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# Examining Barriers to Participation in Physical Activity: A Study of Adults

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## ABSTRACT

**Background:** This study aimed to investigate barriers to physical activity among adults based on various demographic variables.

**Methods:** A total of 606 adults (221 males and 385 females) aged 45 years and older from Kirikkale province participated in this study. Data were collected using a questionnaire method. A demographic information form was employed to gather participants' data, including age, gender, place of residence, socioeconomic status, and chronic health conditions. The Physical Activity Barriers Scale was used to assess barriers to physical activity. Data analysis was conducted using SPSS 25.0 software.

**Result**: The analysis of the data revealed that there was no significant difference in physical activity barriers between genders. However, significant differences were observed in all sub-dimensions of physical activity barriers across different age groups, socioeconomic statuses, regions of residence, and chronic health conditions.

**Conclusions:** The study identified several common barriers to physical activity, including time constraints, limited space, economic factors, health issues, and personal circumstances. To address these disparities, it is crucial to create environments conducive to physical activity, implement appropriate interventions to overcome these obstacles, and provide opportunities for individuals to engage in physical activity, promoting a healthy and high-quality lifestyle for all.

**Keywords:** Obstacle, adults, physical inactivity, sedantary life, regular exercise

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## INTRODUCTION

Physical activity is a series of activities that increase respiratory rate and heart rate by expending energy through muscular and skeletal systems in daily life and can be applied with different intensities (Hill et al., 2015; Izquierdove et al., 2021). In line with these ongoing studies, the purposes of participation in physical activities have also diversified with increasing awareness of health and quality of life (Martins et al., 2015; Goodyear et al., 2021). People are now turning to physical activities for reasons such as having fun, relaxing, creating social environments, exercising, gaining new skills, and utilizing leisure time (Kaur et al., 2020; Segar et al., 2017). In addition, the desire to prevent health problems and lead a healthy life by participating in physical activity is becoming increasingly important (Malm et al., 2019; Warburton & Bredin, 2016). For these reasons, physical activity has become an important lifestyle that contributes not only to physical health but also to mental health (Ston-Erock & Blumenthal, 2017).

The physical, biological, and social environment are key determinants of physical activity (Fletcher et al., 2018; Carlin et al., 2017). These determinants are also defined as factors that facilitate participation in physical activities (Kosteli et al., 2016; Tummers et al., 2022). However, the most important factor limiting physical activity is lack of time (Ferreira Silva et al., 2022). In addition, many factors, such as physiological, psychological, and behavioral variables, also affect physical activity (Herazo-Beltrán et al., 2017). It is inevitable that these variables come together to affect the level of physical activity and shape people's participation in activities (Cairney et al., 2019). The factors that affect physical activity vary (Yang et al., 2020; Lübs et al., 2018). These include demographic characteristics (such as age, gender, marital status, and educational status), biological factors (heredity, race, genetic makeup, etc.), and psychological, cognitive, and emotional characteristics (Silva et al., 2022; Conchar et al., 2016). In the same way, social and cultural factors are also important in terms of physical activity. In addition, environmental conditions of people and factors such as air temperature, humidity, intensity, and environment of physical activity are among other factors that prevent physical activity (Bantham et al., 2021; Abdelghaffar et al., 2019).

When the studies were examined, it was concluded that high school students' barriers to participation in physical activities were due to school activities, family activities, and activities arising from other interests (Brown et al., 2016; Romero-Blanco et al., 2020). In a study examining female students' barriers to participation in physical activities, the factors that prevent students from participating in physical activities include time constraints, long periods of time spent with technological devices, the negative influence of friends, parents, and teachers, safety reasons, and the distance of sports facilities (Corr et al., 2019). In another study conducted on young individuals, time constraints, the negative impact of weather conditions, health problems, and a lack of interest in physical activity were identified as factors that prevent participation in physical activity (Uddin et al., 2018).

Physical activity, which has become an indispensable element of life, is one of the most important factors affecting the quality of life. Therefore, it is important to consider the barriers to physical activity and identify appropriate strategies to increase the level of physical activity. Furthermore, promoting physical activity and removing barriers can help individuals adopt a more active lifestyle. The aim of this study was to examine the barriers to physical activity in adults according to some variables.

## MATERIALS AND METHODS

### Research Model

In this study, the survey model, one of the quantitative research methods, was preferred. These studies, which are carried out with the survey model, aim to determine the opinions, attitudes, abilities, interests, skills, and similar characteristics of the individuals participating in the research that they associate with the subject or event (Bauer & Scheim, 2019). They usually include a larger sample group than other studies, and thus a wider range of data is obtained. At the same time, this method allows for rapid data collection and is cost-effective. (Djafar et al., 2021).

### Research Group

The research group consisted of 606 adult individuals aged 45 and over in Kırıkkale province, 221 women and 385 men. The personal information of the participants will be kept confidential, and this information will be used only for scientific research purposes. For this purpose, signed consent forms were obtained from the participants.

### Data Collection

The questionnaire method was used to collect the data. A descriptive information form was used to learn the demographic characteristics of the participants, such as age, gender, region of residence, socio-economic status, and chronic diseases. In order to determine physical activity barriers, the Physical Activity Barriers Questionnaire developed by İbrahim et al. (2013) and adapted into Turkish by Yurtçiçek et al. (2018) was applied. The questionnaire used in the study consists of 22 questions, and three different sub-dimensions, namely personal, social, and physical environments, are used to determine the barriers to physical activity. Each question was rated by the participants on a scale of 1 to 5, ranging from "1" (strongly disagree) to "5" (strongly agree). The questionnaire items contain positive statements, with higher scores indicating the presence of a barrier. The Cronbach's alpha internal consistency coefficient in the original form of the scale was calculated as 0.85 and ranged between 0.68 and 0.74 for its sub-dimensions. In this study, the overall reliability coefficient of the scale was found to be 0.79, while the Cronbach's alpha reliability coefficients for the sub-dimensions ranged between 0.58 and 0.75.

### Statistical Analysis

The data obtained regarding demographic characteristics are given as frequency and percentage distributions. The t-test was used to determine the distribution of mean scores of anthropometric characteristics and barriers to physical activity according to gender variables and barriers to physical activity according to gender, region of residence, and chronic disease status of the participants. The Anova test was used to determine the difference between the barriers to physical activity according to age groups and socio-economic status variables.

## RESULTS

In this part of the study, frequency and percentage distributions related to personal information were examined. A t-test was applied to determine the barriers to physical activity according to gender, region of residence, and chronic disease status of the participants, and an Anova test was applied to determine the difference between the barriers to physical activity according to age groups and socio-economic status variables.

**Table 1.** Frequency and percentage distributions of the participants according to their answers to the questions in the personal information form

| **Variables** | **Groups** | N | % |
|---|---|---|---|
| ***Total number of participants*** | | 606 | 100 |
| Age | 45-50[1] | 129 | 21.3 |
| | 51-55[2] | 197 | 32.5 |
| | 56-60[3] | 90 | 14.9 |
| | 61 above[4] | 190 | 31.4 |
| Gender | Male | 385 | 63.5 |
| | Woman | 221 | 36.5 |
| Region of residence | Rural | 202 | 33.3 |
| | Urban | 404 | 66.7 |
| Socio-Economic Status | Low[1] | 315 | 52.0 |
| | Normal[2] | 215 | 35.5 |
| | High[3] | 76 | 12.5 |
| Chronic illness | Yes | 169 | 27.9 |
| | No | 437 | 72.1 |

When Table 1 is examined, it is seen that the ages are grouped as 45–501. 21.3%, 51-552 32.5%, 56-603 14.9%, 61 and over 4 31.4%, male participants are 63.5%, female participants are 36.5%, 33.3% live in rural areas, 66.7% live in urban areas, 52.0% have low, 35.5% have normal, and 12.5% have high socio-economic status. 3% lived in rural areas and 66.7% in urban areas; 52.0% had low socio-economic status; 35.5% had normal socio-economic status; 12.5% had high socio-economic status; 27.9% had chronic diseases; and 72.1% did not have chronic diseases.

**Table 2**. t-test results of the sub-dimensions of barriers to physical activity by gender

| **Variables** | Gender | mean | n | t | P |
|---|---|---|---|---|---|
| Personal | Men | 34.42±9.37 | 385 | - | 0.780 |
| | Women | 34.63±8.50 | 221 | 0.272 | |
| Social Environment | Men | 8.15±2.90 | 385 | - | 0.571 |
| | Women | 8.29±2.67 | 221 | 0.554 | |
| Physical Environment | Men | 13.24±3.87 | 385 | - | 0.626 |
| | Women | 13.40±4.05 | 221 | 0.487 | |

*p< 0.001

In Table 2, it was determined that there was no significant difference in the sub-dimensions of "personal", "social environment" and "physical environment" in the formation of barriers to physical activity between men and women according to gender variables.

**Table 3.** ANOVA test results of the sub-dimensions of barriers to physical activity according to age groups

| | | | | ANOVA | | |
|---|---|---|---|---|---|---|
| **Variables** | Years | mean | N | F | p | Tukey's test |
| Personal | 45-50[1] | 46.33±5.7 | 129 | 496.960 | **0.001*** | 1>2>3>4 |
| | 51-55[2] | 36.58±3.9 | 197 | | | |
| | 56-60[3] | 32.40±3.5 | 90 | | | |
| | 61 above[4] | 25.30±5.6 | 190 | | | |
| Social Environment | 45-50[1] | 10.19±2.4 | 129 | 64.196 | **0.001*** | 1>2>3>4 |
| | 51-55[2] | 8.67±2.4 | 197 | | | |
| | 56-60[3] | 8.09±2.5 | 90 | | | |
| | 61 above[4] | 6.42±2.5 | 190 | | | |
| Physical Environment | 45-50[1] | 16.74±3.2 | 129 | 154.160 | **0.001*** | 1>2>3>4 |
| | 51-55[2] | 14.65±2.9 | 197 | | | |
| | 56-60[3] | 12.47±2.3 | 90 | | | |
| | 61 above[4] | 9.97±3.1 | 190 | | | |

*p< 0.001

In Table 3, it was determined that there was a significant difference in all sub-dimensions of "personal", "social environment" and "physical environment" in the formation of barriers to physical activity according to age groups. As age increases, it is seen that the barriers to physical activity decrease in each sub-dimension. As age decreases, the barriers to physical activity increase in each sub-dimension.

**Table 4.** ANOVA test results of the sub-dimensions of barriers to physical activity according to socio-economic status

| | | | | ANOVA | | |
|---|---|---|---|---|---|---|
| **Variables** | EconomicStatus | mean | N | F | p | Tukey's test |
| Personal | Low[1] | 35.54±9.0 | 315 | 5.895 | **0.003*** | 1&2>3 |
| | Normal[2] | 33.90±9.1 | 215 | | | |
| | High[3] | 31.86±8.6 | 76 | | | |
| Social Environment | Low[1] | 8.52 ± 2.8 | 315 | 4.390 | **0.013*** | 1>2&3 |
| | Normal[2] | 7.88 ± 2.7 | 215 | | | |
| | High[3] | 7.78 ± 3.1 | 76 | | | |
| Physical Environment | Low[1] | 13.80±3.9 | 315 | 6.229 | **0.002*** | 1&2>3 |
| | Normal[2] | 12.94±4.0 | 215 | | | |
| | High[3] | 12.25±3.7 | 76 | | | |

*p< 0.001

Table 4 shows that there is a significant difference in all sub-dimensions in the emergence of barriers to physical activity according to socio-economic status. In the "personal" and "physical environment" sub-dimensions, it is seen that those with low and normal socio-economic status have more barriers to physical activity, while those with high socio-economic status have fewer barriers to physical activity. In the "social environment" sub-dimension, it was observed that those with low socio-economic status had more barriers to physical activity, while those with normal and high socio-economic status had fewer barriers to physical activity.

**Table 5.** T-test results of the sub-dimensions of barriers to physical activity according to chronic disease status

| Variables | Chronic illness | mean | n | t | P |
|---|---|---|---|---|---|
| Personal | Yes | 31.59 ± 8.9 | 202 | - | **0.001**** |
| | No | 35.60 ± 8.8 | 404 | 5.016 | |
| Social Environment | Yes | 7.56 ± 2.8 | 202 | - | **0.001**** |
| | No | 8.45 ± 2.7 | 404 | 3.525 | |
| Physical Environment | Yes | 12.04 ± 4.0 | 202 | - | **0.001**** |
| | No | 13.79 ± 3.8 | 404 | 4.896 | |

*p< 0.001

In Table 5, it was determined that there was a significant difference in the sub-dimensions of "personal", "social environment," and "physical environment" in the formation of barriers to physical activity according to chronic disease status. This difference was found to be higher in those who stated that they did not have chronic diseases.

**Table 6.** t-test results of the sub-dimensions of the barriers to physical activity according to the region of residence

| Değişkenler | Recidence | mean | n | t | p |
|---|---|---|---|---|---|
| Personal | Rural | 37.74 ± 8.2 | 202 | 6.442 | **0.001**** |
| | Urban | 32.87 ± 9.1 | 404 | | |
| Social Environment | Rural | 8.71 ± 2.7 | 202 | 3.187 | **0.001**** |
| | Urban | 7.95 ± 2.8 | 404 | | |
| Physical Environment | Rural | 14.39 ± 3.7 | 202 | 4.903 | **0.001**** |
| | Urban | 12.75 ± 3.9 | 404 | | |

*p< 0.001

Table 6 shows that there is a significant difference in the sub-dimensions of "personal", "social environment," and "physical environment" in the emergence of barriers to physical activity according to the region of residence. It can be said that this difference is higher for those living in rural areas.

## DISCUSSION

The aim of this study is to examine the barriers to physical activity among adults according to some variables. Participation in physical activity has become a topic that has been examined and given importance by many studies (Patel et al., 2019; Kraus et al., 2019). This topic is of great importance in terms of positively supporting health, promoting social development, and making more productive and active use of leisure time (Di Liegrove et al., 2019). The outcomes of regular physical activity include reducing depression and anxiety, increasing psychological well-being and social gains, increasing work efficiency and productivity, reducing the risk of chronic diseases, and improving cognitive capacity (Kim et al., 2021; Cordes et al., 2019). These effects have brought the concept of healthy aging to the forefront (Rudnick et al., 2020).

It is important to create the appropriate environment and conditions for a healthy life, and if not, it is important to determine the reasons and contribute to the field.

It was concluded that 36.5% of the participants were women and 63.5% were men. 21.3% of the participants were 45–50 years old, 14.9% were 56–60 years old, and 31.4% were 61 and over. The age group with the highest participation rate of 32.5% was 51–55 years old. The region in which the participants live shows that urban life is more preferred, with 66.7%. The highest of the sub-dimensions of the socio-economic status variable was 52.0% of the participants with low socio-economic status. It was determined that 72.1% of the participants who did not have chronic diseases were the majority.

According to the gender variable, it was determined that there was no significant difference in terms of gender variable in the sub-dimensions of "personal", "social environment" and physical environment" in the formation of barriers to physical activity between men and women. Because in business and social life, women carry the same workload as men under equal conditions. Ayhan and Öçalan determined in their study in 2022 that women experienced a statistically significant higher rate of obstacles than men. Clarke et al. stated in their study in 2019 that the biggest barrier for women is safety.

It was determined that there was a significant difference in all sub-dimensions of "personal environment,", "social environment" and "physical environment" in the formation of barriers to physical activity according to age groups. As age increases, it is seen that the barriers to physical activity decrease in each sub-dimension. As age decreases, the barriers to physical activity increase in each sub-dimension. It is thought that the reason for this is that with the increase in age, individuals move away from working life and want to organize their lives in their own rhythms according to the life they want, and that they act more consciously in order to minimize the barriers to physical activity with the increased awareness of living a healthy and quality life with the maturity and knowledge brought by age. In their study conducted in 2015, Joseph et al. stated that age was one of the inhibitors of physical activity. It is similar to this study.

It is seen that there is a significant difference in all sub-dimensions in the emergence of barriers to physical activity according to socio-economic status. In the "personal" and "physical environment" sub-dimensions, it is seen that individuals with low and normal socio-economic status have more barriers to physical activity, while those with high socio-economic status have fewer barriers to physical activity. In the "social environment" sub-dimension, it was observed that individuals with low socio-economic status had more barriers to physical activity, while those with normal and high socio-economic status had fewer barriers to physical activity. It is thought that the reason for this is that individuals with high socio-economic status may spend less time in working life in order to eliminate the barriers to physical activity, and that they may have easier access to many opportunities such as gyms, private lessons, etc. with less fatigue due to working in lighter or desk jobs than individuals with low and normal socio-economic status. In their study in 2018, Köse and Pala stated that the most serious limitation regarding leisure time physical activity participation is the lack of facilities. Ayhan and Öçalan stated in their study in 2022 that the facility problem was the most serious constraint. These studies are similar to this one. It was determined that there was a significant difference in the "personal", "social, and""physical" sub-dimensions of the barriers to physical activity according to chronic disease status. This difference was found to be higher among those who stated that they did not have a chronic illness. The reason for this is thought to be the different excuses (such as I am lazy, I get tired, I do not feel safe, I am healthy, I do not need, I do not have time, I do not have friends to do physical activity, and there is no gym around me) produced by individuals who do not need physical activity. It is also thought that there is no awareness of healthy living. In their study conducted in 2015, Joseph et al. stated that pregnancy, fatigue, lack of information, and health conditions were among the barriers to physical activity. It is similar to the study conducted.

It was determined that there was a significant difference in the sub-dimensions of "personal", "social environment" and "physical environment" in the emergence of barriers to physical activity according to the region of residence. It can be said that this difference is higher for those living in rural areas. It is thought

that the reason for this is that the workload of individuals living in rural areas is high, they cannot have every opportunity in terms of education, they cannot reach every opportunity for a healthy and quality life in the name of awareness as much as those living in cities, the facilities such as sports halls, swimming pools within the buildings such as buildings, housing estates, residences in the residential area, sports halls in the nearby area, and the obstacles in front of those living in rural areas are high. In their 2014 study, Gürbüz and Henderson stated that there are barriers such as facilities, transportation, and services. In his 2016 study, Akyüz stated that the physical environment sub-dimension is an obstacle in the physical environment sub-dimension in front of physical activity in a great sense in the facility sub-dimension. The lack of facility construction in rural areas seems to be a major obstacle. In her study in 2022, Güler stated that the environment in which the barriers to women's physical activity are located, that the places where physical activity is carried out are not specific to women, and that there are gyms and social facilities. It is thought that the lack of these facilities in the region is a major barrier.

## CONCLUSIONS

As a result, based on the data of this study to determine the physical activity barriers of adults according to some variables, it was seen that there was no significant difference in the gender variable of adult individuals, while there was a significant difference in the variables of age, socio-economic status, chronic diseases, and region of residence. It was seen that there was no difference between genders due to the increase in urbanization and the fact that men and women carry the same workload in working life, that the barriers to physical activity affect everyone equally, that the barriers to physical activity decrease with increasing age, that the barriers to physical activity decrease with increasing age, that the barriers to physical activity of individuals with high socio-economic status decrease, that the conditions in the rural area where they live increase the barriers to physical activity, that the barriers to physical activity of individuals without chronic diseases are due to excuses and that there is no awareness of healthy and quality life. However, physical activity is very important for being healthy and maintaining a healthy life. For this reason, it is necessary to create awareness of physical activity, to raise this awareness, and to create appropriate conditions and opportunities. It is possible to say that time, space, economic conditions, health, personal, and special situations are all sub-dimensions of the barriers in front of individuals who want to do physical activity.

### Author Contributions

Conceptualization, H.Y. and F.H.Y.; methodology, H.Y.; formal analysis, H.Y.; investigation, F.H.Y.; data curation, E.U.; writing—original draft preparation, H.Y., F.H.Y., B.E., E.U., E.A., F.A., E.G.R., S.B.M; writing—review and editing, H.Y., F.H.Y., B.E., E.U., E.A., F.A., E.G.R., S.B.M.

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Participants took part in the research voluntarily and the research was conducted in line with the Declaration of Helsinki.

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The authors declare that no conflicts interest.

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