

Özgün araştırma

Genç Erişkinlerde Fiziksel Aktiviteye Katılım Motivasyonu ve Engellerinin İncelenmesi

Özgü İnal ¹, Berna Tunçer ²

Gönderim Tarihi: 6 Mayıs, 2020

Kabul Tarihi: 6 Temmuz, 2020

Basım Tarihi:31 Aralık, 2020

Öz

Amaç: Bu çalışma, genç erişkin bireylerde fiziksel aktiviteye katılım motivasyonu ve engellerinin incelenmesi amacı ile planlandı.

Gereç ve Yöntem: Çalışmaya 19-24 yaş arası, 222 üniversite öğrencisi dahil edildi. Çalışmada demografik bilgi formu, Fiziksel Aktiviteye Katılım Motivasyon Ölçeği (FAKMÖ) ve Fiziksel Aktivite Engelleri Ölçeği (FAEÖ) kullanıldı.

Bulgular: Fiziksel aktivite engelleri ve fiziksel aktiviteye katılım motivasyonu arasındaki korelasyon incelendiğinde; FAEÖ Total ve FAKMÖ Total arasında negatif yönde orta şiddette korelasyon saptandı ($r=-0.41$, $p<0.01$). Üniversite döneminde düzenli fiziksel aktivite yapma durumu ile FAEÖ Total arasında negatif ($r=-0.26$, $p<0.01$) ve FAKMÖ Total puanı arasında pozitif yönde korelasyon saptandı ($r=0.14$, $p=0.04$).

Sonuç: Bulgular, fiziksel aktiviteye katılma motivasyonunun birçok açıdan fiziksel aktivite engelleriyle ilişkili olduğunu göstermiştir. Çalışma aynı zamanda bu yaş grubundaki bireylerin fiziksel aktivite için yüksek motivasyona sahip olduğunu, ancak düzenli fiziksel aktivite oranlarının yetersiz olduğunu göstermiştir.


Anahtar kelimeler: *Fiziksel aktivite, motivasyon, üniversite*

¹Özgü İnal (Sorumlu Yazar). Trakya Üniversitesi, Sağlık Bilimleri Fakültesi, Ergoterapi Bölümü, Edirne/Türkiye, 02842133042. E-posta: inalozgu@gmail.com

²Berna Tunçer. Trakya Üniversitesi, Sağlık Bilimleri Fakültesi, Fizyoterapi ve Rehabilitasyon Bölümü, Edirne/Türkiye, 02842133042. E-posta: bernakuzuoglu@hotmail.com

Original Research

Investigation of Motivation for Participation in Physical Activity and Barriers in Young Adults

Özgü İnal ¹, Berna Tunçer ²

Submission Date: 6th of May, 2020

Acceptance Date: 6th of July, 2020

Pub.Date: 31st of December, 2020

Abstract

Aim: The study has been conceived to investigate motivation and barriers of physical activity participation in young adults.

Material and Methods: Two hundred and twenty-two university students aged 19-24 years included in this study. Demographic information form, Motivation Scale For Participation In Physical Activity (MSPPA) and Physical Activity Barriers Questionnaire (PABQ) were used in the study.

Results: When the correlation between physical activity barriers and motivation to participate in physical activity was evaluated, a moderate negative correlation was found between PABQ Total and MSPPA Total ($r=-0.41$, $p<0.01$). It was found that; regular physical activity during the university period had a negative correlation with PABQ Total ($r=-0.26$; $p<0.01$) and a positive correlation with MSPPA Total ($r=0.14$, $p=0.04$).

Conclusion: Findings showed that motivation to participate in physical activity was associated with physical activity barriers in many aspects. The study also demonstrated that individuals in this age group had a high motivation for physical activity, but the rates of regular physical activity were insufficient.

Keywords: *Physical Activity, motivation, university*

¹**Özgü İnal (Correponding Author).** Trakya University, Faculty of Health Science, Department of Occupational Therapy, Edirne/Turkey, 02842133042. E-mail: inalozgu@gmail.com

²**Berna Tunçer.** Trakya University, Faculty of Health Science, Department of Physical Therapy and Rehabilitation, Edirne/Turkey, 02842133042. E-mail: bernakuzuoglu@hotmail.com

Introduction

Physical activity is defined as “any physical movement produced by skeletal muscles that require energy expenditure” (Donnelly et al., 2016). Movement-based activity is known to have positive effects on individuals' psychophysiology through different stages of life. Physical activity has also been found to improve psychological well-being and prevent mental disorders in young people (Babic et al., 2014).

Despite the substantial benefits of participating in regular physical activity, a large part of the global population is becoming increasingly sedentary (Matthews et al., 2008). The World Health Organization (WHO) reported that adults aged 18-64 years should perform at least 150 minutes of moderate-intensity aerobic physical activity or at least 75 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate and vigorous intensity-activity (WHO, 2010)

There are several factors that affect participation in physical activity, including demographics, knowledge, approach and beliefs about physical activity. Given the importance of different factors and the role individuals play in their decision to adopt and maintain regular physical activity, it is imperative to understand how motivation helps participation (Hoare, Stavreski, Jennings, Kingwell, 2017). It was emphasized the importance of motivation in individuals' participation in certain types of physical activity in the literature (Hoare, 2017; Roychowdhury, 2018). Lack of motivation has been described as a key factor in an individual's inadequate participation in physical activity (Allison, Dwyer, Makin, 1999).

Although there are several studies in the literature on motivation and barriers of physical activity (Roychowdhury, 2018; Allison, 1999; Schutzer, Graves, 2004); studies investigating young adults are limited (Lovell, El Ansari, Parker, 2010; Daskapan, Tuzun, Eker, 2006).

University students comprise a significant proportion of the young adult population. Understanding sedentary behavior and related factors in university students may guide future interventions and policy development for this group at risk. In addition, since the most of health-related behaviors in adulthood stem from late adolescence and young adulthood, university years constitute an important period for the development of future life patterns (Department of Health, Human Services, 2000).

Elucidating the extent and causes of sedentary behavior in university students is the first step in developing a strategy to clarify motivation and barriers, and promote physical activity. The present study has been conceived to investigate motivation and barriers of physical activity

participation in young adults considering the limited information about this subject matter in the literature.

Material and Methods

The study was carried out with 222 subjects aged 19-24 years who were students at the Trakya University Faculty of Health Sciences. The necessary approval has been obtained from the Trakya University Social ve Humanities Sciences Research Ethics Committee (2019.10.11).

Instruments

The demographic information (eg; sex, age, body mass index) form prepared by the study team. Besides the participants' body mass index (BMI) was recorded (WHO, 2012). Motivation Scale For Participation In Physical Activity (MSPPA) and Physical Activity Barriers Questionnaire (PABQ) were used in the study.

Motivation Scale For Participation In Physical Activity (MSPPA) (Demir, Cicioğlu, 2018) consists of 16 items and sub-dimensions of personal reasons, environmental reasons, and causality. Scores obtained in this scale show individuals motivation level of participate in physical activity, with scores of 1-16 interpreted as very low, 17-32 as low, 33-48 as moderate, 49-64 as high and 65-80 as very high level of motivation.

Physical Activity Barriers Questionnaire (PABQ) (Yurtçiçek, Şahin, 2018) is a 5-point Likert type scale (1=strongly disagree, 5=strongly agree) consisting of 22 items. The scale covers three sub-dimensions: personal (14 items), social environment (3 items), and physical environment (5 items). Higher scores on this scale reflect a higher probability of creating barriers. Cronbach's alpha reliability coefficient for the whole scale is 0.87, and Cronbach's alpha reliability coefficients for the sub-dimensions of the scale are between 0.53-0.85.

Data analysis

SPSS version 21.0 package program was used for the statistical analysis of the quantitative method's data. In descriptive statistics, mean and standard deviation values were presented. Categorical variables were expressed as numbers and percentages. The Kolmogorov-Smirnov test assessed the normality of data distribution, and Spearman's Correlation Analysis was used based on the normal distribution of data. Correlation was deemed very weak for $r < 0.2$, weak for 0.2-0.4, moderate for 0.4-0.6, high for 0.6-0.8 and very high for > 0.8 . A p-value < 0.05 was considered statistically significant.

Results

The study was completed with 161 females and 61 males, i.e., 222 subjects. Descriptive characteristics of the subjects are presented in Table 1.

Table 1. Descriptive characteristics of the subjects

Descriptive characteristics		n(222)	(%)
Gender	female	161	72.50
	male	61	27.50
Educational year	1	10	4.50
	2	77	34.70
	3	69	31.10
	4	66	29.70
BMI	underweight	27	12.20
	normal weight	163	73.40
	pre-obesity	25	11.30
	obesity class I	6	2.70
	obesity class II	1	0.50
Regular physical activity before university	yes	82	36.90
	no	140	63.10
Regular physical activity during university	yes	62	27.90
	no	160	72.10
	min--max		Mean±SD
Age	18-24		20.51±1.25
Sitting-time, hours/day	2-17		7.72±2.62
Watching television, hours/ day	0-6		0.67±1.05
Time spent on the computer, hours/day	0-8		0.96±1.42
Smartphone usage, hours/day	2-17		8.42±2.31

*BMI: Body Mass Index

It was determined that most of the individuals included in the study had a high level of motivation to participate in physical activity (76.60%). The physical activity barriers and the results concerning participation motivation are presented in Table 2.

Table 2. Physical Activity Barriers Questionnaire and Motivation Scale For Participation In Physical Activity Results

Physical Activity Barriers Questionnaire (PABQ)	Min-Max scores	Mean±SD (n=222)
Personal	14-68	28.68±8.37
Social environment	3-15	7.82±2.76
Physical environment	5-24	11.09±3.53
PABQ Total	22-106	47.63±12.16
Motivation Scale For Participation In Physical Activity (MSPPA)		
Personal Reasons	9-30	24.26±4.27
Environmental Reasons	8-30	17.74±3.99
Causality	7-20	17.11±2.76
MSPPA Total	35-80	59.12±8.00
	Range	n=222 (%)
Moderate level of motivation	33-48	18 (8.10)
High level of motivation	49-64	170 (76.60)
Very of motivation	65-80	34 (15.30)

When the correlation between physical activity barriers and motivation to participate in physical activity was evaluated, a moderate negative correlation was found between PABQ Total and MSPPA Total (Table 3).

Table 3: Correlation between physical activity barriers and physical activity participation motivation

	MSPPA Personal		MSPPA Environmental		MSPPA Causality		MSPPA Total	
	r	p	r	p	r	p	r	P
PABQ-Personal	-0.41	<0.01*	-0.09	0.18	-0.45	<0.01*	-0.39	<0.01*
PABQ-Social Environment	-0.17	<0.01*	-0.16	0.02*	-0.26	<0.01*	-0.23	<0.01*
PABQ-Physical Environment	-0.30	<0.01*	-0.05	0.48	-0.42	<0.01*	-0.30	<0.01*
PABQ Total	-0.42	<0.01*	-0.12	<0.01*	-0.50	<0.01*	-0.41	<0.01*

Spearman's Correlation; *p<0.05; PABQ: Physical Activity Barriers Questionnaire; MSPPA: Motivation Scale For Participation In Physical Activity

Evaluation of the relationship between descriptive characteristics, physical activity barriers and motivation to participate in physical activity revealed that regular physical activity during university period had a negative correlation with PABQ Total and a positive correlation with MSPPA Total (p <0.05) (Table 4).

Table 4: Relationship between descriptive characteristics with physical activity barriers and physical activity participation motivation

	PABQ Total		MSPPA Total	
	r	p	r	P
Gender	-0.05	0.41	-0.00	0.96
Educational year	0.27	0.69	-0.00	0.96
Age	-0.09	0.18	0.04	0.60
BMI	-0.06	0.35	0.02	0.75
Regular physical activity before university	0.04	0.50	-0.09	0.19
Regular physical activity during university	-0.26	<0.01*	0.14	0.04*
Sitting-time, hours/ day	-0.05	0.44	-0.04	0.58
Watching television, hours/day	-0.02	0.80	-0.03	0.70
Time spent on the computer, hours/day	0.04	0.54	-0.09	0.14
Smartphone usage, hours/day	0.01	0.87	-0.01	0.93

Spearman's Correlation; *p<0.05; BMI: Body Mass Index

Discussion

In this study, motivation and barriers of participation in physical activity were investigated in young adults and it was found that motivation to participate in physical activity was associated with physical activity barriers in many aspects. The study also demonstrated that individuals in this age group had a high motivation for physical activity, but the rates of regular physical activity were insufficient.

The study showed decreased physical activity rates among the participants during the university period compared to the period before the university. In addition, the amount of time subjects spend sitting during the day and using a smartphone was substantially high. A meta-analysis study on sedentary behavior shows that university students spend an average of 7.29 hours a day. In the study, it was pointed out that this may be resulting from different causes and that this situation may be explained by activities that require lengthy time of sitting still (e.g. doing homework, attending classes) (Castro, Vergeer, Bosselut, Biddle, 2020). Behaviors such as a lengthy time of sitting still during the day are associated with risk for a number of diseases. Chau et al. (2013) stated that a 7-hour sitting-time per day a risk for cardiovascular mortality and another study (Patterson et.al., 2018) showed positive and nonlinear relationships between 6-8 hours of sitting-time per day and cardiometabolic/mortality outcomes. In our study, it was determined that the subjects spend an average of 7.72 hours sitting still per day based on their statements. This finding indicates that this age group is at risk for health problems.

The subjects enrolled in this study had a high level of motivation to participate in physical activity. However, only 27.90% of these subjects were found to be doing regular physical activity. This result is one of the most remarkable findings of the study and shows the importance of exploring the factors that support (eg, motivation) or interfere with physical

activity participation. Sedentary behavior is one of the significant barrier to physical activity participation. In terms of physical activity and total sitting-time during the day, a negative relationship was shown between these parameters in relevant studies (Castro, Bennie, Vergeer, Bosselut, Biddle, 2018). In a study by Mansoubi et al. (2014), the relationship between inactive behavior and insufficient physical activity was investigated, demonstrating a negative relationship between these parameters. Similarly, the present study supports the association between sedentary behavior time and low level of physical activity, in line with the literature. Therefore, promoting physical activity may be a good way to reduce sedentary behavior.

Young individuals are the group with the highest risk for using ‘addictive’ smartphones. Smartphone addiction may affect physical health unfavorably as it shortens the time spent for physical activity, causing an increase in fat mass and a decrease in muscle mass, which may lead to adverse health outcomes (Kim, Kim, Jee, 2015; Günal, Pekçetin, 2019). In a study conducted by university students, the average smartphone usage time was determined as 125.56 minutes and it was pointed out that this situation affects individuals physically (Singh, Singh, 2019). In our study, the average time of smartphone usage was 8.42 hours per day. This shows that these subjects spend most of their time on smartphones and stay in improper postures for a prolonged time during the day.

In a review (Troost, Owen, Bauman, Sallis, Brown, 2002), it has been shown that the perception of environmental and personal barriers is inversely related to physical activity levels. Motivation is one of the cornerstones of behavioral approach, and early experiences with physical activity can play an essential role in adults motivation (Iso-Ahola, 1999). In the literature, three points were pointed out regarding exercise barriers: (1) lack of time/being too busy, (2) lack of energy/being very tired, and (3) lack of motivation/desire (Canadian Fitness and Lifestyle Research Institute, 1996). Bowles et al. (2002) suggested that the perception of lack of time as a barrier may in fact be reflecting the lack of self-motivation rather than barrier to regular participation in physical activities. Another study reported reasons poor health, low motivation, pain, fatigue and not enjoying exercise and bad weather, as well as lack of time as the barriers to exercise (Cohen-Mansfield, Marx, Guralnik, 2003). In our study, a negative correlation was found between motivation to participate in physical activity and physical activity barriers. In other words, increased motivation to participate in physical activity is associated with decreased barriers. This result is in line with the literature.

The present study showed that the barriers to participation in physical activity may be reduced by increasing motivation for participation in young adults. Leading a sedentary lifestyle

might become a serious health problem both in childhood and adolescence and especially among university students (Ortega, Ruiz, Castillo, Sjöström, 2008). The literature usually focuses on the benefits of participating in regular physical activity and shows that it is consistently associated with several positive physical and psychological health outcomes for individuals throughout their lifetime. However, factors that increase or decrease participation in physical activity have been studied to a smaller extent. Healthcare professionals not only emphasize the physiological and psychological benefits of participating in physical activity but also emphasize the motivational and entertaining aspects of individual participation in such activities, aiming to guide future interventions to increase physical activity participation (Roychowdhury, 2020). Besides, targeting such interventions at a young age is important in terms of helping the individual find a pleasant exercise or activity so that they are less likely to dislike physical activity in later stages of life. In other words, individuals may be less likely to be motivated and exercise regularly unless they adopt this behavior at an early stage of life (Cohen-Mansfield, 2003).

Limitations

The fact that the study was conducted only one university limits the generalizability of the results.

Conclusions

This study demonstrated that individuals in this age group had a high motivation for physical activity, but the rates of regular physical activity were insufficient. This study also draws attention that the barriers to participation in physical activity may be reduced by increasing motivation for participation in young adults. Reducing sedentary behavior and other interventions to promote behavioral change in adolescents and young adults provide an opportunity to develop a healthy lifestyle throughout life. It is thought that such an approach may provide a comprehensive framework for future studies to be carried out with quantitative and qualitative design and to understand motivational factors and barriers regarding physical activity.

Disclosure Statement

No author has any financial interest or received any financial benefit from this research.

Conflict of Interest

The authors state no conflict of interest.

Funding

This study did not receive any funding.

References

- Allison, K. R., Dwyer, J. J., & Makin, S. (1999). Self-efficacy and participation in vigorous physical activity by high school students. *Health Education & Behavior, 26*(1), 12-24.
- Babic, M. J., Morgan, P. J., Plotnikoff, R. C., Lonsdale, C., White, R. L., & Lubans, D. R. (2014). Physical activity and physical self-concept in youth: systematic review and meta-analysis. *Sports medicine, 44*(11), 1589-1601.
- Bowles, H. R., Morrow Jr, J. R., Leonard, B. L., Hawkins, M., & Couzelis, P. M. (2002). The association between physical activity behavior and commonly reported barriers in a worksite population. *Research Quarterly for Exercise and Sport, 73*(4), 464-470.
- Canadian Fitness and Lifestyle Research Institute (1996). Bulletin 04: Barriers to physical activity. Available from: URL: <https://www.cflri.ca/document/bulletin-04-barriers-physical-activity> [31.03.2020].
- Castro, O., Bennie, J., Vergeer, I., Bosselut, G., & Biddle, S. J. (2020). How Sedentary Are University Students? A Systematic Review and Meta-Analysis. *Prevention Science, 21*(3), 332-343.
- Castro, O., Bennie, J., Vergeer, I., Bosselut, G., & Biddle, S. J. (2018). Correlates of sedentary behaviour in university students: A systematic review. *Preventive medicine, 116*, 194-202.
- Chau, J. Y., Grunseit, A. C., Chey, T., Stamatakis, E., Brown, W. J., Matthews, C. E., ... & van der Ploeg, H. P. (2013). Daily sitting time and all-cause mortality: a meta-analysis. *PloS one, 8*(11).
- Cohen-Mansfield, J., Marx, M. S., & Guralnik, J. M. (2003). Motivators and barriers to exercise in an older community-dwelling population. *Journal of aging and physical activity, 11*(2), 242-253.
- Daskapan, A., Tuzun, E.H., & Eker, L. (2006). Perceived barriers to physical activity in university students. *Journal of sports science & medicine, 5*(4), 615.
- Demir, G. T., & Cicioğlu, H. İ. (2018). Motivation Scale For Participation In Physical Activity (MSPPA): A study of validity and reliability Fiziksel Aktiviteye Katılım Motivasyonu Ölçeği (FAKMÖ): Geçerlik ve güvenilirlik çalışması. *Journal of Human Sciences, 15*(4), 2479-2492.
- Department of Health, Human Services, Washington, DC., & Healthy People 2010 (Group). (2000). *Healthy people 2010: Understanding and improving health*. US Department of Health and Human Services.
- Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., ... & Szabo-Reed, A. N. (2016). Physical activity, fitness, cognitive function, and academic achievement in children: a systematic review. *Medicine and science in sports and exercise, 48*(6), 1197.
- Günel, A., & Pekçetin, S. (2019). Üniversite Öğrencilerinde Akıllı Telefon Bağımlılığı İle Servikal Bölge-Üst Ekstremitte Ağrısı Arasındaki İlişki. *Journal Of Continuing Medical Education, 28* (2), 114-119.
- Hoare, E., Stavreski, B., Jennings, G. L., & Kingwell, B. A. (2017). Exploring motivation and barriers to physical activity among active and inactive Australian adults. *Sports, 5*(3), 47.
- Iso-Ahola, S. E. (1999). Motivational foundations of leisure. *Leisure studies: Prospects for the twenty-first century, 35-51*.
- Kim, S. E., Kim, J. W., & Jee, Y. S. (2015). Relationship between smartphone addiction and physical activity in Chinese international students in Korea. *Journal of behavioral addictions, 4*(3), 200-205.
- Lovell, G. P., El Ansari, W., & Parker, J. K. (2010). Perceived exercise benefits and barriers of non-exercising female university students in the United Kingdom. *International Journal of Environmental Research and Public Health, 7*(3), 784-798.
- Mansoubi, M., Pearson, N., Biddle, S. J., & Clemen, S. (2014). The relationship between sedentary behaviour and physical activity in adults: a systematic review. *Preventive medicine, 69*, 28-35.
- Matthews, C. E., Chen, K. Y., Freedson, P. S., Buchowski, M. S., Beech, B. M., Pate, R. R., & Troiano, R. P. (2008). Amount of time spent in sedentary behaviors in the United States, 2003–2004. *American journal of epidemiology, 167*(7), 875-881. doi: 10.1093/aje/kwm390.
- Ortega, F. B., Ruiz, J. R., Castillo, M. J., & Sjörström, M. (2008). Physical fitness in childhood and adolescence: a powerful marker of health. *International journal of obesity, 32*(1), 1-11.
- Patterson, R., McNamara, E., Tainio, M., de Sá, T. H., Smith, A. D., Sharp, S. J., ... & Wijndaele, K. (2018). Sedentary behaviour and risk of all-cause, cardiovascular and cancer mortality, and

- incident type 2 diabetes: a systematic review and dose response meta-analysis. *European Journal of Epidemiology*, 33, 811–829.
- Roychowdhury, D. (2020). Using Physical Activity to Enhance Health Outcomes Across the Life Span. *Journal of Functional Morphology and Kinesiology*, 5(1), 2.
- Roychowdhury, D. (2018). Functional significance of participation motivation on physical activity involvement. *Psychological Thought*, 11(1), 9-17.
- Schutzer, K. A., & Graves, B. S. (2004). Barriers and motivations to exercise in older adults. *Preventive medicine*, 39(5), 1056-1061.
- Singh, A., & Singh, H. (2019). Relationship between smartphone usage, leisure-time physical activity and body mass index among young male adults. *International Journal of Yogic, Human Movement and Sports Sciences*, 4(1), 1342-1348.
- Trost, S. G., Owen, N., Bauman, A. E., Sallis, J. F., & Brown, W. (2002). Correlates of adults' participation in physical activity: review and update. *Medicine & science in sports & exercise*, 34(12), 1996-2001.
- World Health Organization (2010). Global recommendations on physical activity for health. Available from: URL:<https://www.who.int/dietphysicalactivity/publications/9789241599979/en/> [31.03.2020].
- World Health Organization. Body mass index. 2012. Available form: <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi>. [31.03.2020]
- Yurtçiçek, A. G. S., & Şahin, N. H. The Study Of The Validity And Reliability Of The Turkish Version Of Physical Activity Barriers Questionnaire, *The Journal of Academic Social Science*. 2018;6(71), 396-404.