



**TÜRKİYE CUMHURİYETİ  
ANKARA ÜNİVERSİTESİ  
SAĞLIK BİLİMLERİ ENSTİTÜSÜ**



**EVALUATION OF DIFFICULTIES ENCOUNTERED  
BY INDIVIDUALS WITH PHYSICAL DISABILITIES  
IN TRANSTHEORETICAL MODEL-BASED  
EXERCISE CHANGE STAGES**

**Mustafa BOZ**

**DEPARTMENT OF PHYSICAL ACTIVITY, HEALTH AND SPORT  
MASTER'S THESIS**

**ADVISOR**

**Prof. Dr. CENGİZ AKALAN**

**ANKARA**

**2023**

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## **ETHICAL DECLARATION**

To Ankara University

Health sciences institute directorate, the thesis titled "Evaluation of Difficulties Encountered by Individuals with Physical Disabilities in Transtheoretical Model-Based Exercise Change Stages", which I prepared and presented as a master's thesis; written by me in accordance with scientific ethics and values. The idea/hypothesis of my thesis is entirely my own and my thesis advisor. The experimental work/research in the thesis was made by me, and all sentences and comments are my own. I declare that the above-mentioned facts are correct.

Name surname: Mustafa BOZ

Date:

Signature:

## ACCEPTANCE AND APPROVAL

Ankara University Graduate School of Health Sciences

Department of Sports Sciences Physical Activity, Health and Sport Programme

The thesis titled " Evaluation of Difficulties Encountered by Individuals with  
Physical Disabilities in Transtheoretical Model-Based Exercise Change Stages "

prepared by Mustafa BOZ was unanimously Accepted

as a MASTER THESIS by the following juries.

Thesis Defense Date: 16/06/2023

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ANKARA UNIVERSITY

Jury

The jury's decision on the thesis was approved by the Ankara University  
Graduate School of Health Sciences Board of Directors.

Signature

Title /Name and Surname

.....

Graduate School of Health Sciences

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## **PREFACE**

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I am grateful to the distinguished academicians of Ankara University Faculty of Sports Sciences, who have given me unforgettable memories and experiences during my 3 years at Ankara University Faculty of Sports Sciences.

To my dear family members, who have always been by my side and supported me in every aspect,

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I sincerely thank each and every valuable participant who voluntarily participated in the study.

I extend my deepest thanks and hope that my thesis will contribute to the existing research on individuals with disabilities.

## ABBREVIATIONS

|     |                                                                        |
|-----|------------------------------------------------------------------------|
| TTM | The Transtheoretical Model                                             |
| WHO | World Health Organization                                              |
| ICF | The International Classification of Functioning, Disability and Health |
| PA  | Physical Activity                                                      |



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# **1. INTRODUCTION**

## **1.1. Physical Activity, Health, and Sports**

Sports, and physical activity have been known to be important for health since ancient times and have become even more important with industrialization. Knowing how exercise affects the primary, secondary, and tertiary prevention and treatment of common illnesses is crucial. It is critical to communicate information about inactive lifestyles, which not only endanger health but also lower life expectancy and increase health-care expenses. In recent studies, it has been found that a sedentary lifestyle negatively affects both physical and mental health and has an adverse effect on the economy and social life (Gaetano, 2016).

Despite the increase in industry, production, and technology over the years, people preferred a sedentary life; This lifestyle in young people has caused the problem of being overweight and obese. In a WHO (2008) report, it was stated that worldwide, 31% of people aged 15 and over are not active. Based on the Turkish Ministry of Health's "Chronic Diseases Risk Factors Study" conducted in 2011, It has been found that 87% of females and 77% of males in Türkiye do not do enough physical activity. In Italy, 30% of adults aged 18 to 69 performed less physical activity than recommended in daily life and described themselves as sedentary (Ministry of Health PASSI, 2013).

Inactivity grows with age and is more prevalent in those with poor education and income. Sport's role and its interaction with educational institutions is notably important for educational efficiency. (Gaetano and Rago 2014; Gaetano et al., 2015,2016). It has been reported that the risk of death increases by 20-30% in individuals who do not do enough physical activity compared to individuals who do light or moderate exercise for 30 mins, 4-5 days a week (WHO, 2011).

### **1.1.1. Definition of Sport**

The word "sport" has passed into Turkish, from the French word "sport". The word originates from the Old French word *desport*, meaning "entertainment, physical and mental pleasure" (Ronald and Hubscher, 1992). There are many definitions of sport. One of these definitions, describes sport as a struggle that an individual makes by using his mind and whole body against his opponent, himself, distance, and time through common rules. Also, Fişek defined sports as a physical and technical effort for the athlete to win, and as a social tool that covers all the features of the performance-oriented competition process and the society for the spectator and keeps them alive as they are (Fişek, 1980).

Sports are a form of entertainment. Play and work are differentiated by their attitudes. Sports are played with an attitude that reflects the nature of the game; participating in them is enjoyable regardless of the outcome. (Özbaydar, 1983 s:84)

### **1.1.2. Definition of Physical Activity**

Although physical activity is used interchangeably with concepts such as exercise and sports, they are different from each other. The energy consumed by the movements performed by the individual's muscles is the energy consumed by the person on average in a day (Rowland and Freedson, 1994). Baranowski et al. (1992) classified physical activity as all body movements that cause an energy expenditure in excess of the amount of energy a person spends while at rest. Physical activity, which requires energy expenditure above the basal level, is defined as body movements caused by the contraction of skeletal muscles. (Torbeyns et al., 2014).

When we look at the literature for the definition of exercise; It is defined as all repetitive movements made within the framework of a predetermined Plan program, with the aim of increasing the physical fitness parameters of the individual (Caspersen et al., 1985). In other words, it does not contradict the definition of qualifying all of

the physical activities performed by the individual within a certain plan and program as exercise (Çelik Kayapınar et al., (2011)

### **1.1.3. Definition of Health**

Although being healthy is mostly perceived as the inability to be sick, the the World Health Organization defines health as a condition of total psychological and social well-being in addition to the absence of disease and disability. It can be defined as emotional, psychological, mental (intellectual), social, occupational, and physical well-being according to the time period we are in (Özdağ et al. 1991 s:67). One of the tools for this is exercise. Harold, (1996) reported that it is impossible to achieve this integrity without exercise.

## **1.2. Physical Disability**

According to WHO, 10% of the population in developed countries and 12% in developing nations are considered disabled. According to this, 6-7 million individuals in Turkey and 500 million people worldwide are considered to be disabled. Also, age distribution of the population, mortality and morbidity patterns, the content of health services, and the increase in industrialization will change the rates of disabled people worldwide.

### **1.2.1. Definition of Physical Disability**

Today, expressions such as disabled, handicapped and special needs are used to express the physical and psychological deficiencies or inadequacies of individuals. However, WHO's definition and classification based on the results of the disease and focusing on the health aspect have been made and disability has been defined in three different categories. As a result, disability is the inability to do an activity in a normal manner or within the boundaries considered normal. It is defined as the restriction or

inability to fulfil the roles expected of the person due to age, gender, social, and cultural factors due to a disability or impairment. Disability refers to deficiencies and abnormal conditions in physical structure and functions in terms of health. (Özürlüler Şurasi, 1999).

Physical disability is the loss of physical activities in various degrees as a result of a musculoskeletal or nervous system disorder, and difficulty in keeping up with society in social and daily life. Physical disability should not be confused with mental disability. For example, some individuals with physical disabilities have problems with diction, but their mental capacity is not affected in any way. Physical disability is based on the kind and extent of mobility loss. The body's motor skills are diminished in people with physical disabilities. The nervous system, spinal cord, muscles, nerves, and joints are all components of a complex physical system that facilitates motor skills. The neurological, muscular, and skeletal systems are the three main bodily systems that are affected by disability, according to International Classification of Functioning, Disability and Health.

### **1.2.2. Causes of Physical Disability**

It is possible to divide the causes of physical disability into 3 prenatal, natal, and postnatal causes. Examples of Prenatal Causes are, inheritance, consanguineous marriage, fever, maternal infectious diseases in the first 3 months of pregnancy, harmful and bad habits, severe cold and flu diseases, chemotherapy, and radioactive rays during birth. Inappropriate interventions during birth, serious infectious diseases at the time of birth, injury to the baby's brain as a result of difficult delivery.

Examples of postpartum causes are polio, various accidents and traumas, high fever, convulsions, severe flu infections, pneumonia, etc. infections, mental disorders, psycho-social and environmental deprivations.

### **1.3. Sports, Exercise, and Physical Activity for the Physically Disabled**

In education there are classes that make a difference in societies. One of these is for people with disabilities. Within these classrooms, one of the means by which disabled individuals can minimize their differences and reveal their potential can be sports. (Çevik and Kabasakal, 2013) It is feasible to discuss both the positive impacts of sports on those who have disabilities and the positive impacts of sports on non-disabled. These positive effects are often more in disabled individuals than in individuals with normal development. (Tekkurşun et al., 2018)

It negatively affects self-confidence and self-development, which causes social and emotional problems in disabled individuals. Play, physical skills, and active motor activities have a very important place in their social, emotional, and cognitive development. The inability of physically disabled individuals to participate in activities that require physical skills affects their self-confidence and self-esteem and causes them to lead an anti-social life. Although this situation has been addressed with the academic and social adaptation projects implemented, play, movement, motor skills, and physical competence are considered important prerequisites for full social and emotional development. The most effective way to gain all these features is participation in sports and recreational activities.

Every field of sports is mainly a communal and social experience for disabled people. However, sport shows different effects on individuals in their environment and positively affects all development parameters. People who participate in sports have a stronger relationship with friends, and their mental health is more balanced and consistent. (İlhan, 2010) Individuals also communicate with their environment through sports, get to know themselves better, and increase their self-confidence and motivation. (Sevim, 2002). Along with the physiological support it provides to their physical structure, sports will also create a state of psychosocial wellbeing by improving feelings of discipline, self-confidence, competition, and friendship. Sport is important in the development of self-confidence and independence because it brings together disabled and non-disabled people and teaches them to socialize and share

common values, while also increasing the sense of discipline, competition, and friendship and providing support to their physical structure. Participation of disabled individuals in sports activities plays an important role in changing negative attitudes and behaviours towards disabled individuals in society. Through sports activities, disabled people learn the rules of cooperation, sharing, and interpersonal relations in society (Ergun and Baltacı, 2006).

Disabled individuals can be actively involved in all sports branches, just like individuals with normal development. Today, participation in sports activities is a subject that is emphasized both in our country and beyond the world (İnal, et al., 2007). We can divide the benefits of sports for disabled people into physiological, psychological and social benefits. The oldest known feature of the sport is physical development. It is known that the primitive bodily activities that man did in order to survive in ancient times were aimed at keeping him strong. From the past to the present, people have been aware of the benefits and benefits of sports and have turned to sports activities.

If we list some of the **physiological changes** that occur in people who do sports:

- Prevents obesity.
- Increases cardiovascular endurance (Durstine et al., 2000).
- Improves the ability to move, and helps them to be more independent in daily life activities thanks to flexibility exercises and resistance exercises for sports (Cooper and Quatrano, 1999)
- It enables individuals to have a more energetic structure.
- Muscle strength, endurance, and bone density increase, and the risk of injury decreases. (Cooper and Quatrano, 1999)
- Amount of blood that heart pumps increases and coronary vessels feed the heart expand (İnal, 2003).
- Increases body resistance against physiological and psychological fatigue and enables individuals to have a more energetic structure.

### **Sociological Benefits**

- Sports also have an important influence on individual's self-confidence and personality.
- It facilitates the group work of people and provides mutual solidarity.
- Helping individuals in the classroom environment, showing strength, visual appreciation and finding their counterparts in other people provide a social development. (İnal, 2003).
- Contributes to these needs of young people who are in search of belonging to a social group and finding identity during adolescence.
- The ability to bond, team spirit, and group interaction are the features seen in the fields of games and sports.
- Adaptation to teammates and rivals is effective in ensuring social harmony (İnal, 2003).

### **Psychological Benefits**

- Improves quality of life (Santiago and Coyle 2004; Tasiemski et al., 2005; Groff et al., 2009).
- Provides opportunities for self-expression and proving what they can achieve.
- Interaction in the sports environment provides suitable opportunities for the control and release of emotions.
- Physically active people with impairments enjoy life more, have a longer life expectancy, and have fewer secondary health concerns. (Rimmer et al., 2004; Groff et al., 2009).
- It creates a sense of responsibility.
- They feel powerful. Their self-confidence increases. Self-concept develops. Their immediate and general psychological states become more stable (Groff et al. 2009).
- It positively influences their personality and boosts their resilience and endurance.
- It leads to self-renewal and develops feelings of tolerance. (İnal, 2003).

- Regular participation in physical activity improves independence and fighting ability.
- It provides opportunities for friendship, enhances creativity, helps personality development, and provides a meaningful life (Murphy and Carbone 2008).
- Develops the ability to adapt to unforeseen situations and make instant decisions. It contributes greatly to the individual's ability to control their emotions.

### **1.3.1. The Relationship of Exercise and Physical Activity with Health in Persons with Physical Disabilities**

Today, sports are used as a therapy tool in the education and rehabilitation of the disabled. Physical movement is proven to make people happy, and happiness from moving uplifts spirits and improves quality of life. (Karahan and Kuru 2015). Scientific studies support that physical activity and sports increase physical health, social participation, mental health, and neural healing in disabled people, and the attendance of disabled individuals in physical activities should be evaluated not only as a therapeutic approach but also on the basis of human rights. (Blauwet, 2019)

In a study investigating the prevalence of obesity in 258 physically disabled individuals in Malatya between the ages of 20-65, obesity was found at a rate of 13.2% (21% in persons with visual impairments, 18% in people with speech impairment, and 7% in orthopedically disabled people). In addition, only 7.7% of disabled people were found to exercise regularly, and it was emphasized that obesity was not found in any disabled person who did regular exercise (Bozkır, et al., 2016).

A study carried out in 13 schools for children with visual, auditory, physical, mental, and social development problems in Hong Kong, 259 children were followed by wearing an accelerometer for 3 days. On average, children spend 70% of their time in school sedentary and engage in moderate-intensity physical activity, found to be on average only 17 minutes. (Sit et al. 2017). In England, 79.2% of people with disabilities between the ages of 45-64 do not do any sports. 34% of individuals with one disability,

and 51% of individuals with three or more disabilities spend less than 30 mins a week doing exercises. (England Active Lives Survey 2016)

### **1.3.2. The Relationship between Exercise and Physical Activity in the Physically Disabled and Society**

The effects of the sports that the disabled person will do are directly reflected in themselves, their families, the business environment, and society. It sees sports as effective therapy, education, and entertainment for all disability groups. Sport is the ideal protective factor against negative psychological attitudes, feelings of inferiority, and anxiety in individuals with disabilities. Reasons such as inequality of opportunity, social discrimination, and low expectation of the physical performance of disabled people in social life, cause some problems for disabled people to participate in physical activities (Ergun, 2008).

Noteworthy that physical activity is a factor that directly affects inclusion and rehabilitation processes in addition to its physical and psychological effects on disabled individuals. (Gür, 2001). Physical activities with the group provide the opportunity for disabled individuals to socialize as they create the opportunity to come together with different people. Disabled individuals seem to have a more sedentary lifestyle compared to the entire society. WHO point out that this situation poses a serious health problem. However, participating in sports and physical activities will eliminate secondary health problems. (Fernhall et al., 2008) The individual's participation in social life is restricted by physical limitations, an inadequate environment, and the combination of emotional problems they feel as a result of their condition. (Murphy and Carbone, 2008).

The positive effect of sports and physical activities includes disabled people and entire individuals in society and helps them to establish better relations in society with their physical and mental development. (Savucu et al., 2006). It has been neglected for years that the physical activities recommended for disabled individuals to get rid of

physical and mental tension and to adapt physically living conditions can be done by disabled individuals. Physical activities in the style of sports, games, and competitions are an effective way to rehabilitate the disabled, communicate in social life, and increase life satisfaction. (Ergun, 2008).

### **1.3.3. The Relationship of Exercise and Physical Activity with Education in the Physically Disabled**

The relationship between mental performance and involvement in sport has been of interest to people for many years. While many studies about participation in sport has positive effects on academic achievement, according to several studies, participation in extracurricular activities has a negative impact on academic attainment. (Cheung et al., 2004). According to Wolman (1973), progress toward achieving the desired result is defined as success. When "Academic Success" is said it should be understood that the skills or knowledge are generally determined by grades, tests results or both, in school lessons and recognised by teachers. (Carter and Good, 1973). In another study, this is considered that individuals who are physically active have better academic performance because team sports and exercise help improve social integration, and social abilities (Gür and Küçükoğlu, 1992).

When the literature is examined, there are findings including many researches that physical or sportive activities affect academic success. If we touch on some of these, Singh et al. (2012) in the USA, in which approximately 12,000 people between the ages of 6 and 18 examined the effects of physical activities on academic success of students. As a result, those who engaged in more physical activity had better academic outcomes. It was shown that there was a direct positive association between physical activity and academic achievement.

Total of 4,690 students from the 5th to the 12th grade evaluating the effect of sports activity on academic their achievement; 71.2% of the participants found themselves at a moderate level in terms of academic achievement, 16.3% at a good

level, 9.9% of them evaluated as below average, and 2.6% as weak. It was determined that 87.5% of the participants who found themselves more successful in terms of academic success were the students who participated more within sporting activities. (Lindner, 1999)

Whitley (1999) compared the overall grade point averages, absenteeism, disciplinary problems, dropout status, and graduation status of students in 301 schools affiliated with the North Carolina High Schools Sports Association between 1993 and 1996. It has been determined that the general grade point averages of the athletes are better, absenteeism rates, disciplinary problems, and dropouts are less, and their graduation rates are higher. Again, Tosun et al. (2015) discovered that students who were more physically active had better academic achievement in their study of 320 students at Kocaeli University and examined the association between sports activities and students' motivation and success.

#### **1.3.4. The Relationship of Exercise and Physical Activity with Gender in the Physically Disabled**

The low rate of women among professional athletes can be attributed to the fact that sports are in the background for women with disabilities, who cannot reach the place they deserve in society as disabled individuals, compared to men with physical disabilities. The International Paralympic Committee has also recently carried out studies to increase the number of sportswomen and administrators. Female disabled people had to cope with the difficulties of being disabled separately as well as being a woman. In addition, it was said that inequality of opportunity, low self-confidence, and the perception of women as weak by society greatly reduced the rate of participation in sports. (Anderson et al., 2008)

Santiago and Coyle (2004), in a study conducted on 170 people with Cerebral palsy, polio, and stroke found that female subjects had lower levels of physical leisure activity involvement than males. Sallis (2000) showed in a study that men have a more

active lifestyle than women. Tekkurşun et al., (2018) found that the motivation levels of attendance in sports were examined based on gender variable of the athletes in different disability groups. In this context, visually impaired female athletes' motivation scores differ significantly when compared to men. This indicates that the awareness of visually impaired female athletes about the sport they do is at a better level than that of male athletes.

According to this, hearing-impaired female athletes were more affected by enjoyment, satisfaction, and inner impulses towards sport, as well as external influences such as applause, popularity, and reward, as compared to men. It was determined that the mean scores of the physically and visually impaired athletes by gender were at a similar level (Tekkurşun et al., 2018). Shihui et al. (2007) investigated the motivations of different impairment groups to participate in sports and discovered that the motivational factors of female and male players were similar. Female athletes were more willing to participate in sports than male athletes (Blinde and McCallister, 1999).

#### **1.3.5. The Relationship of Exercise and Physical Activity with the Family in the Physically Disabled**

Sport has a significant effect on the socialization of the individual as an activity which allows the individual to socialize and participate in the social environment. Therefore, Sports can help the disabled individual and family dynamics work positively. (Sevindi et al., 2010). Disabled children with sports; In addition to their education, families are also educated in this context; It is expected that it should not only implement the education given but also be collaborative and able to produce solutions to the problems of the child. Whether it is the lessons given at school or the sports schools for recreational purposes, the support of their families should be sought in all of the regular sports activities to be carried out for the disabled, and families should be provided with the opportunity to see their children's talents. In this way, it should be possible for family members to develop positive attitudes toward their own

children. (Çalışkan, 2011). Disabled individuals trying to reach sports; It is noticed they are accepted and treated equally by society including the sports world (DePauw and Gavron, 2005).

Sports, as an educational technique, are well established to play an important part in the development of the child in all aspects. Attending in sports games as a team member; develops feelings such as helping the child, working together, and being respectful to other team members, and the game order. It is known that the basic theories that play a decisive role in social structure and sportive activities are closely related. Sportive activities provide unity and intense mutual communication in the common life of family members while creating a common activity opportunity. Sports and recreational activities have a helpful effect in overcoming contemporary problems such as lack of communication in the family, and generation conflict. (Gür, 2001).

In addition to the physical and mental support it provides, sports also give the social role to the child by raising feelings of confidence, discipline, competition, friendship. The global language of this role for people with disabilities is sport. By gaining the power of belonging to the society and social group, it carries individual-society relations further. (İlhan, 2007). Sports activities are very important for the elimination of aggression in children and young people, and for eliminating the troubles, fatigue, and problems faced by adults in daily life. (Yetim, 2005).

Today, it will be possible to ensure that sports become widespread and that people do sports, and that the phenomenon of sports is adopted by the individual at a young age, with the increase in the interest and knowledge level of families in sports. It is a fact that if parents knew the benefits of sports and their effects on their children, they would force their children to do sports by any means necessary. Therefore, family members should be taught that the child who does sports will gain physically, mentally, and socially. Raising successful generations requires sound education and the role of the family in this is quite high. (Yetim, 2005). Keeping in mind the positive effects of involving in sports activities on psychological, social, and physical areas of disabled individuals, the consideration and implementation of sports activities not only

as sports events but also as recreation, for disabled children should not be ignored. (Ilhan, 2007).

### **1.3.6. The Relationship of Exercise and Physical Activity with Environmental Factors in the Physically Disabled**

Disabled persons, in comparison to non-disabled people, are unable to participate in physical activity for personal and environmental reasons. (Kirchner et al., 2008), which leads to some health problems. Physical activity becomes more important for people with disabilities when considering its role in lowering health problems and costs, as well as its involvement in social integration. (Philips et al. 2009). Kirchner et al. (2008), investigated affecting aspect participation in physical activity with visually and orthopedically impaired individuals, the reported barriers were the highlighted environmental barriers such as sidewalks, construction activities in the surrounding area, and sewers. Disabled individuals reported that they overcome these obstacles by changing their routes and moving more slowly when they go out. (Chinn et al., 2006 ; Spivock et al., 2007 ; Spivock et al., 2008 ; Ravesloot, 2009).

In other studies Chinn et al., (2006) identified challenges faced by individuals with disabilities in the physical activity participation process as (1) Environmental Factors 2) Individual Factors. The main theme of environmental factors can be divided into the sub-themes of social factors and physical factors. Similarly, the sub-themes of economic factors, disability, and psychological factors derive from the main theme of individual factors.

As a result, individuals with disabilities face many environmental and individual obstacles in participating within physical activity. Various responsibilities fall upon state channels, local governments, non-governmental organizations, disabled sports federations, and the media in removing these obstacles. Heller et al., (2002) conducted a study upon adults with Down syndrome and concluded cost of physical activity program, transportation, unknowledge on the use physical activity tools, anxiety due

to the possibility of ridicule, and lack of access to physical activity centres showed a barrier to involvement in sports activities. Another study by Rimmer et al., (2008) individuals with physical disabilities listed reasons such as the cost of the physical activity program', not being aware of the physical activity centre in the surrounding area, and 'transportation' as barriers to participation in physical activity.

#### **1.3.6.1. Environmental Factors**

Rimmer et al., (2008) the environmental factors that emerged in their study, the obstacles related to modern infrastructure and the natural environment; lack of materials listed as transportation difficulties. Similarly, Kirchner et al. (2008), Rimmer et al. (2004) also revealed many factors such as physical conditions and social barriers based on environmental and personal attitudes, attitudes and perceptions of non-disabled individuals, and the lack of adequate equipment for the exercise guide. (Heller et al., 2003) classified them in terms of environmental factors, social factors (supportive or restrictive attitudes of relatives such as family and friends, gender barriers to participation, hurtful or humiliating attitudes of the society, inability to find a companion...), and physical factors (limitation of transportation opportunities, inconvenience, and inadequacy of facilities and materials, etc.) However, in this study, it is noteworthy that other people's attitudes are expressed more as a social environment effect.

#### **1.3.6.2. Individual Factors**

When we look at individual factors, economic factors, disability, and psychological factors emerge. While these factors are similar to some studies, they differ from others. In addition, some of the barriers discussed under environmental factors are also discussed under the heading of different component. Psychological impediments to physical activity also lack of motivation, fear due to the attitudes of staff and other users, feeling of being ignored and loss of skill identity due to disability,

emotional problems, distress, and sadness. In relation to people with disability the help and self-care problems needed due to exhaustion, and shortage of physical access have been revealed (Vanner et al., 2008).

Rimmer et al. (2008) found that exercise unknowledge and laziness, being unaware of the existence of a local fitness centre, lack of interest, and concern that exercise would worsen the situation of individuals emerged as individual barriers. However, the economy that emerged under the theme of individual factors of the study shows physical and psychological differences.

#### **1.4. Difficulties Encountered by the Physically Disabled**

Frequent physical activity involvement is essential for disabled people. This leads to a healthy and happy life, and facilitates the generation of positive emotions. (Heath and Fentem 1997). In relation to medical problems faced by persons with disabilities and costs of these problems. In addition to the beneficial effects of physical activity on the health of people with disabilities, health costs also decrease (Philips et al., 2009). Chinn et al. (2006) stated that the most common problems faced by the disabled in physical activity and participation in sports are the long adaptation process, health problems, and physical work with their peers. Heller et al. (2003) showed that these individuals do not participate in physical activity due to transportation costs, transportation problems, access to sports areas, not knowing how to use exercise tools, concerns about the possibility of mocking by other people, and lack of equipped trainers. (Anderson et al., 2005)

##### **1.4.1. Emotional Avoidance**

Plutchik, (2003) stated that there is no consensus on the explanation of emotion, but the word "emotion" is used linguistically in the sense of "activating, playing", and

in national studies, it is used in the sense of changes in the spiritual field. (Kaptagel, 1984).

“Emotion” can be however defined as “structured feelings that usually appear internally and lead to behavioural reactions in the face of a certain stimulus” (Kervancı, 2008). Since human emotions can vary, they significantly affect the quality of life. Negative emotions such as fear, sadness, anger, hatred, unhappiness, aslo insufficient confidence can cause the individual to negatively affect the environment. (Töremen and Çankaya, 2008; Çeşitçioğlu, 2003). According to Heider, these negative emotions also negatively affect people's attitudes toward other people. It causes them to spread negative emotions in general. (Lilienfeld et al., 2010).

Emotional avoidance; is the individual's avoidance of negativities that they may encounter emotionally and evading these negative feelings. Avoidance is actually a form of conditioning in which the operant response inhibits the delivery of an aversive stimulus. (Domjan, 2015) According to Watson (2002), emotions consist of two independent factors negative and positive emotions. Positive emotions those like joy, and trust, whereas negative emotions include those like fear, rage, sadness, shame, humiliation, and hatred. In this context, it is called emotional avoidance behaviour when the individual follows the path of avoidance in order not to reexperience these negative emotions, based on their previous experiences with the same. As a result of this desire, shortcuts are preferred or escape routes are sought to cope with negative emotions.

#### **1.4.2. Awareness**

Many researchers have emphasized the importance of the quality of the state of consciousness in order to create and increase the state of well-being in terms of philosophical, spiritual, and psychological well-being. One of the features that indicate that consciousness is closely related to well-being is conscious awareness (Brown and Ryan, 2003). Being alert and conscious of the things happening in the now is another

definition of mindfulness. (Brown and Ryan, 2003). Laity and Hanh (1993) defined mindfulness as keeping one's consciousness alive. (Özyeşil, 2011).

Awareness refers to being totally aware of what is going on right now, without filter or lens of judgment (Stahl and Goldstein, 2010). Brown and Ryan (2003) stated that Numerous philosophical, spiritual, and psychological traditions emphasize the importance of mindfulness for achieving and enhancing well-being. The concept of awareness is the state of being aware of what needs to be known, focusing on what needs to be grasped, or showing sensitivity, as well as making sense of the environment in which the individual lives with all their senses. İlhan and Esentürk, (2014) Awareness in the context of the difficulties in front of participation in sports corresponds to the individual's awareness of sports and all issues related to participation in sports.

#### **1.4.3. Environmental Barriers**

Environmental barriers are one of the most prevalent issues faced by disabled people in participating in sports. In the study by Saebu and Sorensen (2011), it was reported that the lack of sports facilities is an obstacle, especially, it can lead wheelchair athletes to look for disabled sports facilities and experience challenges with time and integrating with other disabled athletes. There are probably fewer sporting facilities than those in healthy that also serve disabled athletes, especially in remote places.

Although the lack of qualified coaches is reported as another environmental barrier experienced by Paralympic athletes, it contradicts previous research where coaches were mentioned as a facilitator rather than barrier (Martin and Mushett 1996; Swanson et al., 2008). The reason for the emergence of this contradiction in the study is that especially at the beginning of participation in sports, after trainers and disabled athletes work harder and performance in sports becomes more important, they turn from being an obstacle to being a facilitator.

Another common environmental impediment to sports participation is transportation. The transportation difficulties that athletes frequently encounter are due to the lack of transportation, transportation expenses for and from sporting venues, as well as wheelchair-related issues on public transportation. (Tenenbaum and Eklund 2007; Rimmer et al., 2000) One result of this study was that more than 1/3 of athletes with disabilities didn't experience any difficulties in participating in sports. This result may show that although there are barriers to sports participation, athletes do not perceive them as difficulties because they can focus on the positive factors of sports. Lack of opportunities for sports are among the environmental barriers to participation in sports. (Tasiemski et al., 2004; Stroud et al., 2009) and accessibility difficulties (Shiffett et al., 1994; Kinne et al., 1999; Tasiemski et al., 2004) and transportation (Tasiemski et al., 2004; Rimmer et al., 2008) are reported as disabilities by adults with physical disabilities. Lack of knowledge about sports has also been reported as a disability by adults with physical disabilities. (Kinne et al., 1999; Tasiemski et al., 2004; Rimmer et al., 2008). Adults who have had amputations, strokes, or spinal cord injuries have also cited costs as a deterrent. (Tasiemski et al., 2004; Rimmer et al., 2008) Adults with physical limitations have also cited a lack of sports knowledge as a disability. (Tasiemski et al., 2004; Rimmer et al., 2008).

### **1.5. Transtheoretical Model**

The model developed by Prochaska and DiClemente in 1982. Initially, the model was used in smoking cessation. It was subsequently used for different health behaviours such as in health programs, physical exercise, overeating, stress, and substance abuse. Using this model, the points that revealed how people changed their negative behaviours were determined (Miller and Rollnick, 1991. Armstrong et al. 2011, Taş et al. 2015).

The primary feature that distinguishes this model from other behaviour change models is its contention that behaviour change is a process. In this model, behaviour change is defined as a gradual, continuous, and dynamic structure. Individuals do not

suddenly change their behaviour; they change gradually, and incrementally throughout the stages of change. These are the stages in which precontemplation, contemplation, preparation, action, and maintenance Stage. These stages of change reflect the attitudes, intentions, and behaviours of the individual in the process of change.

### **1.5.1. Transtheoretical Model-Based Exercise Stages Scale**

In the stages of change, the stage in which an individual is in may differ according to their interest and motivation in changing behaviour. According to the model, the individual who tries to acquire a healthy behaviour goes through some stages (Precontemplation, Contemplation, Preparation, Action, and Maintenance Stage) until they acquire this behaviour (Şekerci, 2016).

The behavioural change of individuals is usually progressive in direction, although they may not also follow this path. An individual can also experience regression or move ‘backwards’ (relapse) from time to time. In order to prevent this situation and to ensure success in healthy behavioural change, the stage in which the individual is in should be precisely determined and appropriate initiatives and methods should be applied to the individual's stage (Taş et al., 2016; Fidancı et al., 2017).

#### **1.5.1.1. Precontemplation Phase**

Those in the Precontemplation stage, the initial step of change, do not plan to change their unhealthy behaviour with healthy behaviour in the next six months.

According to Prochaska et al. (2008), there may be different reasons for individuals to be in this stage. Individuals in the precontemplation stage may not be aware that their unhealthy behaviour harms them or that the healthy behaviour they should do is beneficial for them. Or they may have tried several times to acquire the

healthy behaviour but failed. Some individuals may not believe that they can make the necessary behavioural change and may not even consider trying it. Individuals at this stage are generally resistant to change, low or unmotivated (Prochaska, 2011).

These individuals should be encouraged to think about the positive aspects of behavioural change and to feel the negative effects of their unhealthy behaviours on their lives (Erol and Erdoğan, 2008).

#### **1.5.1.2. Contemplation Phase**

Individuals in the contemplation phase have a problem and are seriously considering changing their behavior within the next six months but have not yet taken action. (Erol and Erdoğan, 2008; Freeman and Dolan, 2001). These individuals may not know how to gain healthy behaviour, or they may have hesitations about whether they can gain healthy behaviour. Some individuals may experience indecision and conflict about the benefits and difficulties of the behaviour they want to change. (Erol and Erdoğan, 2008; Velicer, et al., 2000). People in this situation should be encouraged to try to reduce the negative aspects of behavioural change.

#### **1.5.1.3. Preparation Phase**

The individual, who is in the preparation stage, intends to take action to realize healthy behaviour within a month. These individuals, who decide to gain healthy behaviour, research how they can change their behaviour and make small experiments in this direction. It should be noted however, that their actions are not yet effective and regular (Erol and Erdoğan, 2008; Fidancı et al., 2017; Koyun, 2013). Individuals should be encouraged to seek support from friends they trust at this stage. They should be encouraged to tell people about their change plans and consider how they will feel when they practice healthy behaviour. This stage is expressed as the trigger for taking action (Prochaska et al., 2008).

#### **1.5.1.4. Action Stage**

Individuals in the movement stage have changed their unhealthy behaviours in the last six months and have started to gain healthy behaviours (Freeman & Dolan, 2001). Individuals who are motivated and started to change think that they are successful and are proud to share their success (Friman, et al, 2017). The risk of returning to the previous stage exists during the action stage, nevertheless, as a result of the probability of a decline in the person's self-confidence in their ability to accomplish behavioral change. (Şekerci, 2016).

#### **1.5.1.5 Maintenance Phase**

The maintenance phase is the phase of healthy behavioural change that has been done and continues for more than six months. Individuals are expected to maintain the healthy behaviour they have acquired (Erol and Erdoğan, 2008). Individuals' motivation and self-confidence have increased due to the healthy behaviours they have gained.

However, the individual should be careful as the possibility of relapse still continues (Fidancı et al., 2017). In addition to the development of feelings of failure and guilt, individuals with relapse also develop resistance to making healthy behaviour changes again. On average, 5% of those considering quitting reach the stage of maintaining quitting without re-starting. While 15% of re-starters give up on quitting (not thinking about quitting), the other 85% return to thinking and preparing to quit. (Erol and Erdogan, 2008). For these individuals, the cycle and change process will continue. The needs of individuals at different stages are very different from each other. Therefore, it is necessary to clearly define the stage that the individual is in, as their attempts for behavioural change vary significantly between stages.

## 1.6. Related Studies

In recent years, numerous studies have examined connection between physical activity, and health. (Kaplan & Ardahan, 2013; Şirin et al., 2008; Taşkın, et al., 2018) On the review of the literature and studies related to the subject, Grenier and Kearns, in their study in 2012, found that the Sports involvement by disabled people is a result in an increase in the individual's social and psychological well-being, and a decrease in direct and indirect health problems (Jaarsma et al. 2014a). It was also observed that there was an increase in the level of motivation (Tekkurşun et al. 2018).

Research on disabled people who participate in sports have indicated that they are less prone to rage and irritation than those who don't participate in sports. (Şahin, 2014), Moreover, people who do regular sports are more successful in participating in social life than those who do not. (Kahvecioğlu, 2019) It has been seen that physically disabled athletes are not satisfied with their leisure habits and quality of life and they have difficulties in their social lives. (Şentürk, 2017) When we look at cognitive flexibility and psychological aspects, it was seen that some demographic characteristics other than being a national athlete had no effect. (Yavuz, 2019)

Individuals who do regular sports are more successful in participating in social life than those who do not (Kahvecioğlu, 2019). Kara et al., (2020) stated that people who do sports are better in terms of life satisfaction than those who do not. Esatbeyoğlu and Karahan (2014) determined that the difficulties experienced by disabled individuals in participating in sports are social, physical, individual, economic, psychological, and disability-related. Tenenbaum and Eklund (2007) found that disabled individuals do not spare time for sports and have low motivation. Kirchner et al., (2008) described the barriers experienced by disabled individuals in participating in sports as transportation and structural difficulties. Jaarsma, et al., (2014) emphasized that identifying and eliminating the difficulties experienced by disabled individuals is important in terms of adapting them to the society they live in.

It was found that with disabled basketball players, Athletic performance, aerobic capacity, and aerobic parameters are all significantly correlated. (Soylu et al., 2021) If we look at some statements of health professionals about the state of research investigating the outcomes of TTM use in adopting, maintaining and increasing exercise compliance: in many cases, the results support the application of TTM for physical activity and exercise behavioural change. (Dallow and Anderson, 2003; Adams and White, 2003; Marshall and Biddle, 2001). Although its effect on health behaviours in adults has been successfully applied (Fahrenwald & Walker, 2003), It has been emphasized that pre-adolescent children may not be ideal for exercise and exercise behaviours due to issues with children's levels of independence about physical activity. In young people, the level of exercise was found to be significantly associated with gender, age and economic status (Cardinal, et al., 1998).

Misener and Darcy (2014) stated that disabled people encounter numerous challenges in participating in sports and that these obstacles are environmental obstacles (transportation, sidewalks, traffic) and individual obstacles such as psychological and demographic issues. Cottingham et al. (2016), on the other hand, mentioned the existence of physical, economic and psychological barriers, and reported that they prevent participation in sports, and accordingly, the participation of disabled individuals in physical activity is low. (Kang et al., 2007). It is seen that they face many obstacles such as limited equality of opportunity, lack of disabled facilities, transportation and awareness (Misener and Darcy, 2014).

Martin (2013) described the problems that develop as a result of the use of wheelchairs, which are essential for people with impairments. Sotiriadou and Wicker (2014) mentioned the effect of demographic characteristics on participation in sports. Argan et al., (2021) stated that participation of disabled people in sports, sports policies, facilities for the disabled, social environment, interest, and knowledge level in exercise are essential in terms of disabled individuals participating in sports. It has been reported that disabled individuals who are not accepted in society are adversely affected not only in physical activities but also in daily life, and the prevention of this is also effective in participation of disabled people in sports.

Additionally, it has been stated that increasing the access of disabled people to sports facilities and physical activity areas will increase the benefits of being involved in sports and physical activity. (Liu, 2009). Although studies on the involvement of disabled people in sports have increased in recent years, (Haslett et al., 2020; Burns, 2020; McLoughlin et al., 2017) it is necessary to investigate these studies from different aspects, increase the number of studies, systematically examine the difficulties faced by disabled individuals and to compare these measurements in terms of demographics.

### **1.7. Purpose of the Research**

Many researchers reported that the participation rate of disabled individuals in sports is decreases compared to the overall population. (Hoekstra et al., 2019; Hammond and Jeanes, 2018;) Grenier and Kearns, in their study in 2012, found that the involvement of disabled people in sports contributes to the individual's psychological well-being, a decrease in health problems (Jaarsma et al., 2014a) and an increase in the level of motivation (Tekkurşun et al. 2018), and they were found to be more social. (Kahvecioğlu, 2019)

Recently, a number of studies on disabled athletes' participation in sports have been conducted. These studies have been helpful in encouraging persons with disabilities to participate in sports. For people with disabilities, sports are not only seen as a social and recreational activity but also as a way of coping with their physical disabilities, adapting to society, and increasing their level of independence. In addition, physical activity has a rehabilitative and even therapeutic role for many types of disabilities. In this context, state channels, municipalities, NGOs, private institutions and organizations provide exercise and sports support to disabled individuals.

The purpose of the study is to examine the variability of the stage of exercise change according to demographic characteristics and to make inferences in the transtheoretical-based exercise change stages scale, which is a scale that is divided into

five (5) items and requires different approaches according to the stage they are in. It is also necessary to determine the difficulties faced by disabled people in participating in sports, and to compare these results with demographic characteristics.

The aim of this study is to identify the obstacles individuals who suffer with disabilities face when attempting to implement exercise and sports within their daily lives, using the scale of transtheoretical-based exercise change stages. This study aims to establish a basis for research, to increase the number of further studies, and to identify the difficulties faced by these individuals with disability in the scale of transtheoretical-based exercise change stages. It is to determine the difficulties faced by disabled individuals in participating in sports and to examine all these results with demographic characteristics.

### **1.8. Problem Statement**

To determine at which stage they are in the exercise behaviour change model by using the Transtheoretical model-based exercise change stages scale in the participation of physically disabled people in sports. To determine challenging factors, they encounter at these stages. To identify the association between these challenges and demographic (age, gender, education levels, region of residence, and income level) status.

#### **1.8.1 Problem Sub-Sentences**

- 1) What are the difficulties encountered by physically disabled individuals in sports participation?
- 2) What are the demographic differences in the difficulties encountered by physically disabled individuals in sports participation?
- 3) To determine at which stage physically disabled individuals are in participation in sports in the Transtheoretical Model Based Exercise Change Stages Scale?

4) To determine the demographic differences of physically disabled individuals' participation in the Exercise Change Stages Scale.?

### **1.9. Importance of the Research**

Social, emotional, environmental, psychological, and demographic factors are only a few of the many factors that have an impact on disability-related obstacles to sports participation. The relationships between these factors are to address the effects of disabled individuals on participation in sports in different aspects.

Increasing diversity of research on this subject in our country and in the world is very important in terms of the difficulties faced by disabled individuals and the determination of these difficulties. Analysing the difficulties experienced by disabled individuals in sports participation with parameters as age, gender, income, residence, education level will reveal the importance of demographic characteristics in sports participation.

Also, investigating the stage in which disabled individuals are in the transtheoretical-based exercise change scale, which reveals that they make sports and exercise a habit, in terms of demographic characteristics will contribute to the studies on this subject and the evaluation of these two situations among themselves will shed light on the researches planned to be carried out on this subject.

There is no direct study on the subject in the national and international literature. In our study, when the changes in the difficulties encountered by disabled individuals in sports participation are examined in terms of changes and demographics, it will increase the number of studies prepared on this subject and will give a different perspective to these studies. The fact that this study will be carried out in different cities in socio-economic terms will allow these difficulties to be examined in detail.

It is very important to determine the most common difficulties encountered by physically disabled individuals in the scale of exercise change stages of the difficulties they experience in sports participation in the scale of exercise change stages and in the scale consisting of five stages indicating their motivation to participate in sports and make physical activity and sports a habit for disabled individuals.



## **2. MATERIALS AND METHODS**

### **2.1. Research Method**

Model used in this study is the descriptive research model. It is a type of research carried out to investigate the variables of a problem and the relationships between the variables. (Kurtuluş, 1996). The research model's objective is to investigate the contexts, details, variables, and connections between the relevant aspects. (Kurtuluş, 1996) The difficulties of physically disabled individuals in participating in sports were examined according to many variables and these variables were also evaluated among themselves.

### **2.2. Place of Research**

A total of 120 people participated in the research with only physical disabilities in a total of six (6) Special Education and Rehabilitation centres. Two (2) centres were each located in Ardahan, Gaziantep and Hatay.

Special Education and Rehabilitation Centres: These centres aim to eliminate the disability of individuals with language and speech difficulties, mental, physical, sensory, social, emotional and behavioural problems or to minimize their effect. They also seek to maximize their abilities and to ensure their integration into society. These are institutions that serve under Ministry of Education in order to develop disabled individuals' care skills, independent living and professional skills.

In the study conducted in Ardahan, Gaziantep and Hatay provinces, it is known that the social, cultural and economic opportunities offered by the provinces for disabled individuals (sports halls, walking tracks, social facilities, transportation facilities) prepared or adapted for disabled individuals in the provinces (social-cultural

activities, aids, employment opportunities) prepared by municipal NGOs and private organizations for disabled individuals are at different levels. (Akbuğa et al., 2017)

According to the General Directorate of Civil Society Relations of the Republic of Türkiye, the number of associations operating for the disabled is reported to be 1 (one) in Ardahan, 22 (twenty-two) in Gaziantep, and 18 (eighteen) in Hatay. (<https://www.siviltoplum.gov.tr>)

The study was carried out in 3 different cities since it was desired to reach the data to be obtained from the hypothesis "The differences between the provinces are also related to the opportunities offered by the provinces in the participation of disabled individuals in sports" in the evaluation of the difficulties faced by disabled individuals in sports participation and the stage they are in in the exercise change scale of these variables. Another reason why this study was carried out in different provinces is that it is desired to reach a wider universe of samples.

### **2.3. Population and Sample of the Study**

In order to reach the sample groups, it is important to include only physically disabled individuals who can express themselves in the special education and rehabilitation centres where they receive education and who are stated in the disability report to not have an intellectual disability in order for these individuals to understand the consent form and to respond consistently to the questions planned to be asked in the two scales.

The study included people residing in Ardahan, Gaziantep and Hatay and having only physical disability report by the Ministry of Health. In the study, the importance of age, gender, income level and socio-cultural characteristics of the province they live in as a variable in participation in sports were investigated in the behaviour change scale of the disabled individuals between the ages of 12-65 and the difficulties faced by the disabled individuals in participating in sports.

## **2.4. The Hypothesis of the research**

Hypothesis 1. Individuals with physical disabilities experience different factors of the phase at which they are on the scale of Transtheoretical model-based exercise change.

Hypothesis 2. There are different demographic characteristics of the phase in which individuals with physical disabilities are on the scale of Transtheoretical model-based exercise change.

Hypothesis 3. Individuals with physical disabilities have demographically different challenges to participate in the sport.

Hypothesis 4. The challenges that individuals with physical disabilities face at the stage in which they are on the Transtheoretical model-based exercise change scale differ demographically.

## **2.5. Collection of Research Data**

Research data were prepared in the form of a written questionnaire or an online form according to the physical abilities of the participants. "Demographic Form" is created to collect information about age, gender, province, education level, and economic status after the consent of the volunteer participant is read and explained to the forums. The Transtheoretical model-based exercise change stages scale, consisting of 5 items, and the "Scale of Difficulties in Participation in Sports for Persons with Disabilities", consisting of 14 items, answered a total of 20 questions.

## **2.6. Data Collection Tools of the Research**

Ay and Temel (2008) conducted a validity and reliability research on the five-item "Transtheoretical Model Based Exercise Change Stages Scale" and found that the scale's test-retest reliability was 0.81.

In 2021, Yılmaz et al. conducted a validity and reliability study. There are 14 items on the "Challenges to Participation in Sport in Individuals with Disabilities Scale" and its Cronbach Alpha value is 0.91.

The Challenges to Sports Participation in Individuals with Disabilities Scale consists of 3 subscales: the first 4 items are Cronbach's Alpha value of 0,79 Emotional Avoidance, the next 5 items are Cronbach's Alpha value of 0,86 Awareness and the last 5 items are Cronbach's Alpha value 0,88 Environmental Challenges.

### **2.6.1. Demographic Form**

The participants filled in the "Personal Information Form", which was designed to collect information about age, gender, level of education, place of residence, and income. The average duration of this process is 5 minutes.

### **2.6.2. Transtheoretical Model-Based Exercise Change Stages Scale**

This form consists of five questions and these questions show us the stage of change that the individual is in at that moment. These stages of change are analysed in five stages; Precontemplation, Contemplation, Preparation, Action, and Maintenance Phase. This form was developed by Marcus et al., in 1992 and adapted to the Turkish population by Ay and Temel in 2008. The Kappa index validity of the Exercise Change Phase Short Questionnaire (n=60) was found to be 0.81.

**Precontemplation Phase:** At this time, the person has never considered exercising regularly and will not do so for the following six months.

**Contemplation stage,** the individual does not intend to start exercising but intends to take action within the next 6 months.

**Stage of preparation;** within the following 30 days, the person plans to begin regular exercise and get enough physical activity.

Action stage, the individual starts to show the behaviour to start exercising and behaviour change within a small period of time (the individual has started to exercise regularly, but for less than six months).

Maintenance phase, the individual maintains the behaviour acquired in the initiation phase. The individual has been exercising regularly for more than 6 months and is determined not to return to the previous risky behaviour.

The average duration of the application is 5 minutes.

### **2.6.3. Challenges to Participation in Sport in Individuals with Disabilities Scale**

"The Scale of Challenges to Sports Participation in Individuals with Disabilities" consisting of 14 items used (Yılmaz et al., 2021).

There are 3 subscales in the Scale for Barriers to Sports Participation in People with Disabilities. The first 4 questions are Emotional Avoidance, the next 5 questions are Awareness and the last 5 questions are Environmental difficulties. The internal consistency coefficients for the subscales of the scale were determined as Environmental Challenges ( $\alpha = .88$ ), Emotional Avoidance ( $\alpha = .79$ ) Awareness ( $\alpha = .86$ ), and the overall internal consistency coefficient was found as ( $\alpha = .91$ ).

Table 3.6. Barriers to Participation in Sport in People with Disability Scale reliability analysis.

|       | Number of items | Cronbach's Alpha |
|-------|-----------------|------------------|
| Total | 14              | 0.722            |

We carried out reliability analyses to assess the reliability of the answers given by the respondents to the scale questions. The Scale of Challenges to Sports

Participation in Individuals with Disabilities is highly reliable with a Cronbach alpha reliability coefficient of 0.722.

Emotional avoidance is the avoidance action that occurs when an individual encounters a negative situation. It is the state of avoiding negative emotions (Watson (2002)) that one has experienced before, such as fear, sadness, pain, and humiliation. The negative situations experienced by the individual related to sports participation are associated with emotional avoidance in sports participation.

Awareness is the state of being able to understand the environment in which the individual is in with all its factors and to adapt to this environment (İlhan & Esentürk, 2014). Awareness, which is one of the challenging factors in sports participation, is the state of being aware of the environment in which the individual is in with all its factors.

Environmental difficulties are the difficulties experienced by the individual due to situations that are not caused by him/her. Environmental difficulties, which are among the difficulties experienced in sports participation, are the situation of encountering challenging factors such as physical conditions, transportation, communication, facility, and hygiene. (Yılmaz et al.,2021) The average application time is 5 minutes.

## **2.7. Statistical Analysis**

The minimum number of samples required for the study was calculated as 82 when the effect size=0.3, power=0.8 confidence level was determined as  $\alpha=0.05$  using the G\*Power program.

Data analysis SPSS 25 version program will be used. The conformity of the variables to the normal distribution will be examined by analytical methods (Shapiro-

Wilk). Descriptive analyses will be given using the mean and standard deviations for normally distributed variables.

Where group comparisons are made, parametric test (independent sample t test with Anova) will be applied, when necessary, assumptions are met, and non-parametric test (Mann-Whitney U test and Kruskal-Wallis-H test) will be applied where assumptions are not provided. Kruskal Wallis Post Dwass Steel Critchlow-Fligner method was used for host pairwise comparison. Independent Sample T and Mann-Whitney test will be used for two independent groups in order to determine the difference in demographic characteristics in the variables. For variables containing more than two independent groups, differences between groups were calculated with the Kruskal Wallis-H test. Chi-square independence test was applied to examine the relationship between two categorical variables. Frequency, percentage, arithmetic mean and standard deviation will be used to analyse the descriptive characteristics of the participants.

For statistical analysis, the level of significance will be accepted as  $p < 0.05$ .

### 3. FINDINGS

The outcomes of the statistical processes used to analyse the participant data are presented in this section using tables.

#### 3.1.1. Distribution of Answers by Gender

**Table 3.1.1** Distribution of Answers by Gender

| Gender | N   | % Of Total |
|--------|-----|------------|
| Male   | 57  | 47.5 %     |
| Female | 63  | 52.5 %     |
| Total  | 120 | 100 %      |

Gender distribution of physically disabled individuals participating in the research in Table 3.1.1; a total of 120 participants were 47.5% male (57 persons), and 52.5% female (63 persons).

#### 3.1.2. Distribution of Answers to the Questions by Age

**Table 3.1.2.** Distribution of Answers to the Questions by Age

| Age   | N  | % of Total |
|-------|----|------------|
| 12-18 | 57 | 47.5 %     |
| 19-35 | 34 | 28.3 %     |
| 35-54 | 18 | 15.0 %     |
| 55-64 | 11 | 9.2 %      |

**Table 3.1.2.** Distribution of Answers to the Questions by Age

| Age   | N   | % of Total |
|-------|-----|------------|
| Total | 120 | 100 %      |

Table 3.1.2. Age distribution of the physically disabled individuals participating in the research; 57 people (47.5%) aged 12-18, 34 people (28.3%) aged 19-35, 18 people (15.0%) aged 35-54, and 11 people aged 55-64 (9.2%).

### 3.1.3. Distribution of the Answers to the Questions by Educational Status

**Table 3.1.3.** Distribution of the Answers to the Questions by Educational Status

| Educational Status?                                      | N   | % Of Total |
|----------------------------------------------------------|-----|------------|
| I'm Not Literate.                                        | 19  | 15.8 %     |
| Primary or secondary school graduate or continuing.      | 53  | 44.2 %     |
| High school or equivalent school graduate or continuing. | 42  | 35.0 %     |
| College or university graduate or continuing.            | 6   | 5.0 %      |
| Total                                                    | 120 | 100%       |

Table 3.1.3. Considering the educational status of the physically disabled individuals participating within the research; 15.8% (19 people) who are not literate, 44.2% (53 people) who are primary or secondary education graduates (53 people), High school or equivalent school graduates or continuing 35.0% (42 people), College or university graduates or continuing 5.0% (6 people)

### 3.1.4. Distribution of the Answers to the Questions by City of Residence

**Table 3.1.4.** Distribution of the Answers to the Questions by Provinces

| Provinces | N  | % Of Total |
|-----------|----|------------|
| Ardahan   | 40 | 33.3 %     |
| Gaziantep | 40 | 33.3 %     |
| Hatay     | 40 | 33.3 %     |

Table 3.1.4. Considering the distribution of physically disabled individuals participating in the research in terms of living conditions: total of 120 people participated in study, 40 people each with a 33.3% distribution in Ardahan, Gaziantep and Hatay provinces.

### 3.1.5. Distribution of the Answers to the Questions by Income Level

**Table 3.1.5.** Distribution of the Answers to the Questions by Income Level

| Income Level? | N  | % Of Total |
|---------------|----|------------|
| Low           | 49 | 40.8 %     |
| Middle        | 67 | 55.8 %     |
| High          | 4  | 3.3 %      |

Low income: < 4.000 TL middle income: 4.000 TL - 8.000 TL high income: > 8.000 TL Data is calculated by taking into consideration the annual data of the Turkish Statistical Institute (TUIK, 2022).

Table 3.1.5. Income level distributions of disabled individuals participating in the research; seen that 40.8% (49 people) had a low-income level, 55.8% had a middle-income level of 67 (persons) and 3.3% (4 people) had a high-income level.

### 3.2. Transtheoretical Model-Based Exercise Phases Scale

**Table 3.2.** Do you exercise regularly?

| <b>Do you exercise regularly?</b> | <b>Counts</b> | <b>% Of Total</b> |
|-----------------------------------|---------------|-------------------|
| Precontemplation Phase            | 41            | 34.2 %            |
| Preparation Phase                 | 13            | 10.8 %            |
| Action Phase                      | 21            | 17.5 %            |
| Maintenance Phase                 | 45            | 37.5 %            |

According to the Transtheoretical-based exercise change stages scale of the disabled individuals participating in the study, 41 people were in the Precontemplation Phase, 13 were in the Preparation Phase, 21 were in the Action Phase, and 45 were in the Maintenance Phase. None of the physically disabled individuals stated that they were in the Contemplation phase in the Transtheoretical-based exercise change stages scale. For this reason, the data of the Contemplation phase could not be evaluated.

### 3.2.1. Distribution of Difficulties Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale by Age

**Table 3.2.1.** Distribution of the question "Do you exercise regularly?" by Age

| Age   |              | Do you exercise regularly? |                   |              |                   | Total   | p     |
|-------|--------------|----------------------------|-------------------|--------------|-------------------|---------|-------|
|       |              | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |         |       |
| 12-18 | Observed     | 21                         | 7                 | 12           | 17                | 57      | 0,759 |
|       | % within row | 36.8 %                     | 12.3 %            | 21.1 %       | 29.8 %            | 100.0 % |       |
| 19-35 | Observed     | 9                          | 4                 | 4            | 17                | 34      |       |
|       | % within row | 26.5 %                     | 11.8 %            | 11.8 %       | 50.0 %            | 100.0 % |       |
| 35-54 | Observed     | 6                          | 1                 | 4            | 7                 | 18      |       |
|       | % within row | 33.3 %                     | 5.6 %             | 22.2 %       | 38.9 %            | 100.0 % |       |
| 55-64 | Observed     | 5                          | 1                 | 1            | 4                 | 11      |       |
|       | % within row | 45.5 %                     | 9.1 %             | 9.1 %        | 36.4 %            | 100.0 % |       |
| Total | Observed     | 41                         | 13                | 21           | 45                | 120     |       |
|       | % within row | 34.2 %                     | 10.8 %            | 17.5 %       | 37.5 %            | 100.0 % |       |

According to the age distribution of the answers given to the transtheoretical-based exercise change scale, 36.8% (21 people) of 57 physically disabled individuals between the ages of 12-18 were in the Precontemplation Phase, 12.37% (7 people) in the Preparation Phase, 21.1% (12 people) in Action Phase and 29.8% (17 people) in Maintenance Phase.

It has been observed that 26.5% (9 people) of 34 physically disabled individuals aged 19-35 years in Precontemplation Phase, 11.8% (4 people) in Preparation Phase, 11.8% (4 people) in Action Phase, and 50% (17 people) in Maintenance Phase.

33.3% (6 people) of 18 physically disabled individuals aged 35-54, Precontemplation Phase, 5.6% (1 person) Preparation Phase, 22.2% (4 people) Action Phase, 38.9% (7 people) in the Maintenance Phase.

45.5% (5 people) of 11 physically disabled individuals aged 55-64, Precontemplation Phase, 9.1% (1 person) Preparation Phase, 9.1% (1 person) Action Phase, 36.4% (4 people) It has been observed that it is in the Maintenance Phase.

However, according to the results of the chi-square independence test, do you exercise regularly with age groups? there was no statistical relationship between the groups of answers given to the question. ( $p>0.05$ )

### 3.2.2. Distribution of Difficulties Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale by Gender

**Table 3.2.2.** Distribution of the question "Do you exercise regularly?" by Gender

| Gender |              | Do you exercise regularly? |                   |              |                   | Total   | P     |
|--------|--------------|----------------------------|-------------------|--------------|-------------------|---------|-------|
|        |              | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |         |       |
| Female | Observed     | 21                         | 8                 | 12           | 22                | 63      | 0,833 |
|        | % within row | 33.3 %                     | 12.7 %            | 19.0 %       | 34.9 %            | 100.0 % |       |
| Male   | Observed     | 20                         | 5                 | 9            | 23                | 57      |       |
|        | % within row | 35.1 %                     | 8.8 %             | 15.8 %       | 40.4 %            | 100.0 % |       |
| Total  | Observed     | 41                         | 13                | 21           | 45                | 120     |       |
|        | % within row | 34.2 %                     | 10.8 %            | 17.5 %       | 37.5 %            | 100.0 % |       |

we look at the stage in which they were on the Transtheoretical based exercise change scale. In total, 63 women with physical disabilities were found that 33.3% (21 people) Precontemplation Phase 12.7% (8 people) Preparation Phase 19.0% (12 people) Action Phase 34.9% (22 people) Maintenance Phase.

57 male disabled individual is on the Transtheoretical based exercise change scale; it was also found that the individual was 35.1% (20 people) Precontemplation Phase 8.8% (5 people) Preparation Phase 15.8% (9 people) Action Phase 40.4% (23 people) Maintenance Phase.

However, according to the results of the Chi-square independence test, “do you exercise regularly?” with the gender. There was no statistical correlation between the groups of answers given to the question. ( $p>0.05$ )

### 3.2.3. The Distribution of Difficulties Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale by Educational Status

**Table 3.2.3.** Distribution of the question "Do you exercise regularly?" by Educational Status

| Educational Status?                                  |              | Do you exercise regularly? |                   |              |                   | Total   | p     |
|------------------------------------------------------|--------------|----------------------------|-------------------|--------------|-------------------|---------|-------|
|                                                      |              | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |         |       |
| I am not literate.                                   | Observed     | 11                         | 3                 | 3            | 2                 | 19      | 0,062 |
|                                                      | % within row | 57.9 %                     | 15.8 %            | 15.8 %       | 10.5 %            | 100.0 % |       |
| Primary or secondary education graduate or studying. | Observed     | 20                         | 3                 | 9            | 21                | 53      |       |
|                                                      | % within row | 37.7 %                     | 5.7 %             | 17.0 %       | 39.6 %            | 100.0 % |       |
| High school or equivalent graduate or studying.      | Observed     | 7                          | 7                 | 8            | 20                | 42      |       |
|                                                      | % within row | 16.7 %                     | 16.7 %            | 19.0 %       | 47.6 %            | 100.0 % |       |
| College or university graduate or studying.          | Observed     | 3                          | 0                 | 1            | 2                 | 6       |       |
|                                                      | % within row | 50.0 %                     | 0.0 %             | 16.7 %       | 33.3 %            | 100.0 % |       |
| Total                                                | Observed     | 41                         | 13                | 21           | 45                | 120     |       |
|                                                      | % within row | 34.2 %                     | 10.8 %            | 17.5 %       | 37.5 %            | 100.0 % |       |

**Table 3.2.3.** Distribution of the question "Do you exercise regularly?" by Educational Status

| Educational Status? | Do you exercise regularly? |                   |              |                   | Total | p |
|---------------------|----------------------------|-------------------|--------------|-------------------|-------|---|
|                     | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |       |   |

19 physically disabled individuals who are not literate participating in the study stated that the stage in the Transtheoretical-based exercise exchange short question form, 57.9% (11 people) Precontemplation Phase 15.8% (3 people) Preparation Phase 15.8% (3 people) Action Phase 10.5% (2 people) It has been found to be in the Maintenance Phase.

While 53 of the physically disabled individuals state that they are primary or secondary school graduates or continuing, when the stage of the individuals in the Transtheoretical-based exercise exchange short question form 37.7% (20 persons) Precontemplation Phase, 5.7% (3 persons) Preparation Phase, 17% in Action Phase, 39.6% (21 persons) was in the Maintenance Phase.

While 42 of the individuals stated that they are high school graduates or continuing, 16.7% (7 persons) Precontemplation Phase, 16.7% (7 persons) Preparation Phase, 19.0% (8 persons) Action Phase 47.6% (20 persons) Maintenance Phase.

While 6 of the physically disabled individuals participating in the study stated that they are college or university graduates or continuing, when the stage of the individuals in the Transtheoretical-based exercise exchange short question form is examined, 50.0% (3 people) Precontemplation Phase 0% (0 people), Preparation Phase 16.7 % (1 person), Action Phase 33.3% (2 people) Maintenance Phase.

However, on the basis of the findings from the Chi-square independence test, "do you exercise regularly?" with the educational status. There was no statistical correlation between the groups of answers given to the question. ( $p>0.05$ )

### 3.2.4. Distribution of Difficulties Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale by Provinces

**Table 3.2.4.** Distribution of the question "Do you exercise regularly?" by Provinces

| Provinces | Do you exercise regularly? |                   |              |                   | Total  | p     |
|-----------|----------------------------|-------------------|--------------|-------------------|--------|-------|
|           | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |        |       |
| Ardahan   | Observed                   | 9                 | 3            | 11                | 40     | 0,270 |
|           | % within row               | 22.5 %            | 7.5 %        | 27.5 %            | 42.5 % |       |
| Gaziantep | Observed                   | 16                | 4            | 6                 | 14     |       |
|           | % within row               | 40.0 %            | 10.0 %       | 15.0 %            | 35.0 % |       |
| Hatay     | Observed                   | 16                | 6            | 4                 | 14     |       |
|           | % within row               | 40.0 %            | 15.0 %       | 10.0 %            | 35.0 % |       |
| Total     | Observed                   | 41                | 13           | 21                | 45     |       |
|           | % within row               | 34.2 %            | 10.8 %       | 17.5 %            | 37.5 % |       |

The transtheoretical-based exercise exchange short questionnaire was evaluated in terms of the provinces of the participants and when the stage they are in is considered in Ardahan 22.5% (9 people) Precontemplation Phase 7.5% (3 people) Preparation Phase 27.5% (11 people) Action Phase % 42.5 (17 people) were in the Maintenance Phase.

It was found that they were in Gaziantep 40.0% (16 people) Precontemplation Phase 10.0% (4 people) Preparation Phase 15.0% (6 people) Action Phase 35.0% (14 people) Maintenance Phase.

40.0% (16 people) Precontemplation Phase 15.0% (6 people) Preparation Phase 10.0% (4 people) Action Phase 35% (14 people) Maintenance Phase in Hatay.

However, as a result of the Chi-square independence test, ‘‘do you exercise regularly?’’ with the educational status. There was no statistical relationship between the response groups given to the question for these 3 provinces where physically disabled individuals live. ( $p>0.05$ )

### 3.2.5 Distribution of Difficulties Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale by Income Level

**Table 3.2.5.** Distribution of the question "Do you exercise regularly?" by income level.

| Income level? | Do you exercise regularly? |                   |              |                   | Total  | p       |
|---------------|----------------------------|-------------------|--------------|-------------------|--------|---------|
|               | Precontemplation Phase     | Preparation Phase | Action Phase | Maintenance Phase |        |         |
| Low           | Observed                   | 22                | 4            | 7                 | 16     | 49      |
|               | % Within row               | 44.9 %            | 8.2 %        | 14.3 %            | 32.7 % | 100.0 % |
| Middle        | Observed                   | 18                | 9            | 12                | 28     | 67      |
|               | % Within row               | 26.9 %            | 13.4 %       | 17.9 %            | 41.8 % | 100.0 % |
| High          | Observed                   | 1                 | 0            | 2                 | 1      | 4       |
|               | % Within row               | 25.0 %            | 0.0 %        | 50.0 %            | 25.0 % | 100.0 % |
| Total         | Observed                   | 41                | 13           | 21                | 45     | 120     |
|               | % Within row               | 34.2 %            | 10.8 %       | 17.5 %            | 37.5 % | 100.0 % |

49 of the physically disabled individuals stated that they have a low-income level. Looking at the stage of the individuals in the Transtheoretical-based exercise change scale, 44.9% (22 people) Precontemplation Phase 8.2% (4 people) Preparation Phase 14.3% (7 people) Action Phase 32.7% (16 people) It has been seen to be in the Maintenance Phase.

67 of the physically disabled individuals stated that they have a middle-income level. Considering the stage of the individuals in the Transtheoretical-based exercise change short question form, 26.9% (18 people) Precontemplation Phase 13.4% (9 people) Preparation Phase 17.9% (12 people) Action Phase 41.8% (28 people). person) was observed in the Maintenance Phase.

4 of the physically disabled individuals stated that they have a high-income level. Considering stage of individuals in Transtheoretical-based exercise change short question form, 25.0% (1 person) Precontemplation Phase 0% (0 people) Preparation Phase 50.0% (2 people) Action Phase 25% (1 person) Maintenance Phase has also been found.

However, as a result of the Chi-square independence test, “do you exercise regularly?” with your income. There was no statistical correlation between the groups of answers given to the question. ( $p>0.05$ )

### 3.3. Difficulties in Participation in Sports for Persons with Disabilities

#### 3.3.1 Disability and Age-Related Challenges in Sports Participation

**Table 3.3.1** Distribution of Difficulties in Participation Sports by Age

|                       | Age   | N  | Mean  | Median | SD   | p*    |
|-----------------------|-------|----|-------|--------|------|-------|
| Emotional Avoidance   | 12-18 | 57 | 8.60  | 8      | 3.40 | 0,709 |
|                       | 19-35 | 34 | 8.32  | 8.00   | 3.08 |       |
|                       | 35-54 | 18 | 8.44  | 8.50   | 2.99 |       |
|                       | 55-64 | 11 | 9.64  | 10     | 3.44 |       |
| Awareness             | 12-18 | 57 | 12.51 | 12     | 4.12 | 0,499 |
|                       | 19-35 | 34 | 12.29 | 11.00  | 4.34 |       |
|                       | 35-54 | 18 | 13.44 | 14.00  | 3.91 |       |
|                       | 55-64 | 11 | 13.64 | 13     | 3.80 |       |
| Environmental Factors | 12-18 | 57 | 12.84 | 13     | 4.20 |       |

**Table 3.3.1** Distribution of Difficulties in Participation Sports by Age

|       | Age   | N  | Mean  | Median | SD   | p*    |
|-------|-------|----|-------|--------|------|-------|
|       | 19-35 | 34 | 12.79 | 12.50  | 4.37 | 0,226 |
|       | 35-54 | 18 | 14.78 | 15.50  | 6.68 |       |
|       | 55-64 | 11 | 15.73 | 17     | 4.36 |       |
| Total | 12-18 | 57 | 33.95 | 34     | 8.43 | 0,219 |
|       | 19-35 | 34 | 33.41 | 31.50  | 9.22 |       |
|       | 35-54 | 18 | 36.67 | 38.00  | 9.76 |       |
|       | 55-64 | 11 | 39.00 | 36     | 8.83 |       |

Kruskal-Wallis\*

It was discovered that there wasn't statistically significant difference in emotional avoidance, awareness, and environmental factors when the difficulties faced by disabled people in engaging in sports were analysed according to the age variable. ( $p > 0.05$ )

### 3.3.2 Distribution of Difficulties in Participation in Sports by Disabled Persons by Gender

**Table 3.3.2** Distribution of Difficulties in Participation in Sports by Gender

|                       | Gender | N  | Mean  | Median | SD   | p       |
|-----------------------|--------|----|-------|--------|------|---------|
| Emotional Avoidance   | Female | 63 | 8.87  | 9      | 2.90 | 0,173*  |
|                       | Male   | 57 | 8.28  | 7      | 3.57 |         |
| Awareness             | Female | 63 | 13.43 | 13     | 4.17 | 0,040*  |
|                       | Male   | 57 | 11.88 | 11     | 3.91 |         |
| Environmental Factors | Female | 63 | 13.78 | 14     | 4.90 | 0,342** |
|                       | Male   | 57 | 12.95 | 13     | 4.60 |         |
| Total                 | Female | 63 | 36.08 | 36     | 8.50 | 0,069** |
|                       | Male   | 57 | 33.11 | 32     | 9.26 |         |

Mann-Whitney U\* Student's t\*\*

There was no significant different in emotional avoidance and environmental factors when the challenges faced by people with physical disabilities in participating in sports were examined according to the gender variable. ( $p>0.05$ )

It was observed that there was a significant difference in the awareness sub-dimension. ( $p<0.05$ ) Physically disabled women scored higher than men in terms of awareness sub-dimension, which is the difficulties encountered in participating in sports. In the comparison of these two groups, according to the normality test (Shapiro test), non-parametric Mann-Whitney U test was used instead of the t test.

### 3.3.3. Distribution of Difficulties in Participating in Sports for Disabled Individuals by Educational Status

**Table 3.3.3.** Distribution of Difficulties in Participating in Sports by Educational Status

|                       | Educational Status                                       | N  | Mean  | Median | SD   | p*    |
|-----------------------|----------------------------------------------------------|----|-------|--------|------|-------|
| Emotional Avoidance   | I'm Not Literate.                                        | 19 | 9.79  | 10     | 3.22 | 0,039 |
|                       | Primary or secondary school graduate or continuing.      | 53 | 9.06  | 9      | 3.36 |       |
|                       | High school or equivalent school graduate or continuing. | 42 | 7.74  | 7.50   | 2.98 |       |
|                       | College or university graduate or continuing.            | 6  | 6.67  | 6.50   | 1.86 |       |
| Awareness             | I'm Not Literate.                                        | 19 | 14.16 | 15     | 4.35 | 0,037 |
|                       | Primary or secondary school graduate or continuing.      | 53 | 13.36 | 13     | 3.93 |       |
|                       | High school or equivalent school graduate or continuing. | 42 | 11.48 | 11.00  | 3.90 |       |
|                       | College or university graduate or continuing.            | 6  | 10.67 | 11.00  | 4.13 |       |
| Environmental Factors | I'm Not Literate.                                        | 19 | 13.89 | 13     | 4.38 | 0,275 |
|                       | Primary or secondary school graduate or continuing.      | 53 | 13.92 | 15     | 4.98 |       |

**Table 3.3.3.** Distribution of Difficulties in Participating in Sports by Educational Status

|       | <b>Educational Status</b>                                | <b>N</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>p*</b> |
|-------|----------------------------------------------------------|----------|-------------|---------------|-----------|-----------|
|       | High school or equivalent school graduate or continuing. | 42       | 12.45       | 12.00         | 4.62      |           |
|       | College or university graduate or continuing.            | 6        | 13.50       | 13.00         | 5.05      |           |
| Total | I'm Not Literate.                                        | 19       | 37.84       | 36            | 9.39      |           |
|       | Primary or secondary school graduate or continuing.      | 53       | 36.34       | 36            | 8.38      | 0,024     |
|       | High school or equivalent school graduate or continuing. | 42       | 31.67       | 31.00         | 8.71      |           |
|       | College or university graduate or continuing.            | 6        | 30.83       | 30.50         | 8.89      |           |

Kruskal-Wallis\*

When the effect of educational status in difficulties encountered participating in sports was examined, no significant difference was found in the environmental difficulties ( $p>0.05$ ), a significant difference was observed in the emotional avoidance and awareness sub-dimensions. ( $p<0.05$ )

A significant correlation found between emotional avoidance and education level according to Kruskal-Wallis H test. ( $p<0.05$ ). According to the results of the Dwass-Steel-Critchlow-Fligner Pairwise comparison test used to identify the groups that make a difference, there is a statistically significant difference in favour of the illiterate between those who are college or university graduates or continue and those who are illiterate for the emotional avoidance sub-dimension. ( $p<0.05$ ) A significant difference was found between those who graduated from or continuing high school or its equivalent and those who were illiterate, in favour of those who were illiterate. ( $p<0.05$ ), no significant difference was found in other pairwise comparisons. ( $p>0.05$ )

A significant relationship found between awareness sub-dimension and education level. ( $p<0.05$ ). According to the results of the Dwass-Steel-Critchlow-Fligner Pairwise comparison test, for the awareness sub-dimension, there is a statistically significant difference in favour of the primary or secondary school graduates or those who are still continue high school or its equivalent, and the primary

or secondary school graduate or continuing group. has. ( $p < 0.05$ ) A significant difference was found between those who graduated from or continuing high school or its equivalent and those who were illiterate, in favour of those who were illiterate. ( $P < 0.05$ ), Other pairwise comparisons revealed no significant difference. ( $p > 0.05$ )

There is a statistically significant difference between the education status groups in the total scale. ( $p < 0.05$ ) There is a significant relationship between education level in total. ( $p < 0.05$ ). According to the results of the Dwass-Steel-Critchlow-Fligner Pairwise comparison test, a statistically significant difference was found in favour of those who graduated from primary or secondary education or continued between those who graduated from high school or its equivalent, and those who graduated or continued from primary or secondary education. ( $p < 0.05$ ) A significant difference was found between those who graduated from or continuing high school or its equivalent and those who were illiterate, in favour of those who were illiterate. ( $P < 0.05$ ), there is no significant difference in total in other pairwise comparisons. ( $p > 0.05$ )

### 3.3.4. Distribution of Difficulties in Participation in Sports for Persons with Disabilities by City

**Table 3.3.4.** Distribution of Difficulties in Participation in Sports by Provinces

|                       | Provinces | N  | Mean  | Median | SD   | p*    |
|-----------------------|-----------|----|-------|--------|------|-------|
| Emotional Avoidance   | Ardahan   | 40 | 7.90  | 7.00   | 3.33 | 0,038 |
|                       | Gaziantep | 40 | 9.60  | 9.50   | 3.21 |       |
|                       | Hatay     | 40 | 8.28  | 8.00   | 2.99 |       |
| Awareness             | Ardahan   | 40 | 11.30 | 11.00  | 3.47 | 0,037 |
|                       | Gaziantep | 40 | 13.07 | 13.00  | 4.30 |       |
|                       | Hatay     | 40 | 13.70 | 13.00  | 4.20 |       |
| Environmental Factors | Ardahan   | 40 | 13.80 | 12.50  | 5.54 | 0,345 |
|                       | Gaziantep | 40 | 12.32 | 13.00  | 4.20 |       |
|                       | Hatay     | 40 | 14.03 | 14.00  | 4.36 |       |

**Table 3.3.4.** Distribution of Difficulties in Participation in Sports by Provinces

|       | Provinces | N  | Mean  | Median | SD   | p*    |
|-------|-----------|----|-------|--------|------|-------|
| Total | Ardahan   | 40 | 33.00 | 30.50  | 9.07 | 0,322 |
|       | Gaziantep | 40 | 35.00 | 37.00  | 8.98 |       |
|       | Hatay     | 40 | 36.00 | 35.50  | 8.78 |       |

Kruskal-Wallis\*

When the effects of the difficulties encountered in participating in sports in these 3 cities, where disabled individuals live, were examined, no significant difference founded in of environmental difficulties ( $p>0.05$ ), a significant difference was found in the sub-dimension of emotional avoidance and awareness. ( $p<0.05$ )

A significant relationship was found between the emotional avoidance and the provinces, according to the Kruskal-Wallis H test. ( $p<0.05$ ) Median values were 7 for Ardahan, 9.5 for Gaziantep and 8 for Hatay. According to Dwass-Steel-Critchlow-Fligner Pairwise comparison test, there is a significant difference in favor of Gaziantep between Gaziantep and Ardahan groups in the emotional avoidance sub-dimension. ( $p<0.05$ ) There was no significant difference between the provinces of Ardahan-Hatay and Gaziantep-Hatay.

There is a significant relationship between the awareness sub-dimension and the provinces they live in. ( $p<0.05$ ) mean values were found as 11.30 for Ardahan, 13.07 for Gaziantep and 13.70 for Hatay. According to the results of the Dwass-Steel-Critchlow-Fligner Pairwise comparison test, there is a statistically significant difference in favor of Hatay between the Hatay and Ardahan groups in the awareness sub-dimension ( $p<0.05$ ). The provinces of Ardahan-Gaziantep and Gaziantep-Hatay were not significantly different from one another.

Overall, the provincial categories where the disabled people reside do not differ statistically significant. ( $p>0.05$ )

### 3.3.5. Challenges in Participating in Sports for People with Disability by Income Level

**Table 3.3.5.** Distribution of Difficulties in Participation in by Income Level

|                       | Income Level? | N  | Mean  | Median | SD   | p*    |
|-----------------------|---------------|----|-------|--------|------|-------|
| Emotional Avoidance   | Low           | 49 | 9.24  | 9      | 3.46 | 0,224 |
|                       | Middle        | 67 | 8.15  | 8      | 2.99 |       |
|                       | High          | 4  | 8.00  | 6.00   | 4.00 |       |
| Awareness             | Low           | 49 | 13.88 | 14     | 3.89 | 0,009 |
|                       | Middle        | 67 | 12.01 | 11     | 4.14 |       |
|                       | High          | 4  | 9.50  | 9.50   | 1.29 |       |
| Environmental Factors | Low           | 49 | 14.69 | 15     | 4.91 | 0,025 |
|                       | Middle        | 67 | 12.61 | 13     | 4.54 |       |
|                       | High          | 4  | 10.25 | 10.00  | 2.22 |       |
| Total                 | Low           | 49 | 37.82 | 38     | 9.11 | 0,003 |
|                       | Middle        | 67 | 32.78 | 32     | 8.38 |       |
|                       | High          | 4  | 27.75 | 27.50  | 2.06 |       |

Kruskal-Wallis\*

When the relation between the income level groups of the disabled individuals and the difficulties they encounter in participating in sports was examined, although there was no significant difference in the emotional avoidance sub-dimension ( $p>0.05$ ), there was a significant difference in the environmental difficulties and awareness sub-dimensions. ( $p<0.05$ )

A Kruskal-Wallis H test showed that there was a statistically significant difference in environmental strain score between the income groups, ( $p<0.05$ ), with a median of environmental factors score of 15 for low-income group, 13 for middle income group and 10 for high income group. The Dwass-Steel-Critchlow-Fligner Pairwise comparison test results show a statistical difference in favor of the low-income group in the environmental variables sub-dimension between the low-income and middle-income groups. ( $p<0.05$ )

Kruskal-Wallis H test showed that there was a statistically significant difference in awareness score between the income groups,  $p < 0.05$ , with a median of awareness score of 14 for low-income group, 11 for middle income group and 9.5 for high income group. When the findings in the Dwass-Steel-Critchlow-Fligner paired comparison test are evaluated, there is a significant difference in the Awareness sub-dimension between low and middle monthly income groups in favour of the low-income group, and in the low and high monthly income groups in favour of the low-income group. For the sub-dimension of awareness ( $p < 0.05$ ), no significant difference was found in the middle- and high-income groups. ( $p > 0.05$ )

Kruskal-Wallis H test showed that there was a statistically significant difference in total score and between the income groups,  $p < 0.05$ , with a median of total score of 38 for low-income group, 32 for middle income group and 27.5 for high income group. According to the results of the Dwass-Steel-Critchlow-Fligner Pairwise comparison test, there is a statistical difference in favour of the low-income group, between the low-income group and the middle-income group, and between the low-income group and high-income groups. ( $p < 0.05$ ) no significant difference was found for middle- and high-income levels in total. ( $p > 0.05$ )

### 3.4. Challenges Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale

**Table 3.4.** Challenges Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale

|                     | Do you exercise regularly? | N  | Mean  | Median | SD   | p *    |
|---------------------|----------------------------|----|-------|--------|------|--------|
| Emotional Avoidance | Precontemplation Phase     | 41 | 10.00 | 10     | 3.34 | 0,001  |
|                     | Preparation Phase          | 13 | 8.69  | 8      | 1.70 |        |
|                     | Action Phase               | 21 | 8.67  | 8      | 3.79 |        |
|                     | Maintenance Phase          | 45 | 7.24  | 6      | 2.68 |        |
| Awareness           | Precontemplation Phase     | 41 | 14.83 | 15     | 4.53 | <0,001 |
|                     | Preparation Phase          | 13 | 13.62 | 14     | 3.33 |        |
|                     | Action Phase               | 21 | 10.95 | 10     | 4.24 |        |

**Table 3.4.** Challenges Encountered in the Transtheoretical Model-Based Exercise Change Stages Scale

|                       | <b>Do you exercise regularly?</b> | <b>N</b> | <b>Mean</b> | <b>Median</b> | <b>SD</b> | <b>p *</b> |
|-----------------------|-----------------------------------|----------|-------------|---------------|-----------|------------|
|                       | Maintenance Phase                 | 45       | 11.29       | 11            | 2.78      |            |
| Environmental Factors | Precontemplation Phase            | 41       | 14.44       | 15            | 4.03      |            |
|                       | Preparation Phase                 | 13       | 15.31       | 13            | 4.94      | 0,042      |
|                       | Action Phase                      | 21       | 11.52       | 11            | 4.83      |            |
|                       | Maintenance Phase                 | 45       | 12.73       | 12            | 5.00      |            |
| Total                 | Precontemplation Phase            | 41       | 39.27       | 42            | 9.03      |            |
|                       | Preparation Phase                 | 13       | 37.62       | 36            | 7.94      |            |
|                       | Action Phase                      | 21       | 31.14       | 30            | 9.78      | <0,001     |
|                       | Maintenance Phase                 | 45       | 31.27       | 31            | 6.49      |            |

Kruskal-Wallis \*

Kruskal Wallis-H test, which was conducted to determine the relationship between the stage of the physically disabled individuals in the Transtheoretical-based exercise change scale and the difficulties they encounter in participating in sports, there is a statistically significant difference between the response groups given to the question "Do you exercise regularly?" in the emotional avoidance sub-dimension. As seen in the table ( $p < 0.05$ ), mean values for the emotional avoidance sub-dimension were found as Precontemplation Phase 10.00, Preparation Phase 8.69, Action Phase 8.67 Maintenance Phase 7.24. According to the Dwass-Steel-Critchlow-Fligner Pairwise comparison test results, there is a statistical difference in favour of the precontemplation phase group between the Maintenance phase and Precontemplation phase groups for the emotional avoidance sub-dimension. ( $p < 0.05$ ) no significant difference was found for emotional avoidance in other pairwise comparisons. ( $p > 0.05$ )

A statistically significant difference was found between the response groups given to the question "Do you exercise regularly?" in the awareness sub-dimension, and mean values ( $p < 0.05$ ) for the emotional avoidance sub-dimension were Precontemplation Phase 14.83, Preparation Phase 13.62, Action Phase 10, 95 Maintenance Phase was found to be 11.29. According to the Dwass-Steel-Critchlow-

Fligner Pairwise comparison test results, there is a statistical difference in favour of the Precontemplation phase group between the Action Phase and Precontemplation Phase groups for the awareness sub-dimension. ( $p < 0.05$ ) A significant difference was found between the Maintenance phase and Precontemplation phase groups in favour of the Precontemplation phase group. ( $p < 0.05$ ), no significant difference was found in other pairwise comparisons for the awareness sub-dimension. ( $p > 0.05$ )

There is a statistically significant difference between the response groups given to the question "Do you exercise regularly?" in the sub-dimension of environmental factors. As seen in the table ( $p < 0.05$ ), mean values were found as Precontemplation Phase 14.44, Preparation Phase 15.31, Action Phase 11.52, Maintenance Phase 12.73 for environmental factors sub-dimension. According to the Dwass-Steel-Critchlow-Fligner Binary comparison test results, there is a statistical difference in favour of the precontemplation phase group between the Action phase and Precontemplation phase groups for the environmental factors sub-dimension. No significant difference was found in other pairwise comparisons for the environmental factors sub-dimension ( $p < 0.05$ ).

A statistically significant difference was found between the response groups given to the question "Do you exercise regularly?" in the total scale. As seen in the table ( $p < 0.05$ ), mean values were found as Precontemplation Phase 39.27, Preparation Phase 37.62, Action Phase 31.14, Maintenance Phase 31.27, for the environmental factors sub-dimension. According to Dwass-Steel-Critchlow-Fligner Pairwise comparison test results, there is a statistically significant difference between Maintenance phase and Precontemplation phase groups in favour of precontemplation phase group, between precontemplation phase and Action phase in favour of precontemplation phase, and between preparation phase and maintenance phase in favour of preparation phase. ( $p < 0.05$ ) No significant difference was found for the total in other pairwise comparisons. ( $p > 0.05$ )

## 4. DISCUSSION

The aim of this study is to reveal the barriers of individuals with physical disabilities in front of participation in sports and the relationship of these barriers with the demographic characteristics (age, gender, province of residence, education level, income level) and the stage they are in in the short question form of transtheoretical exercise change in participation in sports. For this purpose, in our study, 120 physically disabled volunteer participants in 3 provinces were reached through an online questionnaire or a written questionnaire form.

According to the Transtheoretical-based exercise change stages scale of the disabled individuals participating in the study, it was determined that 41 people were in the Precontemplation Phase, 13 were in the Preparation Phase, 21 were in the Action Phase, and 45 were in the Maintenance Phase. None of the physically disabled individuals participating in the study stated that they were in the Contemplation phase in the Transtheoretical-based exercise change stages scale. For this reason, the data of the Contemplation phase could not be evaluated. Although the number of participants was sufficient in our study, this situation was interpreted as researching with a large sample.

The gender distribution of the participants in the study consisted of 47.5% male and 52.5% female. It ensured that the questions and scales evaluated were homogeneously distributed on the basis of gender. When we look at the stage of 63 female physically disabled individuals in the Transtheoretical-based exercise change scale, it is seen that the individual is in the 33.3% Precontemplation Phase 12.7% Preparation Phase 19.0% Action Phase 34.9% Maintenance Phase.

In the Transtheoretical-based exercise change scale of the 57 male physically disabled individuals, it was revealed that the individual was at 35.1% Precontemplation Phase, 8.8% Preparation Phase, 15.8% Action Phase, 40.4% Maintenance Phase.

However, in the Transtheoretical-based exercise change steps, it was observed that there was no significant difference between the female and male genders in the answers given to the question "Do you exercise regularly?"

In some studies, in the literature, it has been revealed that the steps of exercise change are not related to gender (Oral and Aktop (2015); Al-zandee and Ünlü, 2019). When physical activity and exercise behaviors were compared based on the gender variable, there was no discernible difference. Tekkurşun et al. (2018) did not find a significant difference in the motivation of visually impaired female and male athletes to participate in sports. The results of the studies are in agreement with our study. This situation was interpreted that physical individuals have similar difficulties or facilitating factors in terms of being male and female in the exercise stages change scale, and it is not related to the gender variable.

There was no significant difference in the sub-dimensions of emotional avoidance and environmental difficulties ( $p>0.05$ ), but there was a significant difference in the sub-dimension of awareness ( $p<0.05$ ) when the difficulties faced by physically disabled individuals in participating in sports were evaluated according to the gender variable.

In comparable studies, the motivation of physically disabled individuals to participate in sports was explored in terms of gender variable, and in many studies, no significant difference was discovered in terms of the gender variable's sports participation motivation and psychological flexibility. (Emamvirdi et al., 2020; Tekkurşun Demir and İlhan 2019; Abdullah et al. 2014)

Together with these studies, environmental variables such as financial inadequacy, transportation, and sports facilities have been noted as challenges experienced by disabled individuals in engaging in sports in studies conducted in the literature on the subject. (Argan et al., 2021; Jaarsma et al., 2014; Dishman and Buckworth, 2007; Rimmer et al., 2000)

In our study, it was found that the gender variable was in favour of women compared to men in terms of awareness sub-dimension. In domestic and foreign literature, it has been revealed by some studies that women's awareness levels are higher than men. (Goldenberg et al., 2006; Akyıldız, 2017; Altınışik et al., 2021) This shows that women's awareness levels in sports participation are higher than men.

In general, the high level of awareness of women than man can be explained by the fact that they are more sensitive, protective, caring and interested in other people's feelings and ideas, women are traditionally caregivers, and society's expectations about women. Related to this issue, Robinson et al., (2007) also stated that women are more accepting of disabled people than men.

Age distribution of a total of 120 physically disabled individuals participating in the research; 57 people (47.5%) aged 12-18, 34 people (28.3%) aged 19-35, 18 people (15.0%) aged 35-54, and 11 people aged 55-64 (9.2%).

According to the distribution of the answers given to the Transtheoretical-based exercise change scale, 36.8% of the 57 physically disabled individuals between the ages of 12-18 were in the Precontemplation Stage, 12.37% Preparation Stage, 21.1% Action Stage and 29.8% Maintenance Stage.

It was observed that 26.5% of 34 physically disabled individuals between the ages of 19-35 were in the Precontemplation Phase, 11.8% in Preparation Phase, 11.8% in Action Phase, 50% in Maintenance Phase.

33.3% of 18 physically disabled individuals between the ages of 35-54 were in the Precontemplation Phase, 5.6% Preparation Phase, 22.2% Action Phase, and 38.9% Maintenance Phase.

45.5% of 11 physically disabled individuals aged 55-64 were in Precontemplation Phase, 9.1% Preparation Phase, 9.1% Action Phase, 36.4% Maintenance Phase.

The chi-square independence test, there was no statistical relationship between age groups and response groups to the question "Do you exercise regularly?" ( $p>0.05$ ).

It has been interpreted that the stage of physically disabled individuals in the transtheoretical-based exercise change scale is not related to the age variable. Some studies related to exercise addiction in the domestic and foreign literature support our result. ( Altınışik et al., 2021; Demirel and Cicioğlu 2020; Hamer and Karageorghis 2007; Hale et al., 2010).

When the age variable is taken into consideration while examining the difficulties faced by individuals with disabilities, it is seen that no significant difference in emotional avoidance, awareness and environmental factors. ( $p>0.05$ )

It was thought that the difficulties encountered were due to the difficulty for each individual, regardless of the age variable, for the emotional avoidance, awareness and environmental difficulties sub-dimension.

In the literature, (Yetiş et al., 2022; Uyar, 2019) revealed that there is no relationship between awareness levels in participation in sports. Şahan, (2018) stated in his study that the difficulties experienced by disabled individuals in participating in business life do not differ significantly according to the age of the participants. These results show parallelism with our study.

Considering the educational status of the physically disabled individuals participating in the research; 15.8% (19 people) who are not literate, 44.2% (53 people) who are primary or secondary education graduates (53 people), High school or

equivalent school graduates or continuing 35.0% (42 people), College or university graduates or continuing 5.0% (6 people)

No significant difference was found in the Transtheoretical-based exercise change scale when compared statistically according to the education level of the stage they are in. ( $P>0.05$ ) This is in agreement with similar studies in the literature. (Basoglu,2018; Orhan et al., 2019)

When the effect of educational status on the difficulties encountered in participating in sports was examined, there was no significant difference in the environmental difficulties sub-dimension ( $p>0.05$ ), a significant difference was found in the emotional avoidance and awareness sub-dimension. ( $p<0.05$ )

The inability to find a relation between the sub-dimension of environmental factors and the level of education has been interpreted as the presence of environmental obstacles directly affects participation in sports, and it has been interpreted that these situations, in which disabled individuals are generally exposed to compelling factors such as financial inadequacy, pavements, sports facilities, transportation, emerge as problems they experience regardless of education level.

Studies show that as the level of education increases, motivation to participate in sports increase (Meriç and Turay, 2020). However, there is no study related to education level and environmental difficulties in the literature.

For the emotional avoidance, a significant difference found in favour of illiterates between those who graduated or attended college or university and those who graduated or attended high school or equivalent school and illiterates.

This situation has been interpreted as an inverse relationship between emotional avoidance and education level. Bavlı et al., in their study in 2015, stated that university level students spend more time on exercise than high school level students. Again, the

relationship between psychological resilience and education level has been stated in many studies. The linear relationship between education level and resilience in participation in sports was revealed by Şenel (2021), Doğan (2020), İldem (2019). In the study conducted by Şahin and Akpınar in 2016, a positive relationship was found in the areas of positive attitude towards life and emotional avoidance as the level of education increased.

Hazar and Koç (2020) found a parallelism between education level and life satisfaction in their study. These studies reveal the relationship between emotional resilience and participation in sports and support our study. In our study, it was found that there is an inverse proportion between the level of education and the emotional avoidance sub-dimension of the difficulties encountered in participating in sports.

In the Awareness significant differences found in favour of the illiterate between those who are high school or equivalent school graduates or those who are continuing, primary or secondary school graduates or those who are still illiterate. ( $P < 0.05$ )

Disabled individuals studying at university or high school level have been interpreted as having a positive effect on the awareness sub-dimension, increasing participation in sports together with being involved in social life.

This condition is consistent with the literature's conclusions that physical activity involvement rises with education level. (Cooper and Quatrano, 1999; Oral and Aktop 2014; Zırhlıoğlu 2011; Finch et al 2001)

It has been noted that children of sports-interested parents often share such interests, and as their education level rises, they become more aware of their children's involvement in sports. (Amman et al., 2000). No significant difference was found in other pairwise comparisons. ( $P > 0.05$ ) The reason for this can be explained by the inadequacy and disproportionate distribution of the sample number according to the education level.

When we look at the distribution of physically disabled individuals according to the city they live in, a total of 120 people, 40 people each, participated in the study in Ardahan, Gaziantep and Hatay provinces with a 33.3% distribution.

The transtheoretical-based exercise exchange short questionnaire was evaluated in terms of the provinces where the participants lived, and when looking at the stage they were in. it was found that 9 people were in Precontemplation Phase 3 people Preparation Phase 11 people Action Phase 17 people were in Maintenance Phase.

In Gaziantep 16 people were in the Precontemplation Phase, 4 people Preparation Phase, 6 people Action Phase, 14 people were in the Maintenance Phase in Gaziantep.

16 people in Hatay Precontemplation Phase, 6 people Preparation Phase, 4 people Action Phase, it has been observed that 14 people are in the Maintenance Phase.

When the effects of the difficulties encountered in participating in sports in these 3 cities, where disabled people live, while no significant difference was found in the environmental factors( $p>0.05$ ), a significant difference was found in the emotional avoidance and awareness. ( $p<0.05$ )

The pairwise comparison test results demonstrate a statistically significant difference in the emotional avoidance between the Gaziantep and Ardahan groups, favoring Gaziantep. ( $p<0.05$ )

According to the results of the pairwise comparison test, the awareness sub-dimension demonstrates a statistically significant difference between the Hatay and Ardahan groups in favor of Hatay. ( $p<0.05$ )

It has been observed that the difficulties experienced in the emotional avoidance and awareness sub-dimensions are more compelling factors for the physically disabled individuals residing in Ardahan than in Hatay and Gaziantep.

This situation has been interpreted as the social activities offered by the cities and the social environment activities are more and it has been associated with the awareness-raising activities of institutions such as state institutions, municipalities, NGOs in order to raise awareness for disabled people.

Studies in literature support our finding that the environment in which individuals are born and raised is effective in their participation in sports. (Erkal et al., 1998, Pepe and Türkay, 2017)

The fact that no difference was found in the environmental barriers was concluded that these 3 provinces created similar environmental barriers in participation in sports and that the transportation, sports facilities, hygiene and economic factors of the physically disabled occur independently of the province they live in.

The absence of a significant difference according to the other pairwise comparison results was interpreted in the direction of increasing the number of samples in the study by evaluating the significant differences between the provinces.

The distribution of income levels among the research participants who were physically disabled showed that 40.8% had low income, 55.8% had middle income, and 3.3% had high income. In the Transtheoretical-based exercise change scale, there was no statistically significant relationship between income status and response groups to the question "Do you exercise regularly?" ( $p>0.05$ ) It was concluded that the reason for this was that the economic level of participation in sports was important for each stage in the exercise change short question form.

When the relationship between the income level groups of the disabled individuals and the difficulties they encounter in participating in sports is examined, no significant difference was found in the emotional avoidance sub-dimension. ( $p>0.05$ ) significant difference was found in the sub-dimensions of environmental factors and awareness. ( $p<0.05$ )

According to the results of the pairwise comparison test, a statistical difference shown in favour of the low-income group between the low-income and middle-income groups in environmental factors sub-dimension. ( $p<0.05$ )

In this sense, it has been revealed in our study that environmental difficulties, which are one of the challenges faced by physically disabled individuals in participating in sports, are faced with difficulties such as transportation, economic situation, number and ergonomics of sports facilities, sidewalks, ramps, personal hygiene areas, and that these situations are an important compelling factor disabled persons' challenges when participating sport.

Environmental difficulties, one of the difficulties encountered in participating in sports, have been expressed in many domestic and foreign studies. (Argan, et al. 2021; Wilson and Khoo, 2013; World Health Organization [WHO], 2013) Wilson and Khoo (2013) reported in their study with Malaysian paralympic athletes that most of the difficulties encountered in participating in sports are due to financial inadequacies.

Jaarsma et al., (2014b) showed that environmental factors are an important compelling factor in participation in sports in a study with disabled individuals. In the study conducted by French and Hainsworth, (2001) McLoughlin et al, (2017), it was stated that the economic situation, which is one of the environmental factors, greatly affects the participation in leisure activities.

In the studies of Murphy and Carbone (2008) and Madhushani and Burnett (2020), it was stated that the cost of the equipment used for doing sports is high and this situation poses a serious obstacle for the disabled athletes to participate in sports.

Argan et al (2021), stated that access barriers such as transportation, ramp slopes, sidewalks, unsafe environments, weather conditions, ergonomic situations are important problems in participating in sports. In this sense, our study is similar to many studies in the literature related to participation in sports.

There is a significant difference between the awareness and overall low and middle-income groups in favour of the low-income group, and in the low and high monthly income groups in favour of the low-income group. ( $p < 0.05$ ) The significant relationship between awareness and income level was interpreted to mean that as income level increases, awareness level increases. It is possible to say that as the income level increases, access to social activities becomes easier, and the awareness dimension becomes less challenging.

When we look at the domestic and foreign literature, Argan et al. (2021) mentioned the inadequacy of awareness-raising social activities as an obstacle to participation in sports. They stated that it will be solved with economic empowerment, sports facilities and equipment and awareness-raising activities. Dwyer et al., (2008) mentioned in their study that increasing public aid would encourage disabled individuals to participate in physical activity. Crawford and Stodolska (2008) stated that in developing countries, it is more difficult for disabled people to participate in sports compared to developed countries, but disabled people living in these countries are enthusiastic about participating in sports activities.

Shields et al., (2012), stated that the participation of children with disabilities sports can be increased with family and social support, accessible and ergonomic sports facilities and awareness personnel. In this sense, it is possible to say that our study is similar to research studies seen in literature. In our study, which was conducted to determine the relationship between the level of physically disabled individuals in

the Transtheoretical-based exercise change scale and the difficulties they face in participating in sports. In the emotional avoidance, there is a statistically difference between the response groups given to the question "Do you exercise regularly?" ( $p < 0.05$ )

In the emotional avoidance, there were more difficulties in participating in sports during the precontemplation phase between the Maintenance phase and Precontemplation phase groups.

A significant difference was found between response groups given to the question "Do you exercise regularly" in the awareness sub-dimension. ( $p < 0.05$ ) For the awareness sub-dimension, there is a statistical difference between the Action Phase and Precontemplation Phase groups in favour of the Precontemplation phase group. ( $p < 0.05$ ) It was observed that more difficulties were encountered in the awareness sub-dimension during the Precontemplation phase between the Maintenance phase and Precontemplation phase groups. There is a statistically significant difference between the response groups given to the question "Do you exercise regularly" in the sub-dimension of environmental factors. ( $p < 0.05$ )

Environmental factors sub-dimension, it was observed that more barriers were encountered in the environmental factors at the precontemplation phase between the Action phase and Precontemplation phase groups. In our study, according to the transtheoretical-based exercise change scale of the physically disabled individuals, the stage they are in was evaluated according to the difficulties they face in participating in sports, and the individuals in the Precontemplation stage, which is the first step of starting sports, do not plan to change their unhealthy behaviour with healthy behaviour in the next six months.

Individuals in the Contemplation Phase are aware that there is a problem. and are seriously considering behaviour change in the next 6 months, but have yet to take action. In our study, there was no data on the basis of physically disabled individuals in the Contemplation Phase. This situation has been interpreted as the inadequacy of

the number of participants and the intensity of the motivation and barriers required for this stage of the disabled individuals in the Contemplation Phase. For these reasons, the difficulties experienced at this stage could not be evaluated in our study.

Individuals in the Precontemplation stage reported the most compelling factor in participation in sports in all three of the sub-dimensions of environmental factors, awareness and emotional avoidance from the difficulties encountered in participation in sports.

It has been revealed that in the first stage of starting sports, it is dependent on emotional, social and environmental factors for disabled individuals, and their behaviours of doing sports and making sports a habit are related to the compelling factor they encounter.

It was observed that as the level of habituation of sports by individuals with disabilities increased according to their exercise change stages, the compelling factors they expressed decreased. Individuals with physical disabilities do regular sports and develop alternative solutions to environmental problems.

In the emotional avoidance sub-dimension, it is possible to say that as the level of participation in sports increases, disabled individuals control their emotional motivation to do sports more, and in this sense, their psychological resilience in participation in sports increases.

It is seen that disabled individuals increase their awareness level and become more involved in social life because they participate in social life with sports. In this way, it has been revealed in our study that despite the difficulties in participating in sports, as the level of doing sports increases, the situation of coping with the difficulties they encounter increases.

At this stage of our study, no studies directly related to this issue were found in the literature. But indirectly, Byrne (2000), Maddux and Rogers (1983), in their study, stated that individuals with a sense of self-confidence and awareness are more effective in tackling the challenging obstacles they encounter during problems.

This result was expressed in our study as doing sports despite obstacles increases the ability of individuals to manage the difficulties they encounter while performing this action.

Esatbeyoğlu and Karahan (2014), Rimmer et al., (2000), Rimmer et al., (2004), state that disabled individuals have difficulties in starting sports due to environmental difficulties. Söğüt, (2006). Vanner et al., (2008) in their study stated that disabled people face environmental problems in participating in sports.

In the research conducted by Rimmer et al. (2000), individuals with physical disabilities mentioned that they do not know how to start participating in sports, they are not aware of the existence of sports facilities, and their awareness level is low.

It has been revealed that individuals' ability to cope with obstacles is related to their social communication, entertainment and motivation levels. (Yılmaz et al., 2014).

Again, in studies, it has been stated that physically disabled individuals feel inadequate and powerless in terms of realizing themselves in participating in sports, and the importance of social environment support in this sense, and it has been stated that they have psychological difficulties due to these factors. (Kirchner et al., 2008 ; Rimmer et al, 2004 ; Rimmer, et al., 2000)

## 5. CONCLUSION AND RECOMMENDATIONS

The difficulties faced by disabled individuals in participating sports were evaluated according to demographic findings and participation in sports in the stages of transtheoretical-based exercise change. The results are;

Transtheoretical-based exercise, which evaluates the regular sports status of individuals with physical disabilities, has been examined according to demographic characteristics and stages of change. There was no significant relationship between the answers given to the question "do you exercise regularly" and gender, education level, income level and the city they live in ( $p>0.05$ ).

Significant differences found between the difficulties faced by physically disabled individuals in participating in sports and demographic characteristics. ( $p<0.05$ ).

1. When we compare the environmental difficulties and emotional avoidance sub-dimension of the difficulties faced by physically disabled individuals in participating in sports with the gender variable, there is no difference. ( $p>0.05$ ), we see that similar difficulties occur for both genders in the sub-dimension of environmental difficulties and emotional avoidance. In our study, relationship between the awareness sub-dimension and gender in participation in sports, there is a significant difference. ( $p<0.05$ ). Awareness sub-dimension, it was revealed that the awareness levels of women in participation in sports were higher than men.

2. There were no significant results when the environmental difficulties, emotional avoidance, and awareness sub-dimensions of the challenges encountered in participating in sports were analysed using the age variable. ( $p>0.05$ ) It has been observed that similar difficulties occur for each age group participating in our study in participation of physically disabled individuals in sports.

3. When we look at the difficulties experienced in participating in sports according to education level, there is a difference between education level and emotional avoidance and awareness sub-dimensions ( $p<0.05$ ), and as the education level increases, the difficulties encountered in participating in sports decrease.

Based on these results, it was concluded that while illiterate people had the most difficulties in participating in sports, individuals with physical disabilities who were graduated from college or university or who continue to have the least difficulty in participating in sports. There is an inverse proportion between these two difficulties encountered in education level and participation in sports. In the sub-dimension of environmental factors, there was no difference related to an education level. ( $p>0.05$ ) It was concluded that environmental factors developed independently of education level.

4. Considering the relationship between the difficulties encountered in participating in physical activity and level of income, a significant difference found in environmental difficulties. ( $p<0.05$ )

As the income level increases, it has been seen that the conditions of physically disabled individuals such as transportation, suitable sports facilities, and sports equipment are less challenging. It was concluded that the financial situation directly affects participation in sports.

A significant difference found in the awareness with difficulties faced by physically disabled individuals in participating in sports. ( $p<0.05$ ) It is possible to say that there is a parallelism between awareness levels and income levels. With the increase in income level, we see that participation in social life, events, meetings, etc., which are awareness-raising activities, increase and awareness levels are positively affected.

5. In our study to reveal the relationship between the difficulties experienced by physically disabled individuals in participating in sports and the city they live in; it was concluded that physically disabled individuals residing in Ardahan faced more difficulties in the sub-dimension of emotional avoidance and awareness levels compared to Hatay and Gaziantep.

Accordingly, it has been concluded that the province where the physically disabled individuals live have a relationship with the opportunities offered by that province in participation in sports. In the sub-dimension of environmental factors, it was concluded that there is a compelling factor for each province and that there is a problem that the authorities should focus on in each province.

6. Significant differences were found in the of environmental difficulties, emotional avoidance, and awareness when the challenges faced by individuals with physical disabilities were analysed according to their exercise change stages. ( $p<0.05$ )

It has been determined that the relationship between the stage in which the physically disabled person participates in sports and the difficulties they experience in participating in sports is that they experience the most difficulty in precontemplation phase, which is first stage of participation sports, and that they experience the least difficulty in the maintenance stage for the emotional avoidance sub-dimension, and in the action stage for the environmental difficulties sub-dimension.

In this sense, it is possible to say that the level of awareness and psychological resilience of individuals with physical disabilities increase as they overcome the problems in the way of making sports a habit. and we see that the ways of solutions against environmental factors have increased.

The difficulties faced by physically disabled individuals in participating in sports or making sports habits already have a direct relationship with their age, gender, income level, province they live in, and educational status.

Physically disabled individuals experience difficulties in each of the Precontemplation, Contemplation, Preparation, Action, Maintenance Phase. It is important to get support from many institutions and organizations such as family, friends, social environment, government institutions, municipalities, NGOs, media and universities in order to eliminate the difficulties experienced by physically disabled individuals in participating in sports.

- It is necessary to increase awareness-raising activities for disabled individuals to participate in sports.
- It's critical to take proactive measures to address the challenges that people with physical disabilities confront while trying to participate in sports.
- Environmental factors such as sports facility suitability, transportation problems, financial resources, pavements, ramps, hygiene are important for allowing disabled people to take part in sports. The support of relevant authorities is needed in this regard.
- Individuals with physical disabilities should be provided with the consultancy services they need in participating in sports and they should be provided with support from experts.
- The society should be informed in this regard and information meetings should be held by experts through media channels such as conferences, television and radio.
- It's important for people with physical limitations to view sports involvement positively and to have the psychosocial support that require to stay active.
- Experts should inform those who have disabilities about ways for overcoming barriers, and they should provide information about local sports opportunities.
- In order to properly integrate participation of people with and without physical disabilities in sports, national or municipal authorities should increase their awareness of disability sports.
- The government and municipalities should improve infrastructure such as transport and not cooperate with other health care authorities on sports facilities and financing.

- Studies on the participation of disabled individuals in sports should be increased and universities and state authorities should support such studies.

The number of participants in the study can be increased to include individuals with different types of physical disabilities.

The diversity of demographic information in the study can be enhanced, and the research can be conducted in more cities or regions.



## SUMMARY

### **Evaluation Of Difficulties Encountered by Individuals with Physical Disabilities in Transtheoretical Model-Based Exercise Change Stages**

The purpose of this study is to identify the challenging factors that individuals with physical disabilities have encountered in Transtheoretical model-based exercise change stages scale. And to uncover the relationship with the demographic (age gender, income level, economic situation) characteristics of these difficulties.

Method: Quantitative research method was used in the study. A total of 120 physically disabled participants answered the questions in the "Personal Information Form", which includes age, gender, educational status, province where they live and income level, "Transtheoretical model-based exercise change stages scale", and "Difficulties Sports Participation Scale for Persons with Disabilities".

Conclusion: There is a direct relationship between the difficulties encountered by physically disabled individuals in participating in sports or making sports a habit between age, gender, income level, province of residence and educational status. ( $p < 0.05$ ) A relationship was found between the stages of regular sports participation in the Transtheoretical model-based exercise behaviour change model in sports participation and the difficulties encountered in sports participation. ( $P < 0.05$ )

SPSS 25 version program was used in the analysis of the data. The conformity of the variables to the normal distribution was examined by analytical methods (Shapiro-Wilk). Parametric test (Anova with independent sample t test) was used where group comparisons were made, and non-parametric test (Mann-Whitney U test and Kruskal-Wallis-H test) was applied where assumptions were not met. Dwass Steel Critchlow-Fligner method was used for Kruskal Wallis Post host pairwise comparison. The demographic characteristics of the variables were calculated with the Independent Sample T test and Mann-Whitney test for two independent groups, and the Kruskal Wallis-H test for more than two independent group variables. The relationship between the two variables was examined with the Chi-Square test of independence. The significance level for statistical analysis was accepted as  $p < 0.05$

**Keywords:** Physical Activity and Health, Participation in Sports, Physically Disabled, Transtheoretical method

## ÖZET

### **Fiziksel Engelli Bireylerin Transteorik Model Temelli Egzersiz Değişim Aşamalarında Karşılaştığı Zorlukların Değerlendirilmesi**

Bu çalışmanın amacı, fiziksel engelli bireylerin Transteorik model temelli egzersiz değişim aşamalarında karşılaştığı zorluk faktörlerini belirlemek ve bu zorlukların demografik (yaş, cinsiyet, gelir düzeyi, yaşadığı il, ekonomik durum) özelliklerle ilişkisini ortaya çıkarmaktır.

**Yöntem:** Çalışmada nicel araştırma yöntemi kullanılmıştır. Toplamda 120 fiziksel engelli katılımcı, yaş, cinsiyet, eğitim durumu, yaşadıkları il ve gelir düzeyi gibi bilgileri içeren "Kişisel Bilgi Formu", "Transteorik model temelli egzersiz değişim aşamaları ölçeği" ve "Engelliler İçin Spor Katılımında Karşılaşılan Zorluklar Ölçeği"ndeki soruları yanıtlamıştır.

**Sonuç:** Fiziksel engelli bireylerin spor yapma veya sporu alışkanlık haline getirmede karşılaştıkları zorluklar ile yaş, cinsiyet, gelir düzeyi, ikamet ettikleri il ve eğitim durumu arasında doğrudan bir ilişki vardır ( $p<0.05$ ). Spora katılımında Transteorik model temelli egzersiz davranış değişim modelinde içinde bulundukları aşamalar ile spor katılımında karşılaşılan zorluklar arasında bir anlamlı ilişki bulunmuştur ( $P<0.05$ ).

Verilerin analizinde SPSS 25 programı kullanılmıştır. Değişkenlerin normal dağılıma uygunluğu analitik yöntemlerle (Shapiro-Wilk) incelenmiştir. Grup karşılaştırmaları yapıldığı durumlarda parametrik test (Bağımsız örneklem t testi ile Anova) kullanılmış, varsayımlar sağlanmadığı durumlarda ise parametrik olmayan test (Mann-Whitney U testi ve Kruskal-Wallis-H testi) uygulanmıştır. Kruskal Wallis Sonrası çiftli karşılaştırma için Dwass Steel Critchlow-Fligner yöntemi kullanılmıştır. Değişkenlerin demografik özellikleri için iki bağımsız grup için Bağımsız Örneklem T testi ve Mann-Whitney testi, iki bağımsız grup üzerinde ise Kruskal Wallis-H testi hesaplanmıştır. İki değişken arasındaki ilişki bağımsızlık için Ki-Kare testi ile incelenmiştir.

İstatistiksel analiz için anlamlılık düzeyi  $p<0.05$  olarak kabul edilmiştir.

**Anahtar Sözcükler:** Fiziksel Aktivite ve Sağlık, Spor Katılımı, Fiziksel Engelli, Transteorik yöntem

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## APPENDICES

### Appendix – 1. Ankara University Ethics Committee decision

#### ANKARA ÜNİVERSİTESİ SAĞLIK BİLİMLERİ ALT ETİK KURULU KARAR ÖRNEĞİ

**Karar Tarihi** : 19/09/2022  
**Toplantı Sayısı** : 14  
**Karar Sayısı** : 136

**136-**Üniversitemiz Spor Bilimleri Fakültesi öğretim üyesi **Prof. Dr. Cengiz AKALAN**'ın danışmanlığını yaptığı, yüksek lisans öğrencisi **Mustafa BOZ**'un "Bedensel Engelli Bireylerin Transtheoretical Model Temelli Egzersiz Değişim Aşamalarında Karşılaştıkları Zorlukların Belirlenmesi" başlıklı tezi ile ilgili 30/06/2022 tarihli "İnsan Üzerinde Yapılan Klinik Dışı Araştırmalar Başvuru Formu" Etik Kurulumuzca incelenmiştir.

Yapılan görüşmeler ve incelemeler sonucunda **Prof. Dr. Cengiz AKALAN**'ın danışmanlığını yaptığı, yüksek lisans öğrencisi **Mustafa BOZ**'un "Bedensel Engelli Bireylerin Transtheoretical Model Temelli Egzersiz Değişim Aşamalarında Karşılaştıkları Zorlukların Belirlenmesi" başlıklı tezi ile ilgili COVID-19 salgını nedeniyle; çalışma takviminiz de dahil araştırmanızda oluşabilecek tüm değişikliklerin Etik Kurulumuza yazılı olarak bildirilmesi, araştırma protokolüne uyulması ve etik onay tarihinden itibaren geçerli olması koşuluyla uygulanmasının etik açıdan uygun olduğuna oybirliği ile karar verildi.

## Appendix – 2. Subject Information Form

### Katılımcı Bilgilendirme Formu

**Araştırmanın adı:** “Bedensel Engelli Bireylerin Transtheoretical Model Temelli Egzersiz Değişim Aşamalarında Karşılaştıkları Zorlukların Belirlenmesi”

Sayın gönüllü,

Ankara Üniversitesi Sağlık Bilimleri Enstitüsü Spor Bilimleri yüksek lisans tez çalışması kapsamında planlanmış olan yukarıda adı yazılı araştırmaya katılmak üzere davet edilmiş bulunuyorsunuz. Bu araştırmada yer almayı kabul etmeden önce, araştırmanın ne amaçla yapılmak istendiğini anlamanız ve kararınızı bu bilgilendirme çerçevesinde özgürce vermeniz gerekmektedir.

Aşağıdaki bilgileri lütfen dikkatlice okuyunuz, sorularınız olursa sorunuz ve açık yanıtlar isteyiniz.

#### B.

**1. Çalışmanın amacı:** Bedensel engelli bireylerin “Transtheoretical Model Temelli Egzersiz Değişim Aşamaları Ölçeği” ve “Engelli Bireylerde Spora Katılımın Önündeki Zorlanmalar Ölçeği” kullanılarak spor ve fiziksel aktiviteye katılımında hangi aşamada oldukları ve bu aşamalarda karşılaştıkları zorlayıcı etmenleri tespit etmek ve bu zorlanmaların demografik (yaş cinsiyet, eğitim, gelir düzeyi) durumlarıyla ilgili ilişkiyi ortaya çıkarmaktır.

**2. Çalışmaya katılma koşulları** Gaziantep, Ardahan, Hatay İllerinde ikamet eden 12-64 yaş arasında Rehabilitasyon Merkezleri ve Engelli Spor Kulüplerinde eğitim alan ve sadece fiziksel engelli raporu olan bireylerden oluşmaktadır.

**3. Çalışma kapsamında yapılacak uygulama:** Katılımcıdan kişisel bilgi formu içerisinde yaş cinsiyet, eğitim durumu ve gelir düzeyi durumları hakkında bilgi toplamak amacıyla oluşturulan ve 4 maddeden oluşan “Kişisel Bilgi Formu”, 1 soru 5 Maddeden oluşan “Transtheoretical model temelli egzersiz değişim aşamaları ölçeği” ve 14 maddeden oluşan “Engelli Bireylerde Spora Katılımın Önündeki Zorlanmalar Ölçeği” kullanılacaktır.

**4. Araştırmaya dahil edilecek gönüllü sayısı:** Araştırmaya 120 gönüllü dahil edilecektir.

**5. Bir gönüllünün bu araştırmanın gereklerini yerine getirebilmek için harcayacağı süre:** Bir gönüllünün bu araştırmanın gereklerini yerine getirebilmek için harcayacağı süre; 15 dakikadır.

**6. Gönüllülerin araştırmaya katılmaları halinde karşılaşılabilecekleri riskler:** COVID-19 kapsamında tüm tedbirlerin (maske, mesafe, hijyen) alınmış olunması halinde gönüllülerin araştırmaya katılmaları halinde karşılaşılabilecekleri herhangi bir risk bulunmamaktadır.

**7. Gönüllülerin araştırmaya katılmayı kabul etmemeleri ya da araştırmadan ayrılmalari durumunda herhangi bir olumsuz sonuçla karşı karşıya kalma durumları:** Gönüllüler, araştırmaya katılmayı kabul etmemeleri ya da araştırmadan ayrılmalari durumunda herhangi bir olumsuz sonuçla karşı karşıya kalmayacaklardır.

**C.** Bu araştırmada yer almak tümüyle sizin isteğinize bağlıdır. Araştırmada yer almayı reddedebilirsiniz ya da başladıktan sonra yarıda bırakabilirsiniz. Bu araştırmanın sonuçları bilimsel amaçlarla kullanılacaktır. Araştırmadan çekilmeniz ya da araştırmacı tarafından araştırmadan çıkarılmanız halinde, sizinle ilgili veriler kullanılmayacaktır. Ancak veriler bir kez anonimleştikten sonra araştırmadan çekilmeniz mümkün olmayacaktır. Sizden elde edilen tüm bilgiler gizli tutulacak, araştırma yayınlandığında da varsa kimlik bilgilerinizin gizliliği korunacaktır. Katılım gönüllülük esasına bağlı olduğundan katılımcılara herhangi bir ücret ödenmeyecek veya talep edilmeyecektir.

**D.** Yukarıda yer alan ve araştırmaya başlanmadan önce gönüllülere verilmesi gereken bilgileri içeren metni okudum (ya da sözlü olarak dinledim). Eksik kaldığını düşündüğüm konularda sorularımı araştırmacılara sordum ve doyurucu yanıtlar aldım. Yazılı ve sözlü olarak tarafıma sunulan tüm açıklamaları ayrıntılarıyla anladığım kanısındayım. Çalışmaya katılmayı isteyip istemediğim konusunda karar vermem için yeterince zaman tanındı.

Bu koşullar altında, araştırma kapsamında elde edilen şahsıma ait bilgilerin bilimsel amaçlarla kullanılmasını, gizlilik kurallarına uyulmak kaydıyla sunulmasını ve yayınlanmasını, hiçbir baskı ve zorlama altında kalmaksızın, kendi özgür irademle kabul ettiğimi beyan ederim.

İmza/Tarih

Katılımcının Adı-Soyadı

İmza/Tarih

Araştırmacının Adı Soyadı

### Appendix – 3. Permission



T.C.  
MİLLÎ EĞİTİM BAKANLIĞI  
Strateji Geliştirme Başkanlığı

Sayı : E-49614598-605.01-54623320  
Konu : Araştırma Uygulama İzin Talebi

03.08.2022

#### DAĞITIM YERLERİNE

- İlgi: a) Bakanlığımızın 21/01/2020 tarihli ve 2020/2 Nolu Araştırma Uygulama İzinleri Genelgesi.  
b) Ankara Üniversitesi Rektörlüğünün 06/07/2022 tarihli ve E-23757613-050.01.04-577242 sayılı yazısı.

İlgi (b) yazı ile Ankara Üniversitesi, Sağlık Bilimleri Enstitüsü Spor Bilimleri Anabilim Dalı Fiziksel Aktivite Sağlık ve Spor Yüksek Lisans Programı öğrencisi Mustafa BOZ'un "Bedensel Engelli Bireylerin Transteoretical Model Temelli Egzersiz Değişim Aşamalarında Karşılaştıkları Zorlukların Belirlenmesi" konulu proje çalışmasına veri sağlamak amacıyla anket çalışması yapma izin talebine ilişkin ilgi yazı ve ekleri Bakanlığımız tarafından incelenmiştir.

Bakanlığımıza bağlı resmi/özel okul ve kurumlarda öğrenci, öğretmen ve okul yöneticilerinin katılımıyla yapılması planlanan uygulamanın denetimi il/ilçe millî eğitim müdürlükleri ve okul/kurum idaresinde olmak üzere, kurum faaliyetlerini aksatmadan, gönüllülük esasına göre; onaylı bir örneği Bakanlığımızda muhafaza edilen ve uygulama sırasında da mühürlü ve imzalı örnekten çoğaltılan, veri toplama araçlarının <http://meb.ai/UqxEXCf> adresinden online olarak uygulanmasına ilgi (a) Genelge doğrultusunda izin verilmiştir.

Gereğini bilgilerinize rica ederim.

Mehmet Fatih LEBLEBİCİ  
Bakan a.  
Başkan

Ek:

- 1-Onaylı Veri Toplama Araçları (9 Sayfa)  
2-Okul Listesi (1 Sayfa)

Dağıtım:  
Gereği:  
Ardahan, Gaziantep ve Hatay  
Valiliğine (İl Millî Eğitim Müdürlüğü)

Bilgi:  
Ankara Üniversitesi Rektörlüğüne

Adres : Millî Eğitim Bakanlığı 4/A

Telefon No : 0 (312) 413 27 51  
E-Posta: [sgb\\_arastirmaizinleri@meb.gov.tr](mailto:sgb_arastirmaizinleri@meb.gov.tr)  
Kep Adresi : [meb@hs01.kep.tr](mailto:meb@hs01.kep.tr)

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