by multiplying the minute, day and MET value (multiples of resting oxygen consumption). Physical activity levels were classified as physically inactive (3000MET¬min/week) (Vural et al, 2010; Craig et al, 2003).

The Essential Psychological Needs Scale, on the other hand, is a 5-point Likert-type, 21-item scale. Five-point Likert-type grading was preferred in the Turkish version of the scale, which was subjected to seven-point grading in its original form. It has three sub-dimensions: the need for autonomy, the need for competence, and the need for relationship. 3 items in all three dimensions and 9 items in total are reverse scored. In the scale, the lowest and highest scores that can be obtained for each sub-dimension are respectively; 6 and 30 for autonomy; 7 and 35 for qualification; for relationship need, it is

8 and 40. As the scores increase, the person feels that his psychological needs are met more, and as the scores decrease, his psychological needs increase.

2.4. Analysis of the Data

All data are explained with mean and standard deviation values. The normality test of the obtained data according to age, gender and physical activity level was done with Shapiro Wilk analysis. Normal distribution of the data was determined in physical activity and basic psychological needs scores according to gender, and whether there was a significant difference was analyzed by t-test in Independent Groups. Since it was determined that the data did not show normal distribution according to the level of physical activity, Mann Whitney U analysis was used in the difference analysis. Pearson Correlation analysis was used for the relationship between physical activity level and basic psychological need level. All data were tested at the 0.05 significance level.

3. Results

Table 1. Descriptive Table of Physical Activity and Basic Psychological Need Scores of University Students by Age and Gender

		Physical Activity Score				**Basic Psychological Need Score**			
		Female		**Male**		**Female**		**Male**	
		Mean	**Ss**	**Mean**	**Ss**	**Mean**	**Ss**	**Mean**	**Ss**
Age	**17-20**	664,248	87,556	691,250	84,380	62,184	4,919	62,563	6,267
	21-25	694,778	64,535	689,765	71,844	61,877	3,108	61,439	2,702
	26+	707,175	71,508	692,032	76,511	61,937	6,154	62,175	6,272

Table 2. Comparison of Physical Activity and Basic Psychological Needs Scores of University Students by Gender

	Physical Activity Score		**Basic Psychological Need Score**	
	Mean	**Ss**	**Mean**	**Ss**
Female (n=269)	683,494	79,475	62,033	4,781
Male (n=289)	690,917	78,353	62,097	5,338
t	-1,11		-0,147	
p	0,267		0,883	

According to Table 2, when comparing physical activity scores and basic psychological needs scores of university students according to gender, no significant difference was

found in either score (p>0.05). It is seen that the mean scores of both male and female are quite close to each other.

Table 3. Correlation Table between Physical Activity Score and Basic Psychological Need Score of University Students by Gender

		Basic Psychological Need Score		
		General	**Female**	**Male**
Physical Activity Score	**r**	0,620	0,780	0,021
	p	**0.040***	**0.030***	0,721

*p<0.05 significant relationship

According to Table 3, when all university students are considered and according to the gender variable, a positive and significant relationship was found between the physical activity score and the psychological need score, except for male students. Accordingly, an increase in the psychological need score indicates an increase in the physical activity score. It can be said that physical activity score is a predictor of psychological need score.

Table 4. Mann-Whitney U Analysis Table between the Basic Psychological Needs Score of University Students by Physical Activity Levels and Gender

	Physical Activity Level	**Mean**	**Ss**	**U**	**p**
Basic Psychological Need Score	Low (n=91)	51,24	2,86	18913,5	**0.04***
	Middle (n=467)	62,23	5,39		
Female's Basic Psychological Need Score	Low (n=46)	51,39	3,04	4693	**0.03***
	Middle (n=223)	62,17	5,06		
Male's Basic Psychological Need Score	Low (n=45)	61,09	2,70	4754,50	0,32
	Middle (n=244)	62,29	5,68		

*p<0.05 significant relationship

According to Table 4, a significant difference was found when the basic psychological needs scores of university students were compared according to their physical activity level (p<0.05). It is seen that the basic psychological need levels of those with medium level of physical activity are higher than those with low level of physical activity. In addition, when we compared the psychological need scores according to gender according to the level of physical activity, a significant difference was found between the basic

psychological needs scores of females according to the level of physical activity ($p<0.05$). The same cannot be said for male. When the psychological need scores of males were compared according to their physical activity levels, no significant difference was found. For male, psychological need scores at both physical activity levels are quite close to each other.

4. Discussion

The place of physical activity and basic psychological needs in human health is known and it has been stated that regular physical activity improves physiological and psychological parameters and has many positive effects (Ehrman et al. 2005; Heyward 2006; ACMS 2007; ACSM 2009). It has been reported that the minimum level of activity that can be beneficial to health is at least 30 minutes of moderate-intensity or vigorous activity every day (Ainsworth et al., 2000; Sarkin et al., 2000; Schmidt et al., 2003).

In this study, physical activity levels and basic psychological needs of university students were examined according to various variables. According to the results of the research, in this study, in which the aim of the study is to examine the physical activity and basic psychological needs of university students according to various variables. Considering all university students and according to the gender variable, a positive and significant relationship was found between the physical activity score and the psychological need score, except for male students. When the basic psychological needs scores of university students were compared according to their physical activity level, a significant difference was found. It is seen that the basic psychological need levels of those with medium level of physical activity are higher than those with low level of physical activity. In addition, when we compared the psychological need scores according to gender according to the level of physical activity, a significant difference was found between the basic psychological needs scores of females according to the level of physical activity. Savci et al. (2006) stated that there are significant differences in physical activity levels in terms of gender.

According to the gender variable of university students, no significant difference was found in both physical activity scores and basic psychological needs scores. According to physical activity levels, a study in Sweden found that university students did not differ in physical activity levels according to gender (Von & Fridlund, 2005). In another study, which examined the participation of adult individuals in physical activity, a significant difference was found in physical activity levels according to the gender variable (Karaca, 2008). As a result of their research in which they examined the physical activity levels of the students of the faculty of sports sciences, they found that the physical activity levels of male and female students were similar (Aydin & Solmaz, 2016). Some of the studies that show that basic psychological needs do not make a significant difference in terms of gender also support our study (Gonener, Ozturk & Yilmaz, 2017; Avsaroglu, 2017; Ustun,

2019). Their study on the sample of volleyball referees, on the other hand, coincides with the findings that there is no significant difference between basic psychological needs and gender (Arslanoglu, Tekin, Arslanoglu & Ozmutlu, 2010). There are studies in which basic psychological needs differ according to gender in university students. (Kesici, Ure, Bozgeyikli, & Sunbul 2003; Celikkaleli, O. & Gundogdu, M., 2005; Cihangir-Cankaya, Z., 2009). In these studies, it was found that female have more basic psychological needs than male. According to Erol et al., (2003), Bursa in Nilüfer District of the parents of Primary School students in an examination of the perspective of physical education and sport-related research, they show interest in physical education and sports activities of the parents, mom and dad, parents remind their kids to do their sports activities sports activities at certain times they are a reward for his children very well, they don't talk about the development of Sport, Physical Education and sports activities that do not follow the development of the sport and they didn't promote it was found.

When the basic psychological needs scores of university students were compared according to their physical activity level, a significant difference was found. It is seen that the basic psychological need levels of those with medium level of physical activity are higher than those with low level of physical activity. A large part of the literature indicates that basic psychological needs are positively related to physical activity and exercise (Ntoumanis, 2005; Standage et al., 2005; Vlachopoulos et al., 2013; Sibley and Bergman, 2018). Like the findings of this study, studies conducted in sports environments (Stenling et al., 2015; Heuze et al., 2018) and exercise environments (Standage & Ryan, 2019; Kazak Cetinkalp & Lochbaum, 2018) indicate that basic psychological needs are positively related to satisfaction (Kazak 2018). It was determined "that there was a significant difference at the $p<0.05$ level between age, gender, sport type and the width sub-dimension of the perception of future time, while there was no significant difference in the other sub-dimensions. When the literature is examined, it is seen that there is no study examining whether there is a difference between the type of sport and the perception of future time (Gumusdag et al., 2022).

5. Conclusions

As a result, no significant difference was found between the physical activity score and the basic psychological needs score of university students according to gender. It is seen that the mean scores of both male and female are quite close to each other. According to the gender variable, a positive and significant relationship was found between the physical activity score and the psychological need score, except for male students. Accordingly, an increase in the psychological need score indicates an increase in the physical activity score. It can be said that physical activity score is a predictor of psychological need score. When the psychological need scores were compared according to

the physical activity level, a significant difference was found. It is seen that those with moderate physical activity levels have higher levels of psychological needs compared to those with low levels of physical activity. Considering that regular physical activity improves physiological and psychological parameters, studies should be carried out for a healthy individual and a healthy society to acquire the habit of doing regular physical activity. In this context, studies should be carried out to make individuals and all segments of the society comprehend the importance and effects of doing moderate-intensity physical activity for a healthy life every day.

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