ORIGINAL ARTICLE

Determining Physical Activity Barriers for White Collar Workers

FERAY KÜÇÜKBAŞ DUMAN[1], CEMILE NIHAL YURTSEVEN[2]
[1]Istanbul University, Quality Coordination Office, Beyazıt, Istanbul, Turkey
[2]Istanbul University-Cerrahpaşa Faculty of Sports Science, Avcılar, Istanbul, Turkey
Correspondence to Dr Feray KÜÇÜKBAŞ DUMAN, Email. feray.kucukbas@gmail.com , Cell: +902124400000

ABSTRACT

Background: The lives of individuals have become more inactive with the effect of industrialization and technological developments. Regular physical activity is of great importance in protecting the health of individuals and maintaining a quality life. Nowadays, with the widespread use of computer work, many sectors work by sitting. For this reason, physical activity gradually decreases and health problems occur due to inactivity.

Aim: This study aims to determine the factors that prevent physical activity in working individuals. For this purpose, it was tried to determine the factors that prevent the physical activities of white collar workers.

Methods: The sample of the study consisted of a total of 189 people working as white collar workers in 4 different businesses in Istanbul and Kocaeli. Physical Activity Barriers Questionnaire was used to collect data. Data were gathered through Physical Activity Barriers Questionnaire and analyzed by Independent Samples T Test and One - Way ANOVA test in order to examine the relations of scale scores with various demographic (*gender, age, marital status, having children, education level, smoking, daily spent time using social media and/or watching TV*) factors.

Results: It was determined that participants' Physical Activity Barriers Questionnaire scores significantly differ in terms of gender, age, marital status, having children and smoking.

Conclusion: It is seen that demographic characteristics of white collar workers affect the conditions that prevent physical activity. Creating suitable areas for sports activities for employees in the workplace, allocating time for physical activity, organizing sports tournaments etc. is simple, but practices that both protect employee health and increase motivation can be provided. Beside, bringing sports activities to technological environments can play an active role in orienting people to sports.

Keywords: Sports, Physical activity, White collar worker, Activity barriers, Life quality

INTRODUCTION

The modern lifestyle, business life and other factors which are shaped by technological developments, negatively affect human health. The importance of physical activity increases gradually as it increases the quality and duration of life[1].

Physical activity, in its most basic definition, is moving the body to spend energy. These are activities that enable energy expenditure by using muscles and joints in our daily life, can be performed at different intensities, increase respiratory and heart rate and result in fatigue. Various sports branches including body movements such as "walking", "running", "jumping", "swimming", "cycling", and activities such as dance and exercise are called physical activity[2].

Physical activity and human health are closely interrelated. When considered worldwide, inactivity ranks fourth among the leading causes of deaths. For this reason, the problem of inactivity should be addressed globally, considering the health, economic, environmental and social consequences[3].

Physical activity, which has positive effects on both mental and physical health of individuals, also has benefits in preventing and treating diseases[4].

According to reported studies, activity decreases the risk of cardiovascular diseases and the risk of diabetes, effective in maintaining a healthy weight, helps the protection and development of the musculoskeletal system, and plays an active role in reducing problems such as stress and anxiety. In addition to the direct effects of physical activity on health, there are also social and economic benefits indirectly[5].

Industrialization, which develops rapidly with technological developments, causes great changes on the lifestyles of individuals. With modernization, the daily physical activity level of many individuals decreases and this situation leads people to more inactivity. This situation causes different health problems due to inactivity[6].

An active life provides opportunities for individuals to connect with society and their environment. Spending leisure time actively with sports helps the individual gain new abilities. In addition, the establishment of parks, green areas and bicycle paths in an area where physical activity is supported will have a positive effect on the revitalization of that region [5].

In today's world, increasing the quality of life is seen as an important issue as long as individuals live. Nutrition and physical activity are the main reasons for minimizing health problems that may occur due to age[7].

Inadequate and irregular physical activity is seen as an important problem by countries. For this reason, an active lifestyle is seen as an important component in terms of public health. Today's living conditions make people less active. Considering the health benefits of physical activities, the importance of encouraging people to participate in physical activity becomes clear for a healthy society[8].

Regular physical activity has benefits in terms of both individual and public health[19,20]. The cost of protective and preventive healthcare services is lower compared to curative healthcare services. Physical activity can be considered as the primary prevention method. Therefore, physical activity of people is also important for the general health of the society[6].

With the last century, the physical activity level of

individuals reduced significantly. As the work done with computers became more common, desk job in many business lines became widespread. This situation gradually decreased physical activity[9].

Working life is one of the central areas of human life that extends from the existence of individuals to the present. Although the physical and social needs that occur due to the intensity of working life, stress and professional competition increase over time, it is often not possible for people to meet these needs[10].

Although all kinds of physical activity are beneficial, the aim is to be able to enjoy the benefits of activities defined as "moderate", "low" or "high" level physical activity without posing a risk or harm to health. For this, the easiest way is to include physical activity in daily life [6].

This study aims to evaluate the factors that prevent physical activity in working persons. In this study, the conditions that prevent physical activity in white collar workers have been investigated.

MATERIAL & METHODS

This study aims to evaluate the situations seen as obstacle to physical activity in white collar workers using various variables. The study was shaped according to the survey model of quantitative research method.

The sample of the study consisted of a total of 189 people working as a white collar worker in 4 different businesses in Istanbul and Kocaeli.

In the study, the situations that prevent physical activity in white collar workers were tried to be examined in terms of various variables. "Physical Activity Barriers Questionnaire", which was developed by Ibrahim et al. in 2013 and whose validity and reliability was made by Yurtçiçek et al. (2018), was used to collect data. The questionnaire consists of 22 items and with the help of 3 sub-dimensions, namely "personal", "social environment" and "physical environment", the situations that are seen as barriers to physical activity are tried to be determined. 22 items were evaluated in 5- point likert (1 = strongly disagree, 5 = strongly agree). All items in the scale are positive expressions, and high scores mean that there is a high probability of creating an barrier.

The data was analyzed using the SPSS (Statistical Package for the Social Science) 21.0 program. First of all, data was controlled to understand whether the data showed a normal distribution. It was found that the data showed a normal distribution. Then, the scale scores of the participants were analyzed according to different variables (gender, age, marital status, having children, education level, smoking, daily spent time using social media and/or watching TV) by "Independent Samples T Test " and "One-Way ANOVA" test and the findings were presented. While evaluating the data, the statistical significance level was taken as $p < 0.05$.

RESULTS

Findings obtained from the study were presented in tables.

To understand whether there is a statistically significant difference between the genders of the participants and their scores from the Physical Activity Barriers Questionnaire, Independent Samples T Test was applied. Findings were presented in Table 2.

Table 1: Demographic Characteristics of Participants

Variables	Group	Frequency	%
Gender	Female	107	56,6
	Male	82	43,4
Age	18-25	45	23,8
	26-35	43	22,8
	36-45	72	38,1
	46-55	29	15,3
Marital Status	Married	79	41,8
	Single	82	43,4
	Divorced	28	14,8
Having Children	Yes	69	36,5
	No	120	63,5
Education Level	High school	36	19
	Undergraduate	119	63
	Graduate	34	18
Smoking	Yes	101	53,4
	No	88	46,6
Daily spent time using social media and/or watching TV	Less than 1 hour	15	7,9
	1- 2 hours	79	41,8
	2- 3 hours	72	38,1
	3 hours or more	23	12,2

Table 2: Physical Activity Barriers Questionnaire Scores of Participants And Independent Samples T Test Results Between Their Gender

Gender	N		Mean	Std. Deviation	t	p
Female	107		59,6075	3,66718	2,645	0,009
Male	82		58,1585	3,81508		

When Table 2 is examined, it is seen that there is a statistically significant difference ($p < 0.05$) between the scale scores of the participants and their gender.

One-Way ANOVA test was applied to understand whether there is a statistically significant difference between the ages of the participants and their Physical Activity Barriers Questionnaire scores. Findings were presented in Table 3.

Table 3: Physical Activity Barriers Questionnaire Scores of Participants And One-Way ANOVA Test Result Between Their Ages

Age	N	Mean	Std. Deviation	F	p
18-25	45	58,0444	3,45724		
26-35	43	58,3023	4,35636	4,911	0,003
36-45	72	59,0833	3,59871		
46-55	29	61,1724	3,04806		

When Table 3 is examined, it is seen that there is a statistically significant difference ($p < 0.05$) between the questionnaire scores and ages of the participants. Post-Hoc Scheffe test was applied to determine the source of difference. Findings were presented in Table 4.

Table 4: Post-Hoc Scheffe Test Results Regarding The Comparison of Participants' Physical Activity Barrier Questionnaire Scores With Their Ages

Age (I)	Age (J)	Mean Difference (I-J)	Std. Error	p
46-55	18-25	3,12797*	0,87583	0,006
	26-35	2,87009*	0,88378	0,016
	36-45	2,08908	0,80892	0,087

When Table 4 is examined, it is seen that the scores

of the participants in the age range of 46-55 differ significantly according to the participants in the 18-25 and 26-35 age groups (p <0.05).

One-Way ANOVA test was applied to understand relation between the marital status of the participants and their Physical Activity Barriers Questionnaire scores. Findings were presented in Table 5.

Table 5: Physical Activity Barriers Questionnaire Scores of Participants and One-Way ANOVA Test Result Between Their Marital Status

Material Status	N	Mean	Std. Deviation	F	p
Married	79	59,7595	3,81029	3,739	0,026
Single	82	58,1585	3,64292		
Divorced	28	59,1786	3,80111		

When Table 5 is examined, it is seen that there is a statistically significant difference (p<0.05) between the Physical Activity Barriers Questionnaire scores and marital status of the participants. Post-Hoc Scheffe test was applied to determine the source of difference. Finding were presented in
Table 6.

Table 6: Post-Hoc Scheffe Test Results Regarding the Comparison of Participants' Physical Activity Barrier Questionnaire Scores with Their Marital Status

Material Status (I)	Material Status (J)	Mean Difference (I-J)	Std. Error	p
Married	Single	1,60096*	0,58913	0,027
	Divorced	0,58092	0,82190	0,779

When Table 6 is examined, it is observed that Physical Activity Barrier Questionnaire scores of married individuals differ significantly compared to single participants (p <0.05).

Independent Samples T Test was applied to understand relation between the participants' having children status and Physical Activity Barriers Questionnaire scores. Findings were presented in Table 7.

Table 7: Physical Activity Barriers Questionnaire Scores of Participants and Independent Samples T Test Results Between Their Having Children

Having Children	N	Mean	Std. Deviation	t	p
Yes	69	60,0725	3,80139	3,074	0,002
No	120	58,3500	3,65451		

As can be seen in Table 7, there is a statistically significant difference according to the T Test results between the Physical Activity Barrier Questionnaire scores of the participants and their status of having children (p <0.05).

One-Way ANOVA test was applied to understand relation between the education status of the participants and their Physical Activity Barriers Questionnaire scores. Findings were presented in Table 8.

When Table 8 is examined, it is seen that there is not statistically significant difference (p>0.05) between the Physical Activity Barriers Questionnaire scores of the participants and their education.

Independent Samples T Test was applied to understand relation between the smoking and Physical Activity Barriers Questionnaire scores. Findings were presented in Table 9.

Table 8: Physical Activity Barriers Questionnaire Scores of Participants and One-Way ANOVA Test Result Between Their Education Status

Education Status	N	Mean	Std. Deviation	F	p
High school	36	59,7222	3,52632	1,667	0,192
Undergraduate	119	58,5966	3,84073		
Graduate	34	59,5294	3,80777		

Table 9: Physical Activity Barriers Questionnaire Scores of Participants and Independent Samples T Test Results Between Their Having Smoking

Smoking	N	Mean	Std. Deviation	t	p
Yes	101	59,8020	3,67701	3,280	0,001
No	88	58,0341	3,71839		

When Table 9 is examined, it is seen that there is a statistically significant difference according to the T Test results between The Physical Activity Barrier Questionnaire scores of the participants and their status of smoking (p <0.05).

One-Way ANOVA test was applied to examine the relation between daily spent time using social media and/or watching TV and Physical Activity Barriers Questionnaire score. Findings were presented in Table 10.

Table 10: Physical Activity Barriers Questionnaire Scores of Participants and One-Way ANOVA Test Result Between Their Daily Spent Time Using Social Media and/or Watching TV

Daily spent time using social media and/or watching TV	N	Mean	Std. Deviation	F	p
Less than 1 hour	15	60,6667	2,79455	2,523	0,059
1-2 hours	79	59,4684	3,74452		
2-3 hours	72	58,3750	3,96619		
3 hours or more	23	58,0870	3,54084		

When Table 10 is examined, it is seen that there is not statistically significant difference (p>0.05) between the Physical Activity Barriers Questionnaire scores of the participants and their daily spent time using social media and/or watching TV.

DISCUSSION

A sedentary lifestyle negatively affects a healthy and quality life, therefore, physical activity is recommended in public health campaigns in the world to prevent a sedentary life[11].

In the study, it is seen that there is a statistically significant difference between the scores of the participants from the Physical Activity Barriers Questionnaire and their gender. Scale scores of female participants are higher than male. According to Chronic Diseases Risk Factors prepared by Ministry of Health in 2011, 87% of women and 77% of men are said to don't make adequate physical activity in Turkey. In addition, in a study conducted by Ölçülü et al. in 2015 on the physical activity levels of

university students, the physical activity level of female students was found to be lower than male students. The higher scores of the female participants on the Physical Activity Barriers Questionnaire can be explained by the inability of women to spare enough time for physical activity due to their more intense social roles.

There is a statistically significant difference between the scale scores and ages of the participants. According to the analysis results, the scale scores of the participants in the 46-55 age group were higher than the participants in the 18-25 and 26-35 age groups. It can be said that the scale score of the participants in the 46-55 age group was high due to their responsibilities for their families.

There is no statistically significant relationship between education level and scale score. Today, the benefits of physical activity to the health and quality of life of individuals are supported with the help of many public spots, and individuals are informed. It is one of the findings found in studies that family environment is also important in this regard. In a study by Ay (2019), it is seen that the perceived social support from the mother in adolescent girls and the perceived social support from the father in adolescent males increases the level of physical activity. This situation shows the importance of the family environment in physical activity.

In the study, a statistically significant difference was found between the marital status of the participants and their scale scores. According to the analysis results, the scale score of married participants is significantly higher than single participants. This situation can be explained by the fact that the responsibilities of the individuals increase with the marriage and they have to spare more time for their family. The fact that the scale scores of the participants who have children in the study were significantly higher than the other participants also supports this judgment.

Another study finding is that there is a statistically significant difference between the questionnaire scores of the participants and their smoking. Scale scores of smokers are higher than non-smokers. Physical activity is known to help prevent smoking and quit smoking in smokers[12].

There is no statistically significant difference between the scale scores and the time spent by the participants for daily social media use and / or watching TV. For this study, it can be said that the use of social media or the time spent watching TV did not a problem for physical activity. However, in a study conducted by Yaraşır in 2018 to determine the relationship between internet addiction and physical activity levels of students, it was seen that internet addiction negatively affected physical activity.

CONCLUSION

According to the results of the study it is possible to say that physical activity barriers differ among white collar workers according to demographic characteristics.

White collar workers who have less mobility due to their working type, can implement simple measures such as use stairs instead of elevators in their workplaces, walking to take cafee or tea and walking at lunchtime. There are also measures that employers can take in this subject. Creating suitable areas for sports activities for

employees in the workplace, allocating time for physical activity, organizing sports tournaments etc. is simple, but practices that both protect employee health and increase motivation can be provided.

Communication technologies and internet are among the most important components of today. Internet use now covers almost all of people's lives, from their work lives to their private lives, from socializing to shopping[18]. At this level, communication technologies in our lives and the correct use of the internet are also of great importance. Bringing sports activities to technological environments can play an active role in orienting people to sports. Encouraging physical activity with online sports programs through various mobile applications and social media channels can be an alternative method for those who live sedentary and cannot take time to go to the sports facility due to their workload or who do not have a sports facility in their vicinity.

A similar study can be done by considering different demographic characteristics such as working condition, sector, profession, income level, or physical activities can be evaluated with a different perspective, such as the effects of exercise breaks in the workplace on health and work motivation.

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